

## KEY TO THE PLAN OF THE SYDNEY UNIVERSITY AND GROUNDS.

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- |   |                                  |
|---|----------------------------------|
| 1. University Main Building                                       | 12. Macleay Museum               |
| 2. Great Hall   | 13. Gardener's Lodge             |
| 3. Fisher Library   | 14. Messenger's Lodge            |
| 4. Men's Common Room  | 15. Caretaker's-Lodge            |
| 5. Women's Common Room  | 16. Cricket Ground               |
| 6. Medical School   | 17. Attendant's Lodge            |
| 7. Department of Chemistry,<br>Metallurgy, Assaying and<br>Mining | 18. Tennis Courts                |
| 8. Department of Geology and<br>School of Mines                   | 19. St. Paul's College           |
| 9. Department of Physics  | 20. St. John's College           |
| 10. Department of Engineering                                     | 21. St. Andrew's College         |
| 11. Department of Biology   | 22. Women's College              |
|   | 23. Royal Prince Alfred Hospital |

CALENDAR  
OF THE  
UNIVERSITY OF SYDNEY  
FOR THE YEAR  
1904



SYDNEY  
ANGUS AND ROBERTSON  
PUBLISHERS TO THE UNIVERSITY  
1904



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## PREFACE.

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THE UNIVERSITY OF SYDNEY was incorporated by an Act of the Colonial Legislature, which received the Royal Assent on the 1st of October, 1850. The objects set forth in the preamble are—  
“The advancement of religion and morality and the promotion of useful knowledge.” By this Act it is empowered to confer, after examination, Degrees in Arts, Law and Medicine, and is endowed with an annual income of £5000. By the University and University Colleges Amendment Act, 1902, the statutory annual endowment was increased to £10,000.

By the University Extension Act of 1884 the Senate is empowered to give instruction, and to grant such Degrees and Certificates in the nature of Degrees, as it shall think fit, in all branches of knowledge, except Theology and Divinity. The same Act admits women to all University privileges equally with men.

The various Acts of Parliament relating to the University and Colleges have been superseded by the University and University Colleges Act, 1900.

By a Royal Charter issued 7th February, 1858, the same rank, style, and precedence are granted to Graduates of the University of Sydney as are enjoyed by Graduates of Universities within the United Kingdom. The University of Sydney is also declared in the Amended Charter granted to the University of London to be one of the institutions in connection with that University from which certificates of having pursued a due course of instruction may be received with a view to admission to Degrees.

The government of the University is vested in a Senate, consisting of sixteen elective Fellows, and not fewer than three nor more than six “*ex-officio*” members, being professors of the University, in such branches of learning as the Senate may from time to time select. Under this power, the Professors of Modern Literature, Chemistry, Physiology, and Law are constituted “*ex-officio*” members of the Senate. A Chancellor and Vice-Chancellor are elected by the Senate from their own body.

Vacancies in the Senate are filled by means of a convocation of electors, consisting of the Fellows of the Senate for the time being, Professors, Public Teachers and Examiners in the Schools of the University, Principals of Incorporated Colleges within the University, Superior Officers declared to be such by By-law, Masters and Doctors in any Faculty, and Bachelors of three years' standing.

There are four Faculties in the University, viz., Arts, Law, Medicine and Science.

In the Faculty of Arts two Degrees are given—namely, Bachelor of Arts and Master of Arts. The curriculum of study for the Degree of B.A. extends over a period of three years, during which students are required to attend lectures and pass examinations. The subjects of study are the English, Latin, Greek, French and German Languages, Ancient and Modern History, Mental Philosophy and Logic, Mathematics, Chemistry, Physics, Geology and Palæontology, Biology, Physiology, &c.

In the Faculty of Law the Degrees of LL.B. and LL.D. are given. The curriculum of study for the Degree of LL.B. extends over five years. The Degree of Bachelor of Law is recognised under certain conditions by the Board for the admission of Barristers in New South Wales as a qualification for admission to the Bar.

In the Faculty of Medicine three Degrees are granted, viz., Bachelor of Medicine, Doctor of Medicine, and Master of Surgery. The course of study for the Degrees of M.B. and Ch.M. extends over a period of five years.

The colony of New South Wales has been declared to be one of the British possessions to which the Imperial Medical Act of 1836 applies, and the Degrees in Medicine and Surgery granted by the University of Sydney are registered upon the Colonial List of the British Medical Register, under section 13 of that Act.

The University of Sydney is recognised as one of the Institutions from which the University of London is authorised to receive certificates for Degrees in Medicine. The University of Edinburgh accepts certificates of attendance on Medical Classes in this University to the extent of three years of professional study, and the Royal College of Surgeons extends a similar recognition to attendance on the classes of the whole course, in the case of Graduates in Medicine who present themselves for examination for the Diploma of Member of the College.

In the Faculty of Science the Degrees of Bachelor of Science and Doctor of Science are given, and Degrees are also given in the several branches of Engineering, viz., Civil Engineering, Mechanical and Electrical Engineering, and Mining and Metallurgy. The course for the Degree of B.Sc. extends over a period of three years, during which the subjects of study are Mathematics, Chemistry (theoretical and practical), Physics (theoretical and practical), Mineralogy, Geology and Palæontology, Biology, &c. Candidates for Degrees in Civil and Mining Engineering receive instruction for a period of three years in Mathematics, Chemistry, Physics, Surveying, Geometrical Drawing, Applied Mechanics, Architecture, Mineralogy and Geology, Metallurgy and Assaying, and the different branches of Engineering. In Mechanical and Electrical Engineering the course covers four years.

A School of Dentistry has been established, and a license is given after a three years' curriculum.

The Universities of Oxford and Cambridge extend certain privileges to students who have completed two years' study in the University of Sydney and who desire to compete in the Examinations for Honours. Graduates of the University of Sydney who comply with certain requirements may be admitted as "advanced students" in the University of Cambridge. "Advanced students" may, under special conditions, proceed to the Degree of Bachelor of Arts or Bachelor of Law in that University, or obtain a certificate testifying to their proficiency in research.

Courses of Lectures in connection with the scheme for University Extension are delivered in Sydney and other places upon application. Each course consists of six or ten lectures, and concludes with an examination. Those persons who have attended any course regularly, and passed the concluding examination, receive University Certificates to that effect. The subjects of the lectures have hitherto been English Literature, Modern History, Ancient History, Political Economy, Logic and Mental Philosophy, Commercial Law, etc.

Senior and Junior Public Examinations are held annually in Sydney, and at other places where persons approved by the Senate can be found to superintend the examinations.

The lectures of the Professors are open to persons not members of the University, upon payment of the fee prescribed for each course.



Undergraduates and Graduates of other Universities are admitted *ad eundem statum* and *gradum* under certain regulations prescribed by the By-laws.

The object of the Sydney University is to supply the means of a liberal education to "all orders and denominations, without any distinction whatever."

An Act to provide for the establishment of Colleges in connection with different religious denominations was passed by the Legislature during the Session of 1854. Ample assistance was offered towards their endowment; and the maintenance of the fundamental principles of the University—the *association of students without respect of religious creeds, in the cultivation of secular knowledge*—is secured consistently with the most perfect independence of the College authorities within their own walls. Colleges in connection with the Church of England, the Roman Catholic and Presbyterian Churches, and a College for Women, have been established.

An account of the several Scholarships and other Prizes for proficiency which have been established out of the funds of the University, or have been founded by private benefactions, will be found in this Calendar.

The Senate has the privilege of nominating one candidate per annum to a Commission in the British Army, and to a Military Cadetship at Sandhurst.

Graduates in Arts of this University enjoy certain privileges granted by Act of Parliament, exempting them from all examinations other than an Examination in Law before admission as Barristers of the Supreme Court. The Rules of the Supreme Court also provide for a shortening of the period of Studentship-at-Law, in the case of Graduates in Arts, from three years to two, one of which may be concurrent with the final year of studentship at the University. Graduates who enter into articles of clerkship with attorneys and solicitors are only required to serve for three years instead of five.

At the yearly Examinations of 1882, women were first admitted to Matriculation in pursuance of a resolution passed to that effect by the Senate on the 1st of June, 1881. The University Extension Act of 1884 provides that "the benefits and advantages of the University, and the provisions of the Acts relating thereto, shall be deemed to extend in all respects to women equally with men."

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SYDNEY UNIVERSITY CALENDAR.

1904-1905.

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# Sydney University Calendar.

1904.

MARCH XXXI.

1	Tu	
2	W	
3	Th	
4	F	
5	S	
6	S	Third Sunday in Lent.
7	M	LENT TERM begins. Senate meets. University Examinations
8	Tu	[begin, viz., MATRICULATION PASS Examination, ENTRANCE
9	W	[Examination for LAW, MEDICINE and SCIENCE, DEFERRED
10	Th	[ANNUAL PASS Examinations, HONOUR Examinations in the
11	F	[Faculty of Arts, and DEPARTMENT OF ENGINEERING. P. N.
12	S	[RUSSELL SCHOLARSHIP Examination. Latest date for
13	S	[receiving Competitive Prize Compositions and applications
14	M	Fourth Sunday in Lent. [for Bursaries.
15	Tu	Examinations for Higher Degrees begin.
16	W	
17	Th	
18	F	
19	S	
20	S	Fifth Sunday in Lent.
21	M	Lectures begin.
22	Tu	
23	W	
24	Th	
25	F	[LATION Examination on April 5th.
26	S	Latest date for receiving entries for the LAW MATRICU-
27	S	Palm Sunday.
28	M	
29	Tu	
30	W	
31	Th	

# Sydney University Calendar.

1904.

APRIL XXX.

1	F	Good Friday.
2	S	
3	S	Easter Day.
4	M	
5	Tu	LAW MATRICULATION Examination.
6	W	
7	Th	
8	F	
9	S	
10	S	First Sunday after Easter.
11	M	Senate meets.
12	Tu	
13	W	
14	Th	
15	F	
16	S	
17	S	Second Sunday after Easter.
18	M	
19	Tu	
20	W	
21	Th	
22	F	
23	S	
24	S	Third Sunday after Easter.
25	M	
26	Tu	
27	W	
28	Th	
29	F	
30	S	

# Sydney University Calendar.

1904.

MAY XXXI.

1	<b>S</b>	Fourth Sunday after Easter.
2	M	Senate meets. Last day for receiving applications for
3	Tu	[LOCAL JUNIOR PUBLIC Examinations on June 6th.
4	W	
5	Th	
6	F	
7	S	
8	<b>S</b>	Rogation Sunday.
9	M	
10	Tu	
11	W	
12	Th	Ascension Day.
13	F	Last day for receiving entries for the JUNIOR PUBLIC
14	S	[Examinations on June 6th.
15	<b>S</b>	Sunday after Ascension.
16	M	
17	Tu	
18	W	
19	Th	
20	F	
21	S	
22	<b>S</b>	Whit Sunday.
23	M	
24	Tu	
25	W	
26	Th	
27	F	
28	S	LENT TERM ends.
29	<b>S</b>	Trinity Sunday.
30	M	
31	Tu	

# Sydney University Calendar.

1904.

JUNE XXX.

1	W	
2	Th	
3	F	
4	S	
5	S	First Sunday after Trinity.
6	M	Senate meets. JUNIOR PUBLIC Examination begins.
7	Tu	
8	W	
9	Th	
10	F	
11	S	
12	S	Second Sunday after Trinity.
13	M	TRINITY TERM begins.
14	Tu	
15	W	
16	Th	
17	F	
18	S	
19	S	Third Sunday after Trinity.
20	M	
21	Tu	
22	W	
23	Th	
24	F	[MATRICULATION Examination on July 4th.
25	S	Last day for receiving applications for the LAW
26	S	Fourth Sunday after Trinity.
27	M	
28	Tu	
29	W	
30	Th	

# Sydney University Calendar.

1904.

JULY XXXI.

1	F	
2	S	
3	<b>S</b>	Fifth Sunday after Trinity.
4	M	Senate meets. LAW MATRICULATION Examination.
5	Tu	
6	W	
7	Th	
8	F	
9	S	
10	<b>S</b>	Sixth Sunday after Trinity.
11	M	
12	Tu	
13	W	
14	Th	
15	F	
16	S	
17	<b>S</b>	Seventh Sunday after Trinity.
18	M	
19	Tu	
20	W	
21	Th	
22	F	
23	S	
24	<b>S</b>	Eighth Sunday after Trinity.
25	M	
26	Tu	
27	W	
28	Th	
29	F	
30	S	
31	<b>S</b>	Ninth Sunday after Trinity.

# Sydney University Calendar.

1904.

AUGUST XXXI.

1	M	
2	Tu	
3	W	
4	Th	
5	F	
6	S	
7	<b>S</b>	Tenth Sunday after Trinity.
8	M	Senate meets.
9	Tu	
10	W	
11	Th	
12	F	
13	S	
14	<b>S</b>	Eleventh Sunday after Trinity.
15	M	
16	Tu	
17	W	
18	Th	
19	F	
20	S	TRINITY TERM ends.
21	<b>S</b>	Twelfth Sunday after Trinity.
22	M	
23	Tu	
24	W	
25	Th	
26	F	
27	S	
28	<b>S</b>	Thirteenth Sunday after Trinity.
29	M	
30	Tu	
31	W	



# Sydney University Calendar.

1904.

SEPTEMBER XXX.

1	Th	
2	F	
3	S	
4	S	Fourteenth Sunday after Trinity.
5	M	Senate meets.
6	Tu	
7	W	
8	Th	
9	F	
10	S	
11	S	Fifteenth Sunday after Trinity.
12	M	
13	Tu	
14	W	
15	Th	
16	F	
17	S	
18	S	Sixteenth Sunday after Trinity.
19	M	
20	Tu	
21	W	
22	Th	
23	F	
24	S	
25	S	Seventeenth Sunday after Trinity.
26	M	MICHAELMAS TERM begins.
27	Tu	
28	W	
29	Th	
30	F	

# Sydney University Calendar.

1904.

OCTOBER XXXI.

		[SHIP Examinations on November 14th. [and MATRICULATION HONOUR and SCHOLAR-
1	S	Latest date for receiving applications for Local SENIOR
2	S	Eighteenth Sunday after Trinity.
3	M	Senate meets.
4	Tu	
5	W	
6	Th	
7	F	
8	S	
9	S	Nineteenth Sunday after Trinity.
10	M	
11	Tu	
12	W	
13	Th	
14	F	
15	S	
16	S	Twentieth Sunday after Trinity.
17	M	
18	Tu	
19	W	
20	Th	
21	F	[Examinations on November 14th. [nation, and MATRICULATION HONOUR and SCHOLARSHIP
22	S	Latest date for receiving entries for the SENIOR PUBLIC Exami-
23	S	Twenty-first Sunday after Trinity.
24	M	
25	Tu	
26	W	
27	Th	[Examinations in December.
28	F	Latest date for receiving entries for the ANNUAL UNIVERSITY
29	S	
30	S	Twenty-second Sunday after Trinity.
31	M	

# Sydney University Calendar.

1904.

NOVEMBER XXX.

1	Tu	
2	W	
3	Th	
4	F	[MATRICULATION Examination on November 14th.
5	S	Last day for receiving applications for the LAW
6	S	Twenty-third Sunday after Trinity.
7	M	Senate meets.
8	Tu	
9	W	King's Birthday.
10	Th	
11	F	
12	S	
13	S	Twenty-fourth Sunday after Trinity.
14	M	SENIOR PUBLIC Examination and MATRICULATION
15	Tu	[HONOUR and SCHOLARSHIP Examinations begin.
16	W	[LAW MATRICULATION Examination.
17	Th	
18	F	
19	S	
20	S	Twenty-fifth Sunday after Trinity.
21	M	
22	Tu	
23	W	
24	Th	
25	F	
26	S	
27	S	Advent Sunday.
28	M	
29	Tu	
30	W	

# Sydney University Calendar.

1904.

DECEMBER XXXI.

1	Th	
2	F	
3	S	Lectures cease.
4	S	Second Sunday in Advent.
5	M	Senate meets. ANNUAL Examinations begin.
6	Tu	
7	W	
8	Th	
9	F	
10	S	
11	S	Third Sunday in Advent.
12	M	
13	Tu	
14	W	
15	Th	
16	F	
17	S	MICHAELMAS TERM ends.
18	S	Fourth Sunday in Advent.
19	M	
20	Tu	
21	W	
22	Th	
23	F	
24	S	
25	S	Christmas Day.
26	M	
27	Tu	
28	W	
29	Th	
30	F	
31	S	

# Sydney University Calendar.

1905.

JANUARY XXXI.

1	<b>S</b>	Sunday after Christmas.
2	<b>M</b>	
3	<b>Tu</b>	
4	<b>W</b>	
5	<b>Th</b>	
6	<b>F</b>	Epiphany.
7	<b>S</b>	
8	<b>S</b>	First Sunday after Epiphany.
9	<b>M</b>	
10	<b>Tu</b>	
11	<b>W</b>	
12	<b>Th</b>	
13	<b>F</b>	
14	<b>S</b>	
15	<b>S</b>	Second Sunday after Epiphany.
16	<b>M</b>	
17	<b>Tu</b>	
18	<b>W</b>	
19	<b>Th</b>	
20	<b>F</b>	
21	<b>S</b>	
22	<b>S</b>	Third Sunday after Epiphany. King's Accession,
23	<b>M</b>	[1901.
24	<b>Tu</b>	
25	<b>W</b>	
26	<b>Th</b>	Foundation of Australia, 1797.
27	<b>F</b>	
28	<b>S</b>	
29	<b>S</b>	Fourth Sunday after Epiphany.
30	<b>M</b>	
31	<b>Tu</b>	

# Sydney University Calendar.

1905.

FEBRUARY XXVIII.

1	W	
2	Th	
3	F	
4	S	
5	S	Fifth Sunday after Epiphany.
6	M	Senate meets.
7	Tu	Last day for receiving entries for the University
8	W	[Examinations in March.
9	Th	
10	F	
11	S	
12	S	Sixth Sunday after Epiphany.
13	M	
14	Tu	
15	W	
16	Th	
17	F	
18	S	
19	S	Septuagesima Sunday.
20	M	
21	Tu	
22	W	
23	Th	
24	F	
25	S	
26	S	Sexagesima Sunday.
27	M	
28	Tu	

# Sydney University Calendar.

1905.

MARCH XXXI.

1	W	
2	Th	
3	F	
4	S	
5	S	Quinquagesima Sunday.
6	M	LENT TERM begins. Senate meets. University Examinations
7	Tu	[begin, viz., MATRICULATION PASS Examination, ENTRANCE Ex-
8	W	amination for LAW, MEDICINE and SCIENCE, DEFERRED ANNUAL
9	Th	PASS Examinations, ANNUAL LAW Examinations, HONOUR Ex-
10	F	aminations in the Faculty of Arts, and DEPARTMENT OF EN-
11	S	GINEERING. P. N. RUSSELL SCHOLARSHIP Examination. Latest
12	S	[date for receiving Competitive Prize Compositions and appli-
13	M	First Sunday in Lent. [cations for Bursaries.
14	Tu	Examinations for Higher Degrees begin.
15	W	
16	Th	
17	F	
18	S	
19	S	Second Sunday in Lent.
20	M	Lectures begin.
21	Tu	
22	W	
23	Th	
24	F	[LATION Examination on April 3rd.
25	S	Latest date for receiving entries for the LAW MATRICU-
26	S	Third Sunday in Lent.
27	M	
28	Tu	
29	W	
30	Th	
31	F	

# Sydney University Calendar.

1905.

APRIL XXX.

1	S	
2	S	Fourth Sunday in Lent.
3	M	Senate meets. LAW MATRICULATION Examination.
4	Tu	
5	W	
6	Th	
7	F	
8	S	
9	S	Fifth Sunday in Lent.
10	M	
11	Tu	
12	W	
13	Th	
14	F	
15	S	
16	S	Palm Sunday.
17	M	
18	Tu	
19	W	
20	Th	
21	F	Good Friday.
22	S	
23	S	Easter Day.
24	M	
25	Tu	
26	W	
27	Th	
28	F	[PUBLIC Examinations on June 5th.
29	S	Last day for receiving applications for LOCAL JUNIOR
30	S	First Sunday after Easter.



# Sydney University Calendar.

1905.

MAY XXXI.

1	M	Senate meets.
2	Tu	
3	W	
4	Th	
5	F	
6	S	
7	S	Second Sunday after Easter.
8	M	
9	Tu	
10	W	
11	Th	
12	F	Last day for receiving entries for the JUNIOR PUBLIC
13	S	[Examinations on June 5th.
14	S	Third Sunday after Easter.
15	M	
16	Tu	
17	W	
18	Th	
19	F	
20	S	
21	S	Fourth Sunday after Easter.
22	M	
23	Tu	
24	W	
25	Th	
26	F	
27	S	LENT TERM ends.
28	S	Rogation Sunday.
29	M	
30	Tu	
31	W	

# Sydney University Calendar.

1905.

JUNE XXX.

1	Th	Ascension Day.
2	F	
3	S	
4	S	Sunday after Ascension Day.
5	M	Senate meets. JUNIOR PUBLIC Examination begins.
6	Tu	
7	W	
8	Th	
9	F	
10	S	
11	S	Whit Sunday.
12	M	TRINITY TERM begins.
13	Tu	
14	W	
15	Th	
16	F	
17	S	
18	S	Trinity Sunday.
19	M	
20	Tu	
21	W	
22	Th	
23	F	[MATRICULATION Examination on July 3rd.
24	S	Last day for receiving applications for the LAW
25	S	First Sunday after Trinity.
26	M	
27	Tu	
28	W	
29	Th	
30	F	

# Sydney University Calendar.

1905.

JULY XXXI.

1	S	
2	S	Second Sunday after Trinity.
3	M	Senate meets. LAW MATRICULATION Examination.
4	Tu	
5	W	
6	Th	
7	F	
8	S	
9	S	Third Sunday after Trinity.
10	M	
11	Tu	
12	W	
13	Th	
14	F	
15	S	
16	S	Fourth Sunday after Trinity.
17	M	
18	Tu	
19	W	
20	Th	
21	F	
22	S	
23	S	Fifth Sunday after Trinity.
24	M	
25	Tu	
26	W	
27	Th	
28	F	
29	S	
30	S	Sixth Sunday after Trinity.
31	M	

# Sydney University Calendar.

1905.

AUGUST XXXI.

1	Tu	
2	W	
3	Th	
4	F	
5	S	
6	<b>S</b>	Seventh Sunday after Trinity.
7	M	Senate meets.
8	Tu	
9	W	
10	Th	
11	F	
12	S	
13	<b>S</b>	Eighth Sunday after Trinity.
14	M	
15	Tu	
16	W	
17	Th	
18	F	
19	S	TRINITY TERM ends.
20	<b>S</b>	Ninth Sunday after Trinity.
21	M	
22	Tu	
23	W	
24	Th	
25	F	
26	S	
27	<b>S</b>	Tenth Sunday after Trinity.
28	M	
29	Tu	
30	W	
31	Th	

# Sydney University Calendar.

1905.

SEPTEMBER XXX.

1	F	
2	S	
3	S	Eleventh Sunday after Trinity.
4	M	Senate meets.
5	Tu	
6	W	
7	Th	
8	F	
9	S	
10	S	Twelfth Sunday after Trinity.
11	M	
12	Tu	
13	W	
14	Th	
15	F	
16	S	
17	S	Thirteenth Sunday after Trinity.
18	M	
19	Tu	
20	W	
21	Th	
22	F	
23	S	
24	S	Fourteenth Sunday after Trinity.
25	M	MICHAELMAS TERM begins.
26	Tu	
27	W	
28	Th	[SHIP Examinations on November 13th.
29	F	and MATRICULATION HONOUR and SCHOLAR-
30	S	Latest date for receiving applications for Local SENIOR

# Sydney University Calendar.

1905.

OCTOBER XXXI.

1	<b>S</b>	Fifteenth Sunday after Trinity.
2	<b>M</b>	Senate meets.
3	<b>Tu</b>	
4	<b>W</b>	
5	<b>Th</b>	
6	<b>F</b>	
7	<b>S</b>	
8	<b>S</b>	Sixteenth Sunday after Trinity.
9	<b>M</b>	
10	<b>Tu</b>	
11	<b>W</b>	
12	<b>Th</b>	
13	<b>F</b>	
14	<b>S</b>	
15	<b>S</b>	Seventeenth Sunday after Trinity.
16	<b>M</b>	
17	<b>Tu</b>	
18	<b>W</b>	
19	<b>Th</b>	
20	<b>F</b>	[Examinations on November 14th.
21	<b>S</b>	[nation, and MATRICULATION HONOUR and SCHOLARSHIP
22	<b>S</b>	Latest date for receiving entries for the SENIOR PUBLIC EXAMINATIONS.
23	<b>M</b>	Eighteenth Sunday after Trinity.
24	<b>Tu</b>	
25	<b>W</b>	
26	<b>Th</b>	[Examinations in December.
27	<b>F</b>	Latest date for receiving entries for the ANNUAL UNIVERSITY EXAMINATIONS.
28	<b>S</b>	
29	<b>S</b>	Nineteenth Sunday after Trinity.
30	<b>M</b>	
31	<b>Tu</b>	

# Sydney University Calendar.

1905.

NOVEMBER XXX.

1	W	
2	Th	
3	F	[MATRICULATION Examination on November 13th.
4	S	Last day for receiving applications for the LAW
5	S	Twentieth Sunday after Trinity.
6	M	
7	Tu	
8	W	
9	Th	King's Birthday.
10	F	
11	S	
12	S	Twenty-first Sunday after Trinity.
13	M	SENIOR PUBLIC Examination and MATRICULATION
14	Tu	[HONOUR and SCHOLARSHIP Examinations begin.
15	W	[LAW MATRICULATION Examination.
16	Th	
17	F	
18	S	
19	S	Twenty-second Sunday after Trinity.
20	M	
21	Tu	
22	W	
23	Th	
24	F	
25	S	
26	S	Twenty-third Sunday after Trinity.
27	M	
28	Tu	
29	W	
30	Th	

# Sydney University Calendar.

1905.

DECEMBER XXXI.

1	F	
2	S	Lectures cease.
3	S	First Sunday in Advent.
4	M	Senate meets. ANNUAL Examinations begin.
5	Tu	
6	W	
7	Th	
8	F	
9	S	
10	S	Second Sunday in Advent.
11	M	
12	Tu	
13	W	
14	Th	
15	F	
16	S	MICHAELMAS TERM ends.
17	S	Third Sunday in Advent.
18	M	
19	Tu	
20	W	
21	Th	
22	F	
23	S	
24	S	Fourth Sunday in Advent.
25	M	Christmas Day.
26	Tu	
27	W	
28	Th	
29	F	
30	S	
31	S	First Sunday after Christmas.



# ROYAL CHARTER

OF THE

## UNIVERSITY OF SYDNEY,

FEBRUARY 27TH, 1858.

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Victoria, by the Grace of God, of the United Kingdom of Great Britain and Ireland, Queen, Defender of the Faith, to all to whom these presents shall come Greeting: Recites Act of Incorporation. WHEREAS under and by virtue of the provisions of an Act of the Governor and Legislative Council of our Colony of New South Wales, passed in the fourteenth year of our reign, No. 31, intituled "An Act to Incorporate and Endow the University of Sydney," and to which our Royal Assent was granted on the 9th day of December, One Thousand Eight Hundred and Fifty-one, a Senate, consisting of Sixteen Fellows, was incorporated and made a body politic with perpetual succession, under the name of the University of Sydney, with power to grant, after Examination, the several degrees of Bachelor of Arts, Master of Arts, Bachelor of Laws, Doctor of Laws, Bachelor of Medicine, and Doctor of Medicine, and to examine for Medical Degrees in the four Branches of Medicine, Surgery, Midwifery, and Pharmacy. AND whereas our trusty and well-beloved Sir William Thomas Denison, Knight Commander of our most honourable Order of the Bath, Lieutenant-Colonel in the Royal Engineers, our Captain-General and Governor-in-Chief

Petition of  
Senate.

Soliciting  
recognition  
of Degrees  
conferred by  
the Univer-  
sity.

in and over our said Colony, has transmitted to us the humble Petition of the Senate of the said University of Sydney under their common seal, dated the 9th of February One Thousand Eight Hundred and Fifty-seven, wherein is set forth a statement of the establishment of the said University, the appointment of learned Professors of the Faculty of Arts, and the provisions adopted and to be adopted in respect of the faculties of Laws and Medicine, and the course of Education and discipline for the Scholars, Undergraduates, and Graduates of the said University, and in which it is humbly submitted that the standard of acquirements which must be attained by Graduates in the University of Sydney is not below that prescribed by the most learned Universities of the United Kingdom, and the direction of the studies in the said University has been committed to Professors who have highly distinguished themselves in British Universities, that the rules under which the high standard in the University has been fixed cannot be altered without the approval of our representative in the Colony, and that there is invested in him the power of interference should the rules laid down be unduly relaxed in practice, and that, therefore, the Memorialists confidently hope that the Graduates of the University of Sydney will not be inferior in scholastic requirements to the majority of Graduates of British Universities, and that it is desirable to have the degrees of the University of Sydney generally recognised throughout our dominions; and it is also humbly submitted that although our Royal Assent to the Act of Legislature of New South Wales hereinbefore recited fully satisfies the principle of our law that the power of granting degrees should flow from the Crown, yet that as that assent was conveyed through an Act which has effect only in the territory of New South Wales, the *Memorialists believe that the degrees granted by the said University under the authority of the said Act, are not legally entitled to recognition beyond the limits of New South Wales*; and the Memorialists are in consequence most desirous to obtain a grant from us of Letters Patent requiring all our subjects to recognise the degrees given under the Act of the Local Legislature in the same manner as if the said University of Sydney had been an

University established within the United Kingdom under a Royal Charter or an Imperial enactment; and the Memorialists therefore hereby most humbly pray that we will be pleased to take the premises into our gracious consideration and grant to the University of Sydney Letters Patent effective of the object therein set forth. NOW KNOW YE that we, taking the premises into consideration, and deeming it to be the duty of our Royal office, for the advancement of religion and morality and the promotion of useful knowledge, to hold forth to all classes and denominations of our faithful subjects, without any distinction whatsoever, throughout our dominions *encouragement for pursuing a regular and liberal course of education*; and considering that many persons do prosecute and complete their studies in the Colony of New South Wales, on whom it is just to confer such distinctions and rewards as may induce them to persevere in their laudable pursuits; do, by virtue of our Prerogative Royal and our especial Grace and certain knowledge and mere motion, by these presents of us, our heirs and successors, will, grant, and declare that the Degrees of Bachelor of Arts, Master of Arts, Bachelor of Laws, Doctor of Laws, Bachelor of Medicine, and Doctor of Medicine, already granted or conferred or hereafter to be granted or conferred by the Senate of the said University of Sydney shall be recognised as Academic distinctions and rewards of merit, *and be entitled to rank, precedence, and consideration in our United Kingdom and in our Colonies and possessions throughout the world as fully as if the said Degree had been granted by any University of our said United Kingdom.* And we further will and ordain that *any variation of the Constitution of the said University* which may at any time or from time to time be made by an Act of the said Governor and Legislature shall not, *so long as the same or a like standard of knowledge is in the opinion of the said Governor preserved as a necessary condition for obtaining the aforesaid degrees therein*, in any manner annul, abrogate, circumscribe, or diminish the privileges conferred on the said University by these our Royal Letters Patent, nor the ranks, rights, privileges, and consideration conferred by such degrees. And, lastly, we do hereby for us, our

Such  
recognition  
granted.

## ROYAL CHARTER.

heirs, and successors, grant and declare that these our Letters Patent or the enrolment or exemplification thereof shall be in and by all things valid and effectual in law according to the true intent and meaning of the same, and shall be construed and adjudged in the most favourable and beneficial sense to the best advantage of the said University, as well in all our courts as elsewhere, notwithstanding any non-recital, uncertainty, or imperfection in these our Letters Patent. IN WITNESS whereof we have caused these our Letters to be made Patent.

Witness ourself at Westminster, the Twenty-seventh day of February, in the Twenty-first year of our Reign.

By WARRANT under the Queen's sign manual.

o

C. ROMILLY.

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THE UNIVERSITY  
AND  
UNIVERSITY COLLEGES ACT,  
1900.

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An Act to consolidate the Acts relating to the University of Sydney and Colleges within the University of Sydney.

[Assented to 22nd September, 1900.]

WHEREAS it is expedient for the better advancement of religion and morality and the promotion of useful knowledge, to hold forth to all classes and denominations of Her Majesty's subjects resident in New South Wales, without any distinction whatsoever, an encouragement for pursuing a regular and liberal course of education; and to ascertain by means of examination the persons who acquire proficiency in literature, science, and art, and to reward them by academical degrees as evidence of their respective attainments and by marks of honour proportioned thereto; and to encourage and assist the establishment of colleges within the University of Sydney, in which colleges systematic religious instruction and domestic supervision, with efficient assistance in preparing for the University lectures and examinations, shall be provided for students of the University: Be it therefore enacted by the Queen's Most Excellent Majesty, by and with the advice and consent of the Legislative Council and Legislative Assembly of New South Wales in Parliament assembled, and by the authority of the same, as follows:—

## UNIVERSITY AND UNIVERSITY COLLEGES.

## PART I.

*Preliminary.*

1. This Act may be cited as the "University and University Colleges Act, 1900," and is divided into Parts and Divisions, as follows:—

PART I.—*Preliminary.*—ss. 1-5.

PART II.—*Incorporation and constitution of the University and provisions relating to the Senate.*—ss. 6-18.

PART III.—*Examinations and degrees.*—ss. 19-23.

PART IV.—*Endowment and finance.*—ss. 24-29.

PART V.—*Students, licensed masters, and privileged officers.*—ss. 30-32.

PART VI.—*Colleges within the University*—

Division 1.—*Interpretation.*—s. 33.

Division 2.—*Endowment and subscribed fund*—

(i.) *Conditions of endowment.*—ss. 34, 35.

(ii.) *Endowment for building.*—s. 36.

(iii.) *Endowment for principal.*—ss. 37-39.

(iv.) *Interest on subscribed fund.*—s. 40.

Division 3.—*Government of students.*—s. 41.

2. (1) The Acts mentioned in the Schedule to this Act are, to the extent therein expressed, hereby repealed.

(2) All persons elected or appointed under the Acts hereby repealed, and holding office at the time of the passing of this Act, shall continue in office as if this Act had been in force at the time they were appointed, and they had been appointed hereunder.

(3) All regulations or by-laws made under the authority of any Act hereby repealed, and being in force at the time of the passing of this Act, shall be deemed to have been made under the authority of this Act, and references in such regulations to the provisions of any Act hereby repealed shall be deemed to be references to the corresponding provisions of this Act.

3. In this Act, unless the context or subject-matter otherwise indicates or requires,—

Repeal  
Schedule.

Officers  
under Acts  
hereby  
repealed.

Regulations  
or by-laws  
under Acts  
hereby  
repealed.

Interpre-  
tation.

“Bachelor” means any person upon whom the degree of Bachelor has been conferred by the University.

“Doctor” means any person upon whom the degree of Doctor has been conferred by the University.

“Fellow” means a member of the Senate.

“Master” means any person upon whom the degree of Master has been conferred by the University.

“University” means the University of Sydney.

4. Nothing in this Act shall be deemed to affect or interfere with any right, title, or interest of Her Majesty, Her Heirs and Successors, or in any way to limit the Royal Prerogative.

Act not to interfere with rights of Her Majesty  
14 Vic. No. 31, s. 24.  
Women to be admitted to University privileges.  
47 Vic. No. 17, s. 3.

5. The benefits and advantages of the University, and the provisions of this and any other Act relating thereto, shall be deemed to extend in all respects to women equally with men.

## PART II.

### *Incorporation and constitution of the University and provisions relating to the Senate.*

6. The University of Sydney is the body politic and corporate incorporated by that name under the Act fourteenth Victoria number thirty-one, and shall, by that name, have a perpetual succession and a common seal and power to sue and be sued, and to take, purchase, and hold all real and personal property whatsoever, whether the same is situate in New South Wales or elsewhere, and to grant, demise, alien, or otherwise dispose of the same, and also to do all other matters and things incidental or appertaining to a body politic.

The University of  
14 Vic. No. 31, s. 1.

Provided that the University shall not, unless with the approval of the Governor, alienate, mortgage, charge, or demise any of its lands, except by way of lease for any term not exceeding thirty-one years from the making thereof, by which lease there shall be reserved and made payable during the whole of the term the best yearly rent that can reasonably be obtained without any fine or foregift.

Proviso.  
Ibid. s. 2.

University  
to consist of  
a Senate.

*Ibid.* s. 4.  
24 Vic. No.  
13, s. 2.

7. The said body politic and corporate shall consist of a Senate which shall be constituted by—

- (a) sixteen elective fellows, who shall be elected as hereinafter provided, and of whom at least twelve shall be laymen; and
- (b) not fewer than three nor more than six *ex officio* Fellows, who shall be Professors of the said University in such branches of learning as the Senate shall from time to time by any by-law select.

Elections of  
Fellows.

*Ibid.* s. 4.  
44 Vic. No.  
22, s. 3.

8. Every vacancy occurring by death, resignation, or otherwise among the elective Fellows shall be filled up as it occurs by the election, at a meeting duly convened for the purpose, of such other fit and proper person as may be elected to fill such vacancy by the majority of the following persons present at such meetings, that is to say,—

- (a) Fellows;
- (b) Officials declared by this Act to have the same rights and privileges within the University as Masters and Doctors;
- (c) Graduates keeping their names in accordance with any by-law in that behalf on the register of the University who have taken within the University the degree of Master or of Doctor;
- (d) Bachelors and all other persons who obtain any certificate which the Senate by by-law declares to be equivalent to the degree of Bachelor, if such Bachelors or other persons are of three years standing in the University, after obtaining such degree or certificate, and are of the age of twenty-one years.

Vacancies.  
24 Vic. No.  
13, s. 4.

9. Unless by death or resignation no vacancy among the elective Fellows shall occur for any cause not previously specified in some by-law of the University.

Chancellor.  
14 Vic. No.  
31, s. 4.  
24 Vic. No.  
13, s. 5.

10. (1) The Senate shall elect out of their own body, by a majority of votes, a Chancellor of the University, who shall hold office for such period as the Senate shall from time to time appoint.



(2) Whenever a vacancy occurs in the said office by death, resignation, or otherwise, the Senate shall, in like manner, elect out of their own body, a person to fill that office. Vacancies in office of Chancellor.

11. (1) The Senate shall annually, on a day of which due notice has been given, elect out of their own body a Vice-Chancellor of the University, who shall hold office for one year. Vice-Chancellor. 14 Vic. No. 31, s. 6. 24 Vic. No. 13, s. 5.

(2) Whenever a vacancy occurs in the said office by death, resignation, or otherwise before the expiration of the year of office, the Senate shall, as soon as conveniently may be, hold a meeting of which due notice has been given, and at such meeting elect out of their own body some other person to be Vice-Chancellor for the remainder of the year. Vacancies in office of Vice-Chancellor.

(3) Any Vice-Chancellor shall be capable of re-election as often as is deemed meet. Vice-Chancellor eligible for re-election.

12. (1) At every meeting of the Senate the Chancellor or, in his absence, the Vice-Chancellor shall preside as chairman, but if the Chancellor and Vice-Chancellor are both absent, the Fellows present shall elect a chairman. Chairman. 14 Vic. No. 31, s. 10. 24 Vic. No. 13, s. 5.

13. (1) All questions which come before the Senate shall be decided at any meeting duly convened, at which a quorum is present, by a majority of the votes of the Fellows present. Questions how decided. 14 Vic. No. 31, s. 9.

(2) The chairman at any such meeting shall have a vote, and in case of an equality of votes a second or casting vote. Chairman.

(3) At any such meeting—

(a) five Fellows of whom the Chancellor or Vice-Chancellor shall be one; or Quorum. *Ibid* 16 Vic. No. 28, s. 1.

(b) in the absence of both the Chancellor and Vice-Chancellor, eight Fellows

shall form a quorum.

14. (1) The Senate shall have full power to appoint and dismiss all professors, tutors, officers, and servants of the University. Senate may appoint and dismiss officers. 14 Vic. No. 31, s. 8.

(2) The Senate shall have the entire management of and superintendence over the affairs, concerns, and And to have entire management.

property of the University, and in all cases unprovided for by this Act the Senate may act in such manner as appears to them to be best calculated to promote the purposes of the University.

By-laws.  
*Ibid.* ss. 8,  
15, 21.  
44 Vic. No.  
22, s. 2.

15. (1) The Senate may make by-laws and regulations relating to—

- (a) the discipline of the University; and
- (b) examinations for and the granting of scholarships, exhibitions, degrees, certificates or honours; and
- (c) the conferring of *ad eundem* degrees;
- (d) the mode and time of convening meetings of the Senate; and
- (e) all other matters whatsoever regarding the University;

Provided that no such by-law or regulation shall be repugnant to any existing law or to the general objects and provisions of this Act.

Approval of  
Governor.

(2) All such by-laws and regulations shall be reduced to writing and submitted for the consideration and approval of the Governor, and when approved shall be countersigned by him, and when so countersigned and sealed with the seal of the University shall be of full force and effect.

To be laid  
before the  
Legislative  
Council and  
Legislative  
Assembly.

(3) The Colonial Secretary shall lay every such by-law and regulation before the Legislative Council and Legislative Assembly during the session of Parliament in which it becomes in force or within six weeks after the beginning of the next ensuing session.

Evidence.

(4) Any such by-law or regulation may be proved in any Court by the production of a verified copy under the seal of the University.

University  
to report  
their pro-  
ceedings  
to the  
Governor.  
14 Vic. No.  
31, s. 22.  
Copy of  
report to be  
laid before  
Legislative  
Council or  
Legislative  
Assembly.

16. (1) The University shall once at least in every year, and also whenever the pleasure of the Governor may be signified in that behalf, report their proceedings to the Governor.

(2) A copy of such report shall be laid before the Legislative Council and Legislative Assembly within six weeks after it is made if Parliament is then in session, or, if not, then within six weeks after the beginning of the next ensuing session.

17. The Governor of New South Wales shall be the visitor of the University, with authority to do all things that pertain to visitors as often as he deems meet.

Visitor.  
*Ibid.* s. 16.

18. No religious test shall be administered to any person in order to entitle him to be admitted as a student of the University, or to hold any office therein, or to partake of any advantage or privilege thereof.

Religious tests.  
*Ibid.* s. 20.

Provided that this enactment shall not be deemed to prevent the making of regulations for securing the due attendance of the students for divine worship at such church or chapel as their parents or guardians may approve.

### PART III.

#### *Examinations and degrees.*

19. (1) The Senate may give such instruction as it thinks fit, and may, after examination, confer the several degrees of Bachelor, Master, and Doctor, and such other degrees and such certificates in the nature of degrees as it thinks fit in all branches of knowledge, except theology and divinity.

Degrees.  
14 Vic. No. 31, s. 13.  
47 Vic. No. 17, s. 1.

Provided that no student in the University shall be compelled to attend lectures upon or pass examinations in any of the following subjects, namely:—Ethics, metaphysics, and modern history.

(2) All persons who obtain any certificate or qualification which the Senate by by-law declares to be of equivalent rank to the degree of Bachelor shall have the same rights and privileges within the University as Bachelors.

Status of holders of certificates.  
*Ibid.* s. 2.

20. (1) At the conclusion of every examination of candidates the examiners shall declare the name of every candidate whom they deem entitled to any degree, and also—

Examiners to declare results of examinations.  
14 Vic. No. 31, s. 14.

- (a) the departments of knowledge in which his proficiency has been evinced; and
- (b) his proficiency in relation to that of other candidates.

## Certificates.

(2) The Chancellor shall give every such candidate a certificate under the seal of the University and signed by such Chancellor, in which the particulars so declared shall be stated.

Ad eundem  
degrees.  
44 Vic. No.  
22, s. 1.

21. (1) When any person has obtained in any University, recognised by the by-laws of the University in force for the time being, any degree corresponding or equivalent to any degree which the Senate is now or may hereafter be empowered to confer after examination, the Senate may confer such latter degree upon such persons without examination.

Rights of  
holders.

(2) The persons upon whom degrees are conferred, under the provisions of the preceding subsection, shall be entitled to the same rights and privileges as appertain to those who have taken the same degrees in the ordinary course in the University.

Senate may  
authorise  
educational  
establish-  
ments to  
issue certi-  
ficates.  
4 Vic. No.  
31, s. 11.

22. (1) The Senate may authorise any college or educational establishment, whether incorporated or not, instituted for the promotion of literature, science, or art, to issue to candidates for the degrees of Bachelor of Arts, Master of Arts, Bachelor of Laws, and Doctor of Laws certificates to the effect that the candidate for any such degree has completed such course of instruction therefor as the Senate by regulation prescribes.

Upon which  
degrees may  
be granted.

(2) Any person who presents to the Senate any such certificate may be admitted as a candidate for the degree to which it has reference.

Report on  
medical  
establish-  
ments by  
Senate.  
14 Vic. No.  
31, s. 12.

23. (1) For the purpose of granting the degrees of Bachelor of Medicine and Doctor of Medicine, and for the improvement of medical education in all its branches, as well in medicine as in surgery, midwifery, and pharmacy, the Senate may report to the Governor the medical institutions and schools, whether incorporated or not, in the city of Sydney, from which, either singly or jointly with other medical institutions and schools in New South Wales or in foreign parts, it appears to the Senate fit and expedient to admit candidates for medical degrees.

Candidates  
from such  
establish-  
ments may  
be admitted  
to degrees.

(2) On approval of such report by the Governor, the Senate shall admit as a candidate for the degree of Bachelor of Medicine or Doctor of Medicine any person

who presents to the Senate a certificate from any such institution or school to the effect that such person has completed the course of instruction therefor which the Senate by regulation prescribes.

#### PART IV.

##### *Endowment and finance.*

24. (1) By way of permanent endowment for the University the Governor is hereby empowered by warrant, under his hand, to direct to be issued and paid out of the Consolidated Revenue Fund the sum of five thousand pounds in every year as a fund for building, and for defraying the several stipends appointed to be paid to the several professors or teachers of literature, science, and art, and to such necessary officers and servants as are from time to time appointed by the Senate, and for defraying the expense of such prizes, scholarships, and exhibitions as are awarded for the encouragement of students in the University, and for providing gradually a library for the same, and for discharging all incidental and necessary charges connected with the current expenditure thereof.

Permanent  
endowment.  
*Ibid.* s. 3.

Provided that the Senate may apply any portion of the said endowment fund to the establishment and maintenance of a college in connection with and under the provisions of the University.

Proviso.  
*Ibid.* s. 11.

(2) The said sum shall be paid in four equal quarterly instalments, on the first day of January, the first day of April, the first day of July, and the first day of October, in every year.

To be paid  
in quarterly  
instalments.

25. The Senate may charge such reasonable fees for the respective degrees conferred as they with the approbation of the Governor direct. Such fees shall be carried to one general fee fund for the payment of the expenses of the University.

Fees for  
degrees.  
14 Vic. No.  
31, s. 13.

26. The Senate may by any by-laws or regulations provide for payment by the students of the University of reasonable fees to the professors or teachers for

Fees to Pro-  
fessors and  
teachers.  
*Ibid.* s.

attendance on their lectures. Such professors or teachers may, in addition to their stipends, demand and receive such fees from the students.

Fees for entrance, &c.  
*Ibid.* s. 17.

27. The Senate may in like manner provide for payment by such students of reasonable fees for entrance, degrees, certificates, and other University charges. The Treasurer of the University shall, on behalf of the University, collect such fees from the students.

Powers of the Senate in respect of Levey's legacy.  
17 Vic. No. 18, s. 5.

28. The securities representing the investments of the sum of money bequeathed by the late Solomon Levey, Esquire, to the Sydney College, with the interest thereon, shall be held by the Senate upon trust to continue to hold the same, or to alter them from time to time in favour of other investments at interest upon such security and in such manner in all respects as the Senate in their absolute discretion think fit, and the clear or net interest or income arising therefrom shall be applied in or towards the endowment of a scholarship in the University under such regulations as the Senate, in their absolute and uncontrolled discretion in respect of making and altering the same, deem to be as nearly as circumstances permit in accordance with the intention of the said Solomon Levey in making the aforesaid bequest.

Accounts of annual income and expenditure to be laid before the Legislative Council and Assembly.  
14 Vic. No. 31, s. 13.

29. The Senate shall once in every year transmit a full account of the whole income and expenditure of the University to the Colonial Secretary, who shall submit the same to the Legislative Council and Legislative Assembly to be subjected to such examination and audit as such Council and Assembly may direct.

## PART V.

### *Students, licensed masters, and privileged officials.*

Residence of students.  
*Ibid.* s. 18.

30. No student shall be allowed to attend the lectures or classes of the University unless he dwells—

- (a) with his parents or guardian; or
- (b) with some relative or friend selected by his parents or guardian and approved by the Chancellor or Vice-Chancellor; or

- (c) in some collegiate or other educational establishment; or
- (d) with a tutor or master of a boarding-house licensed by the Chancellor or Vice-Chancellor as herein-after mentioned.

31. (1) Every person desirous of being licensed as a tutor or master of a boarding-house in connection with the University shall apply for his license to the Chancellor or Vice-Chancellor in writing under his hand specifying the house or houses belonging to or occupied by the applicant and intended by him for the reception of students, and the number of students who may be conveniently lodged and boarded therein.

Licensing persons with whom students may reside.  
14 Vic. No. 31, s. 19.

(2) Such Chancellor or Vice-Chancellor may require of any such applicant testimonials of character and fitness for the office, and thereupon may grant or withhold the license for the academical year then current or then next ensuing.

Powers of Chancellor or Vice-Chancellor.

(3) Every such license shall be registered in the archives of the University and shall lapse at the end of the academical year in which it was registered, but may be renewed by the Chancellor or Vice-Chancellor and re-registered.

License to be registered.

(4) Every such license shall be revocable at any time, and the Chancellor or Vice-Chancellor may forthwith revoke the same in case of any misbehaviour of such tutor or master of a boarding-house or of the students under his care which, in the opinion of the Chancellor or Vice-Chancellor and a majority of the professors of the University, ought to be punished by immediate revocation of such license.

Revocation of license.

32. Each and every of the following officials, that is to say—

- (a) every professor and other public teacher and examiner in the schools of the University; and
- (b) every principal of any incorporated college within the University; and
- (c) every superior officer of the University declared to be such by any by-law

Members of the University.  
24 Vic. No. 13, s. 3.

shall, during his tenure of office, but no longer, have the same rights and privileges within the University as are enjoyed by Masters and Doctors.

## PART VI.

### *Colleges within the University.*

#### Division 1.—*Interpretation.*

Interpreta-  
tion.  
18 Vic. No.  
37, s. 10.

33. In this part of this Act, unless the context or subject-matter otherwise indicates or requires,—

“College” means a college within the University.

“Principal” includes the master, warden, rector, or any other head of a college.

#### Division 2.—*Endowment and subscribed fund.*

##### (i) *Conditions of endowment.*

Endowment  
of Colleges.  
18 Vic. No.  
37, s. 1.

34. Whenever—

(a) any college has been established and incorporated by any Act; and

(b) the founders of or subscribers to such college have complied with the conditions mentioned in the next section,

such college shall be entitled to the endowments herein-after severally mentioned, which said endowments shall be paid by the Treasurer under warrants signed by the Governor.

Conditions  
of endow-  
ment.  
*Ibid.* s 2

35. No such college although incorporated shall be entitled to such endowments unless and until the sum of ten thousand pounds at the least has been subscribed by its founders, and of that sum not less than four thousand pounds has been paid and invested in such manner as the Governor approves, and the residue has been to his satisfaction secured to be paid within three years next following; nor unless

(a) the whole of the said ten thousand pounds is to be devoted exclusively to the erection of college buildings on land granted for that purpose by Her Majesty to the University in trust for such



college, if any is so granted, and if not then upon land otherwise conveyed to and accepted by the University in such trust; and :

- (b) it has been agreed by the founders that the entire amount shall be so expended, if the University so requires, within five years next after the first payment on account of either of such endowments.

(ii) *Endowment for building.*

36. There shall be paid out of the Consolidated Revenue, in aid of the building fund of every college so incorporated, a sum or sums not exceeding in the whole twenty thousand pounds, nor more than has been from time to time actually expended by the college out of its subscribed funds for the purpose of building.

Endowment  
for building.  
*Ibid.* s. 3.

(iii) *Endowment for principal.*

37. There shall be paid out of the said Consolidated Revenue annually, to such incorporated college in perpetuity, a sum of five hundred pounds for the use of and as a salary to the principal of such college or in aid of such salary.

Endowment  
for principal's salary.  
*Ibid.* s. 4.

38. Every such principal shall be entitled to the annual salary hereby provided for on the production of his own certificate at the time of each payment that he has during the period to which it relates performed the duties of his office.

Conditions  
as to such  
endowment  
*Ibid.* s. 5.

Provided that he shall transmit to the Colonial Secretary once in each year a certificate to the like effect under the hands of such persons as are for that purpose appointed by the constitution or rules of the particular college.

39. Where any person selected to be the principal of any such college is out of New South Wales at the time of his appointment no such certificate shall be required until after he has actually entered on his duties, but he shall be entitled to the salary, and the college to which he has been appointed may receive the same accordingly for his use from the day of his embarkation for New South Wales.

Provision  
where  
selected  
principal is  
out of New  
South  
Wales.  
18 Vic. No.  
37, s. 6.

Provided that every principal shall actually enter on his duties within six months after such embarkation unless the Governor, upon being satisfied that unavoidable obstacles have intervened, thinks fit to extend that term to nine months.

(iv) *Interest on subscribed fund.*

Accruing  
proceeds of  
subscribed  
fund until  
expended in  
building.  
*Ibid.* s. 7.

40. Until the subscribed fund is required for the erection of college buildings as aforesaid, the interest or other proceeds accruing from the investment thereof, or of the portion remaining unexpended from time to time, may be applied to the general purposes of the college as the governing body of such college may determine.

Division 3.—*Government of students.*

Students of  
Colleges to  
be members  
of Univer-  
sity and  
attend  
lectures.  
*Ibid.* s. 8.

41. All students in any such college shall immediately upon entering therein matriculate in the University, and shall thereafter submit and be subject to the discipline thereof, and shall be required duly and regularly to attend the lectures of the University on those subjects an examination and proficiency in which are required for honours and degrees, with the exception, if thought fit by any such college, of lectures on ethics, metaphysics and modern history.

## SCHEDULE.

Reference to Act.	Title or Short Title.	Extent of repeal.
14 Vic. No. 31..	An Act to incorporate and endow the University of Sydney.	The whole.
16 Vic. No. 28..	An Act to amend an Act intituled an Act to incorporate and endow the University of Sydney.	The whole.
17 Vic. No. 18..	An Act to enable the University of Sydney to purchase the Sydney College with the land attached thereto.	The whole.
18 Vic. No. 37..	An Act to provide for the establishment and endowment of colleges within the University of Sydney.	The whole.
22 Vic. No. 8..	An Act to amend an Act intituled an Act to provide for the establishment and endowment of colleges within the University of Sydney.	The whole.
24 Vic. No. 13..	An Act to amend the Sydney University Incorporation Act.	The whole.
44 Vic. No. 22..	"Ad eundem Degrees Act of 1881."	The whole.
47 Vic. No. 17..	"University Extension Act of 1884."	The whole.

THE UNIVERSITY AND UNIVERSITY COLLEGES  
(AMENDMENT) ACT, 1902.

THE UNIVERSITY AND UNIVERSITY  
COLLEGES (AMENDMENT) ACT, 1902.

[Assented to 4th December, 1902.]

An Act to amend the University and University Colleges Act 1902.

BE it enacted by the King's Most Excellent Majesty, by and with the advice and consent of the Legislative Assembly of New South Wales in Parliament assembled, and by the authority of the same, as follows:—

Short title.

1. This Act may be cited as the "University and University Colleges (Amendment) Act, 1902," and shall be construed with the University and University Colleges Act, 1900, hereinafter called the Principal Act.

Increase of  
endowment  
from £5000  
to £10,000.

2. Subsection one of section twenty-four of the Principal Act is amended by the substitution of the word "ten" in place of the word "five" where it occurs in that subsection.

Students of  
training  
schools and  
others to  
attend  
lectures on  
arts or  
science free.

3. The Senate shall allow students of training schools established under the Public Instruction Act of 1880 and such other persons training for the position of teacher under the Department of Public Instruction as the Minister may approve to attend, for the purpose of graduating in Arts or Science, the University lectures for the period required for such graduation, without the payment of any fees, provided that such students and other persons shall previously have passed the entrance examination prescribed by the University by-laws.

# BY-LAWS OF THE UNIVERSITY.

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*All By-laws heretofore passed by the Senate and now in force are hereby repealed, and in lieu thereof the following By-laws shall be and are hereby declared to be the By-laws under which the University of Sydney shall henceforth be governed. Provided always, that nothing herein contained shall be deemed to revive any By-law previously repealed, or to prejudice any matter already done or commenced under any By-law hitherto in force.*

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## CHAPTER I.—THE CHANCELLOR AND VICE-CHANCELLOR.

1.—The election to the office of Chancellor shall take place<sup>5-7-87</sup> at a duly convened meeting of the Senate to be held in Lent Term.

2.—The Chancellor shall be elected for a period of three<sup>5-7-87</sup> years (except as hereinafter provided), to be computed from the date of election, but shall be eligible for re-election.

3.—In the event of the office of Chancellor becoming vacant<sup>5-7-87</sup> by death, resignation, or otherwise, before the expiration of the full term of office herein prescribed, the election of a successor shall be proceeded with at the next ensuing regular meeting of the Senate, and the Chancellor so appointed shall hold office until the Lent Term next after the expiration of three years from the date of such election.

4.—The election of Vice-Chancellor shall take place annually<sup>5-7-87</sup> at a duly convened meeting of the Senate, to be held in Lent<sup>64 V.</sup> Term, except as in cases otherwise provided by the Act of<sup>s. 11.</sup> Incorporation.

5.—The Chancellor and Vice-Chancellor shall be members<sup>6-5-90</sup> *ex-officio* of every Faculty, Board, or Committee appointed by any By-law or otherwise by the Senate; and at every meeting of any such Faculty, Board, or Committee, the Chancellor, or in his absence the Vice-Chancellor, or, in the absence of both, the Chairman shall preside, or in his absence a member elected for that sitting. The President at such meetings shall have a vote, and in case of an equality of votes, a second or casting vote.

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NOTE.—The dates in the margin are the dates of the approval of the various By-laws by His Excellency the Governor in Council.

## CHAPTER II.—SENATE.

## MEETINGS AND RULES OF PROCEDURE.

- 7-11-93 1.—The Senate shall meet on the first Monday in every month, or on the nearest convenient day should such first Monday be a public holiday, and may adjourn from time to time to conclude any unfinished business.
- 5-7-87 2.—At any time in the interval between such meetings it shall be competent for the Chancellor, or in his absence the Vice-Chancellor, in any case of emergency, to call a special meeting of the Senate, to be held as soon as conveniently may be, for the consideration of any business which he may wish to submit to them.
- 5-7-87 3.—Upon the written requisition of any three members the Chancellor, or in his absence the Vice-Chancellor, or in the absence of both, the Registrar, shall convene a special meeting of the Senate, to be held as soon as conveniently may be after the expiration of seven days from the receipt of such requisition.
- 5-7-87 4.—Except in any case of emergency as aforesaid, no motion initiating a subject for discussion shall be made but in pursuance of notice given at the previous meeting, and every such notice shall be entered in a book to be kept by the Registrar for that purpose.
- 5-7-87 5.—The Registrar shall issue to each member of the Senate a summons with a written specification of the various matters to be considered at the next meeting of the Senate, whether such meeting be an ordinary or special one; and such summons, except in any case of emergency, as aforesaid, shall be issued at least three days previous to such meeting.
- 5-7-87 6.—In the event of a quorum of the Senate not being present at any meeting within half an hour after the hour appointed, the members then present may appoint any convenient future day, of which at least three days' notice shall be given by the Registrar in the usual manner.
- 5-7-87 7.—All the proceedings of the Senate shall be entered in a journal, and at the opening of each meeting the minutes of the preceding meeting shall be read and confirmed, and the signature of the chairman then presiding shall be attached thereto.
- 18-7-93 8.—If any Fellow shall, without leave from the Senate, be absent from the aforesaid meetings for six consecutive calendar months his fellowship shall, *ipso facto*, become vacant; provided that, in computing the said six consecutive months, the month of January shall not be taken into account.

## ELECTION TO VACANCIES.

9.—At the first meeting of the Senate after the occurrence<sup>5-7-87</sup> of a vacancy among the Fellows, a day shall be fixed for a Convocation for the election of a successor, such day to be within sixty days from the date of such Senate meeting, and to be announced at least thirty days before such Convocation, by notice posted at the University and by advertisement in one or more of the daily newspapers. Due notice shall also be given of the day on which a ballot shall be taken, should such be required. Provided that no Convocation shall be held in the month of January.

10.—No person shall be eligible for election to fill any vacancy<sup>5-7-87</sup> among the Fellows unless his candidature shall have been communicated to the Registrar under the hands of two qualified\* voters ten clear days at least before the intended Convocation, and seven clear days at least after the fixing of the day for such Convocation; and it shall be the duty of that officer to cause the name of such person and the fact of his candidature to be forthwith advertised in one or more of the daily newspapers published in Sydney, and to be posted in a conspicuous place in the University for eight clear days at least before such Convocation.

11.—The Convocation for the election of a Fellow shall be<sup>5-7-87</sup> held in the University,† and shall be presided over in the same manner as if it were a meeting of the Senate. Every candidate submitted for election must be proposed and seconded by legally qualified voters. If one candidate only or one only for each vacancy be so proposed and seconded, then such candidate or candidates shall be declared by the President to be duly elected. But if more candidates are proposed and seconded than there are vacancies in the Senate to be filled at such Convocation, a show of hands shall be taken; and unless a ballot be demanded by at least two members of Convocation then present, the President shall declare the candidate or candidates in whose favour there shall be the greatest show of hands to be duly elected. Should a ballot be demanded it shall be conducted in the following manner:—

(a) The voters then present shall choose two or more members of Convocation to act as scrutineers.

\* The legally qualified voters are Fellows of the Senate for the time being, Professors, Public Teachers and Examiners in the Schools of the University, Principals of Incorporated Colleges within the University, Superior Officers of the University declared to be such by By-law, Graduates holding the Degree of Master or Doctor, and Graduates of three years' standing, who hold the Degree of Bachelor.

† By a resolution of the Senate, of date July 2, 1888, ballots for the election of Fellows may be held at the Royal Society's Rooms, or in some other central place within the city of Sydney, to be named by the Senate, or by the Chancellor, or by the Vice-Chancellor in his absence.

- (b) The ballot shall not be held earlier than one week from the day of nomination at Convocation, and shall be notified by notice posted in the University and by advertisement in one or more of the daily newspapers.
- (c) The ballot shall commence at 10 a.m., and close at 2 p.m., on the day appointed.
- (d) At the expiration of the time allotted for the ballot the scrutineers shall proceed to the examination of the voting papers, and shall report the result to the President, who shall then declare the candidate or candidates having the majority of votes to be duly elected to the vacant seat or seats in the Senate.
- (e) In the event of an equality of votes, the election shall be decided by the casting vote of the President.

5-7-87 12.—Before the time fixed for the Convocation for the election of a Fellow, the Registrar shall prepare for the President's use a complete list of all persons entitled to vote under the provisions of the law, and a copy of such list shall be posted in a conspicuous place in the University for two days at least before the time of Convocation.

5-7-87 13.—None but legally qualified voters shall be allowed to be present during the taking of a ballot.

#### EX-OFFICIO MEMBERS.

[University and University Colleges Act, 1900, Sec. 7 (b)]

1-3-04 14.—The Senate hereby makes and declares the following selections of branches of learning, the Professors in which shall be *ex-officio* members of the Senate—that is to say, Modern Literature, Law, Physiology and Geology and Physical Geography, such selections to take effect from the date of the Governor's assent hereto, and to endure until the thirtieth day of September, one thousand nine hundred and four, unless sooner revoked by the authority of the Senate, and with the approval of the Governor.

#### CHAPTER III.—MEETINGS OF CONVOCATION OTHER THAN FOR THE ELECTION OF FELLOWS.

25-11-87 1.—The Chancellor, or in his absence, the Vice-Chancellor, shall, in pursuance of a resolution of the Senate, or upon the receipt of a requisition signed by at least twenty members of



Convocation, summon a meeting of Convocation to be holden at such time and place as he shall direct. And such meeting shall be held accordingly within twenty-eight days from the date of the requisition. And notice of such meeting shall be given by public advertisement not less than fourteen days before the day appointed for the meeting. Provided that every such requisition shall specify the subjects which it is proposed to bring before Convocation. And if, in the opinion of the summoning officer, the subjects so specified, or any of them, are such as ought not to be discussed in Convocation, he shall refer the matter to the Senate, which shall decide whether the meeting shall be held or not. Provided that no such meeting shall be held in the month of January.

2.—At all meetings so summoned the Chancellor, or in his <sup>25-11-87</sup> absence the Vice-Chancellor, shall preside. In the absence of the Chancellor and Vice-Chancellor, the members of Convocation present shall elect one of their number to be president of that meeting.

3.—The presence at any meeting of twenty-five members of <sup>25-11-87</sup> Convocation shall be necessary to form a quorum. And if within half an hour from the time of meeting there shall be no quorum present, the meeting shall lapse.

4.—At all meetings of Convocation the Registrar shall act <sup>25-11-87</sup> as Secretary, and keep the minutes of all proceedings.

5.—Every meeting may be adjourned by the President to <sup>25-11-87</sup> such day and hour as may be fixed by resolution.

6.—All questions submitted to the Convocation shall be <sup>25-11-87</sup> decided by a majority of members present. The President shall have a deliberative as well as a casting vote.

7.—All resolutions of Convocation shall be signed by the <sup>25-11-87</sup> President, and shall be laid by the Registrar before the Senate at its next meeting.

8.—All members of Convocation attending any such meeting <sup>25-11-87</sup> shall appear in the habit of their Degree.

#### CHAPTER IV.—SUPERIOR OFFICERS.

[University and University Colleges Act, 1900. Section 32 (c).]

1.—The Registrar and the Solicitor to the University are <sup>5-7-97</sup> hereby declared to be Superior Officers of the University, entitled to the rights and privileges conferred by the "Sydney University Incorporation Act Amendment Act of 1861."

## CHAPTER V.—THE REGISTRAR.

5-7-87 1.—The Registrar shall keep all necessary records of the proceedings of the University, conduct all necessary correspondence, and keep such registers and books of account as may be required.

5-7-87 2.—All fees, fines, or other sums received by the Registrar in his capacity as such shall be paid into the Bank of the University, in order that the same may be applied, accounted for, and audited in such manner as the Senate may from time to time appoint.

## CHAPTER VI.—THE SEAL OF THE UNIVERSITY.

5-7-87 1.—The Seal of the University shall be placed in the charge of the Chancellor or Vice-Chancellor and Registrar, and shall not be affixed to any document except by order of the Senate.

## CHAPTER VII.—THE FACULTIES.

5-7-87 1.—There shall be four Faculties in the University, viz.:—  
1. Arts.      2. Law.      3. Medicine.      4. Science.

## DEANS OF FACULTIES.

9-2-92 2.—A Dean for each of the Faculties in the University shall be appointed by the Senate from time to time for a term not exceeding two years.

6-9-92 3.—In the event of the office of Dean becoming vacant by death, resignation, or otherwise before the expiration of the full term of office herein prescribed, the appointment of a successor shall be proceeded with at the next ensuing regular meeting of the Senate; and the Dean so appointed shall hold office until the first regular meeting of the Senate in the term next after the expiration of two years from the date of such appointment.

## CHAPTER VIII.—LIMITATION OF THE TITLE OF PROFESSOR.

5-7-87 1.—The title of Professor shall be distinctive of those Public Teachers of the University upon whom the Senate shall have conferred that title, and no person in or belonging to the University, or any College within it, shall be recognised as Professor without the express authority of the Senate.

## CHAPTER IX.—PROFESSORIAL BOARD.

27-9-92 1.—The Professors in the four Faculties, with the Chancellor and Vice-Chancellor, shall form a Board to be called "The Professorial Board."

2.—Subject to the By-laws of the University, the Professorial Board shall manage and superintend the discipline of all students in the University, and shall have power to determine all matters concerning the studies and examinations which affect the students of more than one Faculty.

3.—For these purposes the Professorial Board shall make such rules as it may think fit, provided that these rules be not repugnant to any existing By-law; and shall have power to impose any penalties, in accordance with Academic usage, on any student for breach of such rule, or misconduct of any kind. All Public Teachers in the University shall be authorised to inflict a fine for breach of discipline, not exceeding two pounds, provided that every Public Teacher who inflicts any such fine shall immediately report the circumstances in writing to the Professorial Board.

4.—Any member of the University affected by any decision of the Board, or any member of the Board, may appeal therefrom to the Senate, and thereupon the Senate may review such decision, and either confirm, vary, or annul the same.

5.—It shall also be the duty of the Professorial Board from time to time to consider the By-laws which deal with the discipline of the University, and the By-laws which deal with the studies of students of more than one Faculty; and when the Board is of opinion that any such By-laws require amendment, it shall send up recommendations to the Senate to that effect.

6.—A *précis* of the proceedings of the Board shall be laid upon the table of the Senate once in each Term, or forthwith in matters of special importance, and the Senate shall have power of its own motion to review any decision of the said Board.

CHAIRMANSHIP OF BOARDS.

7.—The Chairman of the Professorial Board shall be elected by the members present at a duly convened meeting to be held in Michaelmas Term. He shall hold office for a period of three years, and shall enter upon his office on the first day of January next following the date of his election. In the event of the office becoming vacant by death, resignation, or otherwise before the expiration of the full term herein prescribed, the election of a successor shall be proceeded with at the next ensuing meeting of the Board, and the Chairman so elected shall hold office for three years from the first day of January preceding the date of his election.

## CONVENING AND QUORUM OF BOARDS.

- 18-7-93 8.—Every meeting of any Board or Faculty shall be convened by written notice from the Registrar, by direction of and on a day named by the Chancellor, Vice-Chancellor, or Chairman, and on the requisition of any two members, addressed to the Registrar, a meeting shall be convened in like manner. At any meeting of the Professorial Board five shall form a quorum, and at any other meeting three shall form a quorum, unless otherwise provided. In case of an equality of votes, that of the presiding Chairman included, such Chairman shall have a casting vote.

## REGISTRAR TO ATTEND.

- 5-7-87 9.—It shall be the duty of the Registrar, if required, to attend the meetings of the several Boards and record their proceedings, to collect all fines imposed by the Professorial Board, and generally to assist in carrying out the directions and rules of every Board.

## CHAPTER X.—MATRICULATION.

- 7-10-94 1.—Candidates for any of the Degrees granted by the University shall be required to Matriculate before entering upon the prescribed course.

- 7-10-94 2.—Candidates before being admitted to Matriculation shall have passed one of the Examinations required by the By-laws for admission to the prescribed courses in the different Faculties, or shall have been admitted *ad eundem statum*.

- 27-9-92 3.—Undergraduates of other Universities may, at the discretion of the Professorial Board, be admitted *ad eundem statum* in this University without examination. Provided always that they shall give sufficient evidence of their alleged *status* and of good conduct.

- 5-7-87 4.—Any person desirous of attending University lectures may do so without Matriculation upon payment of such fees as the Senate may from time to time direct.

## CHAPTER XI.—TERMS.

- 5-7-87 1.—The Academic year shall contain three terms, that is to say:—

LENT TERM—Commencing on the tenth Monday in the year and terminating with the Saturday before the twenty-second Monday in the year, with a recess at Easter not exceeding nine days.

TRINITY TERM—Commencing on the twenty-fourth Monday in the year and terminating with the Saturday before the thirty-fourth Monday in the year.

**MICHAELMAS TERM**—Commencing on the thirty-ninth Monday in the year and terminating with the Saturday before the fifty-first Monday in the year.

## CHAPTER XII.—LECTURES.

1.—Lectures shall commence on the first day of Term, except<sup>5-7-87</sup> in Lent Term, in which they shall commence on the third Monday of Term. In Michaelmas Term the lectures shall cease on the Saturday before the forty-ninth Monday in the year.

2.—Lectures of an hour each shall be given by the Professors<sup>5-7-87</sup> and other teachers at such times and in such order as the Senate may from time to time direct.

3.—Before the admission of a student to any course of<sup>5-7-87</sup> lectures he shall pay to the Registrar of the University the fee appointed by the Senate.

4.—Full and complete tables of lectures and subjects of<sup>5-7-87</sup> examinations shall be printed annually in the Calendar, and posted at the University from time to time.

5.—Each Professor and Lecturer shall keep a daily record<sup>18-7-93</sup> or class roll of the lectures delivered by him, showing the number and names of the students present at each lecture. These class rolls shall be laid on the table at the end of each Term.

6.—Any undergraduate not holding a scholarship in the<sup>27-9-92</sup> University, nor being a member of a college established under the provisions of the Act 18 Victoria, No. 37, may be exempted<sup>Act 1900 Pt. vi.</sup> from attendance upon any or all of the prescribed lectures, upon producing evidence which shall satisfy the Faculty to which he belongs that there are sufficient reasons for such exemption. Provided that no such exemption shall be granted for more than one year at any time.

7.—No such exemption shall be granted until the Examiners<sup>27-9-92</sup> shall have specially certified to the Faculty that the abilities and attainments of the applicant are such as to enable him, in their opinion, to keep up with the usual course of study at the University without attendance upon lectures. Undergraduates admitted *ad eundem statum*, and who are not required to pass the Matriculation Examination, shall nevertheless be required to pass a special examination, to be certified by the Examiners as above, before obtaining exemption from attendance upon lectures.

- 1-10-88 8.—Notwithstanding the provisions of By-laws 6 and 7, matriculated students, who are students in a Training Institution for teachers organised under the Department of Public Instruction, may be admitted to the First Year Examination in the Faculty of Arts without having attended the University lectures, upon presenting a certificate from the Under Secretary for Public Instruction to the effect that they have attended the course of instruction in such training institution for one year after matriculating. Students of a Training Institution who have passed the First Year Examination may be admitted to the Second Year Examination in the Faculty of Arts without having attended the University lectures of the second year, upon presenting a similar certificate to the effect that they have attended a second course of instruction in such training institution for one year after passing their First Year Examination. All such students having passed the Second Year Examination shall have the status of students commencing the third year in the Faculty of Arts.

CHAPTER XIII.—YEARLY EXAMINATIONS.

- 5-7-87 1.—In the Faculties of Arts, Law and Science the yearly B.A. and B.Sc. Examinations shall be held during the last week of Michaelmas Term, with the exception of the Honour Examinations and Professional Engineering Examinations, which may be held at the beginning of Lent Term.
- 9-10-94 2.—No undergraduate not exempted under Section 6, Chap. XII., from attendance upon lectures shall be admitted to these examinations who, without sufficient cause, shall have absented himself more than three times during any one term from any prescribed course of lectures. At every yearly examination students must pass the prescribed examinations in the subjects of lectures before they can proceed with their course.
- 11-9-93 3.—Students who fail to pass, or neglect to attend their annual examinations in any subject or subjects, may be required by their respective Faculties, upon the report of the Examiners, to attend again the lectures on such subject or subjects before again presenting themselves for examination.
- 10-7-94 4.—Every undergraduate exempted from attendance upon lectures under Section 6, Chap. XII., shall, before being admitted to any yearly examination, pay to the Registrar a fee of two pounds.
- 18-7-93 5.—Undergraduates who have passed the yearly examinations may, at the discretion of the Dean, and upon application,

receive certificates to that effect, signed by the Dean of the Faculty in which they are pursuing their studies, and by the Registrar.

6.—At each examination honour papers shall be set where<sup>5-7-87</sup> necessary, and a list of the honour subjects shall be annually published in the Calendar.

7.—The names of those candidates who obtain honours shall<sup>5-7-87</sup> be arranged in order of merit.

8.—Examiners shall be appointed from time to time by the<sup>5-7-87</sup> Senate to conduct the examinations provided for under these By-laws.

#### CHAPTER XIV.—SCHOLARSHIPS.

1.—Scholarships shall be awarded after examination as the<sup>5-7-87</sup> Senate may from time to time appoint.

2.—No Scholarship shall be awarded except to such candi-<sup>18-7-93</sup> dates as exhibit a degree of proficiency which shall be satisfactory to the Examiners. Scholars shall be required to proceed with their studies in the respective Faculties in which their Scholarships are awarded.

3.—The examination for Scholarships shall be concurrent<sup>5-7-87</sup> with the Matriculation and Yearly Examinations, additional papers and questions being set when required.

4.—No student of the University shall be allowed to hold<sup>30-4-01</sup> more than two Scholarships at one time.

#### CHAPTER XV.—FACULTY OF ARTS.

1.—The Faculty of Arts shall consist of the Professors of<sup>6-5-90</sup> Classics, Mathematics, Modern Literature, History, and Logic and Mental Philosophy, together with the Lecturers in the same subjects.

2.—The Faculty shall meet for the purpose of considering<sup>27-9-92</sup> and reporting to the Senate upon such subjects as have relation to the studies, lectures, examinations, and degrees in Arts, and such questions as may be referred to it by the Senate, and shall have the general direction and superintendence over the teaching in Arts, subject to the By-laws, and to such resolutions as the Senate may think fit to pass in relation thereto.

3.—The Professors in the Faculty of Arts, together with<sup>5-7-87</sup> such other persons as may from time to time be appointed by the Senate, shall form a Board of Examiners for conducting the examinations in the Faculty of Arts; and of this Board the Dean of the Faculty, or in his absence the Professor next in seniority, shall be Chairman.

5-7-87 4.—The Board of Examiners shall from time to time, and in accordance with the provisions of the By-laws for the time being, frame rules and appoint times and places for the several Examinations in the Faculty of Arts.

5-7-87 5.—At the conclusion of each Examination the Board shall transmit to the Senate a report of the result, signed by the Chairman and by at least two other members.

EXAMINATION FOR MATRICULATION IN THE FACULTY OF ARTS.

9-10-94 6.—Candidates for the Degree of Bachelor of Arts shall be required at the commencement of their course to pass the Matriculation Examination for the Faculty of Arts.

5-7-87 7.—The Matriculation Examination shall take place at the commencement of Lent Term, but the examiners in special cases, with the sanction of the Chancellor or Vice-Chancellor, are authorised to hold such examinations at such other times as may be deemed expedient.

5-7-87 8.—The examination shall be conducted by means of written or printed papers, but the examiners shall not be precluded from putting *vivâ voce* questions.

27-9-92 9.—The names of all candidates who have passed the Matriculation Examination shall be arranged and published in such order as the Board of Examiners shall determine.

12-4-98 10.—Any person who shall have passed one of the qualifying Examinations and shall have paid a fee of two pounds to the Registrar, may be admitted as a matriculated student.

The qualifying examinations are :—

(a) The Matriculation Examination.

(b) The Entrance Examination for the Faculties of Law, Medicine, and Science.

(c) The Senior Public Examination, provided that the candidate shall have passed at one Examination in the subjects prescribed for the Matriculation Examination.

(d) The Junior Public Examination, provided that the candidate shall have passed at one Examination in the subjects prescribed for the Matriculation Examination, and shall have been placed in the first or second class in Latin and one of the three languages—Greek, French, German; or in the first or second class in Arithmetic, Algebra and Geometry.



11. The Matriculation Examination shall be in the following 20-9-98 subjects:—

- I. Latin.
- II. Arithmetic.
- III. Algebra.—To quadratic equations involving one unknown quantity.
- IV. Geometry.—Euclid, Books I., II. and III.
- V. One of the following languages, viz. :—  
Greek, French, German.

In this examination proficiency in writing English shall be taken into account.

#### BACHELOR OF ARTS.

12.—Candidates for the Degree of Bachelor of Arts shall, 21-12-87 during their first year, attend the University lectures on the following subjects:—

- I. English.
  - II. Latin.
  - III. One of the following languages :—  
Greek, French, German.
  - IV. Mathematics.
  - V. Elementary Physics.
  - VI. Elementary Chemistry.
  - VII. Physiography.
- } In successive Terms.

13.—Students of the first year shall be required to pass an 28-12-87 examination in the subjects in which they have attended lectures under By-law 12, provided that in the case of Physics, Chemistry, and Physiography, students who shall have given satisfactory proof to the Lecturer of their intelligent attention to the lectures shall not be required to pass the annual examination in these subjects.

14.—Candidates for the Degree of Bachelor of Arts shall, 23-1-00 during their second year, attend the University lectures upon the following subjects:—

- I. Two of the following languages :—  

Latin,	English,	German,
Greek,	French.	

## II. Any two of the following subjects:—

A third language,	Mathematics,	Chemistry,
Physics,	Biology,	Geology,
History,	Physiology,	Logic;

Provided that those students who take up three languages shall select Latin or Greek as one of them. This proviso shall not apply to any student who shall have obtained First or Second Class Honours in both French and German at the First Year Examination.

28-12-87 15.—Students of the Second Year shall be required to pass an examination in the subjects of the lectures which they have attended under By-law 14.

5-5-03 16.—Candidates for the Degree of B.A. shall, during their Third Year, attend lectures on the following subjects:—

## I. One of the following languages:—

Latin,	English,	German,
Greek,	French.	

## II. Any two of the following:—

A second language,	Chemistry,
A third language,	Geology,
History,	Biology,
Mathematics,	Physiology,
Physics,	Logic and Mental Philosophy,
Constitutional Law,	Roman Law,
Jurisprudence, Legal History and the element of Political Science, International Law (Public and Private).	

Provided that those students who take two Law subjects may take History, Mathematics, or Logic and Mental Philosophy instead of a language.

28-12-87 17.—To obtain the Degree of B.A. candidates shall pass an examination in the subjects of the lectures which they have attended under By-law 16.

12-4-98 18.—The work of students attending lectures shall be tested by means of written and oral class examinations, class exercises, or essays, and the results of such tests shall be reported to the Senate.

12-4-98 19.—In determining the results of the Annual Examinations, the Examiners shall take into account the results of the tests described in Section 18.

20.—The fee for the Degree of B.A. shall be three pounds.<sup>18-4-94</sup> No candidate shall be admitted to the examination unless he have previously paid this fee to the Registrar. If a candidate fail to pass the examination, the fee shall not be returned to him. For any re-examination for the same Degree he shall pay a fee of two pounds.

21.—The examination shall be conducted in the first instance<sup>5-7-87</sup> by means of printed papers, and at the termination of such examination each candidate shall undergo a *vivâ voce* examination if the Examiners think fit.

22.—Students proceeding to the Degree of B.A. who have<sup>21-4-96</sup> passed the First Year Examination, and who have thereat been placed in the First Class in the Honour list in Classics (Latin and Greek) or in Mathematics, may elect to attend lectures during the second year in that subject only in which they have been so placed in the Honour list; and if they obtain First or Second Class Honours in that subject at their Second Year Examination they shall be held to have passed that examination.

23.—Students proceeding to the Degree of B.A. who have<sup>21-4-96</sup> passed the Second Year Examination, and who have thereat been placed in the First or Second Class in the Honour list either in Classics (Latin and Greek) or in Mathematics, may elect to attend lectures during their third year in that subject only in which they have been so placed in the Honour list; and if they obtain First or Second Class Honours in that subject at their B.A. Examination they shall be held to have passed that examination.

24.—The candidate for Honours who shall have most distin-<sup>11-9-93</sup>guished himself at the B.A. Examination in Classics, Mathematics, or Logic and Mental Philosophy, shall, if he possess sufficient merit, receive a bronze medal.

MASTER OF ARTS.

25.—There shall be a yearly examination for the Degree of<sup>5-7-87</sup> M.A. during Lent Term, or at such other times as the Examiners, with the sanction of the Chancellor or Vice-Chancellor, may appoint.

26.—Every candidate for this Degree must have previously<sup>5-7-87</sup> obtained the Degree of B.A., and two years must have elapsed since the time of his examination for such Degree. He will also be required to furnish evidence of having completed his twenty-first year.

5-7-87 27.—The fee for the Degree M.A. shall be five pounds. No candidate shall be admitted to the examination unless he have previously paid this fee to the Registrar. If a candidate fail to pass the examination the fee shall not be returned to him, but he shall be admissible to any subsequent examination for the same Degree without the payment of an additional fee.

11-9-93 28.—Candidates for the Degree of M.A. shall elect to be examined in one or more of the following branches of knowledge :—

- I. Classical Philology and History.
- II. Mathematics and Natural Philosophy.
- III. Logic, Moral, Mental and Political Philosophy.
- IV. Modern Literature and Language.
- V. Modern History.

The candidate most distinguished in each branch at the examination shall, if he possess sufficient merit, receive a bronze medal.

5-7-87 29.—The Senate may, at its discretion, admit to examination for the Degree of Master of Arts any person who shall have obtained at least two years previously the Degree of Bachelor of Arts, or equivalent first Degree in Arts, in any other University approved by the Senate. Every candidate for admission under this By-law must make application in writing to the Registrar and supply satisfactory evidence of his qualification as aforesaid, and that he is a person of good fame and character; and upon the approval of his application shall pay to the Registrar a fee of two pounds for the entry of his name in the University books, in addition to the prescribed fee for his Degree. Every candidate before he is admitted to this Degree shall be required to furnish evidence of having completed his twenty-first year.

#### CHAPTER XVI.—FACULTY OF LAW.

20-1-03 1.—The Professor or Professors and Lecturers in the subjects of the curriculum in Law, together with such Fellows of the Senate as are members of the Legal Profession, shall constitute the Faculty of Law.

20-1-03 2.—The Faculty shall meet for the purpose of considering and reporting to the Senate upon such subjects as have relation to the studies, lectures, examinations, and degrees in Law, and such questions as may be referred to it by the Senate.

3.—The Dean of the Faculty of Law shall act as Chairman<sup>20-1-03</sup> at all meetings of the Faculty, but in his absence the members then present shall elect a Chairman from amongst themselves. The Chairman at such meetings shall have a vote, and in case of an equality of votes, a second or casting vote.

4.—It shall be the duty of the Registrar to summon meet-<sup>20-1-03</sup>ings of the Faculty at such times as may be required by the Dean; provided that upon a written requisition by three members of the Faculty, the Dean, or, in his absence, the Registrar, shall convene a special meeting. No question shall be decided at any meeting of the Faculty unless there be present at least five members.

5.—The Dean of the Faculty of Law shall exercise a general<sup>20-1-03</sup> direction and superintendence over the teaching in law, subject to such resolutions in relation thereto as may be passed by the Senate or by the Faculty of Law.

6.—There shall be two degrees granted in the Faculty of<sup>20-1-03</sup> Law, viz.:—Bachelor of Laws (LL.B.) and Doctor of Laws (LL.D.)

7.—Candidates for the Degree of Bachelor of Laws (LL.B.)<sup>20-1-03</sup> shall, before admission to the Law School, produce evidence either (1) of having graduated in Arts; or (2) of having completed two years in the Faculty of Arts, and passed the Second Year Examination in Arts; or (3) of having passed the Senior Public Examination, or an examination equivalent thereto, in the following subjects:—(a) Latin, (b) either Greek, French or German; and (c) in three of the following subjects:—Arithmetic, Algebra, Geometry and Trigonometry.

8.—Thereafter candidates for the Degree of LL.B. shall<sup>20-1-03</sup> attend such courses of instruction as may be prescribed by the Faculty in the following subjects, that is to say:—

I. In the First Year—

Constitutional Law;

Roman Law; and

The Law relating to Contracts (including Mercantile Law), Torts, Crimes and Domestic Relations.\*

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\* In this and all other professional subjects the law referred to is the law in force in New South Wales.

## II. In the Second Year—

Jurisprudence, Legal History and the Elements of Political Science ;

International Law (Public and Private);

The Law of Property and the Elements of Conveyancing; and

The Rules of Legal Interpretation.

## III. In the Third Year—

Procedure in Civil and Criminal Cases, both before the Supreme Court in its common law jurisdiction, and before courts of inferior jurisdiction; together with the Law of Evidence and Pleading; and

Equity and Company Law; the Law relating to Bankruptcy, Probate and Divorce; together with procedure in those jurisdictions.

Provided that candidates who have already graduated in Arts shall be at liberty to take this course in two years; whilst candidates who have not completed two years in Arts shall be required to extend this course over a period of not less than four years: Provided also that the order in which these courses of instruction are taken, may, in the case of any individual candidate, be varied with the written consent of the Dean of the Faculty.

20-1-03 9.—Candidates for the degree of Bachelor of Laws shall also be required to pass two examinations, which shall be called respectively “the Intermediate LL.B.” and “the Final LL.B.” Examinations, and which shall be held at the commencement of Lent Term in each year. Candidates who have not acquitted themselves satisfactorily in such class or term examinations, or other exercises (including participation in moots and attendance in court) as may be prescribed by the Faculty, may be refused admission to these examinations.

20-1-03 10.—At the Intermediate LL.B. Examination candidates shall be examined in:—(1) Constitutional Law; (2) Roman Law; (3) Jurisprudence, Legal History, and the Elements of Political Science; and (4) International Law (Public and Private). Provided that candidates shall be at liberty to take this examination in two sections, of which Section I. shall include Constitutional Law and Roman Law; and Section II. Jurisprudence, Legal History, the Elements of Political Science, and International Law (Public and Private).

11.—At the Final LL.B. Examination candidates shall be examined in:—(1) The Law relating to Contracts (including Mercantile Law), Torts, Crimes, and Domestic Relations; (2) the Law of Property, and the Elements of Conveyancing; (3) Procedure in Civil and Criminal Cases, both before the Supreme Court in its common law jurisdiction and before courts of inferior jurisdiction, together with the Law of Evidence and Pleading, and the Rules of Legal Interpretation; and (4) Equity and Company Law, the Law relating to Bankruptcy, Probate and Divorce, together with procedure in those jurisdictions. <sup>20-1-03</sup>

12.—The names of candidates who pass the Intermediate LL.B. Examination shall be published in order of merit. The names of the candidates who pass the Final LL.B. Examination shall be published in three groups, comprising respectively (1) those who have obtained First Class Honours; (2) those who have obtained Second Class Honours; and (3) those who have passed. Provided that a candidate who does not pass the Intermediate LL.B. Examination within two years of his commencing his course in Law shall not be eligible for any Prize or Scholarship awarded for proficiency in that Examination; and provided also that a candidate who does not pass the Final LL.B. Examination within three years of passing the Intermediate LL.B. Examination, shall not be eligible for any Prize or Scholarship awarded for proficiency in the subjects of that Examination. <sup>20-1-03</sup>

13.—Candidates shall be exempt from attending lectures and passing examinations in any of the prescribed subjects which may have formed part of their course for the degree of Bachelor of Arts, but from no others. <sup>20-1-03</sup>

14.—The degree of LL.D. shall not be conferred until after the expiration of two years from the granting of the degree of LL.B. <sup>20-1-03</sup>

15.—Candidates for the degree of Doctor of Laws shall be required to pass one examination, which shall be called “the LL.D. Examination,” and which shall be held in Trinity Term in each year. <sup>20-1-03</sup>

16.—At the LL.D. Examination candidates shall be examined in (1) Legal History; (2) Roman Law (including a special subject from the Digest to be indicated from time to time); (3) One of the following special subjects:—(a) Common Law, including Mercantile Law, Criminal Law, the Law of Evidence, and Procedure; (b) Equity and Company Law, the Law <sup>20-1-03</sup>

relating to Bankruptcy, Probate and Divorce, together with procedure in those jurisdictions; (c) the Law of Property, and the Practice of Conveyancing; or (d) Constitutional Law; and (4) International Law (Public and Private).

20-1-03 17.—The candidates who distinguish themselves most highly at the Degree Examinations respectively shall, if of sufficient merit, receive a bronze medal.

20-1-03 18.—The fee for the Degree of Bachelor of Laws shall be £10, and that for the Degree of Doctor of Laws, £20. These fees shall be paid to the Registrar before the examination, and shall not in any case be returned to the candidate.

20-1-03 19.—Candidates who fail to pass the examination for any degree shall be allowed to present themselves for a second examination for the same degree without additional fee; but for any further examination that may be required they shall pay half the ordinary degree fee.

20-1-03 20.—Students at Law and Articled Clerks and other persons may be admitted to such lectures and examinations in Law as they may desire, and in the event of their passing in the subjects of any course, they shall be entitled to receive certificates to that effect.

#### CHAPTER XVII.—FACULTY OF MEDICINE.

20-1-03 1.—The Chancellor and Vice-Chancellor, the Fellows of the Senate who are legally qualified members of the Medical Profession, and the Professors and Lecturers in the subjects of the Medical curriculum shall constitute the Faculty of Medicine.

20-1-03 2.—The Dean shall exercise a general superintendence over the administrative business connected with the Faculty, and it shall be the duty of the Registrar to summon meetings of the Faculty at such times as may be required by the Dean, provided that upon the written requisition of any three members of the Faculty, the Dean, or in his absence the Registrar, shall convene a special meeting. No question shall be decided at any meeting of the Faculty unless there be present at least five members. In the absence of the Chancellor and Vice-Chancellor the Dean shall act as Chairman at all meetings of the Faculty, but in his absence the members then present shall elect a Chairman from among themselves. The Chairman at any such meeting shall have a vote, and in case of an equality of votes, a second or casting vote. It shall be the duty of the Registrar to attend all meetings and to record the proceedings.



3.—The Faculty shall meet for the purpose of considering<sup>20-1-03</sup> and reporting to the Senate upon such subjects as have relation to the studies, lectures, examinations and degrees in Medicine, and such questions as may be referred to it by the Senate.

4.—Class Examinations shall be held during each course of<sup>20-1-03</sup> instruction in each term, unless such term immediately precedes the annual examination in the subject of the course. Students shall not absent themselves from these examinations except upon a medical certificate, and at the end of each course a report of the result, signed by the responsible teacher, shall be presented to the Senate by the Dean. The results of these examinations may be taken into account by the examiners at the annual examinations.

5.—There shall be three Degrees granted in the Faculty of<sup>20-1-03</sup> Medicine, viz.: Doctor of Medicine (M.D.), Bachelor of Medicine (M.B.), and Master of Surgery (Ch.M.).

6.—Candidates for a Degree in Medicine shall, before<sup>20-1-03</sup> admission to the Medical School, produce evidence of having graduated in Arts or in Science, or of having attended the lectures of the First Year of the Arts course and passed the First Year Examination in Arts, or of having passed the Senior Public Examination, or an examination equivalent to the Senior Public Examination, in the following subjects, viz.: Latin, and one of the three languages—Greek, French, German, and in three of the sections in Group III., of the subjects for which Senior Candidates may enter, viz., Arithmetic, Algebra, Geometry, Trigonometry, Elementary Surveying and Astronomy, Mechanics, Applied Mechanics.

7.—Candidates for the Degrees of Bachelor of Medicine and<sup>20-1-03</sup> Master of Surgery shall attend the following courses of instruction:—

I. In the First Year—

Biology and Practical Biology—Lent and Trinity Terms.

Inorganic Chemistry—Lent and Trinity Terms.

Practical Chemistry—Trinity and Michaelmas Terms.

Physics—Trinity and Michaelmas Terms.

Practical Physics—Lent or Michaelmas Term.

Human Anatomy—Michaelmas Term.

Practical Histology—Michaelmas Term.

## II. In the Second Year—

Descriptive Anatomy—Lent and Trinity Terms.  
Dissections—Lent, Trinity and Michaelmas Terms.  
Chemistry, Organic—Lent Term.  
Physiological Chemistry—Lent Term.  
Experimental Physiology—Trinity Term.  
Physiology—Trinity and Michaelmas Terms.  
Applied Logic—Lent Term (20 lectures).

## III. In the Third Year—

Physiology—Lent Term.  
Pharmacology—Trinity Term.  
Regional Anatomy—Lent and Trinity Terms.  
Dissections—Lent and Trinity Terms.  
General Pathology—Michaelmas Term.  
Practical Pathology—Michaelmas Term.  
Tutorial Surgery—Michaelmas Term.

## IV. In the Fourth Year—

Special Pathology—Lent Term.  
Surgery—Lent and Trinity Terms.  
Clinical Surgery—Lent, Trinity and Michaelmas Terms.  
Operative Surgery—Trinity Term.  
Medicine—Michaelmas Term.  
Tutorial Medicine—Michaelmas Term.  
Midwifery—Michaelmas Term.

## V. In the Fifth Year—

Medicine—Lent Term.  
Tutorial Medicine—Lent Term.  
Gynæcology (30 lectures)—Lent Term.  
Clinical Medicine—Lent, Trinity and Michaelmas Terms.  
Medical Jurisprudence (25 lectures)—Lent and Trinity Terms.  
Public Health (25 lectures)—Trinity Term.  
Posology and Prescription Writing (10 lectures)—Michaelmas Term.

They shall also be required to attend during the Fifth Year the following courses:—

Diseases of the Mind (15 lectures, including Cliniques).  
Diseases of the Eye (15 lectures), including Cliniques).

And two of the following elective courses :—

- (a) Special Bacteriology (60 hours).
- (b) Special Therapeutics (15 lectures).
- (c) Diseases of Children (15 lectures, including Cliniques).
- (d) Diseases of the Skin (15 lectures, including Cliniques).
- (e) Diseases of the Ear, Nose and Throat (15 lectures, including Cliniques).

8.—For the Degrees of M.B. and Ch.M. the examinations<sup>20-1-03</sup> shall be as follows :—(1) A First Degree Examination at the end of the First Year in Physics, Inorganic Chemistry, Biology and Anatomy; (2) a Term Examination at the beginning of Trinity Term of the Second Year in Organic Chemistry; (3) a Second Degree Examination at the end of Trinity Term of the Third Year in the entire subjects of Anatomy and Physiology. No candidate shall be admitted to this examination unless (a) he have previously passed the examination in Organic Chemistry and (b) completed the dissection of every part of the body at least once. (4) A Term Examination at the end of Michaelmas Term of the Third Year in General Pathology. (5) A Third or Final Degree Examination at the end of the Fifth Year in Medicine (including Clinical and Tutorial Medicine), Surgery (including Clinical Surgery, Operative Surgery and Surgical Anatomy, and Tutorial Surgery), Special Pathology, Midwifery, Gynæcology, Public Health and Medical Jurisprudence. No candidate shall be admitted to this examination unless he have previously passed the examination in General Pathology.

9.—Before admission to the Final Examination, candidates<sup>20-1-03</sup> shall also be required to present the following certificates at least ten clear days before the date of the examination :—

- (i.) Of Hospital Practice during Michaelmas Term of the Third Year, and during the Fourth and Fifth Years, in accordance with an approved hospital time-table.
- (ii.) Of having been engaged during at least 15 attendances of two hours each in compounding and dispensing drugs in a Laboratory or Dispensary, or other place for compounding medicines approved by the Faculty of Medicine.

- (iii.) Of having acted during not less than nine months as Clinical Clerk in the Medical Wards, not less than six months as Dresser in the Surgical Wards, and not less than three months in each of the following capacities in a recognised hospital, viz., Clinical Clerk and Dresser in the Gynæcological In-patients Department, Student in attendance upon the Surgical Out-patients Department, Student in attendance upon the Medical Out-patients Department, Student in attendance upon the Gynæcological Out-patients Department.
- (iv.) Of attendance at Post-mortem Examinations and Demonstrations during at least one term after passing the Second Degree Examination.
- (v.) Of attendance on at least 12 cases of childbirth, under such supervision as may be approved by the Faculty of Medicine, after having attended the course of lectures upon Midwifery.
- (vi.) Of proficiency in Vaccination, signed by a legally qualified Medical Practitioner.
- (vii.) Of proficiency in the Administration of Anæsthetics from a recognised hospital.
- (viii.) Of regular attendance and attention signed by the Lecturers in (a) Diseases of the Mind, (b) Diseases of the Eye, and (c) the two Elective Courses chosen by the Student.

20-1-03      10.—No candidate shall be admitted to the Final Examination until he shall have produced evidence of having completed his twenty-first year. Each candidate shall also furnish a certificate of "good fame and character," signed by two competent persons.

20-1-03      11.—At each examination candidates shall be required to give proof of their knowledge by written answers to the questions set, to be followed by a practical or a *viva voce* examination in all subjects whatsoever.

20-1-03      12.—Students who fail to pass, or neglect to attend their examinations in any subject or subjects, may be required by the Faculty, on the report of the Examiners, to attend again the Courses of Instruction or Hospital Practice in such subject or subjects before again presenting themselves for examination.

13.—Candidates who have passed all the examinations to the satisfaction of the Examiners shall be recommended to the Senate for admission to the Degree of Bachelor of Medicine, and to the Degree of Master of Surgery if they so elect. <sup>20-1-03</sup>

14.—Honours at graduation shall depend upon the proficiency shown in the examinations, in accordance with regulations adopted by the Senate from time to time, and the candidate who shall have been most distinguished shall receive a bronze medal, provided that he shall have obtained First Class Honours. <sup>20-1-03</sup>

15.—Accredited certificates of attendance on courses of instruction from other Universities and Schools of Medicine recognised by the University of Sydney may, on the report of the Dean, be accepted by the Senate as proof of the attendance on courses of instruction *pro tanto* required by these By-laws. Provided always that no person shall be recommended to the Senate for admission to the Degrees of Bachelor of Medicine or of Master of Surgery by examination unless he shall present certificates of having attended within the University of Sydney, during each of at least nine Terms, not less than two courses of instruction in subjects included in the Medical Curriculum of the University. In all such cases a Degree in Arts or in Science, or some certificate of general education satisfactory to the Senate, will be required. Every candidate making application under this By-law must present a certificate of good fame and character, signed by two competent persons. <sup>20-1-03</sup>

16.—Bachelors of Medicine and Masters of Surgery of this University shall not possess any right to assume the title of Doctor of Medicine. <sup>20-1-03</sup>

17.—The Degree of Doctor of Medicine shall not be conferred until after the expiration of two Academic years from the granting of the Degree of Bachelor of Medicine. <sup>20-1-03</sup>

18.—Candidates for the Degree of Doctor of Medicine must produce evidence that, after having obtained the Degree of Bachelor of Medicine, they have spent at least two years in Medical or Surgical practice, or that they have been engaged in a manner approved by the Faculty for a like period in the study of any subject or subjects included in the Medical Curriculum of the University of Sydney. <sup>20-1-03</sup>

- 20-1-03 19.—Candidates for the Degree of Doctor of Medicine shall be required to pass an examination conducted by means of set papers and by *viva voce* interrogations in any one of the following departments of Medical Science and Practice, viz., (i.) Medicine, (ii.) Medical Jurisprudence and Public Health, (iii.) Surgery, (iv.) Midwifery and Gynæcology; or in any one of the scientific subjects included in the Medical Curriculum. They shall further be required to present, and if called upon to defend, to the satisfaction of the examiners, a previously unpublished thesis on some subject included in the Medical Curriculum of the University. Three printed or type written copies of the thesis on paper eight inches wide and ten inches deep must be transmitted to the Registrar at least two months before the date fixed for the examination.
- 20-1-03 20.—Bronze medals may be awarded for special excellence or originality of the theses presented.
- 20-1-03 21.—The Degree of Master of Surgery shall not be conferred on any person who has not already been admitted a Bachelor of Medicine.
- 20-1-03 22.—The fees for the Degrees of Doctor of Medicine, Bachelor of Medicine, and Master of Surgery shall be ten pounds respectively. The fees shall be paid to the Registrar before the examination, and shall not in any case be returned to the candidate.
- 3-11-03 23.—Candidates who fail to pass the examination for any Degree shall be required upon presenting themselves for any further examination for the same Degree to pay a fee of five pounds.
- 20-1-03 24.—Undergraduates in Medicine who have passed the First and Second Degree Examinations in Medicine, and the Term Examination in Organic Chemistry, and have, in addition, attended an advanced course of and passed an advanced examination in accordance with the requirements of the Faculty of Science in one of the following divisions, viz.—(a) Chemistry, (b) Physics, (c) Biology, (d) Geology—may, on the report of the Dean of the Faculty of Science, be admitted by the Senate to the Degree of Bachelor of Science.

## CHAPTER XVIII.—FACULTY OF SCIENCE.

1.—The Faculty of Science shall consist of the Professors of <sup>8-10-89</sup> Biology, Chemistry, Engineering, Geology, Mathematics, Physics and Physiology, and other Professors and independent Lecturers in the subjects required for the Degrees in Science.

2.—The Dean shall exercise a general superintendence over <sup>8-10-89</sup> the administrative business connected with the Faculty, and it shall be the duty of the Registrar to summon meetings of the Faculty at such times as may be required by the Dean, provided that upon the written requisition of any three members of the Faculty, the Dean, or in his absence the Registrar, shall convene a special meeting. No question shall be decided at any meeting of the Faculty unless there be present at least five members. The Dean shall act as Chairman at all meetings of the Faculty, but in his absence the members then present shall elect a Chairman from amongst themselves. The Chairman at any such meeting shall have a vote, and in case of an equality of votes, a second or casting vote. It shall be the duty of the Registrar to attend all meetings and record the proceedings.

3.—The Faculty shall meet for the purpose of considering <sup>8-10-89</sup> and reporting to the Senate upon such subjects as have relation to the studies, lectures, examinations and degrees in Science, and such questions as may be referred to it by the Senate.

4.—There shall be four Degrees in Science, viz.: Bachelor of <sup>8-10-89</sup> Science (B.Sc.), Doctor of Science (D.Sc.), Bachelor of Engineering (B.E.), and Master of Engineering (M.E.).

5.—Candidates for the Degree of Bachelor of Science shall, <sup>26-4-97</sup> before admission to the curriculum of Science, produce evidence of having graduated in Arts; or of having attended the lectures of the First Year of the Arts course, and passed the First Year Examination in Arts; or of having passed the Senior Public Examination in the following subjects, viz., Latin, one of the three languages—Greek, French, or German, and three of the following subjects, viz., Arithmetic, Algebra, Geometry, Trigonometry, Elementary Surveying and Astronomy, Mechanics, Applied Mechanics; or of having passed an examination equivalent to the Senior Public Examination in the following subjects, viz., Latin, one of three languages—Greek, French, or German, and in three of the four subjects—Arithmetic, Algebra, Geometry, Trigonometry; and shall, during the First Year, attend the

courses of instruction upon, and pass the examinations in, the following subjects, viz.:—

- I. Biology and Practical Biology.
- II. Chemistry and Practical Chemistry.
- III. Mathematics.
- IV. Physics and Practical Physics.
- V. Physiography.

Provided that students shall only be required to attend the lectures upon, and to pass the annual examination in, such portions of the Mathematical course for the First Year as they have not already passed at the above-mentioned examinations.

8-10-89

6.—Candidates for the Degree of Bachelor of Science shall, in the Second Year, attend the courses of instruction upon, and pass the examinations in, three of the following subjects, viz.:—

- I. Botany and Zoology.
- II. Chemistry (with two terms laboratory practice).
- III. Geology.
- IV. Mathematics.
- V. Physics (with two terms laboratory practice).
- VI. Physiology (with two terms laboratory practice).

12-4-98

7.—Candidates for the Degree of Bachelor of Science shall, in the Third Year, attend the courses of instruction upon, and pass the examinations in, two of the following subjects:—

- I. Biology.
- II. Chemistry.
- III. Geology.
- IV. Mathematics.
- V. Physics.
- VI. Physiology.

Students proceeding to the Degree of Bachelor of Science, who have passed the Second Year Examination, and who have thereat been placed in the First Class in Honours in one subject, and in the First or Second Class in Honours in another subject, may elect to attend lectures and practical work during their Third Year in one only of those subjects in which they have been so placed in the Honours List, and if they obtain First or Second Class Honours at the B.Sc. Examination they shall be held to have passed that examination.

11-9-93

8.—The candidate who shall at this examination most distinguish himself shall, if of sufficient merit, receive a bronze medal.

8-10-89

9.—The examination for the Degree of B.Sc. shall take place once a year.



10.—No candidate shall be admitted to this examination 8-10-89 unless he produce a certificate from the Dean of the Faculty of Science that he is of nine Terms' standing, and that he has passed all the examinations required since his admission to the University.

11.—The fee for the Degree of B.Sc. shall be three pounds. 18-4-94 No candidate shall be admitted to the examination unless he have previously paid this fee to the Registrar. If a candidate fail to pass the examination the fee shall not be returned to him. For any re-examination for the same degree he shall pay a fee of two pounds.

12.—The Annual Examinations shall be conducted in the 18-7-93 first instance by means of printed papers, practical exercises, and reference to specimens when necessary; and at the termination of such examinations each candidate shall undergo a *viva voce* examination if the Examiners think fit. At least one written Class Examination shall be held during each Term of the first two years except in the mathematical subjects. Students shall not absent themselves from these examinations except upon a medical certificate. Students who fail to pass the Class Examinations may, at the discretion of the Board of Examiners, be refused admission to the Annual Examination.

13.—At the Annual Examinations Honour papers shall be set 8-10-89 where necessary. Students may elect to take up any one or more subjects.

14.—The Examination for the Degree of Doctor of Science 8-10-89 (D.Sc.) shall take place once a year. This Degree shall not be conferred until after the expiration of three Academic years from the granting of the B.Sc. Degree.

15.—Every candidate for the Degree of Doctor of Science 24-11-03 must produce evidence that he has been employed in scientific study and research for at least five Academic years since obtaining the B.Sc. Degree. He shall be required to present, for the approval of the examiners, a thesis or published work embodying the result of an original investigation or scientific research in either Botany, Chemistry, Geology, Mathematics, Palæontology, Physics, Physiology or Zoology. Five printed copies of such thesis must be transmitted to the Registrar at least two months before the date fixed for the examination. The candidate must submit sufficient evidence of the authenticity of

the thesis to the examiners. The examiners may also, if they think fit, examine the candidate upon the subjects of his special study, either orally, practically, or by printed papers.

11-9-83 16.—The candidate who shall at this examination most distinguish himself shall, if of sufficient merit, receive a bronze medal.

8-10-89 17.—The fee for the Degree of D.Sc. shall be ten pounds. No candidate shall be admitted to the examination unless he have previously paid this fee to the Registrar. If a candidate fail to pass the examination the fee shall not be returned to him, but he shall be admissible to one further examination for the same degree without the payment of an additional fee. For each subsequent examination that may be required he shall pay the sum of five pounds.

#### DEPARTMENT OF ENGINEERING.

23-1-00 18.—Candidates for the Degree of Bachelor of Engineering shall, before admission to the curriculum of Engineering, produce evidence of having complied with one of the following conditions:—

- (1) Of having graduated in Arts or in Science.
- (2) Of having, after matriculation, attended the lectures of the First Year of the Arts course, and passed the First Year Examination in Arts.
- (3) Of having passed the Senior Public Examination, or an Examination equivalent to the Senior Public Examination in the following subjects, viz., Latin, one of the three languages—Greek, French or German; and, in the four subjects—Arithmetic, Algebra, Geometry, Trigonometry.

Provided that students of the Technical Branch of the Department of Public Instruction whose certificates of attendance and examination in that branch are accepted by the Senate as an equivalent to a portion of the curriculum prescribed for candidates for the Degree of Bachelor of Mining Engineering, shall be considered to have passed the Entrance Examination, if they satisfy the Examiners in the following subjects, viz., in two of the four languages—Latin, Greek, French, German; and in the four subjects—Arithmetic, Algebra, Geometry, Trigonometry.

19.—Candidates for the Degree of Bachelor of Engineering <sup>23-1-00</sup> shall, during the First Year, attend the courses of instruction upon, and pass the examinations in, the following subjects :—

- I. Chemistry, Inorganic, with laboratory practice as prescribed by regulation.
- II. Descriptive Geometry and Drawing.
- III. Mathematics.
- IV. Applied Mechanics, with laboratory practice as prescribed by regulation.
- V. Physics, with laboratory practice as prescribed by regulation.
- VI. Physical Geography and Geology.

## CIVIL ENGINEERING.

20.—Candidates for the Degree of Bachelor of Engineering <sup>23-1-00</sup> in Civil Engineering shall, during the Second Year, attend the courses of instruction upon, and pass the examinations in, the following subjects :—

- I. Applied Mechanics, with laboratory practice as prescribed by regulation.
- II. Civil Engineering.
- III. Mechanical Drawing.
- IV. Geology, with laboratory practice as prescribed by regulation.
- V. Mathematics.
- VI. Physics, with laboratory practice as prescribed by regulation.
- VII. Surveying.

21.—Candidates for the Degree of Bachelor of Engineering <sup>23-1-00</sup> in Civil Engineering shall, during the Third Year, attend the courses of instruction upon, and pass the examinations in, the following subjects :—

- I. Drawing and Design.
- II. Materials and Structures, with laboratory practice as prescribed by regulation.
- III. Mathematics.
- IV. Surveying.
- V. Civil Engineering.
- VI. Architecture.

Every candidate is required to prepare and submit to the Board of Examiners an original set of working drawings and specifications for machinery or works. Provided that the course of lectures and

examination in the subject of Architecture may be taken either in the Second Year or in the Third Year, as may from time to time be provided by the teaching regulations of the University.

#### MINING AND METALLURGY.

3-11-03 22.—Candidates for the Degree of Bachelor of Engineering in Mining and Metallurgy shall, during the Second Year, attend the courses of instruction upon, and pass the examinations in, the following subjects:—

- I. Applied Mechanics, with laboratory practice as prescribed by regulation.
- II. Chemistry, including Quantitative Analysis.
- III. Geology, with laboratory practice as prescribed by regulation.
- IV. Mineralogy, with laboratory practice as prescribed by regulation.
- V. Surveying.

23-1-00 23.—Candidates for the Degree of Bachelor of Engineering in Mining and Metallurgy shall, during the Third Year, attend the courses of instruction upon, and pass the examinations in, the following subjects:—

- I. Metallurgy and Assaying.
- II. Mining.
- III. Mining and Metallurgical Design.
- IV. Materials and Structures.

#### MECHANICAL AND ELECTRICAL ENGINEERING.

1-5-00 24.—Candidates for the Degree of Bachelor of Engineering in Mechanical and Electrical Engineering shall, during the Second Year, attend the courses of instruction upon, and pass the examinations in, the following subjects:—

- I. Applied Mechanics, with laboratory practice as prescribed by regulation.
- II. Mechanical Drawing.
- III. Mathematics.
- IV. Mechanical Workshop Practice.
- V. Chemistry, with laboratory practice as prescribed by regulation.
- VI. Physics, with laboratory practice as prescribed by regulation.

25A.—Candidates for the Degree of Bachelor of Engineering <sup>8-11-03</sup> in Mechanical and Electrical Engineering shall, during the Third Year, attend the courses of instruction upon, and pass the examinations in, the following subjects:—

- I. Materials and Structures.
- II. Transmission of Power.
- III. Design and Drawing of Prime Movers.
- IV. Surveying.
- V. Mechanical Workshop Practice.
- VI. Mathematics.

25B.—Candidates for the Degree of Bachelor of Engineering <sup>8-11-03</sup> in Mechanical and Electrical Engineering shall, during the Fourth Year, attend the courses of instruction upon, and pass the examinations in, the following subjects:—

- I. Electrical Engineering, with laboratory practice as prescribed by regulation.
- II. Design and Preparation of Working Drawings of Generators and Motors.
- III.—Railway Engineering.

26.—At the Annual Examinations Honour papers shall be <sup>8-10-89</sup> set where necessary. Students may elect to take up any one or more subjects.

27.—A candidate shall not be admitted to the Degree of <sup>8-10-89</sup> Bachelor of Engineering unless he shall produce a certificate from the Dean of the Faculty of Science that he is of nine Terms' standing, that he has passed all the examinations, and has satisfactorily complied with all the other conditions required of him since his admission to the University.

28.—The candidate who shall most distinguish himself in <sup>11-9-93</sup> the Honour Division of the Third Annual Examination shall, if of sufficient merit, receive a bronze medal.

29.—The examination for the Degree of Master of Engineer. <sup>8-10-89</sup> shall take place once a year. This degree shall not be conferred until after the expiration of three Academic years from the granting of the B.E. Degree.

30.—Every candidate shall be required to produce to the <sup>9-2-92</sup> Board of Examiners satisfactory certificates or other evidence of having been engaged during three years in the practice of one of the four branches of Engineering specified in By-law 31, one

year at least of which must have been spent in acquiring a practical knowledge of the branch or branches selected, under the direction of an Engineer or Architect practising the branch or branches in which he wishes to be examined.

13-12-92

31.—Candidates for the Degree of Master of Engineering shall have taken Honours in the Professional subjects of the examination for the Degree of B.E.; or must attain the standard for Honours at some subsequent B.E. Examination, and shall be required to pass examinations in one of the following divisions or branches:—

- I. Engineering Construction in Iron, Steel, Timber, Masonry and Concrete.
- II. Hydraulic and Sanitary Engineering.
- III. Railway Engineering, including railway location, Permanent Way, Locomotives and Rolling Stock, and Railway Appliances.
- IV. Architecture, Building Construction and Sanitation.
- V. Mechanical Engineering and Machine Construction.
- VI. Mining and Metallurgy.
- VII. Electrical Engineering.

Candidates must give at least twelve months' notice of their intention to proceed to the Master's Degree.

Candidates shall be required to prepare a complete set of working drawings and specifications of such works or machinery as the Examiners may require in the particular division or branch of Engineering selected.

8-10-89

32.—The diplomas for the Degrees of Bachelor and Master of Engineering shall specify the branch or branches of Engineering for which they are granted.

8-10-89

33.—The fees for the Degrees of Bachelor and Master of Engineering shall be ten pounds respectively; no candidate shall be admitted to either examination unless he shall have previously paid this fee to the Registrar. If a candidate fail to pass the examination the fee shall not be returned to him, but he shall be admissible to one subsequent examination for the same Degree without the payment of an additional fee.

8-10-89

34.—Graduates in Engineering in any branch may, upon passing the Degree Examination in any other branch or branches, and producing satisfactory evidence of practical work therein, receive a certificate for such additional branch or branches.

35.—The fee for such additional examination for the Degrees <sup>10-8-89</sup> of Bachelor and of Master of Engineering shall be ten pounds.

36.—The candidate who shall most distinguish himself in <sup>11-9-93</sup> the examination for the Degree of Master of Engineering shall, if of sufficient merit, receive a bronze medal.

CHAPTER XIX.—ADMISSION *AD EUNDEM GRADUM*.

1.—Admission *ad eundem gradum* in the University may, at <sup>5-7-87</sup> the discretion of the Senate, be granted without examination to Graduates of the following approved Universities—that is to say, the Universities of Oxford, Cambridge, London and Durham, the Victoria University, the University of St. Andrew's, Edinburgh, Glasgow, Aberdeen and Dublin, the Queen's University of Ireland, and the Royal University of Ireland, lately established in its place; and the Universities of Melbourne, New Zealand and Adelaide; and may also be granted to Graduates of such other Universities as the Senate may from time to time determine; provided always that they shall give to the Registrar, to be submitted to the Senate, sufficient evidence of their alleged Degrees respectively, and of their good fame and character. Upon the approval of his application each candidate shall pay to the Registrar a fee of two pounds for the entry of his name on the University books, in addition to the prescribed fee for his Degree.

## CHAPTER XX.—REGISTER OF GRADUATES.

1.—A Register of Graduates of the University shall be kept <sup>5-7-87</sup> by the Registrar in such manner as the Senate shall from time to time direct.

2.—A Register of the Members of Convocation shall be kept <sup>5-7-87</sup> by the Registrar in such manner as the Senate shall from time to time direct, and such Register shall be conclusive evidence that any person whose name shall appear thereon at the time of his claiming a vote at a Convocation is so entitled to vote.

## CHAPTER XXI.—SUBSTITUTES FOR OFFICERS.

1.—Any act required by the By-laws to be performed by <sup>5-7-87</sup> any officer of the University may, during the absence or other incapacity of such officer, unless otherwise provided, be performed by a person appointed by the Senate to act in his place.

## CHAPTER XXII.—ACADEMIC COSTUME.

1.—The Academic Costume shall be for—

<sup>12-9-92</sup>

The Chancellor and Vice-Chancellor—a robe and cap similar to those worn by the Chancellor of the

University of Oxford. In undress, the silk gown worn by other members of the Senate, black velvet cap and gold tassel.

A Member of the Senate—the habit of his Degree, or a black silk gown of the description worn by Graduates holding the Degree of Doctor, with tippet of scarlet cloth, edged with white fur, and lined with blue silk, black velvet trencher cap.

Doctor of Laws, Medicine or Science—the gown worn by Graduates holding the Degree of Doctor in the Universities of Oxford or Cambridge, black cloth trencher cap.

Doctor of Laws—hood of scarlet cloth, lined with blue silk.

Doctor of Medicine—hood of scarlet cloth, lined with purple silk.

Doctor of Science—hood of scarlet cloth, lined with amber-coloured satin.

Master of Arts—the ordinary Master's gown of Oxford or Cambridge, of silk or bombazine with black silk hood lined with blue silk, black cloth trencher cap.

Master of Surgery—the ordinary Master's gown of Oxford or Cambridge, of silk or bombazine, with hood of scarlet cloth lined with French grey, black cloth trencher cap.

Master of Engineering—a Master of Arts gown, with black silk hood, lined with light maroon-coloured silk, black cloth trencher cap.

Bachelor of Laws or Medicine—the black gown worn by civilians in Oxford or Cambridge holding Degrees, black cloth trencher cap.

Bachelor of Laws—hood of black silk, edged with blue silk.

Bachelor of Medicine—hood of black silk, edged with purple silk.

Bachelor of Arts, Science or Engineering—a plain black stuff gown, black cloth trencher cap.

Bachelor of Arts—hood similar to that worn by the B.A. at Cambridge.

Bachelor of Science—hood of black stuff, edged with amber-coloured silk.



Bachelor of Engineering—hood of black stuff, edged with light maroon-coloured silk.

Licentiate in Dental Surgery—a gown similar to that worn by Bachelors of Arts, Science and Engineering, black cloth trencher cap, hood of black stuff, edged with cream-coloured silk. <sup>2-2-04</sup>

An Officer not being a Graduate—a black silk gown of the description worn by civilians not holding Degrees, black cloth trencher cap.

Undergraduate—a plain black stuff gown, black cloth trencher cap.

Scholar—plain black stuff gown, with a velvet bar and shoulder strap, black cloth trencher cap.

2.—Members of the University shall on all public occasions, when convened for Academic purposes, appear in their Academic costume. <sup>5-7-87</sup>

3.—The Undergraduates shall appear in Academic costume when attending lectures, and on all public occasions in the University; and, whenever they meet the Fellows, Professors, or other Superior Officers of the University, shall respectfully salute them. Provided that students in any Faculty shall be permitted, if deemed expedient by the Faculty, to wear at certain courses of instruction, in lieu of the ordinary Academic dress, a distinguishing badge to be prescribed by such Faculty. <sup>5-7-87</sup> <sup>6-5-90</sup>

#### CHAPTER XXIII.—PUBLIC EXAMINATIONS.

1.—Two public examinations shall be held every year, the one to be called the Junior Public Examination and the other to be called the Senior Public Examination, and shall be open to all candidates, male or female, who may present themselves. <sup>5-7-87</sup>

2.—The Public Examinations shall be held at such times and at such places as the Senate may from time to time appoint. <sup>5-7-87</sup>

3.—The subjects of the Junior Public Examination shall be the English Language and Literature, History, Geography, the Latin, Greek, French and German Languages, Arithmetic, Algebra, Geometry, Natural Science, and such other branches of learning as the Senate may from time to time determine. <sup>5-7-87</sup>

4.—The subjects of the Senior Public Examination shall be those mentioned in the foregoing section, together with higher Mathematics, Drawing, Music, Natural Philosophy, and such other branches of learning as the Senate may from time to time determine. <sup>5-7-87</sup>

5-7-87 5.—Every candidate who shall pass either of these examinations, or such portions of either of them as may be required by the Rules or Orders of the Senate in force for the time being, shall receive a certificate to that effect, specifying the subjects in which he shall have passed, signed by the Dean of the Faculty of Arts and by the Registrar.

5-7-87 6.—No person shall be admitted to either of the Public Examinations until he shall have paid such fees as may be required by the Rules or Orders of the Senate in force for the time being.

18-7-93 7.—The Professors and Assistant Professors not engaged in tuition except publicly within the University, together with such other persons as the Senate may from time to time appoint, shall form a Board for conducting the Public Examinations; and of this Board the Chairman shall be elected at its first meeting in the year.

27-9-92 8.—At the conclusion of each examination the Board shall publish the result and transmit to the Senate a copy of it, signed by the Chairman and at least one other member.

5-7-87 9.—Subject to these By-laws, the Public Examinations shall be conducted according to such Rules or Orders as the Senate may from time to time establish.

#### CHAPTER XXIV.—EVENING LECTURES.

30-7-94 1.—Courses of Evening Lectures, embracing all the subjects necessary for the Degree of Bachelor of Arts, shall be given at such times and in such order as the Senate may from time to time direct.

30-7-94 2.—Any person desirous of attending a course of Evening Lectures may be allowed to do so upon payment of such fees as the Senate may from time to time direct.

30-7-94 3.—Students who desire to qualify themselves for graduation by attendance upon Evening Lectures shall be required to pursue the course of study and pass the examination prescribed in Chapter XV. of the By-laws for candidates for the Degree of Bachelor of Arts.

(a) Provided that any Evening Student, if he so desires, may distribute the lectures and examinations of the First Year as prescribed in Sections 12 and 13 of Chapter XV., over two years, taking not less than two of the following subjects in each year, viz.,

(i.) Latin, (ii.) one of the following languages—Greek, French or German, (iii.) Mathematics, (iv.) English; and subject to his having previously passed the Matriculation Examination in any subject taken up (except English). Provided also that Evening Students may be permitted by the Faculty to take the lectures and examinations upon any of the three Scientific subjects of the First Year at a later period of their course.

- (b) Provided also that any Evening Student, if he so desires, may distribute the lectures and examinations of the Second Year, as prescribed in Sections 14 and 15 of Chapter XV., over two years, taking not less than two of the subjects so prescribed in each year.

4.—In all cases not provided for in the preceding By-laws 30-7-94 of this Chapter, Evening Students shall be subject to the same By-laws, Rules and Regulations as other students.

#### CHAPTER XXV.—UNIVERSITY EXTENSION.

1.—There shall be a Board, consisting of not more than 18-4-94 eighteen members, of whom four at least shall be members of the Senate, and four at least shall be members of the Teaching Staff, and not less than two shall be persons not being members of the Senate or of the Teaching Staff. The Board shall be appointed annually by the Senate, at its monthly meeting in December, and shall be held to be duly constituted upon the appointment of twelve persons to be members thereof, and the Senate may fill vacancies and appoint additional members from time to time if it shall think fit during the year, but so that the total number of members of the Board shall not exceed eighteen at any time. Membership of the Board shall continue from the time of appointment until the next annual appointment of the Board, when all memberships shall lapse, but all retiring members shall be eligible for re-election.

2.—The Board shall at its first meeting after its appoint- 12-9-92 ment in each year elect a Chairman for the year, and may recommend to the Senate the appointment of a Secretary, the tenure of whose office and the amount of whose salary (if any) shall be determined by the Senate. The Chairman shall convene meetings of the Board, and three members shall form a quorum.

- 12-9-92 3.—All action taken by the Board shall be subject to the By-laws, and to any directions which may be given by the Senate.
- 12-9-92 4.—The Board shall from time to time recommend to the Senate the names of certain persons to be authorised for employment as University Extension Lecturers, and the Senate shall at its discretion authorise the employment of such persons to deliver lectures under the direction of the Board.
- 12-9-92 5.—The Board may appoint any person whose employment as Lecturers has been authorised by the Senate to deliver such courses of lectures, and to hold such classes and examinations on such subjects, and at such times and places as the Board may see fit.
- 12-9-92 6.—The Board shall determine the tenure of office of the Lecturers, the duties to be performed by them, the fees and charges to be paid for the lectures, classes and examinations, and the mode and time of payment of the fees and charges.
- 12-9-92 7.—The payments to be made to the Lecturers shall be determined by the Board in accordance with regulations as to the rate of payment to be laid down by the Senate.
- 12-9-92 8.—The Board shall make all other arrangements requisite for the delivery of lectures and the holding of classes and examinations, and may award such certificates as it shall think fit.
- 12-9-92 9.—The fees received, together with any Government grant, donations, and such sums as may from time to time be assigned for the purpose by the Senate, shall be the fund for the payment of Lecturers and other expenses. The fund shall be deposited in a bank in the name of the University Extension Board, and all payments from the fund shall be made by cheques signed by the Chairman or two other members of the Board and by the Secretary.
- 12-9-92 10.—The Board shall, in the month of December in each year, lay before the Senate a report of its proceedings of that year, with a statement of its finances.

## CHAPTER XXVI.—TENURE OF OFFICE OF LECTURERS.

- 29-6-91 1.—All appointments of Public Teachers in the schools of the University, other than Professors, shall be terminable by a notice of not less than six calendar months, which may be given by the Senate at any time, but which, if given by the Teacher, must expire on the 31st December. This By-law shall not apply to any case in which the Senate shall direct that the appointment shall be for a limited period.

2.—Any salaried officer of the University becoming a candidate for election to the Legislative Assembly shall thereby vacate his office. 9-10-94

3.—All independent Lecturers or Public Teachers other than Professors and Assistant Lecturers and Demonstrators shall, unless specifically appointed for a shorter term, hold office for a period not exceeding seven years, which shall terminate on December 31st next preceding the expiration of seven years from the date of appointment. During such period the appointment shall be terminable at six months' notice, as provided in Section 1 of this chapter, and at the expiration of such period the appointment shall terminate; but the holder shall be eligible for re-appointment. 7-1-02

## CHAPTER XXVII.—FINANCE.

1.—The general supervision of the financial affairs of the University shall, subject to the direction and control of the Senate, be entrusted to a Finance Committee, consisting of the Chancellor, the Vice-Chancellor, and four elected Fellows of the Senate, of which number three shall constitute a quorum. 11-9-93

2.—The elected members of the Committee shall be chosen annually by the Senate, and shall remain in office until their successors shall have been appointed. All casual vacancies shall be notified by the Registrar at the next meeting of the Senate, and shall be filled by the Senate as soon thereafter as conveniently may be. 7-6-92

3.—The Finance Committee shall meet once a month, and at such other times as the Senate shall have directed, or when it shall be summoned by the Registrar under the direction of the Chancellor or Vice-Chancellor. 7-6-92

4.—The Registrar shall attend all meetings of the Committee, and shall keep due records and minutes of their proceedings, and shall act generally as executive officer of the Committee. And the University Solicitor may be required by the Committee to attend any of its meetings with reference to the investments or other matters requiring legal advice or assistance. 7-6-92

5.—It shall be the duty of the Finance Committee to submit to the Senate, towards the end of each Academic year, an estimate of the expected revenue for the next ensuing year, together with a statement of the proposed expenditure as already authorised by the Senate or apprehended to be necessary, such estimates and expenditure to be arranged under as many heads as shall be

convenient. And the Senate shall, as soon after as may be, consider such estimates and pass votes for expenditure during such coming year, which votes shall not be exceeded unless upon special grounds and on the report of the Finance Committee that sufficient funds are available for the expenditure.

7-6-92 6.—The Finance Committee shall, as soon as practicable after the close of each Academic year, submit to the Senate a report and a duly audited statement of the accounts and transactions during the past year.

7-6-92 7.—The Registrar and Accountant shall present to the Finance Committee in each month a statement showing, with such details, and particulars as the Committee shall have required, the full state and condition of the University's financial affairs at that time, and the Registrar shall then inform the Committee of all financial matters proper to be considered at that meeting, and shall produce the Bank Pass Books of the University made up the preceding day.

7-6-92 8.—The Finance Committee shall once in each month present a report setting forth a pay sheet for the disbursements required for that or the next month, as occasion may arise, in accordance with the general estimates and votes for expenditure for the current year, or with any specific order previously made by the Senate, and also setting forth any other demands which the Committee shall, after enquiry and examination, see reason to submit for allowance and payment in that month.

7-6-92 9.—The Finance Committee shall also in each month present to the Senate a report showing the general state and condition of the University's financial affairs, and setting forth all receipts and disbursements since the last preceding report of like character, and shall therein distinguish all loans and repayment of loans from other disbursements and receipts, and the Committee shall, at such meeting and other meetings, promptly report any default in the payment of interest on any investment or in the payment of any principal money which may be due to the University.

7-6-92 10.—No expenditure of funds of the University, otherwise than by way of investment on loan upon the authority of the Finance Committee, with the approval of the Chancellor or Vice-Chancellor, shall be made unless the same shall have been authorised by the Senate.

11.—All moneys received on behalf of the University shall be forthwith paid by the Registrar to the credit of the University at its Bank of deposit, on General or Special Account, as the case may require. 7-6-92

12.—All disbursements of money belonging to the University, whether the same shall be by way of payment or of investment, shall be by cheque on the University Bank, signed by two members of the Senate and countersigned by the Registrar. 20-9-98

13.—The investment of moneys shall be confined within the following classes of securities :— 20-9-98

- (a) Deposit with the Government of the State at interest, if allowed by the Government for the time being.
- (b) Purchase of Debentures or Inscribed Stock, or Treasury Bills, or other form of security issued by the Government of any of the Australian States.
- (c) Debentures or other Loan issues of Municipal or other public bodies within this State, having statutory powers to borrow moneys within limits then open, or of any incorporated body or society having such authority and within such limits.
- (d) Mortgages of Land and Premises held in fee simple to the extent of two-thirds the estimated value, with sufficient insurance on destructible improvements or articles included in such estimates.
- (e) Mortgages of Leasehold Lands and Premises held under leases which will not have less than thirty years to run at the date of expiration of such mortgages, to an extent not exceeding three-fifths of like approved estimates, and with like insurance on destructible improvements or articles.
- (f) Deposits at interest in any Bank of the State.
- (g) Purchase of Freehold or Leasehold Lands, with or without improvements, provided that no investment under this sub-section shall be made without the special authority after special notice of a meeting of the Senate.

CHAPTER XXVIII.—DEPARTMENT OF DENTAL STUDIES.

1.—The Chancellor and Vice-Chancellor, the Dean of the Faculty of Medicine, the Medical Members of the Senate, the 9-4-01

Professors and Lecturers in the subjects of the Dental Curriculum, and the Members of the Honorary Dental Staff at the Sydney Hospital, shall constitute the Board of Dental Studies.

9-4-01 2.—The Dean of the Faculty of Medicine shall exercise a general superintendence over the administrative business connected with the Board, and it shall be the duty of the Registrar to summon meetings of the Board at such times as may be required by the Dean, provided that upon the written requisition of any three Members of the Board the Dean, or in his absence, the Registrar, shall convene a special meeting. No question shall be decided at any meeting of the Board unless there shall be present at least five members. In the absence of the Chancellor and Vice-Chancellor, the Dean of the Faculty shall preside at meetings of the Board, but in his absence the members then present shall elect a Chairman from amongst themselves. The Chairman at any such meeting shall have a vote, and in case of an equality of votes, a second or casting vote. It shall be the duty of the Registrar to attend all meetings of the Board and to record its proceedings.

9-4-01 3.—The Board shall meet for the purpose of considering and reporting to the Senate upon such subjects as have relation to the Studies, Lectures and Examinations in Dentistry, and upon such questions as may be referred to it by the Senate.

9-4-01 4.—There shall be a License in Dentistry granted after Examination in the subjects of the Curriculum in Dentistry.

9-4-01 5.—Candidates for the License in Dentistry, before commencing their studies, shall pass the Matriculation or an equivalent examination in the University, or shall produce satisfactory evidence of having passed an equivalent examination elsewhere.

9-4-01 6.—Candidates for the License in Dentistry shall, during the First Year, attend the following courses of instruction:—

1. Physics and Practical Physics.
2. Chemistry, Introductory and Metals.
3. Practical Chemistry and Metallurgy as applied to Dentistry.
4. Descriptive Anatomy.
5. Dissections.
6. Anatomy of the Teeth.
7. Introductory Surgical Dentistry.



8. Introductory Mechanical Dentistry.
9. Hospital and Laboratory Practice in Surgical and Mechanical Dentistry.

7.—Candidates for the License in Dentistry shall, during <sup>9-4-01</sup> the Second Year, attend the following courses of instruction:—

1. Physiology and Practical Physiology.
2. Dissections.
3. Surgery and Special Dental Surgery.
4. Surgical Dentistry.
5. Mechanical Dentistry.
6. Hospital and Laboratory Practice in Surgical and Mechanical Dentistry.

8.—Candidates for the License in Dentistry shall, during <sup>9-4-01</sup> the Third Year, attend the following courses of instruction:—

1. Physiology, including Special Dental Physiology and Practical Physiology.
2. Regional Anatomy.
3. Materia Medica and Therapeutics.
4. Pathology and Bacteriology with special reference to the mouth and teeth.
5. Hospital and Laboratory Practice in Surgical and Mechanical Dentistry.

9.—For the License in Dentistry an examination shall be <sup>9-4-01</sup> held at the end of each year in the subjects of the Curriculum for that year.

10.—The fee for the License in Dentistry shall be ten pounds. <sup>9-4-01</sup> This fee shall be paid to the Registrar before the final examination, and shall not, in any case, be returned to the candidate. A candidate who fails to pass the examination may be allowed to present himself for a second examination without fee, but for every further examination that may be required he shall pay the sum of five pounds.

11.—At each Yearly Examination the candidates shall be <sup>9-4-01</sup> required to give proof of their knowledge by written answers to the questions set, and also by a practical or *viva voce* examination in all the subjects:

12.—Before admission to the final Yearly Examination, each <sup>9-4-01</sup> candidate shall furnish a declaration of having completed his twenty-first year, and also a certificate of good fame and character, to the satisfaction of the Senate.

9-4-01 13.—Candidates who have passed all the examinations to the satisfaction of the Board may be recommended to the Senate for the License in Dentistry.

9-4-01 14.—Accredited certificates of attendance on courses of instruction from other Universities or Schools of Medicine or of Dentistry may, on the report of the Dean, be accepted *pro tanto* by the Senate as proof of the attendance on courses of instruction required by these By-laws. Provided always that no person shall be recommended to the Senate for the License in Dentistry unless he shall have attended, within the University of Sydney, during each of at least five terms, not less than two courses of instruction in subjects included in the Dental Curriculum of the University. In all such cases some certificate of general education satisfactory to the Senate will be required.

9-4-01 15.—A Graduate in Medicine of the University may be admitted to examination for the License in Dentistry on presenting satisfactory evidence that after graduation in Medicine he has devoted at least three terms to the study of Dentistry, and that he has attended the following courses of instruction prescribed for Students in Dentistry, viz. :—1. The Special Course of Lectures on the Anatomy of the Teeth. 2. Practical Metallurgy. 3. The Lectures in Surgical and Mechanical Dentistry. 4. Hospital attendance during one year in the Dental Department, with Practical Instruction in Surgical and Mechanical Dentistry. The examination in such cases shall be confined to the Anatomy of the Teeth, to Practical Metallurgy, and to Surgical and Mechanical Dentistry.

9-4-01 16. Persons who have been in active practice as Dentists for a period of at least two years may be allowed to proceed to the License in Dental Surgery without attending the practical and hospital work in Surgical and Mechanical Dentistry prescribed by these By-laws; but they shall be required to comply with the provisions of these By-laws in all other respects, and no person shall be permitted to enter upon the Curriculum under this By-law after Lent Term, 1904.

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# REGULATIONS.

## DISCIPLINE.

### REGULATIONS PASSED BY THE PROFESSORIAL BOARD.

It shall be the duty of the Chairman of the Professorial Board to exercise a general supervision over the discipline of the University.

Every fine shall be paid to the Registrar within forty-eight hours from the time of its imposition. If not so paid, the fine shall be doubled; and if the double fine be not paid within one week from the time when the original fine was imposed, the Registrar shall report the fact to the Professorial Board, in order that suitable means may be taken against the offender for his contumacy.

The Dean of each Faculty shall call upon every student in his Faculty who shall have absented himself from more than ten per cent. of any prescribed course of lectures in any one term to show sufficient cause for such absence. The Dean shall at his discretion either decide that the cause shown is sufficient, or submit the matter to the Professorial Board for decision. Such students as fail to show sufficient cause for such absence are, under Section 2 of Chapter XIII. of the By-laws, excluded from admission to the Yearly Examinations.

No excuse for absence from lectures shall be received from any undergraduate unless tendered in writing to the Registrar within one week after he resumes attendance. Every written excuse for absence from lectures in any Faculty shall be submitted to the Dean of that Faculty, who may at once decide that such excuse shall be accepted, or in cases of doubt, may call a meeting of the Professorial Board to adjudicate thereon.

Matriculated students who have lost their places in their own proper year, either by non-attendance at the prescribed course of lectures or by failing to pass the required examinations, are not allowed to compete for honours, scholarships, or prizes at subsequent Yearly, Professional, or Degree Examinations unless by express permission of the Professorial Board.

No student in the Faculty of Medicine who has not been specially exempted shall receive a certificate of attendance upon any course of instruction who shall not have been present at sixty per cent. at least of the meetings of the course.

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### THE UNIVERSITY LIBRARY.

*For books allowed to be taken out of the Library.*

1.—No person shall be allowed to take books out of the Library but Fellows of the Senate, Professors and other Public Teachers in the University, Officers of the University or other persons who shall have obtained this privilege under a special resolution of the Senate, and graduates having their names on the books of the University, and being resident in Sydney or its suburbs.

2.—No books shall be taken out of the Library except with the sanction of the Librarian, who shall enter in the book kept for the purpose the name of the borrower, the title of the book borrowed, and the date of the loan, and this entry shall be signed at the time by the borrower.

3.—No person shall be allowed to have in his possession at one time more than ten volumes belonging to the Library, but the Library Committee may dispense with this order in any particular case if they shall be of opinion that sufficient reasons have been assigned for such dispensation; such dispensation, however, shall continue in force no longer than to the end of the current quarter, but upon fresh application may be renewed by the same authority.

4.—Every one who shall borrow or take any book out of the Library shall return it thither again on demand of the Librarian at any time after the expiration of seven days, and without such demand on or before the next of the four following Quarter Days, viz.:—March 31st, June 30th, September 30th, December 31st, under penalty of two shillings for every folio or quarto, and one shilling for every book of less size; all penalties to be repeated every fortnight till the book be returned, or others of the same edition and equal value be placed in their room, such fortnight being first reckoned from the day on which the Library is re-opened after the Quarter Day. If any of the

Quarter Days should fall on a Sunday, or on any other day on which the Library is closed by Rule 20, the day appointed for returning the books shall be the following day.

5.—No book shall be taken out of the Library on the days appointed for the return of books.

6.—Every Professor shall have the privilege of obtaining books for each student attending his lectures and being a member of the University. Each order for the volumes so obtained shall bear the titles of the books, and be dated and subscribed as follows:—

*For M.N.,*

*C.D., Professor.*

The books so obtained shall not be taken out of the Library till the day after that on which the Library is re-opened for the Quarter, and they shall be returned at any time after the expiration of seven days, if demanded by the Librarian, and, if not so demanded, not later than the day before the next Quarter Day. The Professor shall be responsible for the books so obtained, and for the penalties under Rule 4; and no student shall have in his possession at one time more than five volumes.

7.—A list of the books omitted to be returned at the end of any quarter, together with the names of the borrowers, shall be posted up in some conspicuous place in the Library.

8.—No person from whom any fine is due to the Library shall be allowed to take out books until such fine has been paid.

9.—If any book be injured or defaced by writing while in the possession of any person taking it out of the Library, he shall be required to replace it by another book of the same edition and of equal value. Persons taking books out of the Library are required to report, without delay, to the Librarian any injury which they may observe in them.

*For books not to be taken out of the Library without a note countersigned by the Chancellor or Vice-Chancellor.*

10.—Certain printed books, of which a list shall be prepared under the authority of the Library Committee, and kept by the Librarian, shall not be taken out except by a note countersigned by the Chancellor or Vice-Chancellor, nor until the day after that on which the note is presented; and no such note shall be given to any undergraduate member of the University, nor shall any

person have more than five volumes of such books out of the Library at one time. A register shall be kept of all such books taken out of the Library, and of the date on which they are returned; and after the books are returned the plates in them shall forthwith be collated, and the collation be registered; and until such collation shall have been made, the books shall not be accessible to persons using the Library, nor shall the counter-signed note be given up to the persons by whom the books are returned, but in lieu of it an acknowledgment signed by the Librarian or his deputy; and the name of the person by whom the acknowledgment is signed shall also be registered.

11.—The penalties for not returning such books at the Quarter Days shall be double of the penalties prescribed in Rule 4.

*For MSS. and books not allowed to be taken out of the Library.*

12.—The Library Committee may cause MSS., books containing collections of prints or drawings, and other documents and books of a nature or value to render such precaution expedient, to be locked up in cases or compartments by themselves. These shall not be taken out of the Library on any pretence whatever; and access to them shall not be allowed unless the Librarian or someone deputed by him be present. The Librarian himself shall have charge of the keys.

13.—The Library Committee may direct that certain printed books, of which a list shall be kept by the Librarian, shall not be removed from the Library.

14.—Persons desirous of referring to any particular MSS. or scarce printed books shall apply to the Librarian, who, if he see cause, may allow such MSS. or books to be consulted, but not in the compartment in which the MSS. or scarce printed books are kept.

15.—Parts of periodicals, works in progress, pamphlets, &c., until such time as is proper for binding them, shall be kept under such a system of management that they may be produced, if required, after a few minutes' notice, on application being made to the Librarian, by means of an ordinary Library note, so that persons in whose literary researches such works are necessary may consult them in the Library with the consent of the Librarian.

*For admission to the Library.*

16.—Except on the day when the Library is re-opened for any quarter, those Undergraduates who have obtained a Professor's order for books shall be admitted to the Library for the purpose of selecting their books, or otherwise consulting the Library, during the hour from one to two.

*Admission of persons not Members of the University for the purpose of Study and Research.*

17.—The Chancellor or Vice-Chancellor may grant an order of admission to the Library for the purpose of study and research to any person who shall produce to him a recommendation from any Fellow of the Senate, or Professor, or any member of the University who shall have been admitted to the Degree of M.A. or any higher Degree, stating "that the person recommended is well known to him," and "that he is a fit and proper person to obtain such order." The name of the member of the Senate or the Professor upon whose recommendation any such order of admission shall be granted shall be placed after the name of the person receiving the permission in a list to be suspended at the entrance of the Library.

18.—Such persons shall be permitted to use the Library whilst open, except on any days on which the Library is first open for the quarter. This admission order shall have effect only until the expiration of the quarter in which it shall have been granted, and it shall not entitle the holder to have access to lock-up cases.

*For Opening and Closing the Library.*

19.—For the purpose of allowing the Librarian sufficient time to inspect the books, the Library shall be closed for the first fortnight in the month of January, and also for the two days (excepting Sunday) next after each of the other Quarter Days.

20.—The Library shall be closed on Sundays and Public Holidays.

21.—The Library shall be open on Saturdays from ten till one, and other days from ten till three.

## FISHER BEQUEST.

In 1885 the sum of £30,000, or thereabouts, was bequeathed to the University by Thomas Fisher, Esq., "to be applied and expended by the Senate for the time being of the University in establishing and maintaining a Library for the use of the University, for which purpose they may erect a building, and may purchase books, and do anything that may be thought desirable for effectuating the purposes aforesaid."

Under these conditions the Senate had determined to apply the sum of £20,000 and its accumulations from February, 1888, to the erection of a Library building, such building to be designated the Fisher Library; but before expenditure of the amount so dedicated, to petition the Government to provide a corresponding amount for the erection of buildings annexed to the Library, comprising Reading Rooms and Common Rooms for Students, and a Museum for the Nicholson Antiquities, together with a Refectory for Students. The Government of the State having decided in 1901 to defray the whole cost of the erection of the building, the whole of the principal money of the Fisher Fund is now to be kept as a perpetual endowment fund for keeping up and adding to the Library.

## NICHOLSON MUSEUM OF ANTIQUITIES.

*Committee of Management*—Professor BUTLER, B.A.; Professor WOOD, M.A.; Professor WOODHOUSE, M.A.; JOSIAH MULLENS, Esq.

*Honorary Curator*—Professor WOODHOUSE, M.A.

## REGULATIONS.

1.—The Bedell shall have charge of that portion of the building devoted to the Museum, and during the absence of the Curator shall be responsible for the due care of the collection.

2.—The Museum shall be open for the admission of visitors every Saturday from the 1st May to the 31st October, from two to five p.m.; and from the 1st November to the 30th April, from two to six p.m. Visitors may also be admitted at any other convenient time when accompanied by a Member of the Senate, or by any Professor or Superior Officer of the University, or by the Curator or the Bedell in charge of the Museum.

3.—All visitors to the Museum shall be required to give their names and addresses, which shall be entered in a book to be kept for that purpose.

4.—Children under 15 years of age shall not be admitted unless accompanied by older friends.



## MACLEAY MUSEUM.

*Committee of Management*—The Challis Professor of Biology, the Professor of Geology and Physical Geography.

*Curator*—G. MASTERS.

In the year 1874 the Hon. Sir W. Macleay, M.L.C., undertook to present to the University of Sydney his collection of Natural History, together with an endowment for the stipend of a Curator, as soon as a suitable building should have been provided for its reception. The conditions attached to this donation were—

1. That the present Curator should be continued in office;
2. That the endowment of £6,000 for the salary of a Curator should be used for this and no other purpose; and
3. That the Museum should be made easily accessible to students of Natural History and members of the Linnean Society of New South Wales.

Under these conditions the Senate gratefully accepted Mr. Macleay's gift; and the Parliament having made liberal provision for the buildings required, the collection is now in the University.

## MUSEUM OF NORMAL AND MORBID ANATOMY.

*Committee of Management*—The Dean of the Faculty of Medicine, The Challis Professor of Anatomy, the Professor of Pathology.

*Honorary Curator*—Professor D. A. WELSH, M.A., B.Sc., M.D.

## REGULATIONS.

1.—The Museum shall be called the Museum of Normal and Morbid Anatomy, and shall be established for the benefit of all the Medical Departments of the University.

2.—The Museum shall be under the control of a Committee of Management, to be appointed by the Senate at its first meeting in Lent Term.

3.—The Committee shall consist of the Dean of the Faculty of Medicine for the time being, together with two members of the Medical Teaching Staff to be chosen by the Senate.

4.—The working Curator shall be under the control of the Committee of Management; and in the second Thursday of each

Term he shall transmit to the Dean, for the Senate, a report, to be written in a separate book kept for that purpose, of all the work he has done since the last report.

5.—Requisitions for the expenditure of money in connection with the Museum shall be submitted by the Committee of Management to the Finance Committee of the Senate for its approval.

## UNIVERSITY EXTENSION LECTURES.

SEE ALSO BY-LAWS, CHAP. XXV. (PAGE 59).

UNIVERSITY EXTENSION BOARD, 1904.—Members of the Senate: His Honor Judge Backhouse, M.A.; H. C. L. Anderson, M.A.; the Hon. W. P. Cullen, M.A., LL.D.; R. Teece, F.I.A. Members of the Teaching Staff: Professors M. W. MacCallum, M.A.; T. W. E. David, B.A.; G. Arnold Wood, M.A.; F. Anderson, M.A.; Pitt Cobbett, M.A., D.C.L.; W. J. Woodhouse, M.A. Unofficial Members: H. Goodere, H. S. Robinson, E. B. Taylor; Rev. Andrew Harper, D.D.; Rev. J. Fordyce, D.D.; John Kent, G. S. Littlejohn, J. M. Taylor, M.A., LL.B. Hon. Secretary, Professor W. J. Woodhouse, M.A.

### REGULATIONS REFERRING TO LECTURE COURSES.

1.—The Board is prepared to receive and consider applications for courses of University Extension Lectures to be delivered in Sydney, or in any suburb of Sydney or country town.

Applications may be made either by a public institution, such as a School of Arts, or by a Home Reading Circle, or by a Committee specially formed for the purpose. They should be addressed to the Secretary of the University Extension Board, the University, Sydney, who will forward a list of available Lecturers and subjects, and give any other information that may be desired. The Board will, as far as possible, consult the wishes of the applicants in the selection of Lecturer and subject, and in fixing the dates of the lectures and the intervals between them. Courses have usually consisted of ten or six lectures, delivered at intervals of a week.

2.—Applicants must undertake to become responsible for the local management and local expenses of the lectures, and for the payment of the charges made by the Board.

The local management undertaken by the applicants will include providing a suitable lecture room, furnished, if possible, with desks or tables for the convenience of students taking notes; advertising the lectures; arranging for the sale of tickets; and providing a room with suitable appliances and supervision for the concluding examination.

The charge payable to the Board has been fixed at £30 for a course of ten lectures, and £18 for a course of six. But if the lectures are delivered in country towns the charge may be reduced to £20 for a course of ten lectures and £12 for a course of six. The arrangements for the sale of tickets for the course (including the fixing of their price) will be left in the hands of the Local Committee, who may use the proceeds to defray the expenses which have been incurred. It is left to the option of the Local Centre to raise the requisite amount by the sale of tickets, by subscription, or by a combination of these methods; but the amount payable, or a satisfactory guarantee for its payment, must be lodged with the Secretary of the Board before the course begins.

3.—Every person who attends the course will be supplied with a syllabus containing an analysis of each lecture and a list of books recommended for study and reference. The Board will issue to Local Secretaries all copies of syllabus. At each lecture the Lecturer will set questions to be answered in writing by the students. These written answers should reach the Lecturer at least a day before the following lecture. Each lecture will be of an hour's length, and will be followed by a conversation class, at which the Lecturer will comment on and return the written answers of students, invite and answer questions, and discuss and explain difficulties.

4.—Immediately after the last lecture of the course, the Lecturer will send to the Secretary of the Board a report of the attendance, together with a record (in the form of numerical marks or otherwise) of the written work of the students, and a list of those students who have regularly attended the lectures and conversation classes, and have satisfied him by their work during the course.

The course will conclude with an examination, to which those only who are included in the Lecturer's list will be admitted. The examination will be conducted, in consultation with the Lecturer, by a Professor or other Examiner appointed by the Board; and certificates will be awarded on the result of the examination.

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# GENERAL REGULATIONS.

## MATRICULATION EXAMINATION.

CANDIDATES for MATRICULATION are required to pass a satisfactory Examination in Latin, Arithmetic, Algebra, Geometry, and one of the following subjects—Greek, French, German. Proficiency in writing English is also taken into account. The Matriculation Pass Examination for candidates intending to enter the University in March, 1905, will begin on Monday, MARCH 6th, 1905. The Examination for Matriculation Honours and Scholarships will commence on NOVEMBER 14th, 1904.

### COMPULSORY SUBJECTS—PASS.

- 1.—*Latin*—Translation into English of passages from set authors and of Latin passages at sight, and translation of simple English sentences into Latin. Candidates are expected to show an accurate knowledge of Latin accidence. Subject set for March, 1905 : Livy, Book XXVI. (*Nicholls*, Angus & Robertson). March, 1906 : Cicero pro Murena (*Heitland*, Cambridge).
- 2.—*Arithmetic*.
- 3.—*Algebra*—Up to quadratic equations involving one unknown quantity. Questions may be set requiring the use of squared paper.
- 4.—*Geometry*—Two papers will be set in Geometry. For one of these the subject of study will be the first three books of Euclid, and easy questions upon their subject matter. Proofs other than Euclid's will be admitted, but no proof of any proposition will be accepted which assumes the proof of anything not contained in preceding propositions in Euclid. In the alternative paper the regulations for the corresponding Geometry paper in the Junior Public Examination will be adhered to. Candidates will be required in their entry form to specify which paper they desire to take. It is hoped that after a few years it will not be necessary to continue both these papers.

## OPTIONAL SUBJECT—PASS.

- (a)—*Greek*—An Examination similar to that in Latin. Subject set for March, 1905: Plato, *Apology* (*St. George Stock*, Clarendon Press, two parts in one vol.) March, 1906: *Andocides, De Mysteriis* (ed. *W. J. Hickie*, Macmillan's Classical Series.)
- (b)—*French*—An examination similar to that in Latin. Subject set for March, 1905: Berthon, *Specimens of Modern French Prose* (Macmillan). March, 1906: Daudet, *Tartarin de Tarascon* (Siepmann's Series, Macmillan).
- (c)—*German*—An examination similar to that in Latin. Subject set for March, 1905: Hauff, *Das Wirtshaus im Spessart* (Macmillan). March, 1906: Wildenbruch, *Harold* (Heath & Co.).

Students who wish to take up, in their University course, a language which they have not offered at the Matriculation Examination, are reminded that the courses of lectures will begin on the assumption that the Matriculation standard of proficiency in that language has been attained.

## HONOURS AT MATRICULATION.

THE Examination for Matriculation Scholarships and Honours, for candidates intending to enter the University in March, takes place in the previous NOVEMBER, concurrently with the Senior Public Examination. All candidates for the Senior Public Examination may compete for Matriculation Scholarships and Honours upon giving due notice of their desire to do so. Those who wish to compete for Scholarships and Honours in special subjects, without entering for the Senior Public Examination, may do so upon payment of the Matriculation fee of two pounds; and if they have not already passed an examination which qualifies for Matriculation, they may attend the Pass Matriculation Examination in the following March, without paying an additional fee. Candidates who gain Honours in any subject in November are exempt from taking the corresponding pass paper in the following March.

## CLASSICS.

LATIN.—Translation from specified books, with questions on language and subject matter. Translation at sight from Latin into English, and from English into Latin. The

Examination will include questions on Roman History; and questions may be asked on any subject included under the study of the Latin language and literature.

Nov., 1904—Livy, Book XXVI. (*Nicholls*, Angus and Robertson); Horace, Odes, Book I. (*Wickham*, Clarendon Press, or *Page*, Macmillan); History of Rome, from the Tribunate of Tiberius Gracchus to the Battle of Actium (B.C. 133 to 31).

Nov., 1905—Cicero pro Murena (*Heitland*, Cambridge); Virgil, Æneid, Book II. (*Sidgwick*, Cambridge, or *Page*, Macmillan); History of Rome, from the Tribunate of Tiberius Gracchus to the Battle of Actium (B.C. 133 to 31).

GREEK.—An Examination similar to that in Latin.

Nov., 1904—Sophocles, Philoctetes (*Campbell & Abbott*, school edition, in single plays, Clarendon Press); Plato, Apology (*St. George Stock*, Clarendon Press, two parts in one vol.). History of Greece, from the expulsion of the Pisistratidæ to the end of the Peloponnesian War (B.C. 510 to 404).

Nov., 1905—Sophocles, Antigone (*Jebb*, small edition, ed. by *E. S. Shuckburgh*, Cambridge, 4/-, or ed. *G. H. Wells*, Bell & Sons' Illustrated Classics, Intermediate Series); Andocides, De Mysteriis (ed. *W. J. Hickie*, Macmillan's Classical Series). History of Greece, from the expulsion of the Pisistratidæ to the end of the Peloponnesian War (B.C. 510 to 404).

FRENCH AND GERMAN.—Translation from specified books, with questions on language and subject matter. Translation at sight from French and German into English, and from English into French and German. The Examination will include questions on Grammar, Philology, Literature, or other subjects connected with the study of Modern Languages.

*French*.—Nov., 1904.—Berthon, Specimens of Modern French Prose (Macmillan); Molière, Les Fâcheux (Clarendon Press).

Nov., 1905—Daudet, Tartarin de Tarascon (Siepmann's Series, Macmillan); Molière, L'Avare (Macmillan).

*German*.—Nov., 1904.—Hauff, *Das Wirtshaus im Spessart* (Macmillan); *Ballads of Uhland, Goethe and Schiller* (Bell and Sons).

Nov., 1905.—Wildenbruch, Harold (Heath & Co.); *Kurz, Die Humanisten* (Siepmann's Series, Macmillan).

MATHEMATICS.—The Honour papers in Mathematics will be  
(i.) Algebra; (ii.) Geometry; (iii.) Trigonometry.

Candidates will be provided with Barraclough's *Four Figure Trigonometrical Tables* (Angus & Robertson, 6d.) for use in the Algebra and Trigonometry papers.

For the Geometry paper, see the Regulations for the Senior Public Examination for 1904.

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### ENTRANCE EXAMINATION FOR THE FACULTIES OF LAW, MEDICINE, AND SCIENCE.

AN ENTRANCE EXAMINATION for the Faculties of Law, Medicine, and Science is held in March, concurrently with the Matriculation Pass Examination. This examination qualifies for direct admission to the courses of Law, Medicine, and Science in the case of those who do not graduate in Arts or pass through the portions of the Arts course prescribed by the By-laws of the several Faculties. Candidates are required to satisfy the Examiners in the following subjects:—

1. Latin.
2. Greek, French or German.
3. Three of the following subjects, or *four* in the case of candidates for a Degree in the Department of Engineering:—
  - (a) Arithmetic, including the elements of Mensuration.
  - (b) Algebra.
  - (c) Geometry.
  - (d) Trigonometry.

The standard required in the individual subjects is the same as that of the Senior Public Examination, held in November, which also qualifies those who pass in the prescribed subjects for admission to the several Faculties.

The details of the MARCH EXAMINATION are as follows:—

*Latin*.—Translation from specified books, with questions on language and subject matter. Translation at sight from Latin into English and from English into Latin. Subjects for March, 1905: Livy, Book XXVI. (*Nicholls*, Angus and Robertson); Horace, Odes, Book I. (*Wickham*, Oxford, or *Page*, Macmillan). March, 1906: Cicero pro Murena (*Heitland*, Cambridge); Virgil, *Æneid*, Book II. (*Sidgwick*, Cambridge, or *Page*, Macmillan).

*Greek*.—An Examination similar to that in Latin. Subjects for March, 1905: Sophocles, Philoctetes (*Campbell & Abbott*, school edition, in single plays, Clarendon Press); Plato, Apology (*St. George Stock*, Clarendon Press, two parts in one vol.). March, 1906: Sophocles, Antigone (*Jebb*, smaller edition, ed. by *E. R. Shuckburgh*, Cambridge, 4/-; or, ed. by *G. H. Wells*, Bell & Sons' Illustrated Classics, Intermediate Series); Andocides, De Mysteriis (ed. *W. J. Hickie*, Macmillan's Classical Series).

*French*.—An examination similar to that in Latin. Subjects for March, 1905: Berthon, Specimens of Modern French Prose (Macmillan); Molière, Les Fâcheux (Clarendon Press). March, 1906: Daudet, Tartarin de Tarascon (Siepmann's Series, Macmillan); Molière, L'Avare (Macmillan).

*German*.—An examination similar to that in Latin. Subjects for March, 1905: Hauff, Das Wirtshaus im Spessart (Macmillan); Ballads of Uhland, Goethe and Schiller (Bell & Sons). March, 1906: Wilderbruch, Harold (Heath & Co.); Kurz, Die Humanisten (Siepmann's Series (Macmillan)).

*Arithmetic*.—Including the elements of Mensuration.

*Algebra*.—Including the three progressions, the binomial theorem for a positive index, and the properties and use of logarithms.

*Geometry*.—The first four books of Euclid and easy deductions.

While all candidates will be required to know the subject matter of these four books of Euclid, Euclid's sequence will not be insisted upon in the case of those whose instruction has followed another order. Such candidates will be required to state the text books they have studied.



*Trigonometry.*—Including solution of triangles, heights and distances, and properties of triangles.

Candidates will be provided with Barraclough's Four Figure Trigonometrical Tables for use in the Algebra and Trigonometry papers.

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Preliminary Examinations (equivalent to the Matriculation Examination) for Articled Clerks are held at the University in the months of April, July and November, commencing on the first Monday in April and July, and the second Monday in November. Fee, £5 10s. 6d., to be paid to the Prothonotary of the Supreme Court.

The subjects of the Examinations to be held in July and November, 1904, and April, 1905, will be the same as those prescribed for the Matriculation Examination of March, 1905, and so on in future years.

Candidates will have the same choice of Geometry papers as stated above on page 76.

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# FACULTY

## TIME TABLE

N.B.—The numbers in the left-hand column

REFERENCE NUMBER.	SUBJECT.	LENT TERM.				
		Mon.	Tu.	W.	Th.	Fri.
FIRST YEAR.						
7	**French .. .. .	¶11	11	..	9A	11B
1	Latin (A and B) .. .. .	9	¶9	9	..	9
4	Greek .. .. .	..	9	..	9	..
14	Mathematics .. .. .	10	10	10	10	10
9	German (Junior) .. .. .	¶13	..	3	11	..
11	English .. .. .	..	..	11	..	..
23	Chemistry .. .. .	12	12	..	12	12
19	Physics .. .. .	..	..	..	..	..
30	Physiography .. .. .	..	..	..	..	..
28	*Chemistry (Practical) for Honours	2-5	..	2-5	..	2-5
SECOND YEAR.						
14	Mathematics .. .. .	9	9	9	9	9
10	German (Senior) .. .. .	¶2,3	..	9	11	..
20-22	Physics, with Laboratory Practice ..	..	10	..	10	..
12	English .. .. .	..	10	..	¶9,1	10
17	History .. .. .	10	..	10	10	..
2	(b) Latin .. .. .	11	¶11	11	..	11
5	Greek .. .. .	..	11	..	11	..
31	†Geology .. .. .	..	11	..	11	..
33	Geology (Practical) .. .. .	10	..	10	..	..
34-40	Biology, with Laboratory Practice ..	11	11	11	11	11
24	Chemistry (Metals), with one term Practical	..	..	..	..	..
8	French (Senior) .. .. .	12	..	12	¶2	12
15	Logic and Mental Philosophy .. .. .	..	12	..	12	9
44-46	(a) Physiology .. .. .	12	12	12	12	12
45	„ (Practical) .. .. .	..	..	..	..	..
THIRD YEAR.						
32-33A	†Geology .. .. .	..	9	..	9	..
10	German (Senior) .. .. .	¶2,3	..	9	11	..
13	English .. .. .	9	9	¶9	..	9
3	§Latin .. .. .	10	..	10	10	10
6	Greek .. .. .	..	10	9,12	..	12
16	Logic and Mental Philosophy .. .. .	..	11	..	9	11
14	Mathematics .. .. .	11	11	11	11	11
18	History .. .. .	11	..	11	11	..
34-40	Biology, with Laboratory Practice ..	11	11	11	11	11
24-25	Chemistry, with one term Practical	..	..	..	..	..
8	French (Senior) .. .. .	12	..	12	¶2	12
21	Physics, with Laboratory Practice ..	..	12	..	12	..
44-46	(a) Physiology .. .. .	12	12	12	12	12
45	„ (Practical) .. .. .	10-12	10-12	10-12	10-12	10-12

\* Or at times to be arranged. † Practical work each week as arranged. Excursions every third or fourth Saturday as arranged. ¶ Honours Lecture. § Additional Honours lecture, 12 to 1 on Thursdays. \*\* (A) Class A. (B) Class B. (a) In addition, a special course (No. 46), at times to be arranged. (b) Composition class, one hour a week additional.

# OF ARTS.

## OF LECTURES.

refer to the Synopses of Lectures on pp. 103-166.

REFERENCE NUMBER.	TRINITY TERM.					MICHAELMAS TERM.				
	Mon.	Tues.	Wed.	Thur.	Fri.	Mon.	Tues.	Wed.	Thur.	Fri.
7	¶11	..	12	9A	11B	¶11	..	12	9A	11B
1	9	¶9	9	..	9	9	¶9	9	..	9
4	..	9	..	9	..	..	9	..	9	..
14	10	10	10	10	10	10	10	10	10	10
9	¶3	..	3	11	..	¶3	..	3	11	..
11	..	..	11	..	..	..	..	11	..	..
23	..	..	..	..	..	..	..	..	..	..
19	12	12	..	12	12	..	..	..	..	..
30	..	..	..	..	..	12	12	..	12	12
..	..	..	..	..	..	..	..	..	..	..
14	9	9	9	9	9	9	9	9	9	9
10	¶2, 3	..	9	11	..	¶2, 3	..	9	11	..
20-22	..	10	..	10	..	..	10	..	10	..
12	..	10	..	¶9,1	10	..	10	..	¶9,1	10
17	10	..	10	10	..	10	..	10	10	..
2	11	¶11	11	..	11	11	¶11	11	..	11
5	..	11	..	11	..	..	11	..	11	..
31	..	11	..	11	..	..	11	..	11	..
33	10	..	10	..	..	10	..	10	..	..
34-40	..	9	12	9	..	..	..	..	..	..
24	11	11	11	11	11	..	..	..	..	..
8	12	..	12	¶2	12	12	..	12	¶2	12
15	..	12	..	12	9	..	12	..	12	9
44-46	12	12	12	12	12	..	..	..	..	..
45	10-12	10-12	10-12	10-12	10-12	10-12	10-12	10-12	10-12	10-12
32-33A	..	9	..	9	..	..	9	..	9	..
10	¶2, 3	..	9	11	..	¶2, 3	..	9	11	..
13	9	9	¶9	..	9	9	9	¶9	..	9
3	10	..	10	10	10	10	..	10	10	10
6	..	10	9,12	..	12	..	10	9,12	..	12
16	..	11	..	9	11	..	11	..	9	11
14	11	11	11	11	11	11	11	11	11	11
18	11	..	11	11	..	11	..	11	11	..
34-40	..	9	12	9	..	..	..	..	..	..
24-25	¶11	11	11	11	11	12	12	12	12	12
8	12	..	12	¶2	12	12	..	12	¶2	12
21	..	12	..	12	..	..	12	..	12	..
44-46	12	12	12	12	12	..	..	..	..	..
45	10-12	10-12	10-12	10-12	10-12	10-12	10-12	10-12	10-12	10-12

‡ Students of the third year can take either the Trinity or Michaelmas Term Course.

¶ Honours Lecture. § Until the course is finished.

## FACULTY TIME TABLE

N.B.—The numbers in the left-hand column

REFERENCE NUMBER.	SUBJECT.	LENT TERM.				
		M.	Tu.	W.	Th.	F.
* THIRD YEAR.						
67	† Constitutional Law .. ..	..	12-20	..	..	12-15
66	† Roman Law .. ..	12-20	..	..	12-20	..
69	† Status, Contracts, Torts and Crimes .. ..	5-5	..	..	..	5-5
FOURTH YEAR.						
65	† Jurisprudence .. ..	..	..	12-20	..	..
68	† International Law .. ..	..	..	..	..	1-15
70	† The Law of Property, Conveyancing and Interpretation..	..	4-5	4-5	4-5	..
FIFTH YEAR.						
71	† Procedure, Pleading & Evidence	4-5	.	4-5	..	4-5
72	† Equity and Company Law, Bankruptcy, Probate & Divorce		5-5	5-5	5-5	..

\* The first two years of the course are the same as in the Faculty of Arts.

† Some additional lectures will be delivered in all these subjects, at times which will be arranged to suit the convenience of students.

NOTE.—Owing to the recent changes in the curriculum, and the dual system temporarily in force, it may conceivably be necessary to modify somewhat the lecture hours as provided by this time table.

# OF LAW. OF LECTURES.

refer to the Synopses of Lectures on pp. 103-166.

REFERENCE NUMBER.	TRINITY TERM.					MICHAELMAS TERM.				
	M.	Tu.	W.	Th.	F.	M.	Tu.	W.	Th.	F.
67	..	12-20	..	..	12-15	..	12-20	..	..	12-15
66	12-20	..	..	12-20	..	12-20	..	..	12-20	..
69	5-5	..	5-5	..	5-5	5-5	..	5-5	..	5-5
65	..	..	12-20	..	..	..	..	12-20	..	..
68	..	..	..	..	1-15	..	..	..	..	1-15
70	..	4-5	4-5	4-5	..	..	4-5	..	4-5	..
71	4-5	..	..	..	4-5	4-5	..	4-5	..	4-5
72	..	5-5	5-5	5-5	..	..	5-5	..	5-5	..

# FACULTY OF TIME TABLE

N.B.—The numbers in the left-hand column

REFERENCE NUMBER.	SUBJECT.	LENT TERM.				
		M.	Tu.	W.	Th.	F.
THIRD YEAR.						
45	Practical Physiology .. .. .	10-12	10-12	10-12	10-12	10-12
47	Materia Medica and Therapeutics .. .. .	9	9	9	9	9
42	Regional Anatomy .. .. .	12	12	12	12	12
44	Physiology (Senior) .. .. .	..	..	..	..	..
FOURTH YEAR.						
51	Pathology and Practical Pathology .. .. .	11-30	11-30	11-30	11-30	11-30
49	Surgery .. .. .	1-15	1-15	1-15	1-15	1-15
49	§ Operative Surgery .. .. .	..	..	..	..	..
	Hospital, with Clinical and Tutorial Surgery .. .. .	..	..	..	..	..
FIFTH YEAR.						
50	Midwifery .. .. .	9	9	9	9	9
50A	Gynæcology (during first six weeks of Term) .. .. .	..	..	..	..	..
52	Medical Jurisprudence & Public Health (last four weeks of Trinity Term) .. .. .	..	..	..	..	..
48	Medicine .. .. .	12-15	12-15	12-15	12-15	12-15
54	§ Ophthalmic Medicine and Surgery .. .. .	..	..	2	..	2
53	§ Psychological Medicine .. .. .	..	..	..	..	..
16A	§ Applied Logic .. .. .	..	..	11	..	..
	Hospital, with Clinical and Tutorial Medicine .. .. .	..	..	..	..	..

§ Until the course is completed.

\* Divided into two classes, A and B. Class A meets three times a week in Trinity Term, and twice a week in Michaelmas Term; and class B twice a week in Trinity Term, and three times a week in Michaelmas Term.

MEDICINE—(OLD BY-LAWS).  
OF LECTURES.

refer to the Synopses of Lectures on pp. 103-166.

[illegible]

FACULTY OF  
TIME TABLE

N.B.—The numbers in the left-hand column

REFERENCE NUMBER.	SUBJECT.	LENT TERM.				
		M.	Tu.	W.	Th.	F.
FIRST YEAR.						
34	Biology (Zoology) .. .. .	11	11	11	11	11
35	Biology (Botany) .. .. .	..	..	..	..	..
23-24	Chemistry (Inorganic) .. .. .	12	..	12	..	12
19	Physics .. .. .	..	..	..	..	..
39-40	*Practical Biology (A and B) .. .. .	2-4	9-11	2-4	9-11	2-4
28	Practical Chemistry .. .. .	..	..	..	..	..
22	*Practical Physics (A and B) .. .. .	..	2-5	..	2-5	..
	Human Anatomy (Introductory) .. .. .	..	..	..	..	..
45	*Practical Histology (A and B) .. .. .	..	..	..	..	..
SECOND YEAR.						
41	Descriptive Anatomy .. .. .	9	9	9	9	9
45	*Physiol. Chemistry (A and B) .. .. .	10-12	10-12	10-12	10-12	10-12
25	Organic Chemistry .. .. .	12	12	..	12	..
16A	Applied Logic .. .. .	..	..	12	..	12
44	Physiology (Junior) .. .. .	..	..	..	..	..
45	*Experimental Physiology (A and B) .. .. .	..	..	..	..	..
	Dissections .. .. .	‡10-12	..	‡10-12	..	‡10-12
THIRD YEAR.						
44	Physiology (Senior) .. .. .	12	12	12	12	12
42	Regional Anatomy .. .. .	11	11	11	11	11
	*Pharmacology (A and B) .. .. .	..	..	..	..	..
	Pharmaceutical Chemistry and Botany (Optional for Medical Students) .. .. .	..	..	..	..	..
	Dissections .. .. .	‡9-11	‡9-11	‡9-11	‡9-11	‡9-11
	General Pathology .. .. .	..	..	..	..	..
51	*Practical Pathology (A and B) .. .. .	..	..	..	..	..
	*Hospital with Tutorial Surgery (B and A) .. .. .	..	..	..	..	..

\* Divided into two sections, A and B, which meet alternately.

‡ And afternoon.



# MEDICINE—(NEW BY-LAWS). OF LECTURES.

refer to the Synopses of Lectures on pp. 103-166.

REFERENCE NUMBER.	TRINITY TERM.					MICHAELMAS TERM.				
	M.	Tu.	W.	Th.	F.	M.	Tu.	W.	Th.	F.
34	..	..	..	..	..	..	..	..	..	..
35	..	9	12	9	..	..	..	..	..	..
23-24	11	..	11	..	11	..	..	..	..	..
19	12	12	..	12	12	..	12	..	12	..
39-40	9-11	2-4	9-11	2-4	9-11	..	..	..	..	..
28	2-5	..	2-5	..	2-5	2-5	..	..	..	..
22	..	..	..	..	..	..	2-5	..	2-5	..
	..	..	..	..	..	9	9	9	9	9
45	..	..	..	..	..	10-12	10-12	10-12	10-12	10-12
41	9	9	9	9	9	..	..	..	..	..
45	..	..	..	..	..	..	..	..	..	..
25	..	..	..	..	..	..	..	..	..	..
16A	..	..	..	..	..	..	..	..	..	..
44	12	12	12	12	12	12	12	12	12	12
45	10-12	10-12	10-12	10-12	10-12	..	..	..	..	..
	†10-12	..	†10-12	..	†10-12	†	†	†	†	†
44	..	..	..	..	..	..	..	..	..	..
42	12	12	12	12	12	..	..	..	..	..
	2-4	2-4	2-4	2-4	2-4	..	..	..	..	..
	9	9	9	9	9	..	..	..	..	..
	†9-12	..	†9-12	..	†9-12	..	..	..	..	..
51	..	..	..	..	..	11.30	11.30	11.30	11.30	11.30
	..	..	..	..	..	1.30	1.30	1.30	1.30	1.30
	..	..	..	..	..	to	to	to	to	to
	..	..	..	..	..	3.30	3.30	3.30	3.30	3.30
	..	..	..	..	..	..	..	..	..	..

† Forenoon and afternoon.

‡ And afternoon.

**For Fourth and Fifth Years see next page.**

# FACULTY OF TIME TABLE

N.B.—The numbers in the left-hand column

REFERENCE NUMBER.	SUBJECT.	LENT TERM.				
		M.	Tu.	W.	Th.	F.
FOURTH YEAR.						
51	Special Pathology .. .. .	11.30	11.30	11.30	11.30	11.30
49	Surgery .. .. .	1.15	1.15	1.15	1.15	1.15
49	Operative Surgery .. .. .	..	..	..	..	..
	Hospital, with Clinical Surgery, etc. ..	‡9-11	‡9-11	‡9-11	‡9-11	‡9-11
48	Medicine .. .. .	..	..	..	..	..
50	Midwifery .. .. .	..	..	..	..	..
	Hospital, with Tutorial Medicine and Out Patients .. .. .	..	..	..	..	..
FIFTH YEAR.						
48	Medicine .. .. .	12	12	12	12	12
50A	Gynæcology (first 6 weeks of term) ..	9	9	9	9	9
52	Medical Jurisprudence and Public Health (last 4 weeks of Lent) .. .. .	9	9	9	9	9
54	Diseases of the Eye .. .. .	..	..	..	..	..
53	Diseases of the Mind .. .. .	..	..	..	..	..
	Posology, etc. (5 weeks) .. .. .	..	..	..	..	..
	Hospital, with Tutorial and Clinical Medicine .. .. .	‡10-12	‡10-12	‡10-12	‡10-12	‡10-12
	*Special Bacteriology .. .. .	..	..	..	..	..
	Special Therapeutics (5 weeks) .. ..	..	..	..	..	..
	Diseases of Children .. .. .	..	..	..	..	..
	Diseases of the Skin .. .. .	..	..	..	..	..
	Diseases of the Ear, Nose, and Throat	..	..	..	..	..

\*Michaelmas Term, at times to be arranged.

‡And afternoon.

# MEDICINE—(NEW BY-LAWS.) OF LECTURES.

refer to the Synopses of Lectures on pp. 103-166.

REFERENCE NUMBER.	TRINITY TERM.					MICHAELMAS TERM.				
	M.	Tu.	W.	Th.	F.	M.	Tu.	W.	Th.	F.
51	..	..	..	..	..	..	..	..	..	..
49	1.15	1.15	1.15	1.15	1.15	..	..	..	..	..
49	‡2.15	2.15	2.15	..	2.15	..	..	..	..	9.
	‡9-11	‡9-11	‡9-11	‡9-11	‡9-11	..	..	..	..	..
48	..	..	..	..	..	12	12	12	12	12
50	..	..	..	..	..	9	9	9	9	9
	..	..	..	..	..	‡10-12	‡10-12	‡10-12	‡10-12	‡10-12
48	..	..	..	..	..	..	..	..	..	..
	..	..	..	..	..	..	..	..	..	..
52	9	9	9	9	9	..	..	..	..	..
54	..	..	..	..	..	..	..	..	..	..
53	..	..	..	..	..	..	9	..	9	..
	..	..	..	..	..	..	..	..	..	..
	‡10-12	‡10-12	‡10-12	‡10-12	‡10-12	‡10-12	‡10-12	‡10-12	‡10-12	‡10-12
	..	..	..	..	..	..	..	..	..	..
	..	..	..	..	..	9	..	9	..	9
	..	..	..	..	..	..	..	..	..	..
	..	..	..	..	..	..	..	..	..	..
	..	..	..	..	..	..	..	..	..	..

‡ And afternoon.

‡ Until the course is finished.

# FACULTY

## TIME TABLE

N.B.—The numbers in the left-hand column

REFERENCE NUMBER.	SUBJECT.	LENT TERM.				
		M.	Tu.	W.	Th.	F.
FIRST YEAR.						
14	§ Mathematics .. ..	9	..	9	..	9
34	Biology (Zoology) .. ..	11	11	11	11	11
35	Biology (Botany) .. ..	..	..	..	..	..
23-24	Chemistry (Inorganic) ..	12	12	12	12	12
19	Physics .. ..	..	..	..	..	..
39-40	Practical Biology .. ..	2-4	9-11	2-4	9-11	2-4
28	Practical Chemistry .. ..	..	..	..	..	..
22	Practical Physics .. ..	..	..	..	..	..
30	Physiography .. ..	..	..	..	..	..
SECOND YEAR.						
14	Mathematics .. ..	9	9	9	9	9
20	Physics .. ..	..	10	..	10	..
36-38	Biology .. ..	..	10	..	10	..
25	Chemistry (Organic) .. ..	..	..	..	..	..
31	* Geology .. ..	..	11	..	11	..
33	Practical Geology .. ..	10	..	10	..	..
45	Practical Physiology .. ..	..	..	..	..	..
44-46	Physiology .. ..	12	12	12	12	12
36-38	Practical Biology .. ..	..	2-5	..	2-5	..
22	Practical Physics .. ..	2-5	..	..	..	2-5
28	Practical Chemistry .. ..	2-5	..	2-5	..	2-5
THIRD YEAR.						
33	* Geology and Palæontology ..	..	9	..	9	..
37	Biology .. ..	10	..	10	..	10
45	Practical Physiology .. ..	10-12	10-12	10-12	10-12	10-12
14	Mathematics .. ..	11	11	11	11	11
30	Mineralogy .. ..	..	..	..	..	..
26	Chemistry .. ..	..	..	11	..	..
44-46	Physiology .. ..	..	..	..	..	..
21-22	† Physics .. ..	..	2	..	2	..
37	Practical Biology .. ..	2-5	..	2-5	..	2-5
28	† Practical Chemistry .. ..	2-5	..	2-5	..	2-5

\* Excursions every third or fourth Saturday as arranged. † Practical work at times to be arranged, but with a minimum of 15 hours per week.

‡ Honour Class, 10 a.m. daily.

|| In addition, a special course (No. 46), at times to be arranged.

# OF SCIENCE. OF LECTURES.

refer to the Synopses of Lectures on pp. 103-166.

REFERENCE NUMBER.	TRINITY TERM.					MICHAELMAS TERM.				
	M.	Tu.	W.	Th.	F.	M.	Tu.	W.	Th.	F.
14	9	..	9	..	9	10	..	10	..	10
34	..	..	..	..	..	..	..	..	..	..
35	..	9	12	9	..	..	..	..	..	..
23-24	11	11	11	11	11	..	..	..	..	..
19	12	12	..	12	12	..	11	..	11	..
39-40	..	..	..	..	..	2-5	..	2-5	..	2-5
28	2-5	..	2-5	..	2-5	..	..	..	..	..
22	..	2-5	..	2-5	..	..	..	..	..	..
30	..	..	..	..	..	12	12	..	12	12
14	9	9	9	9	9	9	9	9	9	9
20	..	10	..	10	..	..	10	..	10	..
36-38	..	10	..	10	..	..	..	..	..	..
25	..	..	..	..	..	12	12	12	12	12
31	..	11	..	11	..	..	11	..	11	..
33	10	..	10	..	..	10	..	10	..	..
45	10-12	10-12	10-12	10-12	10-12	10-12	10-12	10-12	10-12	10-12
44	12	12	12	12	12	..	..	..	..	..
36-38	..	2-5	..	2-5	..	..	2-5	..	2-5	..
22	..	..	..	..	..	2-5	..	..	..	2-5
28	2-5	..	2-5	..	2-5	..	..	..	..	..
33	..	9	..	9	..	..	9	..	9	..
37	10	..	10	..	10	10	..	10	..	10
45	10-12	10-12	10-12	10-12	10-12	10-12	10-12	10-12	10-12	10-12
14	11	11	11	11	11	11	11	11	11	11
30	..	12	..	12	..	‡9-11	..	‡9-11	..	‡9-11
26	..	..	11	..	..	..	..	..	..	..
44	..	..	..	..	..	12	12	12	12	12
21-22	..	2	..	2	..	..	2	..	2	..
37	2-5	..	2-5	..	2-5	2-5	..	2-5	..	2-5
28	2-5	..	2-5	..	2-5	2-5	..	2-5	..	2-5

‡ Practical work.

‡ Until the course is completed.

# DEPARTMENT OF CIVIL TIME TABLE

N.B.—The numbers in the left-hand column

REFERENCE NUMBER.	SUBJECT.	LEST TERM.				
		M.	Tu.	W.	Th.	F.
<b>FIRST YEAR.</b>						
14	‡ Mathematics .. .. .	9	..	9	..	9
55	Descriptive Geometry & Drawing .. ..	..	11	..	11	..
56	Applied Mechanics .. .. .	11	..	11	..	11
23-24	Chemistry (Inorganic) .. .. .	12	12	12	12	12
19	Physics .. .. .	..	..	..	..	..
30	Physiography .. .. .	..	..	..	..	..
28	Practical Chemistry .. .. .	2-5	..	2-5	..	2-5
22	Practical Physics .. .. .	..	..	..	..	..
62	Mechanical Drawing** .. .. .	..	2-5	..	2-5	..
<b>SECOND YEAR.</b>						
14	¶ Mathematics .. .. .	..	9	..	9	9
57	Applied Mechanics .. .. .	10	..	10	..	10
20-22	Physics and Practical Physics .. ..	*2-5	10	..	10	*2-5
31	† Geology .. .. .	..	11	..	11	..
33	Practical Geology .. .. .	12	..	12	..	..
63	Surveying .. .. .	11	..	11	..	..
58	Civil Engineering .. .. .	12	..	12	..	..
62	Mechanical Drawing** .. .. .	..	2-5	..	2-5	..
<b>THIRD YEAR.</b>						
14	‡ Mathematics .. .. .	..	11	..	11	..
59	Civil Engineering—Materials and Structures .. .. .	10	..	10	..	10
58	Civil Engineering .. .. .	12	..	12	..	..
62	Drawing and Design .. .. .	2-5	2-5	2-5	2-5	2-5
64	Architecture—Building Construction .. .. .	..	3	..	3	..
64	Architecture—History of .. .. .	..	4	..	4	..
63	Surveying .. .. .	..	..	..	..	..

† Practical work each week, as arranged. Excursions every third or fourth Saturday, as arranged. \* Laboratory practice. \*\* Also Saturdays from 9.30 to 12.30.

‡ Honour Class, 10 a.m. daily. ¶ Honour Class, 9 a.m. daily. † Honour Class, 11 a.m. daily.

## ENGINEERING.

## ENGINEERING.

## OF LECTURES.

refer to the Synopses of Lectures on pp. 103-166.

REFERENCE NUMBER.	TRINITY TERM.					MICHAELMAS TERM.				
	M.	Tu.	W.	Th	F.	M.	Tu.	W.	Th.	F.
14	9	..	9	..	9	10	..	10	..	10
55	..	9	..	9	..	..	..	..	..	..
56	10	..	10	..	10	..	..	..	..	..
23-24	11	11	11	11	11	..	..	..	..	..
19	12	12	..	12	12	..	11	..	11	..
30	..	..	..	..	..	12	12	..	12	12
28	..	..	..	..	..	2-5	..	2-5	..	2-5
22	..	2-5	..	2-5	..	..	..	..	..	..
62	2-5	..	..	..	2-5	..	2-5	..	2-5	..
14	..	9	..	9	9	..	9	..	9	9
57	11	..	11	..	11	..	..	..	..	..
20-22	..	10	..	10	..	*2-5	10	..	10	*2-5
31	..	11	..	11	..	..	11	..	11	..
33	..	..	..	..	..	12	..	12	..	..
63	10	..	10	..	10	..	..	..	..	..
58	..	12	..	12	12	..	..	..	..	..
62	2-5	..	..	..	2-5	..	2-5	..	2-5	..
14	..	..	..	..	..	..	11	..	11	..
59	..	..	..	..	..	..	..	..	..	..
..	12	..	12	..	..	..	12	..	12	..
58	..	12	..	12	12	..	..	..	..	..
62	2-5	2-5	2-5	2-5	2-5	2-5	2-5	2-5	2-5	2-5
64	..	..	..	..	..	..	..	..	..	..
64	..	..	..	..	..	..	..	..	..	..
63	..	..	..	..	..	..	9	9	..	9

\* Laboratory practice.

# DEPARTMENT OF MINING AND TIME TABLE

N.B.—The numbers in the left-hand column

REFERENCE NUMBER.	SUBJECT.	LENT TERM.				
		M.	Tu.	W.	Th.	F.
FIRST YEAR.						
14	§ Mathematics .. ..	9	..	9	..	9
55	Descriptive Geometry and Drawing ..	..	11	..	11	..
56	Applied Mechanics .. ..	11	..	11	..	11
23-24	Chemistry (Inorganic) .. ..	12	12	12	12	12
30	Physiography .. ..	..	..	..	..	..
19	Physics .. ..	..	..	..	..	..
28	Practical Chemistry .. ..	2-5	..	2-5	..	2-5
22	Practical Physics .. ..	..	..	..	..	..
62	* Mechanical Drawing .. ..	..	2-5	..	2-5	..
SECOND YEAR.						
31	Geology, &c. .. ..	..	11	..	11	..
33	Practical Geology .. ..	12	..	12	..	..
57	Applied Mechanics .. ..	10	..	9, 10	..	10
62	† Mechanical Drawing .. ..	..	..	..	..	..
63	Surveying .. ..	11	..	11	..	..
31A	Mineralogy .. ..	..	..	..	..	..
31A	Practical Mineralogy .. ..	..	..	..	..	..
28	Chemistry (Quantitative Analysis) ..	2-5	2-5	..	2-5	2-5
THIRD YEAR.						
59A	Materials and Structures .. ..	10	..	10	..	10
27	Metallurgy .. ..	..	9	..	9	..
28	Assaying .. ..	11-5	10-4	11-5	10-4	11-5
65	Mining .. ..	9	..	9	..	9
62	† Mechanical Drawing .. ..	..	..	..	..	..

\* Also on Saturdays from 9.30 to 12.30.

‡ On Saturdays from 9.30 to 12.30. ¶ Laboratory practice. § Honour Class, 10 a.m. daily.



## ENGINEERING.

## METALLURGY.

## OF LECTURES.

refer to the Synopses of Lectures on pp. 103-166.

REFERENCE NUMBER.	TRINITY TERM.					MICHAELMAS TERM.				
	M.	Tu.	W.	Th.	F.	M.	Tu.	W.	Th.	F.
14	9	..	9	..	9	10	..	10	..	10
55	..	9	..	9	..	..	..	..	..	..
56	10	..	10	..	10	..	..	..	..	..
23-24	11	11	11	11	11	..	..	..	..	..
30	..	..	..	..	..	12	12	..	12	12
19	12	12	..	12	12	..	11	..	11	..
28	..	..	..	..	..	2-5	..	2-5	..	2-5
22	..	2-5	..	2-5	..	..	..	..	..	..
62	..	..	..	..	..	..	2-5	..	2-5	..
31	..	11	..	11	..	..	11	..	11	..
33	..	..	..	..	..	12	..	12	..	..
57	11	..	11	..	11	*9-11	..	*9-11	..	*9-11
62	..	..	..	..	..	..	..	..	..	..
63	..	..	..	..	†10	..	..	..	..	..
31A	..	12	..	12	..	*11-1	..	*11-1	..	*11-1
31A	9-11	9-11	..	9-11	..	..	..	..	..	..
28	2-5	2-5	..	2-5	2-5	2-5	..	2-5	..	2-5
27	9	9	..	9	9	9	..	9	..	..
28	10-4	10-4	9-4	10-4	10-4	10-4	9-4	10-4	9-4	10-4
65	..	..	..	..	..	..	..	..	..	..
62	..	..	..	..	..	..	..	..	..	..

\* Laboratory practice.

† For five weeks only.

# DEPARTMENT OF MECHANICAL AND TIME TABLE

N.B.—The numbers in the left-hand column

REFERENCE NUMBER.	SUBJECT.	LENT TERM.				
		Mon.	Tues.	Wed.	Thur.	Fri.
FIRST YEAR.						
14	a * Mathematics .. .. .	9	..	9	..	9
55	Descriptive Geometry, &c. .. .	..	11	..	11	..
56	Applied Mechanics .. .. .	11	..	11	..	11
23-4	Chemistry .. .. .	12	12	12	12	12
19	Physics .. .. .	..	..	..	..	..
30	Physiography .. .. .	..	..	..	..	..
28	Practical Chemistry .. .. .	2-5	..	2-5	..	2-5
22	Practical Physics .. .. .	..	..	..	..	..
62	† Mechanical Drawing .. .. .	..	2-5	..	2-5	..
SECOND YEAR.						
14	b † Mathematics .. .. .	..	9	..	9	9
57	Applied Mechanics .. .. .	10	..	10	..	10
20	Physics .. .. .	..	10	..	10	..
22	Practical Physics .. .. .	2-5	..	..	..	2-5
28	Practical Chemistry .. .. .	..	..	..	..	..
57	Practical Applied Mechanics .. .. .	..	..	..	..	..
62	† Mechanical Drawing .. .. .	..	2-5	..	2-5	..
THIRD YEAR.						
14	c ¶ Mathematics .. .. .	..	11	..	11	..
59	Materials and Structures .. .. .	10	..	10	..	10
63	Surveying .. .. .	11	..	11	..	..
	Mechanical Engineering and Machine Construction .. .. .	..	10	..	10	..
60	Transmission of Power .. .. .	..	..	..	..	12
21	Physics .. .. .	..	..	..	..	..
22	Practical Physics .. .. .	..	..	..	..	..
	Mechanical Workshop .. .. .	..	2-5	2-5	2-5	..
62	Drawing, &c., of Prime Movers .. .. .	..	..	..	..	10-1
FOURTH YEAR.						
61	Electrical Engineering .. .. .	..	9	..	9	..
	Railway Engineering .. .. .	..	12	..	12	..
22	Practical Physics (as arranged) .. .. .	..	..	..	..	..
	Electrical Engineering Laboratory .. .. .	..	..	2-5	..	..
62	Design of Motors, &c. .. .. .	2-5	2-5	..	2-5	2-5

a Mathematics Pass—Logarithms, Statics and Dynamics, Analytical Geometry.

\* Honours, 10 a.m. daily. † Also on Saturdays, 9.30 to 12.30.

b Statics and Dynamics, Differential Calculus, Integral Calculus. † Honours, 9 a.m. daily.

c Integral Calculus and Differential Equations. ¶ Honours, 11 a.m. daily.

## ENGINEERING.

## ELECTRICAL.

## OF LECTURES.

refer to the Synopses of Lectures on pp. 103-166

REFERENCE NUMBER.	TRINITY TERM.					MICHAELMAS TERM.				
	Mon.	Tu.	Wed.	Th.	Fri.	Mon.	Tu.	Wed.	Th.	Fri.
14	9	..	9	..	9	10	..	10	..	10
55	..	9	..	9	..	..	..	..	..	..
56	10	..	10	..	10	..	..	..	..	..
23-4	11	11	11	11	11	..	..	..	..	..
19	12	12	..	12	12	..	11	..	11	..
30	..	..	..	..	..	12	12	..	12	12
28	..	..	..	..	..	2-5	..	2-5	..	2-5
22	..	2-5	..	2-5	..	..	..	..	..	..
62	..	..	..	..	..	..	2-5	..	2-5	..
14	..	9	..	9	9	..	9	..	9	9
57	11	..	11	..	11	..	..	..	..	..
20	..	10	..	10	..	..	10	..	10	..
22	..	..	..	..	..	2-5	..	..	..	2-5
28	..	2-5	..	2-5	..	..	..	..	..	..
57	2-5	..	2-5	..	2-5	..	..	..	..	..
62	12	..	12	..	12	9-11	11-1	9-11	..	..
14	..	..	..	..	..	..	d11	..	d11	..
59	..	..	..	..	..	..	..	..	..	..
63	10	..	10	..	10	..	..	..	..	..
60	..	11	..	11	..	..	10	..	10	..
21	..	..	..	..	12	..	..	..	..	12
22	..	..	..	..	..	..	..	..	..	..
62	..	2-5	2-5	2-5	..	..	2-5	2-5	2-5	..
62	11-1	..	11-1	10-12	11-1	9-1	..	9-1	..	9-1
61	..	9	..	9	..	..	9	..	9	..
22	..	12	..	12	..	..	..	..	..	..
62	..	..	2-5	..	..	..	..	2-5	..	..
62	2-5	2-5	..	2-5	2-5	2-5	2-5	..	2-5	2-5

*d* Analytical Geometry

# DEPARTMENT

## TIME TABLE

N.B.—The numbers in the left-hand column

REFERENCE NUMBER.	SUBJECT.	LENT TERM.				
		M.	Tu.	W.	Th.	F.
<b>FIRST YEAR.</b>						
41	Anatomy (Descriptive) .. .. .	9	9	9	9	9
28	Practical Chemistry .. .. .	10-12	10-12	10-12	10-12	10-12
23	Chemistry .. .. .	12	12	12	12	12
19	Physics .. .. .	..	..	..	..	..
43	Dissections .. .. .	..	..	..	..	..
22	Practical Physics .. .. .	..	..	..	..	..
28	Practical Metallurgy .. .. .	..	..	..	..	..
41A	Anatomy of Teeth .. .. .	..	..	..	..	..
67	Mechanical Dentistry (15 lectures)	..	5	..	5	..
66	Surgical Dentistry (Introductory, 5 lects.)	..	..	..	..	..
	Mechanical Laboratory and Hospital ..	2	2	2	2	2
<b>SECOND YEAR.</b>						
45	Physiology—Practical .. .. .	..	..	..	..	..
44	Physiology .. .. .	12	12	12	12	12
49	Surgery .. .. .	1-15	1-15	1-15	1-15	1-15
67	Mechanical Dentistry .. .. .	..	..	..	..	..
66	Surgical Dentistry .. .. .	..	..	5	..	5
	Surgical Dentistry—Clinical .. .. .	9-12	9-12	9-12	9-12	9-12
	Mechanical Dentistry .. .. .	3-5	3-5	3-5	3-5	3-5
	Dissections, etc. .. .. .	..	..	..	..	..
<b>THIRD YEAR.</b>						
47A	Dental Materia Medica and Therapeutics	9	9	9	9	9
	*Surgery (Dental) .. .. .	..	..	..	..	..
44	Physiology .. .. .	..	..	..	..	..
46A	Physiology—Special Practical Course ..	10-12	10-12	10-12	10-12	10-12
	Surgical Dentistry—Clinical .. .. .	..	10-1	..	10-1	..
	Mechanical Dentistry .. .. .	2-5	2-5	2-5	2-5	2-5
42	Regional Anatomy .. .. .	..	..	..	..	..
51A	Pathology and Bacteriology with special reference to the Mouth and Teeth ..	11-30	11-30	11-30	11-30	11-30
<b>TIME TABLE FOR</b>						
47	Materia Medica .. .. .	9	9	9	9	9
28	Practical Chemistry .. .. .	10-12	10-12	10-12	10-12	10-12
23	Chemistry (Introductory) .. .. .	12	12	12	12	12
35	Botany .. .. .	..	..	..	..	..
24	Chemistry (Metals) .. .. .	..	..	..	..	..
25	Chemistry (Organic) .. .. .	..	..	..	..	..

\*Ten Lectures.

## OF DENTISTRY.

## OF LECTURES.

refer to the Synopses of Lectures on pp. 103-146.

REFERENCE NUMBER.	TRINITY TERM.					MICHAELMAS TERM.				
	M.	Tu.	W.	Th.	F.	M.	Tu.	W.	Th.	F.
	..	..	..	..	..	..	..	..	..	..
24	11	11	11	11	11	..	..	..	..	..
19	12	12	..	12	12	..	11	..	11	..
43	9-11	9-11	9-11	9-11	9-11	9-10	12-1	9-10	12-1	11-1
28	..	..	..	..	..	10-1	9-11	..	9-11	9-11
41A	..	..	12	..	..	..	..	10-1	..	..
	..	..	..	..	..	..	..	..	..	..
	..	..	5	..	..	..	..	..	..	..
	2	2	2	2	2	2	2	2	2	2
45	10-12	10-12	10-12	10-12	10-12	10-12	10-12	10-12	10-12	10-12
44	12	12	12	12	12	..	..	..	..	..
	..	..	..	..	..	..	Dental.	..	..	..
67	5	..	5	..	5	5	..	5	..	5
66	..	5	..	5	..	..	5	..	5	..
	2-5	2-5	2-5	2-5	2-5	2-5	2-5	2-5	2-5	2-5
	..	..	..	..	..	..	..	..	..	..
	..	..	..	..	..	..	..	..	..	..
47A	..	9	..	9	..	..	..	..	..	..
	1-15	1-15	1-15	1-15	1-15	..	..	..	..	..
44	..	..	..	..	..	12	12	12	12	12
45	..	..	..	..	..	..	..	..	..	..
	10-5	10-5	10-5	10-5	10-5	{ 9-11	9-11	9-11	9-11	9-11
	..	..	..	..	..	2-5	2-5	2-5	2-5	2-5
42	12	..	12	..	12	..	..	..	..	..
51A	..	..	..	..	..	..	..	..	..	..

## PHARMACY STUDENTS.

	..	..	..	..	..	..	..	..	..	..
	..	..	..	..	..	..	..	..	..	..
	..	..	..	..	..	..	..	..	..	..
35	..	9	12	9	..	..	..	..	..	..
24	11	11	11	11	11	..	..	..	..	..
25	..	..	..	..	..	12	12	12	12	12

## FACULTY OF ARTS.—EVENING LECTURES.

## \* TIME TABLE.

N.B.—The numbers in the left-hand column refer to the Synopses of Lectures on pp. 103-166.

REFERENCE NUMBER.	SUBJECT.	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.
<b>FIRST YEAR.</b>						
1	Latin .. ..	7	..	..	8	8
4	Greek .. ..	..	7	..	7	..
7	French (Junior) .. ..	..	8	8	..	..
14	Mathematics .. ..	..	7	..	..	7
11	English .. ..	9	..	..	..	..
23	† Chemistry .. ..	..	6	..	..	..
19	† Physics .. ..	..	6	..	..	..
30	† Physiography .. ..	..	..	..	6	..
<b>SECOND YEAR.</b>						
16	Logic and Mental Philosophy .. ..	..	7	8	7	..
2	Latin .. ..	8	..	..	..	7 & 9
5	Greek .. ..	..	7	..	7	..
17	History .. ..	9	8	..	8	..
8	French (Senior) .. ..	..	9	7	..	8
14	Mathematics, as arranged .. ..	..	..	..	..	..
12	English .. ..	7	..	9	9	..
<b>THIRD YEAR.</b>						
3	Latin .. ..	9	..	..	9	9
6	Greek .. ..	..	7	..	7	..
14	Mathematics, as arranged .. ..	..	..	..	..	..
8	French (Senior) .. ..	..	9	7	..	8
13	English .. ..	8	..	9	..	7
16	Logic and Mental Philosophy .. ..	..	7	8	7	..
17	History .. ..	9	8	..	8	..

\* This time table is subject to alteration.

† Chemistry and Physics and Physiography are taken in alternate years. In 1904 Lectures are given in Physics and Physiography; in 1905 in Chemistry.

# LECTURE SUBJECTS FOR 1904.

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## LECTURES.

THE following regulations have been passed by the Senate :—

### NON-MATRICULATED STUDENTS.

It shall be open to any non-matriculated student, who has attended the full courses of lectures upon any subject, to compete for Honours or Pass in the regular examinations upon his subject, and to have his name published and recorded in the regular class lists, with a distinguishing mark; but he shall be incapable of holding any scholarship or receiving any prize of those already established for students proceeding to a Degree.

Each such student shall be entitled to receive a certificate of attendance upon the lectures or laboratory practice in the subjects which he has selected, and proficiency therein, as ascertained by the regular and ordinary examinations within the University.

The above regulations do not apply to the lectures and examinations in the Faculty of Medicine.

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The following regulation has been adopted by the Faculty of Science :—“There shall be only one standard for Honours in Scientific subjects, viz., that adopted in the Faculty of Science.”

*N.B.*—The numbers refer to the *Time Tables of Lectures* on pages 83-102.

## CLASSICS AND MODERN LANGUAGES.

Subjects selected for Lectures and Examinations :—

### LATIN—1904.

1. *First Year, Pass.*—Livy, Book II.; Virgil, Georgics (selections). *Add. for Honours.*—Tacitus, *Dialogus de Oratoribus* and *Agricola*; Virgil, *Æneid*, I. to IV. Roman History to the Tribune of Ti. Gracchus.

2. *Second Year, Pass.*—Sallust, Jugurtha; Horace, Odes. *Add. for Honours.*—Watson's Select Letters of Cicero, parts 3 and 4; Terence, Phormio; Catullus (selections). *Pass and Honours.*—Roman History from the Tribune of Ti. Gracchus to the battle of Actium.

3. *Third Year, Pass.*—Tacitus, Annals, III. and IV.; Cicero, de Finibus, I. and II.; Lucretius (selections). Roman History from the battle of Actium to the death of Marcus Aurelius. *Add. for Honours.*—Tacitus, Annals, I., II., V., VI.; Horace, Epistles; Martial, select Epigrams (*Stephenson*), Books IV. to XII. Roman Literature.

#### LATIN—1905.

*First Year, Pass.*—Cicero pro Milone and pro Archia; Virgil, Æneid I. and II. *Add. for Honours.*—Cicero de Oratore, Book I.; Virgil, Æneid III. to VI. Roman History to the Tribune of Ti. Gracchus.

*Second Year, Pass.*—Cicero, Second Philippic; Sallust, Catiline; Horace, Satires (selections), and Epistles, Book I. *Add. for Honours.*—Watson's Select Letters to Cicero, Parts 1 and 2; Plautus, Captivi and Trinummus. *Pass and Honours.*—Roman History from the Tribune of Ti. Gracchus to the battle of Actium.

*Third Year, Pass.*—Tacitus, Histories I. and II.; Cicero, Tusculanæ Disputationes, I. and II.; Juvenal (selections). Roman History from the battle of Actium to the death of Marcus Aurelius. *Add. for Honours.*—Tacitus, Histories III., IV., V.; Lucretius (selections); Lucan (selections). Roman Literature.

#### GREEK.

There will be three Pass classes in Greek. Students of the First Year reading for a Pass must attend the First Year class; but candidates for Honours in the First Year must attend the Second Year class, taking also the additional subjects prescribed for Honours.

Students of the Second Year reading for a Pass must attend the Second Year class; candidates for Honours in the Second Year must attend the Third Year class, taking the additional subjects prescribed for Honours. Those who, having read for Honours in the First Year, are not candidates for Honours in the Second Year, must attend the Third Year Pass class.



Students of the Third Year must attend the Third Year classes.

The lectures will be illustrated, so far as is desirable, by diagrams, lantern slides, and such other means as may prove feasible.

#### GREEK—1904.

4. *First Year, Pass.*—Homer, *Odyssey*, Book I.; Sophocles, *Antigone*; Andocides, *De Mysteriis*; Greek History to 404 B.C. Composition and Unseen Translation.

5. *Second Year, Pass.*—Æschylus, *Persae*; Aristophanes, *Knights*; Thucydides, Book V.; Greek History to 404 B.C. Unseen Translation.

*Additional for Junior Honours.*—Homer, *Odyssey*, Books XVII-XIX. Composition.

6. *Third Year, Pass.*—Æschylus, *Persae*; Homer, *Odyssey*, Books XVII.-XIX.; Demosthenes, *Against Leptines*; Herodotus, Book VIII.; Greek History, 404-323 B.C.

*Additional for Senior Honours.*—Composition and Unseen Translation; Topography of Athens, with ancient authorities.

*Additional for Third Year Honours.*—Demosthenes, *Pro Phormione* and *Contra Stephanum*, I. and II. General Paper.

#### GREEK—1905.

*First Year, Pass.*—Lysias, *Orations* (selections, ed. Shuckburgh); Euripides, *Iphigenia in Tauris*; Greek History to 404 B.C.; Greek Composition and Unseen Translation.

*Second Year, Pass.*—Thucydides, Book VI.; Aristophanes, *Peace*; Sophocles, *Œdipus Rex*; Greek History to 404 B.C.; Unseen Translation.

*First Year, Honours.*—As *Second Year, Pass*, with Xenophon, *Hellenica*, Books IV. to VII., and History of the Period 404 to 362 B.C.; Greek Composition.

*Third Year, Pass.*—Homer, *Iliad* 16, 18, 22-24; Herodotus, Book VI.; Sophocles, *Œdipus Rex*; Greek History, 404-323 B.C.; Unseen Translation.

*Second Year Honours.*—As *Third Year, Pass*, with Aristotle, *Poetics*; Lectures on the Greek Theatre and History of the Greek Drama; Greek Composition.

*Additional for Third Year Honours.*—The Homeric Hymns; General Paper.

## CLASSICS.

## BOOKS RECOMMENDED\*—

- Lewis and Short's Latin Dictionary (Clarendon Press)  
 Roby's Latin Grammar (Macmillan).  
 Gildersleeve and Lodge's Latin Grammar.  
 Liddell and Scott's Greek Lexicon.  
 Goodwin's or Hadley and Allen's Greek Grammar.  
 Comparative Grammar of Greek and Latin, by Victor Henry, translated by R. T. Elliott; or, Giles' Manual of Comparative Philology for Classical Students (Macmillan).  
 Rutherford's First Greek Grammar.  
 Thompson, Syntax of Attic Greek.

## ANCIENT HISTORY—

- Mommsen's History of Rome, translated by Dickson (Bentley).  
 Mommsen, The Provinces under the Roman Empire.  
 Greenidge's Roman Public Life.  
 How and Leigh's History of Rome (Longmans).  
 Pelham's Outlines of Roman History.  
 Bury's Student's Roman Empire (Murray).  
 Strachan-Davidson, Cicero. Warde Fowler, Julius Cæsar.  
 Grote's History of Greece.  
 Bury's History of Greece (Macmillan).

## ANCIENT ATLAS—

- Atlas Antiquus, Kiepert (Berlin).

## GREEK AND ROMAN LITERATURE—

- Teuffel's History of Roman Literature, translated by Warre (Bell).  
 History of Roman Literature, Cruttwell.  
 Roman Poets of the Republic, Sellar.  
 Roman Poets of the Augustan Age, Sellar.  
 Virgil, Sellar.  
 Mackail's Latin Literature.  
 History of Ancient Greek Literature, Murray or Mahaffy.  
*Editions of Latin Authors.*

## FOR PASS STUDENTS :

- Cicero, 2nd Philippic, *J. E. B. Mayor* (Macmillan), or *Peskett* (Cambridge); pro Milone, *Reid* (Cambridge), or *Colson* (Macmillan); pro Sestio, *Holden* (Macmillan); pro Murena, *Heitland* (Cambridge); in Catilinam, *Wilkins* (Macmillan); pro Lege Manilia, *Wilkins* (Macmillan); pro Roscio Amerino, *Donkin* (Macmillan); pro Archia, *Reid* (Cambridge); in Verrem, Book V. (Baiter and Kayser), or *Laming* (Rivington); de Provinciis Consularibus (Baiter and Kayser); de Finibus (Baiter and Kayser). Tusculanæ Disputationes (Baiter and Kayser). Selected Letters, *Tyrrell* (Macmillan).  
 Horace, Odes, *Wickham* (Oxford), or *Page* (Macmillan); Satires, *Palmer* (Macmillan); Epistles, *Wilkins* (Macmillan).  
 Juvenal, *Pearson & Strong* (Oxford), or *Hardy* (Macmillan), or *Duff* (Cambridge).

\* Students are strongly recommended to order as early as possible all books that will be needed in the course of the year.

Livy (text, in 8 parts, sold separately) *Madvig*; Book II., *Stephenson* (Macmillan); Books XXI., XXII. (text and notes), *Capes* (Macmillan); Book XXI. (Bell); Book XXVI., *Nicholls* (Angus & Robertson, Sydney); Book XXVII., *Stephenson* (Pitt Press).

Lucretius, Book I.-III., *Lee* (Macmillan).

Lucretius, Book V., *Duff* (Cambridge).

Pliny, Selected Letters, *Prichard & Bernard* (Clarendon Press).

Sallust, *Capes* (Oxford), or *Catilina*, *Cook* (Macmillan).

Martial, Select Epigrams, *Stephenson* (Macmillan).

Tacitus, Annals, Books I. to IV., *Furneaux's* abridged edition; Histories, Books I., II., and Books III., IV., V., *Godley* (Macmillan); or *Simcox* (Rivington).

Virgil, *Sidgwick* (each book sold separately, Cambridge), or *Georgics*, *Page* (Macmillan) and *Æneid*, *Page* (Macmillan).

#### FOR STUDENTS READING FOR HONOURS—

Cicero, de Finibus (Critical edition, Latin Notes), *Madvig*; Letters (select), *Watson* (Oxford); Letters, *Tyrrell* (Longmans); Philippics, *King* (Oxford); de Oratore, *Wilkins* (Oxford); de Claris Oratoribus (text and German Notes), *Jahn* or *Piderit*; or *Kellogg* (Ginn & Co.); Orator, *Sandys* (Cambridge).

Catullus, *Ellis* (Oxford), or *Simpson* (Macmillan).

Horace, Odes, Satires and Epistles, *Wickham* (Oxford); or Satires, *Palmer* (Macmillan); Epistles, *Wilkins* (Macmillan).

Juvenal, *Mayor* (Macmillan).

Lucan, *Haskins* (Bell).

Lucretius, *Munro* (Bell).

Plautus, Captivi, *Lindsay*, or *Hallidie* (Macmillan); Trinummus, *Grey* (Cambridge).

Quintilian, Book X., *Peterson* (Clarendon Press).

Tacitus, Annals, I.-VI., *Furneaux*, larger edition (Oxford); Histories, *Spooner* (Macmillan); Germania and Agricola, *Furneaux* (Oxford); Dialogus de Oratoribus, *Gudeman* (Ginn & Co.), or *Peterson* (Oxford).

Terence, *Wagner* (Bell); Phormio, *Bond & Walpole* (Macmillan).

Virgil, *Conington* (Bell).

#### *Editions of Greek Authors.*

Æschylus, Seven Against Thebes, ed. *A. W. Verrall* (Macmillan), 7/6, or school ed. 2/6, ed. *Verrall & Bayfield*; Persae, ed. *A. O. Prickard* (Macmillan).

Andocides, De Mysteriis, *Hickie* (Macmillan).

Aristophanes, Clouds, Birds, Acharnians, Frogs, Knights, Peace, *Merry* (Oxford).

Aristotle, Athenaion Politeia, text and notes, *Kenyon*; translation, *Kenyon* (Bell); Poetics, text, notes and translation, ed. *Butcher*.

- Demosthenes, Orations against Philip, *Abbott & Matheson* (Oxford); (Vol. I. contains Phil. I. and Olynth. I. to III. Vol. II. contains De Pace, Phil. II., De Chers., and Phil. III.). De Corona, *Goodwin* (Cambridge), or *Drake-Shuckburgh* (Macmillan); Pro Phormione, and Contra Stephanum, text and notes; Select Private Orations of Demosthenes, Part II., *Sandys and Paley* (Pitt Press); Against Leptines, *King* (Macmillan).
- Herodotus, translation by Rawlinson, with abridged notes, ed. Grant, 2 vols. (Murray); Book VIII., text and notes, *Shuckburgh* (Pitt Press); Book VI., ed. *J. Strachan* (Macmillan).
- Homer, *Iliad*, *Monro* (Oxford); or *Leaf & Bayfield* (Macmillan); *Odyssey*, *Merry* (Oxford); larger edition, Books I.-XII., *Merry and Riddell*; Books XII.-XXIV., *Monro* (Clarendon Press). Introduction to Homer, *Jebb* (Maclehose, Glasgow); Homer and the Epic, *A. Lang* (Longmans); Companion to the *Iliad*, *Leaf* (Macmillan); Homeric Grammar, *Monro* (Oxford); *Odyssey*, translation by *G. H. Palmer* (Houghton, Mifflin, N.Y.); Homeric Hymns, ed. *T. W. Allen* (Macmillan).
- Sophocles, in single plays, *Jebb* (Rivington); *Antigone*, *Jebb's* large edition abridged by *Shuckburgh* (Pitt Press), price, 4/-; *Œdipus Rex*, the same.
- Thucydides, Book I., *Forbes* (Oxford); II., *Marchant* (Macmillan), or *Shilleto* (Bell); III., *Spratt* (Cambridge); IV. and V., *Graves* (Macmillan); VI., VII., *Marchant* (Macmillan); VIII., *Tucker* (Macmillan). (Translation and Notes), *Jowett* (Oxford).
- Xenophon, *Hellenica*, text only, Teubner series or Oxford Classics.
- Greek Melic Poets, *Smyth* (Macmillan).

## FRENCH.

Students in Arts may take the Junior French course in their First Year, and the Senior French course in their Second Year; but students who have already passed in the Senior course in their Second Year may, if the time table permit, take a second Senior course in their Third Year, along with such additional work as may be prescribed.

## FRENCH—1904.

7. *Junior Course, Pass.*—Composition: Passages for Translation. (*Angus & Robertson*); Berthon, Specimens of Modern French Verse (*Macmillan*); Molière, *Les Fâcheux* (*Clarendon Press*); Voltaire, *Mérope* (*Clarendon Press*). *Add. for Honours.*—Novelettes (ed. Masson, *Clarendon Press*), Pages choisies de Sainte-Beuve (*Colin et Cie*); French Historical Grammar.

8. *Senior Course, Pass.*—Composition: Passages for Translation (*Angus & Robertson*); Literature of the Romantic Period. Pages choisies de Sainte-Beuve (*Colin et Cie*); Pages choisies de Th. Gautier (*Colin et Cie*); Berthon, Specimens of Modern French Verse (*Macmillan*); George Sand, *La Mare au diable* (*Macmillan*); Hugo, *Le Roi s'amuse* (Hugo, Théâtre, Vol. 2, (*Hachette*). *Add. for Third Year Students.*—Balzac, Eugénie Grandet (*Lévy*). *Add. for Honours.*—Chefs-d'œuvre Poétiques de Marot, Ronsard, &c. (ed. Lemercier, *Hachette*); Montaigne, Principaux Chapitres, &c. (ed. Glanroy, *Hachette*).

## FRENCH—1905.

*Junior Course, Pass.*—Composition: Passages for Translation (*Angus & Robertson*). Dictation. De Vogüé, Cœurs Russes (*Macmillan*); Scribe, *Le Verre d'Eau* (*Pitt Press*); Molière, *Le Misanthrope* (*Macmillan*). *Add. for Honours.*—Pages choisies de St. Simon (*Ginn & Co.*); Hugo, *Ruy Blas* (*Bévenot, Macmillan*); Historical Grammar (*Darresteter*).

*Senior Course, Pass.*—Composition: Passages for Translation (*Angus & Robertson*). Dictation. History of Literature in the 17th Century, Choix de Lettres du XVII<sup>e</sup> Siècle (ed. Lanson, *Hachette*); Corneille, Scènes Choiesies (ed. Petit de Julleville, *Hachette*); Pages Choiesies de St. Simon (*Ginn & Co.*); Molière, *Les Femmes Savantes* (*Macmillan*); La Bruyère, *Caractères* (*Hachette*). *Add. for Third Year Students.*—Boileau, *Ceuvres Poétiques* (*Hachette*). *Add. for Honours.*—Clédât, *Chanson de Roland* (*Garnier frères*); Joinville, *Histoire de St. Louis* (*N. de Wailly, Hachette*); The Literature of the Middle Ages.

## GERMAN.

Regulations similar to those in force for the French classes hold good for the German classes, with the further proviso that, if the time table permit, students who have not taken the Junior course in German in their First Year may take it in their Second, and the Senior course in their Third Year.

## GERMAN—1904.

9. *Junior Course, Pass.*—Composition: Passages for Translation (*Angus & Robertson*); Heine, *Prosa* (*Clarendon Press*); Lessing, *Nathan der Weise* (*Clarendon Press*). *Add. for Honours.*—Historical German Grammar; Von Kleist, *Michael Kohlhaas* (*Macmillan*); Schiller, *Die Jungfrau von Orleans* (*Macmillan*).

10. *Senior Course, Pass.*—Composition: Passages for Translation (*Angus & Robertson*); Literature in the lifetime of Heine; Heine, Ueber Deutschland (any edition); Goethe, Faust, part II. (any edition); Kleist, Kätchen von Heilbronn (*Reklam*); Uhland, Herzog von Schwaben (*Pitt Press*); Buchheim, Deutsche Lyrik (*Macmillan*). *Add. for Third Year Students.*—Tieck, Dichterleben (*Spemann*). *Add. for Honours.*—Liederbuch aus dem 16<sup>ten</sup> Jahrhundert (*Brockhaus*, Leipzig); Weise, Die drei ärgsten Erznarren (*Niemeyer, Halle*).

#### GERMAN—1905.

*Junior Course, Pass.*—Composition: Passages for Translation (*Angus & Robertson*). Dictation: Goethe, Italienische Reise (*Macmillan*); Sudermann, Es Lebe das Leben (*Cotta'sche Buchhandlung, Nachfolger, Berlin*). *Add. for Honours.*—Spielhagen, Auf der Düne (*Staackmann, Leipzig*); Scheffel, Der Trompeter von Säckingen (*Macmillan*); Historical Grammar (*Behagel, adapted Trechmann*).

*Senior Course, Pass.*—Composition: Passages for Translation (*Angus & Robertson*). Dictation. History of Literature, the Classical Period; Lessing, Litteraturbriefe (*Hachette*); Iffland, Die Hagestolzen (*Reklam*); Klopstock, Oden (ed. *Düntzer, Brockhaus*); Goethe, Faust, Part I. (*Rivingtons*); Richter, Der Kleine Schulmeister Wuz (*Reklam*). *Add. for Third Year Students.*—Schiller, Wallenstein, all three parts (*G. Bell & Sons*). *Add. for Honours.*—Middle German Primer (*Clarendon Press*); Gudrun, Deutsche Classiker des Mittelalters (*Brockhaus*).

#### ENGLISH—1904.

11. *First Year.*—Lectures on English Language, Composition, and Style; Chaucer, Prologue (*Clarendon Press*); Shakespeare, King John (*Clarendon Press*).

12. *Second Year, Pass.*—Lectures on the chief writers from Shakespeare to Milton; Special subject, History of the Drama; Prescribed Books: Chaucer (*Globe Edition*), Skelton, Selected Poems (*Isbister*); Shakespeare, Richard II. (*Clarendon Press*); Henry IV., both parts (*Macmillan*); Henry V. (*Clarendon Press*); Edward III. (*Temple Dramatists*); Milton, Comus (*Clarendon Press*); *Add. for Honours.*—Cook, First Book of Old English (*Ginn & Co.*); Skeat, Specimens, 1394-1579 (*Clarendon Press*).

13. *Third Year, Pass.*—Lectures on the Literature of the 18th Century. Lectures on Shakespeare's Histories. Prescribed Books: Shakespeare (*Globe Edition*); Dryden, Select Poems (*Clarendon Press*); Pope, Essay on Man (*Clarendon Press*); Swift, Battle of Books (*Cassell's National Library*, No. 19); Defoe, Journal of the Plague Year (*Morley's Universal Library, Routledge*); Steele and Addison, Sir Roger de Coverley (*Cassell's National Library*, No. 29); Sterne, Tristram Shandy (*Morley's Universal Library, Routledge*); Johnson's Lives of Butler, Denham, &c. (*Cassell's National Library*, No. 37); Gray, Selected Poems (*Clarendon Press*). *Add. for Honours.*—Beowulf (*Ginn & Co.*); Maclean, Old and Middle English Reader (*Macmillan*).

ENGLISH—1905.

*First Year.*—Lectures on English Language, Composition, and Style. Chaucer, Selections from the Canterbury Tales (*ed. Carson, Macmillan*); Shakespeare, King Lear (*Clarendon Press*).

*Second Year.*—Lectures on the chief writers from Chaucer to Milton; special subject, History of the Drama. Prescribed Books: Chaucer (*Globe Edition*); Surrey, Poems (*Aldine Edition*); Shakespeare, Julius Cæsar, Antony and Cleopatra, Coriolanus (*Macmillan*); Milton, The Shorter Poems (*ed. George, Macmillan*); Jonson, Sejanus (*Mermaid Series*). *Add. for Honours.*—Sweet's Old English Primer (*Clarendon Press*); Maldon and Brunanburh (*Ginn & Co.*); Pollard's English Miracle Plays (*Clarendon Press*).

*Third Year.*—Lectures on English Literature during the lifetime of Wordsworth. Lectures on Shakespeare's Tragedies. Prescribed Books: Shakespeare (*Globe Edition*); Wordsworth Prefaces (*ed. George, Heath*); Shelley (*Golden Treasury, Macmillan*); Keats (*Golden Treasury*); Godwin, Political Justice (*ed. Salt, Sonnenschein*); Burns, Songs (*Canterbury Poets, Scott*); Landor, Imaginary Conversations, Selections (*Scott*); Scott, The Antiquary. *Add. for Honours.*—Andreas (*Ginn & Co.*); Elene (*Ginn & Co.*); Havelok the Dane (*Clarendon Press*); Piers the Plowman (*Selections, ed. Skeat, Clarendon Press*).

14. MATHEMATICS.\*

CLASS EXAMINATIONS.

All students attending lectures, except the Third Year A lectures, must present themselves at the class examinations held at the end of the classes they have been attending.

\* The lecture subjects for evening students in Mathematics are the same as those prescribed for day students of corresponding standing in the University.

Such class examinations will be held as under :—

AT THE END OF LENT TERM.

First Year in Arts .. .. . Geometry.

AT THE END OF TRINITY TERM.

First Year in Arts .. .. . Algebra.

First Year in Science .. .. . { 1. Logarithms, Trigonometry and Graphical Algebra.

First Year in Engineering .. .. . { 2. Elementary Analytical Geometry and Infinitesimal Calculus.

Second Year in Arts .. .. . { Differential and Integral Calculus.

Second Year in Science .. .. . {

Second Year in Engineering .. .. . }

AT THE END OF MICHAELMAS TERM.

First Year in Arts .. .. . Trigonometry.

First Year in Science .. .. . { Elementary Statics and

First Year in Engineering .. .. . { Dynamics.

Second Year in Arts .. .. . { Statics and Dynamics.

Second Year in Science .. .. . {

Second Year in Engineering .. .. . }

YEARLY EXAMINATIONS.

Students of the First Year in Arts who pass in the Class Examinations at the end of the Lent and Trinity Terms will not be re-examined in the same subject at the Yearly Examination in December. Those who fail to pass will be re-examined, except in cases of bad failure, when the Faculty may refuse the student permission to present himself in December. The examination at the end of the Michaelmas Term will form part of the Yearly Examination.

Students of the First and Second Years in Science and Engineering and of the Second Year in Arts, who pass in the Class Examination at the end of the Trinity Term, will be held to have passed the Yearly Examination in those subjects, except in cases of bad failure, when the Faculty may refuse the student permission to present himself. Those who fail to pass will be re-examined in March, except in cases of bad failure when the Faculty may refuse the student permission to present himself. The examination at the end of the Michaelmas Term will form part of the Yearly Examination.

Students of the Third Year in Arts and Science will be examined only in March.

HONOUR EXAMINATIONS.

These are specially adapted to the A Lectures, and are held in March. It is optional for the student to attend these examinations. Honours and Scholarships are awarded on the result of the Honour Examination only.



FIRST YEAR IN ARTS LECTURES.

The students of the First Year in Arts must attend one of the three courses specified below:—

FIRST YEAR IN ARTS—CLASS A.

Mondays, Tuesdays, Wednesdays and Thursdays, throughout the year, at 10 a.m., as follows:—

LENT TERM.—Geometry and Geometrical Conics (*Tu., Th.*);  
Algebra (*M., W.*).

TRINITY TERM.—Analytical Geometry (*Tu., Th.*);  
Trigonometry (*M., W.*).

MICHAELMAS TERM.—Statics and Dynamics (*Tu., Th.*);  
Elementary Infinitesimal Calculus (*M., W.*).

FIRST YEAR IN ARTS—CLASS B.

Tuesdays, Thursdays and Fridays throughout the year, at 10 a.m., as follows:—

LENT TERM.—Logarithms, Trigonometry, and Graphical Algebra.

TRINITY TERM.—Elementary Course in Analytical Geometry and the Infinitesimal Calculus.

MICHAELMAS TERM.—Elementary Statics and Dynamics.

In the Lent and Trinity Terms there is a Tutorial Class at the same hour on Mondays and Wednesdays.

FIRST YEAR IN ARTS—CLASS C.

Mondays, Wednesdays and Fridays throughout the year, at 10 a.m., as follows:—

LENT TERM.—Geometry.

TRINITY TERM.—Algebra.

MICHAELMAS TERM.—Trigonometry.

SECOND YEAR IN ARTS.

Students of the Second Year in Arts may attend either of the two courses specified below.

SECOND YEAR IN ARTS—CLASS A.

Mondays, Tuesdays, Thursdays and Fridays, throughout the year, at 9 a.m., as follows:—

LENT TERM.—Differential and Integral Calculus (*M., Th.*);  
Analytical Geometry (*Tu., F.*).

TRINITY TERM.—Differential and Integral Calculus (*continued*) (*M., Th.*);  
Analytical Statics (*Tu., F.*).

MICHAELMAS TERM.—Differential Equations (*M., Th.*);  
Dynamics of a Particle (*Tu., F.*).

## SECOND YEAR IN ARTS—CLASS B.

Tuesdays, Wednesdays and Fridays, throughout the year, at 9 a.m., as follows:—

LENT TERM.—Differential and Integral Calculus.

TRINITY TERM.—Differential and Integral Calculus.

MICHAELMAS TERM.—Statics and Dynamics.

In the Lent and Trinity Terms there is a Tutorial Class at the same hour on Mondays and Thursdays.

## THIRD YEAR IN ARTS.

Students of the Third Year must attend the following course:—

## THIRD YEAR IN ARTS—CLASS A.

At 11 a.m. throughout the year, as follows:—

LENT TERM.—Solid Geometry (*M., W., F.*);

Dynamics (*continued*) (*Tu. Th.*).

TRINITY TERM.—Rigid Dynamics (*M., W., F.*);

Spherical Trigonometry (*Tu., Th.*).

MICHAELMAS TERM—(i.) A course of lectures will be given on the Mathematical Theory of one of the following subjects:—

Electricity and Magnetism; Sound; Hydrostatics and Hydrodynamics; Heat; Elasticity (*M., W., F.*)\*

(ii.) Astronomy (*Tu. Th.*).

## FIRST YEAR IN SCIENCE AND ENGINEERING.

This class meets on Tuesdays, Thursdays and Fridays at 10 a.m. The course of study is the same as that of the First Year Arts, Class B. Every student must also attend the Tutorial Class on Mondays and Wednesdays in the Lent and Trinity Terms at 9 a.m.

Students, who desire to do so, may, with the permission of the Professor, take the Honours Class of the First Year in Arts, and such attendance will exempt them from both of the above Classes.

## SECOND YEAR IN SCIENCE AND ENGINEERING.

This class meets on Mondays, Wednesdays and Fridays at 9 a.m. The course of study is the same as that of the Second Year Arts, Class B. Every student must also attend the Tutorial Class on Mondays and Thursdays at 9 a.m.

Students, who desire to do so, may, with the permission of the Professor, take the Honours Class of the Second Year in Arts, and such attendance will exempt them from both of the above Classes.

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\* In 1906 this course will be upon Hydrostatics and Hydrodynamics.

THIRD YEAR IN SCIENCE.

The course of study is the same as that of the Third Year in Arts.

BOOKS RECOMMENDED FOR THE USE OF STUDENTS.

For Matriculation, 1904-5.

*Pass.*—Any of the ordinary text-books in Arithmetic and Algebra. For the alternative Geometry papers, see p. 76 of the Regulations for the Junior Public Examinations.

*Honours.*—Any of the ordinary text-books on Geometry.

C. Smith's Algebra, or Hall and Knight's Higher Algebra.  
Lock's, Loney's, or Hall and Stevens' Trigonometry.  
Barracough's Trigonometrical Tables, Part I.

First Year Students.

- (A) Richardson and Ramsay's Modern Geometry.  
Hoevar's Solid Geometry (*A. & C. Black*).  
Hamblin Smith's Geometrical Conic Sections.  
C. Smith's Algebra, or Hall and Knight's Higher Algebra.  
C. Smith's Conic Sections.  
Loney's Trigonometry, Part II., or Hobson's Plane Trigonometry.  
Hicks' Elementary Dynamics.  
Carslaw's Introduction to the Infinitesimal Calculus.  
Edwards' Differential Calculus for Beginners.  
Edwards' Integral Calculus for Beginners.
- (B) Any ordinary text-book on Trigonometry.  
Barracough's Trigonometrical Tables, Part I.  
Moors', or Hall's Introduction to Graphical Algebra.  
Briggs and Bryan's Coordinate Geometry, Part I.  
Carslaw's Introduction to the Infinitesimal Calculus.  
Edwards' Differential Calculus for Beginners.  
Edwards' Integral Calculus for Beginners.  
Hicks' Elementary Dynamics.

*Also for Engineering Students*, Perry's Calculus for Engineers.

- (C) Godfrey and Siddon's Elementary Geometry, or Barnard and Child's New Geometry.  
Hall and Knight's Elementary Algebra, C. Smith's Elementary Algebra, or Todhunter and Loney's Algebra for Beginners.  
Loney's Trigonometry, Part I.  
Barracough's Trigonometrical Tables, Part I.

Second Year Students.

- (A) In addition—  
Lamb's Infinitesimal Calculus.  
Routh's Analytical Statics, Vol. I.  
Forsyth's Differential Equations.  
Love's Theoretical Mechanics.  
Besant's Dynamics.
- (B) In addition to the list for First Year, Class B—  
Murray's Differential Equations.

## Third Year Students in Arts and Science.

In addition to the list for Second Year, Class A—

C. Smith's Solid Geometry.

Routh's Rigid Dynamics, Vol. I.

Todhunter and Leathem's Spherical Trigonometry.

Godfray's, or Barlow and Bryan's Astronomy,

and the text-books for the special course in Mathematical Physics for the year, viz.:—

Besant's Hydromechanics.

Basset's Elementary Hydrodynamics and Sound.

## LOGIC AND MENTAL PHILOSOPHY.

Courses of lectures on the following subjects will be delivered during 1904.

## FACULTY OF ARTS—SECOND YEAR.

15. LOGIC.—A general introduction to the study of philosophy. The relation of philosophy to the special sciences. Classification of the sciences. The nature of scientific and philosophical explanation. Categories of explanation. Explanation by class, law, cause, end. Analysis of the conceptions of cause, mechanism, organism, development.

The principles of logic, inductive and deductive. Analysis of the concept, judgment, inference. The principles of syllogistic reasoning. Definition, division and classification. Fallacies in the formal process of reasoning.

Methods of inductive reasoning. Analysis of the various methods of scientific investigation and proof. An account of theories of causation, with special reference to modern scientific concepts and methods. Methods of the historical sciences.

BOOKS REQUIRED.—*Pass*—Mellone's Text-book of Logic (*Blackwood*); Welton's Logical Bases of Education (*Macmillan*); Hibben's Inductive Logic (*Blackwood*). *Honours*—Bosanquet's Essentials of Logic (*Macmillan*); Keynes' Formal Logic (*Macmillan*); Mill's Logic (*Longmans*).

PSYCHOLOGY.—The scope, data, and methods of psychology. Analysis of the conditions and laws of mental processes. Sensation and perception. The nature and conditions of attention. Association and reproduction of perceptions. Memory and imagination. Stages in the development of mental life. Thought and language. Analysis of feelings. The intellectual, æsthetic, moral and religious sentiments. Impulse and desire. Will and character. Abnormal psychology.

BOOKS REQUIRED.—James' Text-book of Psychology. References will also be made to James' Principles of Psychology, Stout's Manual of Psychology, and Ward's Article on Psychology in the *Encyc. Britt.*

16. ETHICS.—The scope and methods of ethics. Ethics as a deductive and normative science. Relation of ethics to psychology, sociology and metaphysic. The development of ethical theory. Psychological and metaphysical basis of ethical theory. Contrast between ancient and modern ethics. Kant and modern Hedonism. Empirical and evolutionary ethics. The ethics of idealism. Historical and critical account of the main problems of modern philosophy.

BOOKS REQUIRED—MacKenzie's *Manual of Ethics* (*Clive*); Sidgwick's *History of Ethics* (*Macmillan*). *Honours*—Bosanquet's *Psychology of the Moral Self* (*Macmillan*); Mackenzie's *Outlines of Metaphysics* (*Macmillan*); Green's *Prolegomena to Ethics* (*Clarendon Press*); Spencer's *Principles of Ethics*, Vol. I. (*Williams and Norgate*.)

Lectures on these subjects will be delivered as follows:—

To second year Arts students—Logic and Psychology.

To third year Arts students—Psychology and Ethics.

To second and third year evening students—Logic and Psychology.

Each of these courses will consist of ninety lectures. All students are required to perform the class exercises and to take part in *vivâ voce* and written examination, as part of the ordinary class work.

#### DEGREE OF MASTER OF ARTS.

A course of post graduate lectures will be delivered during 1904, on the principles of modern logic. These lectures may also be attended by undergraduates, who are preparing for Honour examinations. The course will consist of about thirty lectures, to be given in the evening, and will begin after Easter.

#### FACULTY OF MEDICINE.

16A. A special course of lectures on logic will be delivered during Lent Term to second year students in the Faculty of Medicine. The course will consist of twenty lectures, to be delivered twice a week, on Wednesdays and Fridays, at twelve noon.

The following subjects will be discussed in the lectures:—Classification of the sciences. The nature of explanation, ordinary, scientific, and philosophic. The principles of definition, division, and classification. Nature of deductive and inductive proof. Explanation by class, law, cause, end. Analysis of the various methods of experimental enquiry.

BOOKS RECOMMENDED—Welton's *Logical Bases of Education*, Hibben's *Inductive Logic*.

## HISTORY.

The course of History will extend over two years.

17. The following will be the subjects of study for Second Year students:—

PASS.—The History of England to 1603.

BOOKS RECOMMENDED.—Green's Short History of the English People; Ransome's Advanced History of England; Freeman's Growth of the English Constitution; Gibbins's Industry in England; Wake-man's History of the Church of England; Fortescue's Governance of England; More's Utopia.

HONOURS.—Honours will be awarded on the following work :

(1) Papers on the Pass work as described above.

(2) A further paper on the same period.

BOOKS RECOMMENDED in addition to those named above.—Stubbs's Constitutional History; Stubbs's Select Charters.

(3) A paper on the History of Europe from 800 to 1250.

BOOKS RECOMMENDED.—Bryce's Holy Roman Empire; Milman's Latin Christianity; Archer and Kingsford's Crusades; Morison's St. Bernard; Tout's The Empire and the Papacy; Sabatier's St. Francis.

(4) Essays to be written in the course of the year.

18. The following will be the subjects of study for Third Year students:—

PASS.—The History of England from 1603 to the present time.

BOOKS RECOMMENDED.—Green's Short History of the English People; Ransome's Advanced History of England; Gardiner's Puritan Revolution; Harrison's Cromwell; Seeley's Expansion of England; Gibbins's Industry in England; Milton's Areopagitica; Burke's Speech on Conciliation with America; Carlyle's Past and Present.

HONOURS.—Honours will be awarded on the following work :

(1) Papers on the Pass work as described above.

(2) A further paper on the same period.

BOOKS RECOMMENDED in addition to those named above.—Bagehot's English Constitution; Dicey's Law of the Constitution; MacCunn's Ethics of Citizenship; Toynbee's Industrial Revolution.

(3) A paper on the History of Europe from 1789 to the present time.

BOOKS RECOMMENDED.—Syme's French Revolution; Seeley's Napoleon; Rose's Napoleon; Fyffe's Modern Europe; Dickinson's Revolutions and Reactions in Modern France; Cesareo's Liberation of Italy; Mazzini's Essays; Stephens' European History, 1789 to 1815; Phillips' European History, 1815 to 1899.

(4) Essays to be written in the course of the year.

Those students only will be allowed to take Honours who have in their second year attended the lectures in History, and who have passed the examination with Honours. Those only will be placed in the First Class who have gained First or Second Class Honours in History in their second year. Those students, however, who, having attended the lectures in History in their second year, have passed the examination without taking Honours, may obtain Honours in History in their third year by taking additional papers covering the second year Honours work.

## PHYSICS.

## FOR FIRST YEAR STUDENTS.

19.—An introductory course of about thirty lectures in Trinity Term on the Elementary Principles of Mechanics, Properties of Matter, Sound, Heat and Light.

*Text Book.*—"Physics," by C. G. Knott (W. and R. Chambers).

The Smith Prize for Physics is awarded on the result of the Class Examination at the end of this course of lectures.

19A.—A course of twenty lectures in Michaelmas Term, consisting generally of the more precise treatment of the subjects of the previous Term's lectures, chiefly in Heat, Light, and Electricity and Magnetism.

Candidates for Honours and Scholarships are required to attend courses 19 and 19A and the First Year Practical Class for one Term.

## FOR SECOND YEAR STUDENTS.

20.—A course of sixty lectures on the Properties of Matter, Heat, and Electricity and Magnetism.

## FOR THIRD YEAR STUDENTS.

21.—A course of sixty lectures on Physical Optics, Acoustics, and Electricity and Magnetism.

For Honours the examination will include the subjects of the Second Year.

## PHYSICAL LABORATORY.

The Physical Laboratory was designed by Richard Threlfall, M.A., F.R.S., then Professor of Physics in the University, and was built under his supervision. The building was commenced in 1886, and completed early in 1888. Considerable additional laboratory accommodation was provided in 1901 by an extension of one side of the building.

The Laboratory was founded for the encouragement of the study of Physical Science, and its object is not only to afford facilities for imparting instruction but also for aiding research.

## 22.—PRACTICAL PHYSICS.

### FIRST YEAR.

The course consists of quantitative experiments in the following :—

Measurement of Length. Estimation of Mass. Determination of Density. Thermometry and Expansion. Calorimetry. Determination of Musical Pitch. Measurement of Velocity of Sound in the Air and in Solids. Reflection and Refraction of Light. Total Reflection. Refractive Indices. Elementary Spectroscopy. Double Refraction. Polarisation of Light. Fundamental Experiments of Electro-statics. Electrometer and Galvanometer Measurements. Measurement of Resistance. Electro-magnetic Induction.

*Text Book.*—"Physics," C. G. Knott (W. and R. Chambers).

All students attending the Physical Laboratory are required to keep a record of their practical work in special note-books, to be obtained from W. E. Smith, Bridge Street. These note-books form the basis on which marks are allotted for Practical Physics at the annual examination.

Students presenting themselves for examination in Physics at the end of any Academic Year during which they have not attended the Laboratory must also present themselves for examination in Practical Physics.

### SECOND YEAR.

The course consists of quantitative experiments in the following :—

Expansion of Solids and Gases. Elasticity of Solids. Measurement of Time. Determination of Moments of Inertia. Pendulums. Magnetic Measurements. Relation between Magnetic Force and Magnetic Induction in Metals, investigated magnetometrically and ballistically. Determination of the Magnetic Elements. Accurate Comparison of Resistances. Electrolytic Measurement of Currents. Comparison of Electromotive Forces. Measurement of Capacity. Fundamental Experiments of Electro-magnetism. Measurement of Mutual and Self Induction, &c.

*Text Book.*—Physical Measurements. Kohlrausch (translated by Waller and Procter, Churchill, London).



## THIRD YEAR.

## Advanced Physical Measurements.

## BOOKS RECOMMENDED.

## For First Year Students.

Knott's Physics.

## For Second and Third Year Students.

*General Physics.*—Maxwell's Matter and Motion. Worthington's Dynamics and Rotation. Tait's Properties of Matter. Poynting and Thomson's Properties of Matter. Lord Kelvin's Article on Elasticity in the Encyclopædia Britannica. Todhunter's History of Elasticity. Kelvin and Tait's Natural Philosophy. J. J. Thomson's Application of Dynamics to Physics and Chemistry. Jevons' Principles of Science. Threlfall's Laboratory Arts.

*Heat.*—Preston's Theory of Heat. Maxwell's Theory of Heat. Tait's Heat. Balfour Stewart's Treatise on Heat. Ewing's Steam Engine and other Heat Engines. Clausius' Mechanical Theory of Heat.

*Light.*—Lewis Wright's Light. Glazebrook's Physical Optics. Preston's Theory of Light. Verdet's Optique. Mascart's Optique.

*Sound.*—Poynting and Thomson's Sound. Tyndall's Treatise on Sound. Lord Rayleigh's Sound. Helmholtz's Sensations of Tone.

*Electricity and Magnetism.*—J. J. Thomson's Elements of the Mathematical Theory of Electricity and Magnetism. Clerk Maxwell's Elementary Electricity. Clerk Maxwell's Electricity and Magnetism. J. J. Thomson's Recent Researches in Electricity and Magnetism. Gordon's Electricity. Articles on Electricity and Magnetism in the Encyclopædia Britannica. Ewing's Magnetic Induction in Iron and other Metals. Fleming's Alternate Current Transformer. Steinmetz Alternating Current Phenomena.

## CHEMISTRY.\*

## INTRODUCTORY.

23.—This course is on the general principles of elementary chemistry; the non-metallic elements and their principal compounds; certain of the common carbon compounds of everyday life; and such processes as combustion, respiration and fermentation. The metals as a class, and their chief compounds with the non-metals.

The course is delivered in Lent Term, and is intended for students in the Faculties of Medicine and Science.

Students in the Faculties of Medicine and Science are also required to attend the Tutorial Class, which meets once a week.

Candidates for Honours and Scholarships are required to attend the Laboratory for one Term.

*Text Books.*—Roscoe's Elementary Chemistry, Tilden's Inorganic Chemistry, Thorpe's Non-metals, or other similar text book.

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\* A fuller syllabus can be obtained in the Registrar's Office or at the Laboratory.

## INTRODUCTORY COURSE FOR FIRST YEAR ARTS STUDENTS.

23A. In this course the subject is treated, as far as is possible in a short course of lectures, by the heuristic method. Experiments are made on common substances, with the majority of which the student is acquainted in everyday life; new substances are thus discovered, and an investigation is made of their properties and quantitative relationships.

The experimental results obtained are then reviewed, and important generalizations deduced, viz., the laws of chemical combination.

It is then shown how the experimental facts can be explained by the Atomic Theory, and the usefulness of such a theory is pointed out.

Chemical formulæ are then introduced, and examples given of their use in chemical calculations.

The course concludes with the elements of Physical Chemistry and a general account of the elements classified according to the Periodic Law.

**BOOKS RECOMMENDED.**—Perkin and Lean's Introduction to the Study of Chemistry; Dobbin and Walker's Chemical Theory for Beginners; Whiteley's Chemical Calculations; Tilden's Manual of Chemistry; Alembic Club reprints of original papers by various authors.

## THE METALS.

24. A course of lectures upon the Metals and their principal compounds and alloys is given daily during Trinity Term. Compulsory for students in the Faculties of Medicine and Science and the Departments of Engineering, Pharmacy and Dentistry.

*Text Books.*—Thorpe's Metals, Tilden's Inorganic Chemistry.

## ORGANIC CHEMISTRY.

25. A course of lectures upon the Carbon Compounds is given during Michaelmas and Lent Terms. Compulsory for students in the Faculties of Science and Medicine.

*Text Books.*—Organic Chemistry by Perkin and Kipping, or Tilden's Organic Chemistry and Streatfeild's Organic Chemistry (Spon).

## TUTORIAL CLASS IN CHEMISTRY.

A Class for Calculations and similar exercises meets once a week during term. Attendance is compulsory for students in the Faculties of Medicine and Science and Departments of Engineering, Pharmacy and Dentistry.

## CHEMICAL PHILOSOPHY.

26. A course upon the History of Chemical Philosophy and Discovery is given during Lent and Trinity Terms for students of the Third Year in the Faculty of Science, and Undergraduates in Medicine who are candidates for the Degree of B.Sc. in Chemistry.

*Text Books.*—Theoretical Chemistry, by W. Nernst (McM. & Co.), or Meyer's Modern Theories of Chemistry (Longmans & Co.), or Ostwald's Outlines of General Chemistry, Ostwald's Solutions (McM. & Co.) and History of Chemistry, E. von Meyer (McM. & Co.), Van't Hoff's Physical Chemistry (Arnold). Walker's Physical Chemistry.

GENERAL BOOKS OF REFERENCE.—Roscoe and Schorlemmer's Treatise on Chemistry, Mendeleef's Principles of Chemistry, Morley & Muir's Dictionary of Chemistry, Thorpe's Dictionary of Applied Chemistry.

NOTE.—Arts students of the Second or Third Years may take up Course No. 24 or 25 as a voluntary subject, provided that such students have passed or pass the Annual Examination upon the Introductory Course (see No. 23); but an Arts student who has taken up one of these courses in his Second Year cannot be allowed to take up the same course again in the Third Year.

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NOTE.—Students in the Second and Third Years in the Faculty of Science, who select Chemistry as one of their subjects, are required to go through a course of QUANTITATIVE ANALYSIS, and to be examined in the same. This applies also to students in the FACULTY OF MEDICINE, who take up the advanced course in Chemistry to qualify for the B.Sc. Degree.

Students in the Mining Branch of Engineering are required in their Second and Third Years to go through a course of QUANTITATIVE ANALYSIS, ASSAYING and PRACTICAL METALLURGY, and to be examined in the same.

## METALLURGY.

27. A course of about sixty lectures will be given during Lent and Trinity Terms for Third Year students in the Department of Mining and Metallurgy. Introduction: Physical and chemical properties of metals and alloys; fire-resisting materials; manufacture of charcoal, coke and gaseous fuels: pyrometry; general metallurgical processes and agents; types of furnaces; fluxes, slags, &c. Detailed descriptions of the methods of extracting the following metals from their ores:—Gold, silver, lead, copper, tin, platinum, antimony, zinc, nickel, cobalt, bismuth, mercury, aluminium, and iron. Students will be

expected to make full notes at the lectures, and will be referred to the literature of the subject immediately under discussion.

All students are required to attend the Excursions to Metallurgical Works.

Every student is required to prepare a written description of either a mine or metallurgical plant, and to prepare drawings and specifications for the erection of metallurgical works, as part of his final examination for the Third Year.

BOOKS RECOMMENDED.—Roberts-Austen's Introduction to the Study of Metallurgy; Grüner's *Traité de Metallurgie*; Percy's Metallurgy; Eggleston's Metallurgy in the United States; Schnabel's Handbook of Metallurgy, translated by H. Louis, M.A.; Rose's Gold; Richards' Stamp Milling of Gold Ores; Eissler's Treatises on Gold, Silver, Silver Lead, and the Cyanide Process; Scheidel's Cyanide Process; Hoffmann's Lead; Hixon's Lead and Copper Smelting; Peters' Modern Copper Smelting; Lang's Matte Smelting; Howe's Iron and Steel; Lowthian Bell's Chemical Phenomena of the Blast Furnace; Rowan and Mill's Fuel; Sexton's Fuel and Refractory Materials; Richards' Aluminium; and papers by various authors in the *Trans. Am. Inst. Min. Engineers*, *Journal of the Iron and Steel Institute*, *Engineering and Mining Journal of New York*, &c.

#### AMBULANCE COURSE.

Students in Mining Engineering are required to have attended an Ambulance Course upon First Aid, and to have passed an Examination in the same before proceeding to the Bachelor's Degree.

### PRACTICAL CHEMISTRY.

#### THE CHEMICAL AND METALLURGICAL LABORATORIES.

The Chemical Laboratory was built in 1889. The building is a plain rectangular structure, about 170 feet long by 86 feet wide. A new Assay Laboratory, 55 by 44 feet, and a Milling and Leaching Room, 35 by 100 feet, have recently been added. There are also open and covered yards for out-door operations.

The small lecture room will seat 120, and the larger one about 170 students.

The Junior Laboratory contains 40 benches, and the Senior Laboratory will take about 60 advanced students. There are also separate rooms for spectroscopic and gas analysis, for photography and for research work. A room is set apart for Chemical Collections, and for old forms of apparatus, etc., which may be of historical interest.

The building is provided with the electric light throughout the upper floor, and the gas engine for driving the dynamos is attached to shafting connected with the grinding machines, apparatus for the liquefaction of gases, and similar appliances necessary for a large laboratory. Leads are carried to convenient places in the laboratories, so that if necessary the full power of the dynamos may be used for experimental purposes.

Special efforts have been made to give the students the benefits of modern improvements and appliances, and particularly those which tend to save time; draught cupboards, filter pumps, exhaust pipes, and similar conveniences are fitted to each bench. A number of larger hoods and draught cupboards for combustions, sulphuretted hydrogen gas, water baths, and ovens are also provided. There are three balance rooms, each 21 by 16 feet, provided with balances for different purposes, which, to prevent vibration, rest on slate benches, supported upon stone brackets.

The Metallurgical Laboratory contains 44 fusion and muffle assay furnaces, and an experimental reverberatory furnace with a bed 6 feet by 4 feet.

The plant for the concentration and treatment of metalliferous ores includes a set of stamps, Gates' rock breaker, Rogers' crushing rolls, Chilian mill, Carter's disintegrator; elevator; trommels, samplers, amalgamating plates and pans; a Frue vanner, plunger jigs, settling tanks, etc. Also vats and the necessary appliances for the extraction of gold and silver ores by chlorine, cyanide, hyposulphite, and other similar leaching processes.

## 28.—PRACTICAL COURSES.

### A.—INTRODUCTORY COURSE FOR JUNIOR AND MEDICAL STUDENTS.

This course consists of thirty exercises of three hours each.

1. Glass working.—Rounding the ends of rods and tubes, drawing, bending and joining tubes, blowing bulbs, mending test tubes.

2. The preparation and property of gases, *e.g.*, hydrogen, oxygen, carbon monoxide, carbon dioxide, the oxides of nitrogen and sulphur, chlorine, hydrochloric acid, hydrofluoric acid, ammonia, etc.

3. The structure of flame; flame reactions; use of blow-pipe; reduction of metals on charcoal; incrustations; flame and film tests; borax and microcosmic salt beads.

4. Use of the Spectroscope.
5. Reactions of Reagents.
6. Qualitative Analysis by wet and dry processes.
7. Reactions and processes for the detection of the alkaloids, sugars, starch, glycerol, alcohol, fusil oil, carbolic acid and similar common substances.

Each student is required to provide himself with a set of apparatus necessary for the above course of Experimental Chemistry and Qualitative Analysis.

Apparatus left by a student and not removed within three months is liable to be forfeited.

The larger and more expensive pieces of apparatus are provided, for the general use of students, by the University, on the condition that all breakages have to be made good.

Students *require* one of the following books—Qualitative Analysis (*Thorpe and Muir*), Qualitative Analysis (*W. Valentin, F.C.S.*), Qualitative Analysis (*Fresenius*), Tables for Qualitative Analysis (*A. Liversidge, M.A., F.R.S.*). Ostwald's Foundations of Analytical Chemistry and Menshutkin's Analytical Chemistry (*Macmillan*) are also recommended for further study.

#### B.—QUANTITATIVE COURSES.

Candidates for the B.Sc. Degree in Chemistry, and B.E. degree in Mining and Metallurgy, are required to make correct determinations of the following substances:—

PART I.—1. Verification of weights. 2. Determination of ash in filter paper. 3. Copper Sulphate. 4. Potassium dichromate. 5. Calcite. 6. Sodium chloride. 7. Rochelle Salt. 8. Ammonio-ferrous Sulphate. 9. Lead Nitrate. 10. Siderite. 11. Dolomite. 12. Apatite. 13. Orthoclase. 14. Niccolite (kupfernickel). 15. Smaltite (Co, Ni and As.). 16. Copper pyrites. 17. Topaz.

PART II.—And certain of the following:—18. Blende. 19. Zinc Silicate. 20. Pyrolusite. 21. Chromite. 22. Wolfram. 23. Mispickel. 24. Fahlore. 25. Petalite. 26. Beryl. 27. Strontianite. 28. Cinnabar. 29. Coinage-bronze. 30. Lead, tin, bismuth, cadmium alloy. 31. Ilmenite. White lead and pigments. Cements. Iron Ores. Iron and Steel. Fireclay. Oils. Mineral Oils—including flashing points. Coal Gas. Furnace

Gases. Coal, including ash and calorific power. Coke. Water for domestic and manufacturing purposes.

PART III.—Volumetric Analysis:—1. Chlorine. 2. Silver. 3. Potassium and sodium. 4. Sodium hydroxide. 5. Iron by permanganate and dichromate solutions. 6. Bleaching powder. 7. Nitric acid. 8. Chloric acid. 9. Ammonia.

PART IV.—Organic Chemistry, &c.:—1. Exercises in the purification of substances, including fractional crystallisation and distillation. 2. Boiling and melting points. 3. Specific gravities. 4. Ultimate analyses. 5. Vapour density. 6. Molecular weights. 7. Use of polariscope. 8. Preparation of carbon compounds.

*Text Books.*—Quantitative Analysis, by Clowes and Coleman; Fresenius' Quantitative Analysis; Sutton's Volumetric Analysis; Phillips' Engineering Chemistry; Wöhler's Mineral Analysis.

#### C.—ASSAYING AND METALLURGICAL COURSE.

Candidates for the B.E. Degree in Mining and Metallurgy are required to take the following course:—

Technical examination of Fuels and Fireclays.

Dry assay of Gold, Silver, Lead, Tin and Mercury Ores.

Assay of Silver and Gold Bullion.

Volumetric methods for Copper, Zinc, Lead, Manganese and Iron.

Electrolytic and Colorimetric methods for Copper. Examination of the Cornish dry process.

Complete analysis of Slag.

Complex Gold and Silver Ores.

Iron and Steel Analysis.

Analysis of Furnace Gases.

The treatment of bulk samples of ores, viz.: crushing, grinding, roasting, sampling (including vanning), concentrating, and leaching.

NOTE.—Students are required to preserve and label their metallurgical preparations, alloys, slags, and metallic buttons for the inspection of the Examiners at the end of the course.

BOOKS RECOMMENDED.—Beringer's Text Book of Assaying; or one of the following:—Guide Pratique du Chimiste, Métallurgiste et de l'Essayeur par L. Campredon. Baudry et Cie. Editeurs. Furman's Manual of Practical Assaying. For reference—Arnold's Steel Work Analysis; Hempel's Gas Analysis

**D.—COURSE OF PRACTICAL METALLURGY FOR DENTISTS.**

A course of sixty hours upon Elementary Practical Metallurgy is given in Michaelmas Term.

Each student is required to make experiments upon the following:—

1. Physical and Chemical properties of metals.
2. Effects of impurities upon these properties.
3. Preparation of certain alloys and amalgams, to illustrate the various changes brought about by alloying metals with each other.
4. Recovery of Gold, Platinum and Silver from scrap.
5. Purification of Gold and Silver.

**BOOKS RECOMMENDED.**—Dental Metallurgy, E. A. Smith (Churchill).  
*For reference*—Dental Metallurgy by Essig (S. S. White). Mixed Metals, Hiorns (McM. & Co.)

**APPARATUS.**—Students will require the apparatus which they used for the practical chemistry, and certain small articles of which a list can be obtained in the Laboratory.

**29. REGULATIONS FOR THE CHEMICAL AND METALLURGICAL LABORATORIES.**

The Chemical and Metallurgical Laboratories are open daily during Term time for instruction in Experimental Chemistry, Qualitative and Quantitative Chemical Analysis, Assaying and Ore Treatment.

Students engaged in private investigations will have to provide themselves with any materials they may require which are not included among the ordinary reagents, also with the common chemicals when they are employed in large quantities.

All preparations made from materials belonging to the Laboratory become the property of the Laboratory.

No experiment of a dangerous character may be performed without the express sanction of the Professor or Demonstrators.

Each student is required to keep full notes of each day's work for the use of the Examiners.

The Laboratory hours are from 10 a.m. to 5 p.m. except on Saturdays, when the Laboratory will be closed at 1 p.m.

Every student not working with a class is required to enter the time of his arrival and departure in the attendance book.



The Fees for instruction in the Laboratory in the case of students who have already attended the introductory practical course, No. 28A, will be found on page 179.

## GEOLOGY AND MINERALOGY.

## LECTURE COURSES.

For First Year Students.

## 30.—PHYSIOGRAPHY.

A course of thirty lectures on the above subject, with special reference to Australian Physical Geography, will be delivered in Michaelmas Term. A similar course is given each alternate year to evening students, one lecture being given per week during each of the three Terms. Evening lectures will be given during 1904.

The lectures will treat of the Composition, Movements and Work of the Atmosphere and of the Ocean; of Evaporation and Rainfall; of Lakes, Rivers, Springs and Artesian Wells; of various Glacial Phenomena, and of the Nature, Composition and Movements of the Earth's Crust, with a short account of Ore Deposits and Meteorites.

A brief sketch will be given of the development of Animal and Plant Life from early Geological time down to the present day, and of the Geological Antiquity of Man, with outlines of the theories of Darwin and Weissmann. The course will conclude with a summary of the cosmical aspects of Geology. The lectures are illustrated by means of diagrams and lantern views.

*Text Book.*—Physical Geography, by Professor W. M. Davis.

*For Reference and Further Study.*—Volcanoes, by Professor J. W. Judd; Geology of Sydney and the Blue Mountains, by the Rev. J. M. Curran; Earth Sculpture, by Professor Geikie; Agricultural Geology, by J. E. Marr; Scenery of Switzerland, by Lubbock.

For Second Year Students.

## 31.—GENERAL GEOLOGY.

This course will consist of a series of sixty lectures, discussing the subdivisions of the subject in the following order:—History of Geology, Material Geology, Elementary Mineralogy, Structural Geology, Stratigraphical Geology.

The lectures will occasionally be illustrated by means of a lime-light lantern. Occasional Geological Excursions will be conducted during the Lent and Trinity Terms to localities of

special geological interest in the neighbourhood, and, if possible, a week to ten days will be devoted to Field Work during one of the vacations. Students will be instructed in the preparation of geological maps and sections.

*Text Books.*—Petrology for Students, Harker; Text Book of Mineralogy, E. S. Dana; Palæontology, Woods; Text Book (or Class Book) of Geology, Sir A. Geikie.

*For Reference and Further Study.*—The Student's Handbook of Physical Geology, A. J. Jukes Browne; Physical Geology, A. H. Green; Earth Sculpture, Professor Geikie; Principles of Geology, Lyell; Field Geology, Penning; Principles of Stratigraphical Geology, J. E. Marr; Intermediate Text Book of Geology, Lapworth; Ancient Volcanoes of Great Britain, Sir A. Geikie; La Face de la Terre, Suess; Traité de Géologie, De Lapparent; Minerals in Rock Sections, Luquer, 1898.

### 31A.—MINERALOGY.

*Compulsory for Students in Mining Engineering in their Second Year.*

A course of about twenty lectures upon Mineralogy will be delivered during Trinity Term. These lectures are illustrated by a series of over 2000 hand specimens for close inspection, also by models of crystals and diagrams, and will include:—

#### I. INTRODUCTION.

\*II. CRYSTALLOGRAPHY.—The different systems under which crystals are grouped; the laws by which their variations and combinations are governed. The formation of crystals.

III. The principal PHYSICAL PROPERTIES of Minerals, which aid in the recognition of the various species.

#### IV. CLASSIFICATION OF MINERALS.

V. The PHYSIOGRAPHY or systematic description of minerals, including all the more abundant or important minerals, both those which are of geological importance and those which are of commercial value. Special reference will be made to the mode of occurrence and distribution of the minerals of Australasia.

*Text Books.*—Dana's Manual of Mineralogy and Petrography (not essential for those who have already E. S. Dana's Text-book of Mineralogy); Mineralogy, Crystallography and Blowpipe Analysis, Moses and Parsons, 1895; Manual of Determinative Mineralogy and Blowpipe Analysis, by G. J. Brush, thirteenth edition, 1891; Determinative Mineralogy and Blowpipe Analysis, by G. J. Brush and S. L. Penfield, fifteenth edition, 1899; Elements of Mineralogy, Rutley; Minerals of New South Wales, A. Liversidge, M.A., LL.D., F.R.S.; The Mineral Resources of New South Wales, by E. F. Pittman, Assoc. R.S.M.

\* This consists of combined lectures and demonstrations given during Lent Term. For further particulars see "Practical Courses."

## For Third Year Students.

## 32.—STRATIGRAPHICAL GEOLOGY AND AUSTRALIAN GEOLOGY.

This course will consist of about twenty lectures, delivered during Lent Term, dealing with the principles of Stratigraphical Geology, with the Geology of the Australian Continent, and with the physical features of the ocean and islands surrounding it.

*For Reference.*—Geology of Queensland, Jack and Etheridge; Physical Geography and Geology of Victoria, R. A. F. Murray; Geography of Victoria, by Professor Gregory; Geology of Tasmania, R. M. Johnston; Rothpletz, *Geotektonische Probleme*; Reyer, *Theoretische Geologie*; Suess, *Das Antlitz der Erde*; *Leçons de Géographie Physique*, De Lapparent; *Lehrbuch der Praktischen Geologie*, von Dr. Conrad Keilhack.

## 32A.—PALÆONTOLOGY.

This course will consist of sixty lectures, to be delivered during the Lent, Trinity and Michaelmas Terms. The principal classes of the *Invertebrata* found in the fossil state will be considered, the lectures being illustrated with numerous specimens and diagrams. Special reference will be made throughout to the Palæontology of Australia.

*Text Books.*—*Grundzüge der Palæontologie*, Zittel (or translation of preceding by Eastman); *Manual of Palæontology*, Nicholson; *Fossil Plants*, Seward.

## 32B.—CRYSTALLOGRAPHY.

A course of sixteen lectures, in which will be discussed:—Angular Distribution of Crystal Faces, Symmetry, the Various Systems of Notation, the Relations of Zones, Methods of Projection and Crystal Drawing, Apparatus for Goniometry, and in detail the forms belonging to one or more of the Systems. The lectures will be delivered twice a week during the Lent Term.

*Text Books.*—*Crystallography*, Lewis; *Crystallography*, Story-Maskelyne; *Physikalische Krystallographie*, Groth.

## 32C.—THEORY OF THE MICROSCOPE.

This course will consist of four lectures, giving an outline of the Theory and Construction of the Microscope. The treatment will be general, excepting in the last lecture when attention will be devoted chiefly to the Polarising Microscope. The lectures will be delivered once a week at the commencement of the Trinity Term.

*For Reference.*—*The Microscope*, Carpenter, edited by Dallinger, 1901; *The Microscope*, Naegeli and Schwendener, translated by Crisp and Mayall.

## 32D.—OPTICAL MINERALOGY.

A course of twelve lectures given in the Trinity Term on the Optical Properties of Minerals. The time will be chiefly spent

in discussing the Phenomena of Double Refraction, both of Uniaxial and Biaxial Minerals.

*For Reference.*—Text-book of Mineralogy, E. S. Dana; Light, Lewis Wright; The Optical Indicatrix, Fletcher; Theory of Light, Preston; Physikalische Krystallographie, Groth; Crystallographie Physique, Soret.

### 32E.—PETROLOGY.

This course, consisting of eighteen lectures, and delivered in the Michaelmas Term, will begin with a discussion of the General Composition, Habits of Occurrence, and Possible Modes of Origin of Igneous Rocks. The Classification of Igneous Rocks will be considered, with special reference to schemes recently proposed, and so far as time permits, the rocks of one or more groups of special interest will be described in detail. The last four lectures will be devoted to the Metamorphic Rocks.

*For Reference.*—Microscopical Physiography of Rock-making Minerals, Rosenbusch, translated by Iddings; Elemente der Gesteinslehre, Rosenbusch; Mikroskopische Physiographie der Mineralien und Gesteine, Vols. I. and II., Rosenbusch; Lehrbuch der Petrographie, Zirkel; Quantitative Classification of Igneous Rocks, Cross, Iddings, Pirsson and Washington; British Petrography, Teall.

Owing to the wide range of the subject, the work of Third Year Students in Geology and Mineralogy is necessarily of a more specialised character than that of elementary students. All Third Year Students are required to take Course No. 32, but the courses on Palæontology (32A) and the courses on Mineralogy (32B, 32D, 32E) taken together may be regarded as alternative. A full course will be either (i.) Stratigraphical Geology (including Australian Geology) and Palæontology, or, (ii.) Stratigraphical Geology (including Australian Geology), together with Crystallography, Optical Mineralogy, and Petrology. Students are at liberty to offer themselves for examination in both Palæontology and Mineralogy, but they will not thereby obtain extra credit. They will be classed by the subject in which they show greater proficiency.

Students in their Third Year will be encouraged to take up some original line of research, either in Palæontology, Mineralogy, Petrology, or Field Geology, and will be credited for such original work, in so far as it is satisfactory, at the Annual Examination.

## PRACTICAL COURSES.

## For Second Year Students.

33. LENT TERM.—(a) Combined lectures and demonstrations on Elementary Crystallography, embracing Structure and Growth of Crystals, Symmetry, use of Contact Goniometer, Millerian Indices, Stereographic Projection, and a systematic survey of the principal Classes of each System. Determination and description of the Physical Properties of Minerals, as Specific Gravity, Lustre, Hardness. etc. Time—Two hours per week.

TRINITY TERM.—(b) A thorough course on the Analysis of Minerals in the Dry Way with such apparatus and reagents as may be conveniently carried in the field. Twenty demonstrations of two hours each.

(c) Demonstrations on the Interpretation of Geological Maps and practice in drawing sections across them. Six demonstrations of two hours each.

(d) Lectures and demonstrations on Elementary Optical Mineralogy. Two hours per week.

MICHAELMAS TERM.—(e) Demonstrations on Petrology, including the determination of rock-forming minerals and description of rocks from hand specimens and with thin sections examined under the microscope. Each student will be required to prepare during the year and to describe six thin sections of rocks from specimens collected by himself.

Students of Arts and Civil Engineering are required to attend courses (a), (c), (d), (e). Students of Science and Mining Engineering attend courses (a), (b), (c) and (e). During the August-September vacation, students of all Faculties usually go into camp for a week or ten days for Field Work. Excursions to places of interest near Sydney are taken on Saturdays as opportunity offers.

Students are expected to provide themselves with a few small pieces of apparatus for the practical courses, most of which can be purchased at the Geological Department. The cost is approximately as follows for the different courses:—(a), 2s.; (b), 15s.; (e), 2s.

## For Third Year Students.

## 33A.—GEOLOGY.

Six demonstrations of two hours each on the Construction and Interpretation of Geological Maps and Sections will be given during the Trinity Term.

## 33B.—PALÆONTOLOGY.

A course of demonstrations in illustration of the lectures on Palæontology will be given during the Lent and Trinity Terms. Time—Two hours per week.

## 33C.—MINERALOGY.

(a) CRYSTALLOGRAPHY.—Instruction is given in the measurement of crystals with the Fuess reflecting goniometer (Model II.), and in projecting and drawing them to scale, during the Lent Term. Time—Six hours per week.

(b) OPTICAL MINERALOGY.—These demonstrations, given in the Trinity Term, are intended to accompany the lectures on Optical Mineralogy. Students are shown how to carry out various experiments illustrating the properties of doubly refracting minerals. Time—Four hours per week.

## 33D.—MICROSCOPY.

These demonstrations enable students to handle microscopes of various patterns, and to learn how to use them to the best advantage. They are also shown how to make numerous experiments illustrating the lectures on the Theory of the Microscope. The course will consist of four demonstrations of two hours each given during the Trinity Term.

## 33E.—PETROLOGY.

This course, given during the Michaelmas Term, will be divided into two nearly equal parts, the first providing instruction in some of the more refined methods of identifying the rock-forming minerals, the second being devoted to the study of a large series of hand-specimens and sections in illustration of the lectures on Petrology. Time—Six hours per week.

Third Year Science students will be expected to spend at least six hours each week at practical work in the department by themselves in addition to the time occupied by the fixed demonstrations.

## BIOLOGY.\*†

## 34.—ZOOLOGY.

A course of fifty lectures, illustrated by specimens and diagrams, and supplemented by occasional demonstrations.

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\* A detailed syllabus of the various courses is to be had from the Registrar.

† See Regulation in reference to Microscopes, page 185.

I. Introduction to Biology. Main divisions of the science.

II. General structure and physiology of animals. *Amæba*. The cell: its structure and multiplication. The ovum and the sperm. Maturation and impregnation. Segmentation. Histology of animals. The various systems of organs, and their principal functions. Reproduction, asexual and sexual. Symmetry.

III. General account of the following phyla with descriptions of representative examples: Protozoa, Porifera, Coelenterata, Platodes, Nemathelminthes, Echinodermata, Annulata, Arthropoda, Mollusca, Chordata.

### 35.—BOTANY.

A course of about thirty lectures.

I. General structure and physiology of plants. Unicellular and multicellular plants. The vegetable cell and its principal modifications. Systems of tissues. Histology of plants. Organs of plants.

II. General account of the following phyla of plants with descriptions of illustrative examples: Thallophyta, Bryophyta, Pteridophyta, Spermaphyta.

III. Physiology of higher plants. Nutrition. Growth. Sources and transformations of energy. Reproduction.

### 36-7.—ZOOLOGY AND COMPARATIVE ANATOMY.

#### ADVANCED COURSES.

Two advanced courses, one on the Morphology and Embryology of the Invertebrata, with laboratory work,† for Science students of the Second Year; the other on the Morphology and Embryology of the Vertebrata, with laboratory work, for Science students of the Third Year.

### 38.—BOTANY—ADVANCED COURSE.

A short course on the Physiology of Plants, with practical work, for Science students of the Second Year.

### 39.—PRACTICAL BOTANY.

A course of practical work on the Morphology of Plants.

The following are studied:—*Protococcus*, *Torula*, *Spirogyra*, *Penicillium*, *Aspergillus* or *Mucor*, *Agaricus*, *Bacterium*, *Desmids*, *Diatoms*, *Cedogonium*, *Vaucheria*, *Hormoseira*, *Marchantia* or *Polytrichum*, *Pteris*, *Pinus*, *Ulmus*, *Zea*, the flowers of various Angiosperms.

## 40.—PRACTICAL ZOOLOGY—ELEMENTARY COURSE.

An elementary course for Medical and Science students of the First Year.

The following animals are studied:—*Paramœcium*, *Vorticella*, *Obelia*, *Nereis*, *Asterina*, *Helix*, *Palinurus*, *Trygonoptera*, *Columba*, *Lepus*.

Students of Medicine and Science of the First Year take 34, 35, 39 and 40. Students of Science of the Second Year take 36 and 38; Third Year 37. Nos. 35, 38 and 39, or Nos. 34 and 40, constitute the Biology for Arts students of the Second and Third Years. Pharmacy students attend No. 35.

## BOOKS RECOMMENDED:

## For First Year Students.

ZOOLOGY.—Thompson's "Outlines of Zoology" or Parker and Haswell's "Manual of Zoology." Reference should also be made to the larger works recommended below for the use of Second and Third Year students. For some parts of the Practical Zoology it will be useful to refer to Marshall and Hurst's "Practical Zoology" and T. J. and W. N. Parker's "Practical Zoology."

BOTANY.—Vines' "Elementary Botany." For reference, Strasburger's "Text-book of Botany." For the Practical Botany, Bower's "Practical Botany for Beginners."

## For Second Year Students.

ZOOLOGY.—Parker and Haswell's "Text-book of Zoology," Vol. I., or Sedgwick's "Text-book of Zoology," Vol. I. For reference, Korschelt and Heider's "Text-book of the Embryology of Invertebrates"; Ray Lankester's "Zoology."

BOTANY.—Vines' "Text-book of Botany." Darwin and Acton's "Practical Physiology of Plants" (2nd ed.).

## For Third Year Students.

Parker and Haswell's Text-book, Vol. II. Marshall's Embryology. Wallace's "Darwinism." Lloyd Morgan's "Animal Life and Intelligence."

## BIOLOGICAL LABORATORIES AND MUSEUM.

The Laboratories, together with the Departmental Museum, are open to students of Biology daily from 9 a.m. to 5 p.m., excepting on Saturdays, when they are closed at 1 p.m., and Sundays and Public Holidays, when they are not opened. The practical teaching is confined to certain stated times, but students are at liberty to work in the Laboratory or the Museum at any time within the limits specified. The accommodation for research work is at present limited, but, so far as practicable, every



encouragement and assistance are given to graduates and others desiring to pursue lines of original investigation on biological subjects.

## HUMAN ANATOMY.

## 41.—DESCRIPTIVE ANATOMY.

## A.—For Medical Students of First Year.

Daily during Michaelmas Term.

Introduction. Various aspects of anatomical study. Methods of study. Nomenclature and Terminology. General characteristics of bodily structure. Preliminary account of human ontogeny. Establishment of rudiments of various bodily systems and organs.

## B.—For Medical Students of Second Year.

Daily during Lent and Trinity Terms.

Systematic description of Integumentary, Osseous, Articular, Muscular, and Vascular systems.

The lectures are illustrated by anatomical preparations, both naked-eye and microscopical, and by dissections, lantern-slides and diagrams.

*Text Books.*—Text Book of Anatomy, edited by D. J. Cunningham. (Morris' Treatise on Anatomy, 3rd Ed., or Gray's Anatomy, 15th Ed., may, if desired, be adopted in place of Cunningham's Text Book.) The Development of the Human Body, by J. P. McMurrich; or, Human Embryology, by Arthur Keith, may be used in the study of the developmental aspect of the science. If a special atlas of illustrations be desired, the Hand Atlas of Human Anatomy, W. Spalteholz, translated by L. F. Barker, will be found most suitable.

*For Reference.*—Quain's Anatomy, 10th Ed.; various sections of Schaefer's Physiology; Minot's Human Embryology; The Cell, by E. B. Wilson; Atlas of Central Nervous System, by Flatau and Jacobson.

## 41A.—DENTAL ANATOMY.

A course of ten lectures upon the Anatomy of the teeth, including their structure and development, will be given during Trinity Term to First Year Students in Dentistry.

*For Reference.*—Tomes' Dental Anatomy.

## 42.—REGIONAL ANATOMY.

## For Medical Students of the Third Year.

Daily during Lent and Trinity Terms.

The special anatomy of the human subject is described topographically, and the descriptions are systematically illustrated by demonstrations upon the dead body.

## 43.—PRACTICAL ANATOMY OR DISSECTIONS.

The dissecting rooms are open daily, to members of the Practical Class only, during all the three terms, from 9 a.m. to 5 p.m., under the supervision of the Professor and Demonstrator. Parts for dissection will be allotted by the Demonstrator. During each of the five terms in which attendance on Practical Anatomy is obligatory in accordance with the University By-laws, every student must be actually engaged in dissection, so far as the allotment of parts renders this at any time possible.

Not less than three hours should be devoted daily to actual work in the dissecting room, where alone a practical familiarity with the macroscopical details of human structure can be acquired.

Credit for having dissected a part will be given only where diligence and attention to the work, and a fair degree of proficiency in actual dissection, have been exhibited. It is necessary to have dissected each "part," at least once, before admission to the Third Year Examination. Prosectors for the Anatomy Classes are selected from among the best dissectors.

*Text Book for Practical Work.*—Cunningham's Manual of Practical Anatomy.

## ANATOMICAL LABORATORY.

The Professor will give all possible assistance to any advanced student or other competent person who may desire to pursue some special study or enter upon some original investigation in Anatomy; provided that, if not a member of the University, the applicant shall make special arrangements with the Registrar.

## 44.—PHYSIOLOGY—JUNIOR AND SENIOR.

These classes include a description of the microscopical anatomy of the tissues and organs of the body, a special account of the Physics and Chemistry of the body, and of the functions of all its various parts.

The course is fully illustrated by experiments, diagrams, models, &c., &c.

## 45.—PRACTICAL PHYSIOLOGY.

Conducted conjointly by the Professor and his Assistants. The work of this class includes:—

- I. PRACTICAL HISTOLOGY.\*—In which each student prepares, examines, and preserves for himself specimens of the tissues and organs of the body. The student is shown all the more important processes in histological work, and, where practicable, performs them himself.
- II. EXPERIMENTAL PHYSIOLOGY.—In this class each student performs for himself, and obtains graphic records of, the simpler experiments dealing with the physiology of muscle and nerve, the circulation and respiration, and the action of various poisons on muscle, nervous centres, heart, &c. He also obtains practical training in the use of those physiological instruments employed in clinical work, *e.g.*, ophthalmoscope, laryngoscope, perimeter, sphygmograph, &c.
- III. PRACTICAL CHEMICAL PHYSIOLOGY.—In which each student makes an examination of the principal proteids, carbohydrates and fats contained in animals and plants. He then examines chemically blood, muscle, milk, bile, saliva, and gastric and pancreatic juices, and performs experiments in artificial digestion with the three latter. After this he proceeds with the qualitative and quantitative (gravimetric and volumetric) analysis of normal and abnormal urine. Special attention is drawn to the clinical bearing of the work.

In these courses the use of the apparatus (except microscope) and of the reagents is *gratis*.

#### 46.—SPECIAL COURSE FOR SCIENCE AND ARTS STUDENTS.

In addition to the above, a Special Course of Instruction will be held for Science and Arts students (at times to be arranged) in which demonstrations will be given in ELEMENTARY PHYSIOLOGICAL ANATOMY.

The course will be illustrated by means of dissections, models, diagrams, microscopical preparations, &c., &c., &c.

*Text Books for Physiology.*—Foster's Text Book of Physiology; Schäfer's Text Book of Physiology; Halliburton's Handbook of Physiology; Waller's Human Physiology; G. N. Stewart's Manual of Physiology; Starling's Elements of Human Physiology; Halliburton's Essentials of Chemical

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\* See Regulation in reference to Microscopes, page 185

Physiology ; Brodie's Essentials of Experimental Physiology ; Quain's Anatomy, or Schäfer's Essentials of Histology and Directions for Class Work in Practical Physiology.

### THE PHYSIOLOGICAL LABORATORY.

The Physiological Laboratory (including the special laboratories for Histology, Experimental Physiology, Physiological Chemistry, and the workshop) is open daily from 10 a.m. to 5 p.m. ; Saturdays, 10 a.m. to 1 p.m.

Junior students are admitted at stated times, and receive instruction from the Demonstrator. Senior students can use the laboratory at any time during Term, and most vacations, by arrangement with the Professor, and are encouraged in the prosecution of original investigations under his direction, and that of the Demonstrator.

Any gentlemen, whether or not members of the University, wishing to undertake any original research in the laboratory, can do so by application to, and arrangement with, the Professor, who will afford suitable investigators every assistance in his power.

### 47.—MATERIA MEDICA AND THERAPEUTICS.

#### MATERIA MEDICA.

Mr. Thomas Dixon, M.B. and Ch.M.

This course will treat primarily of the drugs official in the British Pharmacopœia, and secondarily of the more important non-official, as regards nomenclature, source, chemical and physical properties, active principles, adulterations, means of recognising the latter, and as regards causes of deteriorations and means of preventing them.

The method of collection and the geographical distribution of the plants or animals yielding them will be described.

The course will be illustrated by diagrams, macroscopical and microscopical specimens, and such other means as may prove feasible.

*Text Book.*—Companion to the Pharmacopœia, *Squire* ; *Materia Medica*, *Greenish*.

*For Reference.*—*Pharmacographia*, *Flückiger and Hanbury* ; *Extra Pharmacopœia*, *Martindale and Westcott* ; *Pharmacopœia*, *White and Humphrey*.

THERAPEUTICS.

In this course special attention is devoted to the physiological as well as the therapeutical effects of the various remedial agents, including under the latter the more important substances, whether Pharmacopœial or Extra-Pharmacopœial, obtained from the organic and inorganic kingdoms.

The principles of Dietetics, of Hydrotherapy, of Climato-therapy, and of Massage, as well as those of prescribing, are included within the range of study, and so far as time permits, considered.

Microscopical preparations and other means will be employed where possible in illustrating the lectures.

*Text Books.*—Text Book of Pharmacology and Therapeutics, edited by *Hale White*. *Materia Medica*, *Hale White*.

*Books of Reference.*—Handbook of General Therapeutics, *Von Ziemssen* (7 vols). Guide to the Health Resorts of Australia, Tasmania and New Zealand, *Bruck*. Immunity and Serum Therapy, *Sternberg*. Pharmacology and Therapeutics, *Cushney*. Food and the Principles of Dietetics, *Robert Hutchison*.

For Dental Students.

47A. A series of 20 lectures upon the *Materia Medica* and Therapeutics of bodies employed by dentists will be delivered in Trinity Term.

48.—PRINCIPLES AND PRACTICE OF MEDICINE.

W. Camac Wilkinson, B.A., M.D., Lond.

General observations upon Symptoms, objective and subjective.—Variations of Temperature and of Pulse, and state of Tongue, Skin and Digestive Functions in Disease. Infection and Intoxication. Ptomaine Poisoning. Botulismus. Infection and Infectious Diseases.

A. Septicæmia. Sapræmia. Pyæmia. Erysipelas. Septic Endocarditis. Acute Rheumatism. Furunculosis. Carbuncle. Epidemic Cerebro-spinal Meningitis. Influenza. Diphtheria. Tetanus. Typhoid Fever. Malta Fever. Relapsing Fever. Cholera. Plague. Tuberculosis. Leprosy. Actinomycosis and Madura Foot. Syphilis. Glanders. Anthrax. Malaria. Hæmoglobinuric Fever. Measles. Scarlet Fever. Typhus. Smallpox. Vaccinia. Chickenpox. Mumps. Whooping Cough. Dengue. Yellow Fever. Tropical Diseases. Rabies.

b. Parasitic Diseases. Hydatids. Intestinal and other Worms. General Diseases.

c. Diseases of Organs and Systems.

*Text Books.*—Osler's Medicine; Taylor's Medicine.

#### 49.—PRINCIPLES AND PRACTICE OF SURGERY.

Dr. A. MacCormick.

Introduction—Principles and Practice.

1. HEALTHY NUTRITION.

2. ABERRATIONS FROM HEALTHY NUTRITION.

a. Hypertrophy. b. Atrophy. c. Inflammation.  
d. Traumatism. e. Surgical Diseases. f. Regional Surgery,—injuries and diseases peculiar to parts of the body.

*TEXT BOOKS RECOMMENDED.*—Walsham's Surgery; Rose and Carless' Manual; Cheyne and Burchard's Manual; Treves' Manual of Surgery; MacCormac's Operations; Barker's Manual; Jacobson's Operations of Surgery; Treves' Operations.

#### 50.—MIDWIFERY.

Sir James Graham, M.A., M.D.

Anatomy and Physiology of the several organs and structures connected with Ovulation, Gestation, Parturition, &c.

Gestation, its Signs, Symptoms, Duration and Abnormalities.

The Phenomena of Natural and Complicated Labour.

The Induction of Premature Labour and Obstetric Operations.

The Management of the Puerperal State.

*Text Books.*—Playfair's Manual of Midwifery; The Science and Art of Obstetrics, Parvin; Galabin's Manual of Midwifery; Herman's Difficult Labour.

#### 50A.—DISEASES OF WOMEN.

Mr. J. Foreman, M.R.C.S.

Introductory.

Anatomy of the Female Pelvic Organs.

Diseases of the Vagina.

Diseases of the Uterus and Fallopian Tubes.

Diseases of the Ovaries.

Pelvic Tumours.

*BOOKS RECOMMENDED.*—Galabin's Students' Guide to Diseases of Women; McNaughton-Jones' Manual of Gynæcology (6th edition), Hart and Barbour.

## 51.—PATHOLOGY.\*

Professor D. A. Welsh.

The course will consist of—I. LECTURES; II. DEMONSTRATIONS; and III. PRACTICAL WORK.

I. LECTURES.—The subjects of Lecture will include—

A. General Pathology, or the study of general aetiology and of morbid processes in general, including—

1. Retrograde tissue changes (Atrophy, Degeneration, Necrosis).
2. General tissue reactions and formative processes (Inflammation, Repair, Hypertrophy).
3. Morbid Tumours and New Growths.
4. General circulatory derangements (Arterial and Venous Hyperæmia, Dropsy, Embolism, Thrombosis).
5. The Animal Parasites of Man.
6. Infection, Intoxication, Immunity, including a systematic account of the chief Pathogenic Micro-organisms.

B. Special Pathology, or a systematic study of the more important morbid conditions that may affect the principal organs and tissues of the body, including the Blood and certain correlated structures (Bone Marrow, Lymphoid Tissue, etc.), the Lymphatic System, various Glandular Organs, the Circulatory, Respiratory, Alimentary, Urinary, Nervous, and Osseous Systems.

II. DEMONSTRATIONS.—In illustration of the lectures there will be given at frequent intervals naked-eye, microscopic, and lantern demonstrations. Students are recommended to avail themselves of such opportunities as may be given at the Hospital for the study of morbid anatomy, and of the relation of clinical phenomena to morbid processes.

III. PRACTICAL WORK.—The work of the Practical Class will include—

1. Practical training in some elementary histological and bacteriological methods.
2. A systematic study under the microscope and with the naked eye of certain typical pathological lesions.

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\* See Regulation in reference to Microscopes on page 185.

**SPECIAL COURSE IN BACTERIOLOGY.**—This class will be open to graduates and senior students. It will meet three times a week in Michaelmas Term, at such hour as may be found most convenient, and each meeting will occupy about two hours. Its object will be the practical study of the chief Pathogenic Bacteria.

The course will, therefore, consist mainly of laboratory instruction and demonstrations in (i.) General Technique, including methods of sterilisation, preparation of culture media, methods of isolation and cultivation, methods of staining, separation of bacterial products, inoculation, etc.; and (ii.) the systematic examination of the more important pathogenic bacteria, including their characters under the microscope and in cultivation, the nature of the lesions produced by them, and the means of conferring immunity, etc. Some of the non-pathogenic bacteria may also be studied.

**ORIGINAL RESEARCH.**—Original research in the subjects of Pathology and Bacteriology will be encouraged so far as the limited equipment and accommodation in the Laboratory will permit.

*Text Books.*—The text books prescribed are *Coats's* "Manual of Pathology" (revised by Sutherland), and *Muir and Ritchie's* "Manual of Bacteriology." For further information in Histology, *Woodhead's* "Practical Pathology" may be consulted; in General Pathology, the text books by Thoma (translated by Bruce), by Hamilton, and by Lazarus-Barlow, are worthy of consultation; and most of the pathological articles and descriptions in the recent text books of medicine by Clifford Allbutt, by Gibson, by Osler and by Allechin, will be found of great value and interest.

#### 51A.—FOR STUDENTS OF DENTISTRY.

Students of Dentistry will attend the systematic lectures and demonstrations in General Pathology, including Bacteriology, and the corresponding part of the Practical Class. They will also attend a short course in the special pathology and bacteriology of the mouth and teeth.

**TEXT BOOK PRESCRIBED.**—Goadby's "Mycology of the Mouth."

#### 52A.—MEDICAL JURISPRUDENCE.

Mr. Sydney Jamieson, B.A., M.B., Ch.M.

Aims, objects and scope. Legal criminal procedure. Medical evidence. Death in its medico-legal relations. The examination of the dead body. Medico-legal forms of death. Signs of



death. Identification in the living and the dead. Differential diagnosis of status of insensibility. Wounds. Examination of blood and other stains. Offences against sex. Signs of pregnancy and delivery. Criminal abortion. Infanticide. Insanity. Toxicology.

52B.—PUBLIC HEALTH.

Mr. W. G. Armstrong, B.A., M.B., Ch.M.

PUBLIC HEALTH.—Meteorology—Température, winds, humidity, rainfall, atmospheric pressure, climate. Air—Composition, impurities, ventilation, amount required, natural and artificial ventilation, examination of air. Soil—Ground water, ground air, organic matter in soil, classification of soils. Water—Quantity and supply, quality, impurities, purification, examination of water supplies. Food—Classification of foods, dietaries, preservation of foods, unsound food, diseases caused by food. Sanitary engineering—Dwellings, sanitary defects, disposal of refuse, wet and dry methods, sewers, sewage disposal. Disease—Infectious diseases, history of epidemics, means of prophylaxis, occupational diseases. Vital statistics. The law of public health—Notification, preventive measures, nuisances, insanitary habitations, protection of food supplies.

53.—PSYCHOLOGICAL MEDICINE.

Dr. Chisholm Ross.

This course comprises:—

- I. An account of the Nature, Causes, Classification, Social and Medico-Legal Relations of Insanity.
- II. An account of the various forms of Mental Disease or Disorder; their Clinical History, Diagnosis, Prognosis and Treatment.
- III. Practical demonstrations at the Hospital for the Insane of the various types of Mental Disease or Disorder.

54.—OPHTHALMIC MEDICINE AND SURGERY.

Mr. F. Antill Pockley, M.B., Ch.M.

Diseases and Injuries of the Conjunctiva, Cornea, Sclerotic, Iris and Ciliary Body, and Crystalline lens.

Glaucoma.

Refraction and Accommodation—Emmetropia, Ametropia,

Hypermetropia, Myopia, Astigmatism : Asthenopia.

Examination of the Eye, Ophthalmoscopy.

Affections of the Vitreous Humour, of Optic Nerve, Retina, and Choroid.

Affections of Sight unaccompanied by any definite intra-ocular signs :—Amblyopia and Amaurosis, Colour Blindness, &c.

Perimetry :—Defects in Visual Field, Hemianopsia, &c.

Affections of the Ocular Muscles : Paralysis, Strabismus, &c.

Diseases of the Eyelids and Lachrymal Apparatus.

Operations.

BOOKS RECOMMENDED.—*Text Books*—Handbook of Diseases of the Eye, Swanzy ; Diseases of the Eye, Nettleship ; Diseases of the Eye, Berry.

*For Reference*.—System of Diseases of the Eye, Norris and Oliver.

### 55.—DESCRIPTIVE GEOMETRY.

PLANE GEOMETRY.—Scales. Constructions relating to straight lines, polygons, circles and circular arcs, conic sections, cycloidal curves, involutes and spirals.

SOLID GEOMETRY.—Principles of orthographic projection. Representation of points, lines and planes by their projections and traces. Elementary problems on lines and planes. The determination of the projections of simple solids, under given conditions of position. The interpenetration of given solids. Curved surfaces. Tangent planes. The projection of shadows. Principles of perspective projection. Principles of isometric projection.

A short course on “Graphics” is also included here for the present.

BOOKS RECOMMENDED FOR REFERENCE.—Descriptive Geometry, by A. E. Church ; Descriptive Geometry, by J. Woolley ; Practical Plane and Solid Geometry (Advanced), by Harrison & Baxandall ; Elements of Practical Geometry, by T. Bradley.

### 56.—MECHANISM AND MACHINERY.

56A. FIRST YEAR—ELEMENTARY MECHANISM AND MACHINERY.—The science of mechanism. History of the development of machinery. Definition of a machine. Plane motion. Constraint of plane motion. Virtual motion in mechanisms. Relative velocities in mechanisms. Spur-wheel trains. Various profiles for wheel-teeth. Epicyclic gearing. Cam trains.

BOOKS RECOMMENDED FOR REFERENCE.—Kennedy's Mechanics of Machinery ; Durey's Kinematics of Machines ; Perry's Applied Mechanics ; Unwin's Machine Design, Part I.

56B. SECOND YEAR—THE MECHANICS OF MACHINERY.—A course of about 20 lectures, dealing with various problems in machine dynamics, etc.

BOOKS RECOMMENDED FOR REFERENCE.—Cotterill's Applied Mechanics; Kennedy's Mechanics of Machinery; Perry's Applied Mechanics; Worthington's Dynamics of Rotation; Church's Mechanics of Engineering.

#### 57.—APPLIED THERMODYNAMICS.

57A. SECOND YEAR—LENT TERM—ELEMENTS OF THERMODYNAMICS.—A preliminary course of 20 lectures, including a brief sketch of the history of the development of heat motors.

57B. SECOND YEAR—TRINITY TERM—THE STEAM ENGINE AND OTHER HEAT ENGINES.—Proportions and details of various types of engine. The design of valve gears. Use of the indicator. Efficiency of the steam engine. Compounding, superheating and steam jacketing.

The generation of steam. Boilers and their fittings.

The use of compressed air.

Refrigerating machines. Description of the principal types.

Air, gas and oil engines. Internal and external combustion.

Use of the regenerator.

Methods of testing engines and boilers.

NOTE.—All students taking this course are required to attend a series of systematic engine-tests.

BOOKS RECOMMENDED FOR REFERENCE.—Thurston's History of the Steam Engine; Ewing's Steam Engine; Perry's Steam Engine; The Steam Engine Problem, by S. H. Barraclough; Thurston's Manual of the Steam Engine; Boulvin's The Entropy Diagram and its Applications; Carpenter's Experimental Engineering; Unwin's Machine Design, Parts I. and II.; Whitham's Constructive Steam Engineering; D. K. Clarke's Tables and Memoranda; Trail on Boiler Construction.

57C. THIRD YEAR—ADVANCED COURSE ON HEAT ENGINES.—A course of about 30 lectures, with special exercises and problems, accompanied by a considerable amount of directed reading on the part of the student.

#### 58.—MATERIALS AND STRUCTURES.

58A. FIRST YEAR—PRELIMINARY COURSE ON MATERIALS AND STRUCTURES.—The behaviour of materials when subjected to tensile, compressive, transverse, shearing and torsional stresses in testing machines. The various methods used for ascertaining the stresses in structures. Bending moments and shearing stresses in

beams and girders. Moments of resistance, and their determination by graphic and analytical methods. The stresses in simple braced structures, such as roofs and lattice girders. The endurance of materials and the determination of the safe working stresses in structures. The design of simple structures, such as beam bridges of timber, cast-iron and wrought-iron, girders, roof trusses and lattice girders.

BOOKS RECOMMENDED.—Shelley's Workshop Appliances; Unwin's Machine Design; Engineering Construction in Iron, Steel and Timber, by Prof. Warren, published by Longmans.

58B. THIRD YEAR.—The calculation of stresses in braced structures for fixed and moving loads.

The design of roofs, girders, trusses and pit heads, masonry arches, retaining walls, dams, piers. Foundations and temporary works in connection with Engineering Structures.

58c. Theory of long columns. Equations of slope and deflection of discontinuous and continuous beams. The deflection of bridges. Redundant structures. Swing and other movable bridges. Arched, suspension and cantilever bridges.

Design of foundations for bridge piers and abutments. Steel construction in connection with high buildings.

BOOKS RECOMMENDED FOR REFERENCE.—Engineering Construction in Iron, Steel and Timber, by Professor Warren (Longmans); Rankine's Applied Mechanics and Civil Engineering; Weyrauch on the Structure of Iron and Steel; Unwin's Testing of Materials; Johnson's Materials of Construction; Ritter on Iron Bridges; Lanza's Applied Mechanics; The Strains in Framed Structures, by Dubois; R. H. Smith's Graphics; Clarke's Graphic Statics; Burr's Stresses in Bridges and Roof Trusses; Claxton Fidler's Practical Treatise on Bridge Construction; Report of the New South Wales Railway Bridges Inquiry Commission; Johnson's Theory and Practice of Modern Framed Structures; Baker's Masonry Construction; Patton's Foundations, published by Wiley and Son.

#### 59.—CIVIL ENGINEERING.

59A. SECOND YEAR—PRELIMINARY COURSE IN ENGINEERING CONSTRUCTION.—The location of Roads, Railways, and Pipe Lines, and the preparation of the necessary plans and sections. Earthworks, cuttings and embankments. Waterways and Culverts. Timbering. Tunnelling. Storage and other Reservoirs. Tanks, dams, water courses and conduits.

59B. HYDRAULIC ENGINEERING.—The water supply of towns, and the design and construction of the various works required in connection therewith.

**SANITARY ENGINEERING.**—Various systems of sewerage. House drainage. Construction of Sewerage Works. Sewage disposal. Destructors and dessicators.

**HARBOUR ENGINEERING.**—Description and classification of the principal harbours. The design and construction of breakwaters and harbour works, docks, &c.

**RIVERS AND CANALS.**—The design and construction of the various works in connection with river improvements. Ship canals, &c.

**59C. RAILWAY ENGINEERING.**—The design and construction of railway works.

Permanent way. Signals. Points and crossings. Interlocking systems.

Passenger and Goods Stations.

Locomotives. Rolling stock. Brakes. Couplings and other railway appliances.

The construction of roads and streets. Paving of carriage ways.

**BOOKS AND PAPERS RECOMMENDED FOR REFERENCE.**—Humber's Water Supply; the Manchester Waterworks, by Bateman; Spon's Dictionary; Waring's Sewerage and Land Drainage; Sewage Disposal, by W. Santo Crimp; Stevenson's Harbours and Docks; Stevenson's Rivers and Canals; Vernon Harcourt's Civil Engineering; Vernon Harcourt's Harbours and Docks; Vernon Harcourt's Rivers and Canals; the Proceedings of the Institution of Civil Engineers, and also of the American Society of Civil Engineers; the various reports of Sir John Coode; the various reports on the Sewerage of the principal towns of Australia; Roads and Streets, by D. K. Clark; Barry's Railway Appliances; Gribble's Preliminary Surveys and Estimates; Wilcocks' Egyptian Irrigation. Buckley's Irrigation Works in India. Students are expected to read the current numbers of the various Engineering Journals.

## 60.—TRANSMISSION OF POWER.

Sources of energy. Discussion of the general problem of power transmission. Determination of most efficient types of engines, boilers and hydraulic motors in particular cases. Design and construction of power stations. Hydraulic, pneumatic and electrical transmission of power. Wire rope transmission. Consideration of typical plants for the generation and transmission of electrical energy. Long distance power transmission.

**BOOKS RECOMMENDED.**—Unwin's Development and Transmission of Power; Bell's Electric Power Transmission.

## 61.—ELECTRICAL ENGINEERING.

61A.—THIRD YEAR.—Lighting; construction and operation of incandescent and arc lamps; interior wiring; design and construction of accessories; distribution; aerial lines; underground mains; testing; design, construction and operation of direct current machinery; switchboards; secondary batteries.

61B.—FOURTH YEAR.—Location, design and construction of central electric supply stations; traction, overhead and truck construction, car equipment, special features of machinery; design, construction and operation of alternating current machinery.

## 62.—MECHANICAL DRAWING AND DESIGN.

62A.—*Lecture Courses.*—FIRST YEAR.—Preliminary course: Use of instruments. Fundamental principles. Machine details. Pulleys. Hangers. Brackets. Shaft-couplings. Riveted joints.

SECOND YEAR.—General descriptive course: Design of lifting and hoisting machinery. Pumps. Machine tools.

THIRD YEAR.—Advanced course in the design of Prime Movers for students in Mechanical and Electrical Engineering.

62B.—*Practical Courses.*—FIRST YEAR.—Lettering and printing. Preparation of tracings. Problems in Descriptive Geometry. Graphic Statics. Design of machine details and the simpler machine tools.

SECOND YEAR.—Machine tools. Hydraulic machinery. Valve diagrams.

THIRD YEAR.—Design of Structures (for students in Civil and Mining Engineering). Design of Prime Movers (for students in Mechanical and Electrical Engineering). Design of Mining Plant (for students in Mining).

FOURTH YEAR.—Design of Electric Generators and Motors. Power Stations. Electrical Appliances.

In their final year students are required to prepare an original set of working drawings and specifications having reference to the particular subjects which they have taken up in that year.

## 63.—SURVEYING.

The course consists of lectures and field demonstrations. Students are also required to make surveys for themselves, and to undertake the whole of the necessary computations, to prepare

plans and drawings, etc., and to make and reduce astronomical observations.

The lectures treat of the history and development of the art of land, engineering, mining, hydrographical and hydraulic, and geodetical surveying, and astronomical operations in connection therewith.

The general mathematical theory, including the applications of the theory of probability (least squares, etc.), is discussed in the light of the physical and economic limitations to which practical survey operations are subject. The mathematical theory of surveying instruments and of their use, the practical elimination of avoidable error, the general scheme of numerical computation, and the application of graphic methods in regard thereto, together with typical problems which present themselves in survey, are among the subjects considered in the lectures.

Cartography is discussed in regard to its general conventions, the theory of plan drawing and map construction. The important projections in relation thereto are outlined. The special features of hydrographic surveying, including the observation and reduction of tidal phenomena, hydraulic surveying, the general mathematical theory of the flow of water under different circumstances, constitute part of the ordinary course for all students.

In mining surveying, the special characteristics, instruments, and problems that arise in connection with survey operations in various mines, and with the determination of the strike, dip, and intersection of geological strata, the direction of bores, etc., are the subject matter of the lectures.

Part of the course is common to all students.

[NOTE.—Should a sufficient number of applications be received for other branches of surveying, such as military, quantity, and agricultural surveying, the magnetic survey of a territory, higher geodesy, and higher geodetical astronomy, special arrangements will be made by the lecturer to give a course thereon.]

BOOKS RECOMMENDED FOR REFERENCE.—Johnson's Theory and Practice of Surveying; Jackson's Aid to Survey Practice; Bauernfeind's Elemente der Vermessungskunde; Jordan's Handbuch der Vermessungskunde; Wilson's Topographic Surveying; Downing's Hydraulics; Ganguillet's and Kutter's Flow of Water in Rivers and Channels; Merriman's Hydraulics; Bovey's Hydraulics; Robinson's Marine Surveying; Hawkins' Astronomy

(Elementary); Chauvenet's Spherical and Practical Astronomy (Advanced); Doolittle's Astronomy; Clarke's Geodesy; Gore's Elements of Geodesy; Merriman's Least Squares; Wright's Adjustment of Observations; Brough's Mine Surveying; Lupton's Mine Surveying.

### 63 — THE ENGINEERING LABORATORY.

The Engineering Laboratory is fitted with apparatus for systematic instruction in the experimental methods which are used to determine the physical constants of the chief materials of construction and the numerical data employed in engineering calculations. The Laboratory is provided with a Buckton testing machine, capable of exerting a force of 100 tons, especially arranged for accurate tests of large sized specimens such as beams and columns; also with a Greenwood and Battey machine of 100,000 pounds capacity, both being connected to an accumulator, and provided with various descriptions of apparatus for measuring strains, autographic recording apparatus, micrometers, verniers, &c., including a complete outfit of Marten's mirror extensometers. Both machines are adapted for testing in tension, compression, crossbreaking and torsion. An impact testing machine and various pieces of apparatus for testing cements, wire, the lubricating values of oils, and the calorimetric value of fuels. An experimental compound condensing engine and locomotive boiler, provided with indicators, brakes, calorimeters, and all necessary apparatus for testing the efficiency under various conditions of working. A Stockport gas engine, and a Crossley gas engine fitted with starter. Apparatus for the determination of the friction with materials of the form and with the velocities common in engineering work, the measurement of the energy spent in driving machines, and the useful work done by them. Continuous current and three-phase alternating current generators. Continuous current and induction motors. Three phase transformer. Switchboards, and instruments necessary for testing purposes.

The following are the regular courses of laboratory instruction, and the number of hours indicated is the minimum time which students are required to spend in the Laboratory.

Special arrangements can be made for advanced students who desire to carry out special investigations.

63A. FIRST YEAR—PRELIMINARY COURSE FOR ALL STUDENTS.—Experimental Statics. Velocity Ratios and Efficiencies. Testing of Materials. Modulus of Elasticity. Deflection of Beams.—30 hours.



63B. SECOND YEAR—CIVIL AND MINING ENGINEERING STUDENTS.—Experimental Dynamics. Moments of Inertia. Moduli of Rigidity. Efficiency of Machines. Brake Tests of Hydraulic Motors.—60 hours.

63C. SECOND YEAR—MECHANICAL AND ELECTRICAL ENGINEERING STUDENTS.—A similar course to 63B, but more extended.—90 hours.

[NOTE.—All students are required in addition to Courses 63B or 63C to carry out a series of Engine and Boiler tests during their second year.]

63D. THIRD YEAR—CIVIL ENGINEERING STUDENTS.—Advanced testing of properties of materials, including iron, steel, timber, cement, Monier work, etc. Investigations in hydraulics.—120 hours.

63E. THIRD YEAR—MECHANICAL AND ELECTRICAL ENGINEERING STUDENTS.—Advanced testing of heat motors, and thermodynamic investigations. Electrical Engineering measurements. Efficiency of combined plants.—120 hours.

63F. FOURTH YEAR—MECHANICAL AND ELECTRICAL ENGINEERING STUDENTS.—Advanced Electrical Engineering measurements. Tests of continuous current, single phase and polyphase generators and motors, induction motors, rotary converters, and static transformers. Investigation of the performance of combined plants for the generation and utilization of electrical energy.—180 hours.

#### 64.—ARCHITECTURE.

HISTORY OF ARCHITECTURE, illustrated by photographs and drawings; and BUILDING CONSTRUCTION, illustrated by diagrams and drawings, and samples of materials.

HISTORY OF ARCHITECTURE.—The historical evolution of design in buildings from the earliest times to the present day, embracing Egyptian, Assyrian, Grecian, Roman, Romanesque, Byzantine, Saracenic, Gothic, Renaissance and Modern work.

BOOKS RECOMMENDED.—History of Architecture, by Fergusson (4 vols.)  
A History of Architecture, by Banister Fletcher (1 vol.)

BUILDING CONSTRUCTION.—Description of the nature and proper utilisation of building materials, and of the modes of construction adopted in the various building trades.

BOOKS RECOMMENDED.—Building Construction, Rivingtons (vols. 1, 2, 3); Building Construction, Elementary Course, by Chas. F. Mitchell; Building Construction, Advanced Course, by Chas. F. Mitchell; Practical Building Construction, by J. P. Allen.

## 65.—MINING.

1. Valuable mineral deposits. Circulation of water. Fault rules. Forms of deposits. Rich parts of veins. Genesis of mineral veins. Description of different kinds of deposits. Classification of deposits. Chemistry of deposits, solvents, precipitants. Different kinds of valuable mineral deposits, their mode of occurrence. Assorted minerals, their value and the uses to which they are put.

2. Prospecting, or the search for minerals.

3. Boring, and the appliances used in connection therewith.

4. Laying out mines, shafts, stopes, winzes, rises, adits, drives, cross-cuts, etc.

5. Breaking ground. Hand tools, rock drills, channeling machines, coal cutters, wire saws, steam diggers, dredges. Explosives and their use in blasting.

6. Supporting excavations by timbering, masonry, or metallic supports. Pneumatic method. Freezing method. Filling.

7. Methods of extracting minerals. Quarrying, ground sluicing, hydraulic sluicing, extraction through bore holes, caving, stoping, longwall, pillar and stall, etc.

8. Haulage vehicles. Self-acting incline engine plane. Main and tail ropes. Endless rope. Aërial ropeway. Transport by shoots and pipes.

9. Hoisting. Windlass, whip, whim. Pit-head frame. Ropes, chains and attachments. Safety appliances. Buckets, skips and cages. Keps. Signalling.

10. Travelling. Steps, ladders. Man engines. Buckets. Cages. Trucks.

11. Drainage. Dams, surface and underground. Various means of lifting water.

12. Ventilation. Gases met with in mines. Natural ventilation. Artificial ventilation. Measuring and testing air.

13. Illumination of mines. Candles, oil lamps, electric lights.

14. Accidents. Common causes of accidents.

15. Mine management. Books to be kept. Employment of labour. Assay plans. Mine stores. Reports.

16. Mine examination. Points to be considered. Sampling mines. Valuation of mines. Financial problems.

17. Legislation affecting mining.

18. Ore dressing. Desiccation. Crushing, separation, sizing. Classification, concentration. Conveyors. Special methods. Trees. Weighing. Sampling. Disposal of produce.

*Text Books.*—A Treatise on Ore Deposits (J. A. Phillips and H. Louis); Ore and Stone Mining (Dr. C. Le Neve Foster); Colliery Manager's Handbook (C. Pamey); Ore Dressing (R. H. Richards). The following books may also be consulted:—The Mineral Resources of New South Wales (E. F. Pittman); Genesis of Ore Deposits (Posepny, van Hise, Weed and others); Economic Mining (C. G. W. Lock); A Practical Treatise on Hydraulic Mining in California (A. J. Bowie); Mine Timbering (J. Storms); Mine Drainage, Pumps, etc. (H. Behr); A Text Book of Coal Mining (H. W. Hughes); Well Boring for Water Brine and Oil (C. S. Isler).

#### 66.—SURGICAL DENTISTRY.

(a) SPECIAL DISEASES OF THE TEETH.—Eighteen lectures.

Mr. R. Fairfax Reading, M.R.C.S., &c.

1. Surgical Anatomy of the Teeth, Temporary and Permanent.

2. Extraction—Instruments to be used.

3. Accidents during and after extraction. Hæmorrhage. Position when under anæsthetics and special instruments required.

4. Condition of Teeth and Jaws at Birth.

5. Temporary Dentition and its Complications.

6. Permanent Dentition—Dates of eruption. General characters. Modifications.

7. Abnormalities—Syphilitic. Stomatitic. Supernumerary. Geminated. Dilacerated.

8. Caries—Definition. Literature. Etiology. Terminations. Complications. Sequelæ. Treatment, preventive and curative.

9. Diseases of the Pulp—Hyperæmia. Acute and Chronic Inflammation. Exposure. Gangrene. Polypus. Calcification.

10. Abscess—Position. Etiology. Varieties. Sequelæ.

11. Diseases of the Pericementum—Acute and Chronic Septic pericementitis. Non-septic pericementitis. Salivary Calculus.

12. Pyorrhœa Alveolaris—Etiology. Diagnosis. Prognosis. Literature.

13. Tumours—Dental Cyst. Odontome. Epulis.

14. Reflex Disorders of Dental Origin—Neuralgia. Trismus. Ophthalmic.

15. Injuries—Fracture of Alveolus. Dislocation. Accidental Extraction. Infection of Wound.

- 16. Replantation. 'Transplantation. Implantation.
- 17. Fracture of Jaw—Treatment of loose fragments and broken teeth. Splints. Operative treatment.
- 18. General Hygiene of the Mouth and Teeth in relation to Health.

(b) CLINICAL DENTAL SURGERY.—Twenty-five lectures.

Mr. N. V. Pockley, D.D.S.

- 1. The Teeth—Definition, nomenclature, structure, form, surfaces, arrangement.
- 2. Sterilisation—Mouth, hands, instruments, &c.
- 3. Examination of the Teeth—Appliances, methods, removal of deposits, separating, records, &c.
- 4. Stages of Caries—Superficial, moderate, deep.
- 5. Exclusion of Moisture—Appliances, methods.
- 6. Preparation of Cavities—Opening, removing decay, shaping, sterilising.
- 7. Classification of Cavities—Simple cavities on exposed surfaces.
- 8. Classification of Cavities—Simple approximal cavities.
- 9. Classification of Cavities—Compound cavities.
- 10. Root Canals—Forms, treatment, filling.
- 11. Filling Materials—Gold, tin, amalgam, cement, gutta percha.
- 12. Cavity Linings—Indications for, materials.
- 13. Filling Cavities with gold and tin.
- 14. Filling Cavities with plastic materials.
- 15. Combination fillings.
- 16. Matrices—Forms, uses, dangers.
- 17. Porcelain inlays.
- 18. Bleaching of discoloured teeth.
- 19. Care and treatment of deciduous teeth.

(c) CROWN AND BRIDGE WORK.

Mr. W. Septimus Hinder, D.D.S.

For Second Year Students.

- 1. History, definition and application.
- 2. Materials and instruments required.
- 3. Selection of cases for crown work.

4. Treatment and preparation of roots for reception of the various forms of pivot crown.
5. Construction and mounting of porcelain and facing crowns.
6. Preparation of teeth for the adjustment of hollow metal crowns.
7. The hollow metal crown.
8. Porcelain faced hollow metal crown.
9. Seamless crowns.
10. Principles involved in the selection of cases for bridge work.
11. Construction and fitting of the various forms of fixed bridges.
12. Application to special cases.
13. Removable bridges.
14. Material and various methods employed in setting crown and bridge work.
15. The manufacture of solder porcelain as applied to crown and bridge work.
16. General principles.
17. The various kinds of porcelain bodies, their composition and fusing points.
18. Manipulation of the body.
19. The construction of porcelain crowns.

#### METAL WORK.

1. The Laboratory—The equipment and arrangement.
2. Moulding and carving porcelain teeth.
3. The making and preparation of plaster models.
4. Appliances and forces utilised as a means of attachment.
5. Metallic dies and counter dies, moulding.
6. Swaged metallic plates.
7. Combination dentures.
8. Cast metal dentures.
9. Continuous gum dentures.
10. Hygienic relations.

## 67.—MECHANICAL DENTISTRY.

(a) RUBBER AND CLEFT PALATE WORK.—Twenty lectures.

Mr. H. S. Du Vernet, D.D.S.

First and Second Year Students.

VULCANITE.—Preparation of the mouth. Method of taking impressions, impression trays. Materials used in taking impressions. Models. Articulators and Articulation. Plate retention. Teeth for different temperaments. Vulcanizable rubber and vulcanizing. Repairing a vulcanite plate.

CELLULOID.—Description of celluloid, and the making of special models. Method of flasking and heating. Repairing a celluloid plate.

CLEFT PALATE.—Hare lip, cleft of hard palate, cleft of soft palate. Treatment of mouth before taking the impression. Models. History of obturators, different kinds. Simple obturators, vela. Difficult cases and their treatment explained.

(c) IRREGULARITIES OF THE TEETH.—Twenty lectures.

Mr. A. H. MacTaggart, D.D.S.

For Second and Third Year Students.

1. Regularity and Irregularity defined.
2. Etiology.
3. Evils associated with Irregularity.
4. Advisability of correction and age at which to begin.
5. Movements to be produced.
6. Physiology of tooth movement.
7. Materials and methods.
8. Appliances.
9. Simple forms of Irregularity and their treatment.
10. Complicated forms of Irregularity and their treatment.
11. Relating to the correction of Irregularities as between dentist and patient.

*Text Books Recommended.*—Essig's and Kirk's American Text Books; Tomes and Burchard; Richardson's Mechanical Dentistry; Kingsley's Oral Deformities; Evans' Crown and Bridge Work; Guilford's Orthodontia; Farrar's Irregularities; Dental Metallurgy, E. A. Smith (Churchill & Co.)

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## FACULTY OF LAW.

The following Regulations have been passed by the Senate:—

1. A Class Examination shall be held at the end of each term by each member of the Teaching Staff in the subject matter of his lectures for the Term, and a report of the results of each examination shall be forwarded to the Registrar to be laid before the Faculty.

2. Every candidate for the degree of LL.B. shall be required to produce certificates from the Lecturer in Procedure and the Lecturer in Equity that he has during his law course attended in court and taken a satisfactory note of such cases as shall be approved of by the said lecturers.

## LECTURE AND EXAMINATION SUBJECTS FOR THE DEGREE OF LL.B.

## 65.—JURISPRUDENCE, LEGAL HISTORY, AND THE ELEMENTS OF POLITICAL SCIENCE.

This subject will include:—(1) An examination into the nature and relation of certain fundamental legal conceptions, together with a sketch of their historical development; (2) The outlines of English legal history; and (3) The elements of political science.

Students are recommended to read—Holland, "Elements of Jurisprudence"; Austin, "Jurisprudence" (Student's edition), Introduction and Part I., ch. 1, 5, 6, and 11; Maine, "Ancient Law"; Carter, "History of English Legal Institutions"; and Sidgwick, "Elements of Politics." Reference may also be made to the following works, and especially to such parts thereof as may be indicated in the lectures:—Austin, "Jurisprudence" (Student's edition), Parts II. and III.; Pollock, "First Book of Jurisprudence"; Maine, "Early Institutions," "Early Law and Custom," and "Village Communities"; Jenks, "Law and Politics in Middle Ages"; Bryce, "Studies in History and Jurisprudence"; Bentham, "Theory of Legislation" (by Dumont); Farrer, "The State in relation to Trade"; and Jevons, "The State in relation to Labour."

## 66.—ROMAN LAW.

This subject will include:—(1) The history of the sources of Roman Law, together with an account of the administrative and

judicial organisation of the Empire under Constantine, and a sketch of the subsequent history and influence of Roman Law; (2) The text of the Institutes of Justinian (omitting iii. 1 to 12, and iv. 6 to end); and (3) The general principles of Roman Law, so far as these are treated of in the Institutes of Justinian.

Students are recommended to read—Hunter, "Introduction to Roman Law" (and thereafter); Moyle, "The Institutes of Justinian" (and commentary). Reference may also be made to Hunter, "Roman Law in the order of a Code," and Sohm, "The Institutes of Roman Law" (translated by J. C. Ledley).

#### 67.—CONSTITUTIONAL LAW.

This subject will include:—(1) An account of the general features of the British Constitution, and especially of those which are essential to a proper understanding of the imperial factors in Australian government; (2) A more particular account of the constitution and government of the Commonwealth; and (3) An account of the history and of the present institutions of the government of the State of New South Wales.

Students are recommended to read the following text-books and statutes:—Dicey, "Introduction to the study of the Law of the Constitution"; Anson "The Law and Custom of the Constitution" (Vol. I., ch. 1, 2, 3, 4, 5, 6, 8 and 10, except S. 4); Thomas "Leading Cases in Constitutional Law"; Webb, "Imperial Law" (ch. 3); Jenks, "History of the Australian Colonies," The Commonwealth of Australia Constitution Act, 1900, together with other Acts and Instruments relating to the Government of the Commonwealth; The Constitution Statute (18 and 19 Vict. c. 54) and "The Constitution Act, 1902"; together with other Acts and Instruments relating to the Government of New South Wales. Reference should also be made to the following works:—Anson, "Law and Custom of the Constitution" (Vol. I.); Quick and Garran, "Commentaries on the Commonwealth of Australia Constitution Act"; Moore, "The Constitution of the Commonwealth of Australia"; and especially to such statutes and cases as may be indicated in the lectures.

#### 68.—INTERNATIONAL LAW, PUBLIC AND PRIVATE.

This subject will include:—(1) An account of the nature, history and sources of Public International Law; (2) An account of the rules generally accepted as determining the conduct of States both in their normal relations, in the relation of war, and in the relation of neutrality; and (3) An account of the general principles of Private International Law or the Conflict of Laws.

Students are recommended to read:—Hall, "Treatise on International Law"; Cobbett, "Leading Cases and Opinions on International Law"; and Foote, "Private International Law." Reference should also be made



to the following works:—Lawrence, “Principles of International Law,” and Dicey, “Digest of the Law of England with reference to the Conflict of Laws”; and especially to such statutes and cases as may be indicated in the lectures.

**69.—THE LAW (in force in New South Wales) RELATING TO CONTRACTS, MERCANTILE LAW, TORTS, CRIMES AND DOMESTIC RELATIONS.**

The lectures on this subject will comprise:—An account of the law in force in New South Wales with respect to (1) Contracts generally; (2) Mercantile Law (including Negotiable Instruments, Partnership, Insurance, Carriage and Mercantile Agency); (3) Torts, and obligations arising from civil wrongs at common law; (4) Crimes, including offences punishable summarily; and (5) Domestic Relations and Lunacy.

Text-books and Statutes:—Anson, “The Law of Contract”; Stevens’ “Elements of Mercantile Law,” Part II., together with the cases of *Lickbarrow v. Mason* and *Miller v. Race* (with notes), from Smith, “Leading Cases at Common Law”; Pollock, “The Law of Torts”; Kenny, “Outlines of Criminal Law”; Kenny, “Selection of Cases illustrative of Criminal Law”; Stephen, “Commentaries,” Book III.; together with the following statutes (with commentaries where indicated)—The Claims against the Government, etc., Act, 1897; The Employers Liability Act, 1897; The Defamation Act, 1901; and the Crimes Act, 1900 (Hamilton and Addison). Reference should also be made to other statutes (see appended list) and decisions relating to these subjects, and especially to such statutes and decisions as may be indicated in the lectures.

**70.—THE LAW OF PROPERTY AND PRINCIPLES OF CONVEYANCING (as in force in New South Wales).**

The lectures on this subject will comprise:—(1) An introductory course dealing with the general principles of the Law of Property, as regards the nature, creation, transfer and devolution of estates and interests that may be held in real and personal property in New South Wales; and (2) A more advanced course on the system of Conveyancing in vogue in New South Wales, with respect both to interests in land (whether held under a Common Law Title or under the Real Property Act) and interests in personality.

Text-books and Statutes:—Williams, “Principles of the Law of Real Property,” omitting Part III.; Williams, “Principles of the Law of Personal Property,” omitting Part II., ch. 4 and 6 (Students are advised to study these text-books in conjunction with Millard, “Appendix to Real Property,” and Millard, “Personal Property”); Jenks, “Modern Land Law”; Hogg, “Hints on the Law and Practice of Conveyancing in New South Wales”; together with the following statutes (with commentaries where indicated)—

The Conveyancing and Law of Property Act, 1898; The Conveyancing and Law of Property (Supplemental) Act, 1901; The Wills, Probate and Administration Act, 1898; The Landlord and Tenant Act, 1899; The Forfeiture of Leases Act, 1901; The Registration of Deeds Act, 1897; The Real Property Act, 1900 (Canaway); The Married Women's Property Act, 1901; The Inheritance Act, 1901; and the Limitations of Actions Act 3 and 4, Will. IV., c. 27 (adopted by 8 Will. IV., No. 3); The Dedication by User Limitation Act, 1902; The Bills of Sale Act, 1898; The Bills of Sale (Amendment) Act, 1903; The Lien on Crops and Wool and Stock Mortgages Act, 1898; The Trade Marks Act, 1900; The Patents Act, 1899; The Patents Act, 1903 (Federal); and the Copyright Act, 1879 (to be consolidated). Reference should also be made to Prideaux, "Dissertations on the Law and Practice of Conveyancing," and to other statutes (see appended list) and decisions relating to these subjects, and especially to such statutes and decisions as may be indicated in the lectures.

71.—PROCEDURE IN CIVIL AND CRIMINAL CASES (both before the Supreme Court in its Common Law Jurisdiction, and also before Courts of Inferior Jurisdiction), together with THE LAW OF EVIDENCE AND PLEADING AND THE CARDINAL RULES OF LEGAL INTERPRETATION (as in force in New South Wales).

The lectures on this subject will comprise:—An account of (1) The system of procedure in vogue in Civil and Criminal Cases at Common Law both before the Supreme Court and Courts of inferior jurisdiction; (2) The principles of the Law of Evidence; (3) The principles of Pleading; and (4) The more important rules relating to Legal Interpretation.

Text-books and Statutes:—Smith, "Action at Law"; Best, "The Principles of the Law of Evidence"; Stephen, "The Principles of Pleading in Civil Actions"; Beal, "Cardinal Rules of Legal Interpretation"; the *Duchess of Kingston's Case*, with notes, from Smith's "Leading Cases"; together with the following statutes (with commentaries where indicated)—The Interpretation Act of 1897; The Acts Interpretation Act, 1901 (Federal); The Claims against the Government Act, 1897; The Contractors' Debts Act, 1897; The Evidence Act, 1898; The Small Debts Recovery Act, 1899; The Common Law Procedure Act, 1899 (Rolin and Innes); The Attachment of Wages Limitation Act, 1900; The Witnesses Examination Act, 1900; The Crimes Act, 1900, Parts XI., XII., XIII., XIV. (caps. 1 and 4), XV. and XVI. (Hamilton and Addison); The Supreme Court Procedure Act, 1900; The Supreme Court and Circuit Courts Act, 1900; The District Courts Act, 1901 (Foster and Bonthorne); The Judgment Creditors Remedies Act, 1901; The Interstate Debts Recovery Act, 1901; The Jury Act, 1901, Parts VII., IX., X., XI., XII. and XIII.; The Interpleader Act, 1901; The Prohibition and Mandamus Act, 1901; The Arrest on Mesne Process Act, 1902; The Justices Act, 1902 (Wilkinson, Australian Magistrate); The General Legal Procedure Act, 1902; The State Laws and Records Recognition Act, 1901 (Federal); and The Service and Execution of Process Act, 1901 (Federal). Reference should also be made to other statutes (see appended list) and decisions relating to these subjects, and especially to such statutes and decisions as may be indicated in the lectures.

72.—EQUITY AND COMPANY LAW; THE LAW RELATING TO BANKRUPTCY, PROBATE AND DIVORCE (as in force in New South Wales); TOGETHER WITH PROCEDURE IN THOSE JURISDICTIONS.

The lectures on these subjects will comprise:—(1) An account of the general principles of Equity and Company Law, together with Equity Practice; and (2) A series of shorter courses on each of the following—(a) the Law and Practice in Bankruptcy, (b) the Law and Practice in Probate, and (c) the Law and Practice in Divorce.

Text-books and Statutes:—"Principles of Equity" (Snell or Ashburner), together with the cases of *Russell v. Russell*, *Bassett v. Nosworthy* and *Penn v. Baltimore*, with notes, from *White and Tudor's Leading Cases in Equity*; *Williams'*, "Personal Property," Part II., ch. 4 (Bankruptcy), and ch. 6 (Companies) (a short summary of the local law on these two subjects will be found in *Millard*, "Personal Property," pp. 127-166 and 192-218); *Walker and Elgood*, "Executors and Administrators"; *Dixon*, "Law of Divorce" (omitting parts relating to practice); together with the following statutes (with commentaries where indicated)—The Equity Act, 1901 (*Rich, Newham and Harvey*); The Companies Act, 1899 (in default of a more recent commentary students are advised to refer to the notes contained in *Rolin and Rich* on the corresponding provisions of the Acts of 1874 and 1888, and the No Liability Mining Companies Act, 1896); The Bankruptcy Act, 1898 (*Salisbury*); The Wills Probate and Administration Act, 1898, Part II. (*Walker and Bignold*); The Matrimonial Causes Act, 1899 (*Whitfeld*); The Trustee Act, 1898; The Trustee Act Amendment Act, 1902; and The Partnership Act, 1892. Reference should also be made to other statutes (see appended list) and decisions relating to these subjects, and especially to such statutes and decisions as may be indicated in the lectures.

#### APPENDED LIST OF STATUTES.

The Conveyancing and Law of Property Act, 1898; The Conveyancing and Law of Property Act, 1901; The Infants' Custody and Settlements Act, 1899; The Children's Protection Act, 1902; The Landlord and Tenant Act, 1899; The Partition Act, 1900; The Registration of Deeds Act, 1897; The Wills Probate and Administration Act, 1898; The Real Property Act, 1900; The Real Property and Conveyancing (Amendment) Act, 1901; The Bills of Sale Act, 1898; The Bills of Sale (Amendment) Act, 1903; The Liens on Crops and Wool and Stock Mortgages Act, 1898; The Limitations of Actions Act, 3 and 4 Will. IV. (adopted by 8 Will. IV., No. 3); and 5 Vict., No. 9, s. 39, 40 and 41 (or Acts consolidating or superseding the same); The Married Women's Property Act, 1901; The Trade Marks Act, 1900; The Patents Act, 1899; The Patents Act, 1903 (Federal); The Copyright Act, 1879 (to be consolidated); The Inheritance Act, 1901; The Equity Act, 1901; The Trustee Act, 1898; The Companies Act, 1899; The Partnership Act, 1892; The Claims against the Government and Crown Suits Act, 1897; The Employers Liability Act, 1897; The Factors Act, 1899; The Compensation to Relatives Act, 1897; The Bills of Exchange Act, 1887 (to be consolidated); The Negotiable Instruments Procedure Act, 1901; The Common Carriers

Act, 1902; The Defamation Act, 1901; 46 Vic. No. 4 Guarantees (to be consolidated); The Life, Fire and Marine Insurance Act, 1902; The Innkeepers Liability Act, 1902; The Crimes Act, 1900; The Witnesses Examination Act, 1900; The Evidence Act, 1898; The State Laws and Records Recognition Act, 1901 (Federal); The Common Law Procedure Act, 1899; The Supreme Court and Circuit Act, 1900; The Supreme Court Procedure Act, 1900; The Interpleader Act, 1901; The Judgment Creditors Remedies Act, 1901; The Interstate Debts Recovery Act, 1901; The Interpretation Act, 1897; The Acts Interpretation Act, 1901 (Federal); The Prohibition and Mandamus Act, 1901; The Bankruptcy Act, 1898; The Matrimonial Causes Act, 1899; The Justices Act, 1902; The Contractors Debts Act, 1897; The Coroners Act, 1898; The Small Debts Recovery Act, 1899; Masters and Servants Act, 1902; The Deserted Wives and Children Act, 1901; The Police Offences Act, 1901, Parts I. and II.; Service and Execution of Process Act, 1901 (Federal); The Marriage Act, 1899; The Legitimation Act, 1902; The Pawnbrokers Act, 1902; The Games, Wagers and Betting Houses Act, 1901; The Usury, Bills of Lading and Written Memoranda Act, 1902; The Arbitration Act, 1902; The Lunacy Act of 1898.

#### ADMISSION OF BARRISTERS.

Certain privileges are conceded to Graduates and Third Year Students of the University in respect to the conditions necessary for admission to the Bar. As to these, candidates are advised either to refer to the Rules for the admission of Barristers (see Law Almanac), or to apply for information to the Secretary of the Barristers' Admission Board, Supreme Court.

#### ADMISSION OF ATTORNEYS.

The following are extracts from the Rules of the Supreme Court for the admission of Attorneys, which refer to Examinations held at the University:—

The degree of Bachelor of Laws of the University of Sydney obtained by an Articled Clerk who has attended the law lectures appointed by the said University shall exempt him from passing the Intermediate Law Examination and sections 1, 2 and 3 of the Final Examination: Provided, however, that he shall be required to pass section 4 of the Final Examination, and to give all notices and pay all fees as required by the existing Rules in the case of an Articled Clerk proceeding to Final Examination.

Every person desirous of entering into Articles of Clerkship who shall not have taken a Degree in the University of Sydney, or in some other University recognised by it, shall, before approval of such Articles, produce to the Prothonotary a Certificate of his having passed a Matriculation Examination in the said University, or in some other University recognised by it; or a Certificate from the Registrar of the University of Sydney of his having passed some equivalent examination before Professors or Examiners appointed by the Senate thereof; or a Certificate of his having passed in England, Scotland or Ireland the Preliminary Examination which Articled Clerks may be there required to pass, and shall lodge with the said Prothonotary a copy of such Certificate.

Preliminary Examinations (equivalent to the Matriculation Examination) for Articled Clerks are held at the University in the months of April, July and November, commencing on the first Monday in April and July, and the second Monday in November. Fee, £5 10s. 6d., to be paid to the Prothonotary of the Supreme Court.

The subjects of the Examinations to be held in July and November, 1904, and April, 1905, will be the same as those prescribed for the Matriculation Examination of March, 1905, and so on in future years. (See page 76.)

### EXAMINATION SUBJECTS FOR THE DEGREE OF LL.D.

The Examination for the Degree of Doctor of Laws will include the following subjects:—

#### I.—LEGAL HISTORY.

Candidates will be examined both in general and more especially in English legal history. In addition to the text-books and books of reference prescribed for corresponding parts of the LL.B. Examination, candidates are recommended to read or refer to Pollock and Maitland, "History of English Law"; Holmes, "The Common Law"; Lee, "Historical Jurisprudence"; and Stephen, "History of the Criminal Law of England."

#### II.—ROMAN LAW.

The Examination in this subject will have reference to a special subject from the *Digest*, to be selected from time to time, and to be studied in connection with the corresponding branch of English Law. Until further notice the special subject will be "The Roman Law of Damage to Property," as set forth in the title, "*Ad Legem Aquilianam*" (*Digest IX.*, 2); which should be studied in connection with Dr. Grueber's commentary thereon.

#### III.—ENGLISH LAW (AS IN FORCE IN NEW SOUTH WALES).

One of the following special subjects:—

- (1.) The Common Law (including Mercantile Law, Criminal Law, and the Law of Evidence and Procedure).

Candidates, in addition to the books and statutes prescribed for the corresponding portions of the LL.B. Examination, are recommended to make a special study of the leading cases, and especially of those contained in Smith, "Leading Cases," and Tudor, "Leading Cases on Mercantile Law and Maritime Law."

- (2.) Equity (including Bankruptcy, Probate, Company Law, and Procedure).

Candidates, in addition to the books and statutes prescribed for the corresponding portions of the LL.B. Examination, are recommended to make a special study of the leading cases, and especially those contained in White and Tudor, "Leading Cases in Equity."

### (3.) The Law of Property and Conveyancing.

In addition to the books and statutes prescribed for the corresponding portion of LL.B. Examination, candidates are recommended to make a special study of the leading cases, and especially of those contained in Tudor, "Leading Cases on Real Property and Conveyancing, &c." Candidates will also be expected to show a competent knowledge of the practice of conveyancing.

### (4.) Constitutional Law.

In addition to the books and statutes, &c., prescribed for the corresponding portion of the LL.B. Examination, candidates are recommended to read or refer to the following works:—Quick and Garran, "Commentaries on the Commonwealth of Australian Constitution Act"; Clarke, "Australian Constitutional Law"; Moore, "The Constitution of the Commonwealth of Australia"; Todd, "Parliamentary Government of the British Colonies"; Forsyth, "Cases and Opinions in Constitutional Law"; and Ilbert, "Legislative Methods and Forms."

## IV.—INTERNATIONAL LAW (PUBLIC AND PRIVATE).

In addition to the books prescribed for the corresponding portion of the LL.B. Examination, candidates are recommended to read Westlake, "Private and International Law"; and Dicey, "Conflict of Laws."

NOTICE.—Candidates are at liberty, on giving six months' prior notice, and with the approval of the Dean of the Faculty, to offer other books in lieu of those recommended. Candidates are also advised that a thorough knowledge and apt treatment of a fair proportion only of the subjects touched on in any paper will be regarded as sufficient evidence of proficiency, as regards that particular branch of the Examination.

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# EXAMINATION SUBJECTS.

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## FACULTY OF ARTS.

### EXAMINATION FOR THE DEGREE OF B.A.

(See By-laws, Chap. XV.)

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### EXAMINATION FOR THE DEGREE OF M.A.

(See By-laws, Chap. XV., Sec. 24.\*)

#### SCHOOL OF CLASSICAL PHILOLOGY AND ANCIENT HISTORY.

Candidates may offer themselves for examination in one or more of the following subjects:—

1. The History of Greece, to the death of Demosthenes. In addition to a general knowledge of the subject, special knowledge of one of the following periods will be required:—
  - (a) Down to 404 B.C., with Herodotus, Thucydides, and Xenophon, *Hellenics* I., II.
  - (b) From 431 B.C. to the death of Demosthenes, with Thucydides, Xenophon, *Hellenics*, and Demosthenes (*Phil. I.*, *Olynth. I.-III.*, *De Pace*, *Phil. II.*, *De Chers.*, *Phil. III.*, *De Corona*).
2. The History of Rome, to the death of Marcus Aurelius. Special knowledge of Cicero's Letters and Tacitus' Annals will be required.
3. Greek Literature, to the death of Demosthenes. In addition to a general knowledge of the whole subject, special knowledge of one of the following groups will be required:—
  - (a) Epic: Homer, *Iliad* or *Odyssey*.
  - (b) Lyric: Fragments as in Smyth's Greek Melic Poets

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\* Candidates may be admitted to Examination for the Degree of M.A. one year after obtaining the Degree of B.A. The Degree of M.A. cannot be conferred until the time has elapsed which is required by the By-laws.

- (c) Drama: Any six Plays of Æschylus, Sophocles, Euripides, and Aristophanes (all four authors must be represented in the candidate's selection).
- (d) Rhetorical: Specimens of the Attic Orators, such as those given by Jebb; together with Æschines, Against Ctesiphon; Demosthenes, On the Crown; Isocrates, Panegyricus.

Candidates taking this subject are also recommended to read Longinus, *On the Sublime* (Rhys Roberts). They will be required to show a general knowledge of, and to translate passages from, Greek authors other than those specified.

4. Roman Literature, to the death of Tacitus. Special knowledge will be required of Virgil and Horace; and candidates will be required to show a general knowledge of, and to translate passages from, other Latin authors.
5. Greek Constitutional History. In addition to a general knowledge of the subject, to be gained from such a book as Greenidge's *Handbook to Greek Const. Hist.*, special knowledge will be required of Plato, *Republic*, Books VIII.-IX.; Aristotle, *Politics*, and *Athenaion Politeia*; Xenophon, *Respubl. Laced.* and *Respubl. Ath.* Reference also should be made to Freeman's *History of Federal Government in Greece and Italy*.
6. Comparative Philology, with special application to the Greek and Latin languages. Books especially recommended: King and Cookson's *Sounds and Inflections in Greek and Latin*; Monro's *Homeric Grammar*; Wordsworth's *Specimens of Early Latin*; Lindsay's *The Latin Language*; Giles' *Manual of Comparative Philology*.

Candidates for Honours are required to offer not less than two of these subjects.

The Greek and Latin books especially prescribed must be read in the original language. Books which have in whole or in part been included in the candidate's course for the B.A. Degree may be offered only subject to the approval of the Professor; but other books may, subject to the approval of the Professor, be substituted for those here specified.

#### SCHOOL OF LOGIC, MENTAL, MORAL AND POLITICAL PHILOSOPHY.

Candidates may offer themselves for examination in one or more of the following subjects:—



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|----------------|-----------------|---------------|
| 1. Logic.      | 3. Ethics.      | 6. Economics. |
| 2. Psychology. | 4. Metaphysics. | 7. Politics.  |
|                | 5. Education.   |               |

Candidates for Honours are required to offer not less than two of these subjects. All candidates will be required to submit themselves to examination—

- (a) On the general history and literature of the subject or subjects chosen.
- (b) On a special branch of, or period in the history of, the subject or subjects chosen. The branch or period to be chosen by the candidate, subject to the approval of the Professor of Logic and Mental Philosophy.

In addition, all candidates will be required to present a thesis on some subject connected with the branch of study selected. The choice of the subject must be approved by the Professor. The thesis must give evidence of critical and constructive philosophical ability on the part of the author.

Candidates who have not attended the philosophical classes during their Undergraduate course, will be required to take a preliminary paper in Logic, Psychology and Ethics.

No books are prescribed, and considerable freedom will be allowed in the choice of subjects, but candidates are recommended to consult the Professor of Logic and Mental Philosophy when arranging their courses of study.

#### SCHOOL OF MATHEMATICS AND NATURAL PHILOSOPHY.

ORDINARY DEGREE.—Candidates will be examined in the following subjects:—

Analytical Geometry of Two and Three Dimensions.

The Application of the Calculus to the Theory of Plane Curves.

Statics and Dynamics, including the simpler parts of the Theory of Attraction and Rigid Dynamics.

The Elementary Mathematical Theory of *one* of the subjects prescribed for the course in Mathematical Physics of the Third Year in Arts.

HONOURS DEGREE.—Candidates may offer themselves for examination in any Mathematical subjects distinctly in advance of those prescribed for the B.A. Course, the subjects to be chosen from both the Departments of Pure and Applied Mathematics, and to be approved by the Professor of Mathematics.

The examiners will be at liberty to declare that candidates, though they may not have deserved Honours, have acquitted themselves so as to deserve the ordinary Degree, and such candidates shall be held to have passed the examination for that degree.

#### SCHOOL OF MODERN LITERATURE

Candidates may offer themselves for examination in one or more of the following subjects:—

1. English Philology, English Literature before Chaucer. Special knowledge of *Beowulf*, the *Chronicle*, and *Sir Gawayne and the Grene Knight* will be required.
2. English Literature from Chaucer to the present day. Special knowledge will be required of three of the following authors:—Chaucer, Shakespeare, Burke, Tennyson.
3. German Philology. German Literature before Klopstock. Special knowledge of the *Nibelungen Lied*, *Walter von der Vogelweide*, *Hans Sachs* (*Dichtungen*, Goedeke, and Tittman).
4. German Language and Literature from Klopstock to the present day. Special knowledge will be required of Goethe's Novels and Dramas, of Schiller's Plays and Poems, and of Lessing's chief Dramas and Prose Works.
5. French Philology. French Literature till 1600. Special knowledge will be required of the *Chanson de Roland*, of the *Romances* and *Pastorals* (*Romanzen* and *Pastorellen*, ed. *Bartsch*), and of *Montaigne*.
6. French Language and Literature from 1600 to the present day. Special knowledge will be required of Molière, of Voltaire's *Historical Works* and *La Henriade*, of Sainte-Beuve's *Port Royal*, and Hugo's Dramas.

Subject to the approval of the Professor of Modern Literature, candidates may offer other books and authors of similar nature and extent in place of those specified.

In all these subjects there may be *viva voce* examination in addition to the examination in writing.

Candidates who have graduated after March, 1894, will be required to present an essay on some subject connected with the

period, and written in the language they have selected. The choice of the subject will be left to themselves, but must be approved by the Professor.

Candidates for Honours are required to offer (a) not less than two of the preceding subjects, or (b) one of the six subjects mentioned, along with one of the subjects prescribed for Classics, Philosophy or History. In the latter case the approval of both Professors concerned must be obtained.

#### SCHOOL OF HISTORY.

Candidates are required:—

(A) To write an essay on some subject approved by the Professor of History. The essay must be sent to the Registrar on or before the 15th of February.

(B) To offer themselves for examination in one or more of the following subjects:—

(1) The Renaissance and the Reformation, 1453 to 1535.

BOOKS RECOMMENDED.—*Machiavelli's Prince*; *Erasmus' Praise of Folly*; *Cellini's Autobiography*; *Luther's Primary Works* (ed. Wace & Buchheim); *Symonds' Renaissance in Italy*; *Creighton's Papacy*; *Lilly's Renaissance Types*; *Beard's Hibbert Lectures*; *Beard's Luther*; *Villari's Savonarola*; *Froude's Erasmus*; *Bridgett's More*; *Gairdner's English Church in the 16th Century*; *Pastor's Papacy*; *Ranke's Popes*.

Or,

The History of Protestantism in England from Wycliffe to Milton. Candidates will be expected to show knowledge of Continental Protestantism in so far as it has influence on the development of Protestant thought and practice in England.

BOOKS RECOMMENDED.—Special knowledge will be required of the following: *Wycliffe's Select English Works*, Vol. 3, pp. 211-496 (ed. T. Arnold); *Luther's Primary Works* (ed. Wace and Buchheim); *Calvin's Institutes*; *Hooker's Ecclesiastical Polity*—Preface; *Milton's Treatises on Church Government and Christian Doctrine*.

The following books are also recommended for study:—*Lechler's Wycliffe*; *Trevelyan's England in the time of Wycliffe*; *Beard's Hibbert Lectures*; *Beard's Luther*; *The Zurich Letters*; *Masson's Life and Times of Milton*; *Gairdner's English Church in the 16th Century*; *Wakeman's History of the Church of England*.

(2) The History of England from 1637 to 1660.

Special knowledge will be required of the following:—Clarendon, Books I. to VIII.; *Cromwell's Letters and Speeches* (ed. Carlyle); *Ludlow's Memoirs*; *Hutchinson's Memoirs*; *Milton's Political and Ecclesiastical Pamphlets*; *Gardiner's Constitutional Documents*.

The following books are also recommended :—*Gardiner's History of England from 1603 to 1642*; *Gardiner's Great Civilisation, and Commonwealth and Protectorate*; *Masson's Life and Times of Milton*; *Morley's Cromwell*; *Firth's Cromwell*; *Firth's Cromwell's Army*.

### (3) The History of England from 1760 to 1795.

Special knowledge will be required of the following :—The Political Works of Burke; *Adam Smith's Wealth of Nations*, Book IV.

The following books are also recommended :—*Lecky's History of England*; *Trevelyan's C. J. Fox*; *Trevelyan's American Revolution*; *Morley's Burke*.

Subject to the approval of the Professor of History, candidates may offer other subjects of similar nature and extent in place of those specified above.

Candidates who seek Honours are required to offer not less than two subjects.

Candidates may also be required to take papers on English History, and if they seek Honours, on a period of Continental History. Those candidates, however, who have shown adequate knowledge of these subjects in the examinations held in connection with the Degree of B.A. will not be required to take these papers.

## EXAMINATIONS FOR THE DEGREES OF M.B. & M.D.

(See By-laws, Chap. XVII.)

## EXAMINATIONS FOR THE DEGREES OF D.Sc. & B.Sc.

(See By-laws, Chap. XVIII.)

## EXAMINATIONS FOR DEGREES IN ENGINEERING.

(See By-laws, Chap. XVIII.)

## PUBLIC EXAMINATIONS.

Full particulars regarding these examinations can be had on reference to the "Manual of Public Examinations," which contains the By-laws, Subjects of Examination, Books Recommended, Directions for Candidates, Examination Papers, &c., and is obtainable from almost any bookseller.

## LIST OF

### \* SCHOLARSHIPS, EXHIBITIONS, PRIZES, &c.

All students of the University who shall during their course have received Bursaries, Exhibitions, Scholarships or Fellowships, or Exemptions from Fees, are invited by the Senate to make returns to the University when their circumstances in life shall permit, for the purpose of conferring like benefits on future students. The names of all students making such return will be published in the University Calendar.

#### AWARDED AT THE MATRICULATION EXAMINATION.

The **SALTING Exhibition**—Awarded on the recommendation of the Trustees of the Sydney Grammar School to a student proceeding thence to the University. £25 for three years. (See page 206.) The last award was made in March, 1903.

The **BOWMAN-CAMERON Scholarship**—Every third year, for General Proficiency. £40 for three years. (See page 197.) The last award was made in March, 1902.

The **COOPER Scholarship No. II.**—Awarded to a student distinguished in Classics. £50 for one year. (See page 196.)

The **BARKER Scholarship No. II.**—Awarded to a student distinguished in Mathematics. £50 for one year. (See page 195.)

The **LITHGOW Scholarship**—Awarded to a student distinguished in modern languages (French and German). £50 for one year. (See page 196.)

The **JAMES AITKEN Scholarship**—For General Proficiency. £50 for one year. This Scholarship is not given in the year in which the Bowman-Cameron Scholarship is awarded. (See page 199.)

The **FREEMASONS Scholarship**—For sons of Freemasons. Every third year. £50 for three years. (See page 198.) The last award was made in March, 1902.

The **HORNER Exhibition**—For proficiency in Mathematics. £8 for one year. (See page 208.)

Three **PETER NICOL RUSSELL Scholarships**—For Mechanical Engineering. £75 for four years. (See page 190.)

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\* Scholars are required to proceed with their studies in the respective Faculties in which their Scholarships are awarded.

BURSARIES of the annual value of £50 and £25 each are awarded from time to time. (See page 208.)

AWARDED AT THE FIRST YEAR EXAMINATIONS.

The COOPER Scholarship No. III.—For Classics. £50 for one year. (See page 196.)

The GEORGE ALLEN Scholarship—For Mathematics. £40 for one year. (See page 197.)

The \*LEVEY Scholarship—Awarded in the Faculty of Arts or the Faculty of Science for Chemistry (theoretical and practical) and Physics (theoretical and practical). £40 for one year. (See page 194.)

The GARTON Scholarship No. I.—For French and German. £30 for one year. (See page 202.)

The \*SMITH Prize—For Physics. £5. (See page 216.)

The SLADE Prizes—For Practical Chemistry and Practical Physics. £5 each. (See page 217.)

The COLLIE Prize—For Botany. £4. (See page 217.)

The STRUTH EXHIBITION—For General Proficiency. Awarded at the First Year Examination in Arts to a student entering the Faculty of Medicine. £40 for five years. (See page 207.) The last award was made in March, 1902.

The HENRY WAIT Bursary—For General Proficiency. Awarded at the First Year Examination in Arts to a student entering the Faculty of Medicine. £40 for five years. (See page 213.) The last award was made in March, 1901. This Bursary does not exempt the holder from the payment of lecture fees.

AWARDED AT THE SECOND YEAR EXAMINATIONS.

The COOPER Scholarship No. I.—For Classics. £50 for one year. (See page 196.)

The BARKER Scholarship No. I.—For Mathematics. £50 for one year. (See page 194.)

The GARTON Scholarship No. II.—For French and German. £30 for one year. (See page 202.)

The NORBERT QUIRK Prize—For Mathematics. £5. (See page 216.)

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\* Candidates for Honours and Scholarships in Physics are required to attend the Laboratory during one term, for two afternoons a week.

The DEAS-THOMSON Physics Scholarship—Awarded in the Faculty of Arts or that of Science for Physics. £50 for one year. (See page 195.)

The DEAS-THOMSON Geology Scholarship—Awarded in the Faculty of Science for Geology. £50 for one year. (See page 195)

The CAIRD Scholarship—Awarded in the Faculty of Science for Chemistry. £50 for one year. (See page 198.)

#### AWARDED AT EACH DEGREE EXAMINATION.

BRONZE MEDALS are awarded to the highest proficient in the various Degree Examinations.

#### SCHOLARSHIPS TENABLE BY GRADUATES.

The FRAZER Scholarship—Awarded upon the results of examinations, &c., in History. £70. (See page 200.)

The JAMES KING of Irrawang Scholarship—Awarded to a Graduate of not more than four years' standing. £130 for two years. The last award was made in March, 1902. (See page 199.)

The WOOLLEY Scholarship—Awarded to a Graduate in Arts of not more than four years' standing. £150 for two years. The last award was made in March, 1903. (See page 201.)

Her Majesty's Commissioners of the Exhibition of 1851 have on seven occasions awarded Scholarships to Graduates in Science of this University, upon the nomination of the Senate. £150 for two or three years. (See page 200.)

#### AWARDED IN THE FACULTY OF LAW.

The WIGRAM ALLEN Scholarship—Awarded for proficiency in the subject of Section I. of the Intermediate LL.B. Examination. £50 for one year. (See page 197.)

The GEORGE and MATILDA HARRIS Scholarship—Awarded for proficiency in the subjects of Section II. of the Intermediate LL.B. Examination. £50 for one year. (See page 203.)

#### AWARDED IN THE FACULTY OF MEDICINE.

The STRUTH Exhibition—For proficiency in the subjects of the First Year Examination in Arts, to a student entering the Faculty of Medicine. £40 for five years. (See page 207.) The last award was made in March, 1902.

The HENRY WAIT Bursary—For proficiency in the subjects of the First Year Examination in Arts to a student entering the Faculty of Medicine. £40 for five years. (See page 213.) The last award was made in March, 1901. This Bursary does not exempt the holder from the payment of lecture fees.

The RENWICK Scholarship—For proficiency in the subjects of the First Year Examination in Medicine. £45 for one year. (See page 197.)

The JOHN HARRIS Scholarship—For proficiency in the subjects of Anatomy and Physiology in the Third Year Examination in Medicine. £40 for one year. (See page 199.)

The BELMORE Medal. A Gold Medal of the value of £15, awarded annually for proficiency in Geology and Practical Chemistry, with special reference to Agriculture. (See page 214.)

1. Candidates must be of two, and under five years' standing in the University of Sydney.
2. They must pass examinations in Chemistry and Geology, with special reference to Agriculture.

#### \*PRIZE COMPOSITIONS.

WENTWORTH Medal for Graduates—£10. Awarded annually for an English Essay. The competition for this Medal is confined to Bachelors of Arts of not more than three years' standing. (See page 215.)

Subject for 1904-5.—The place of Poetry in modern life.

WENTWORTH Medal for Undergraduates — £10. Awarded annually for an English Essay. (See page 214.)

Subject for 1904-5.—The place of Poetry in modern life.

NICHOLSON Medal—£10. Awarded annually for Latin Verse (Hexameters). The competition for this Medal is open to all Undergraduates and to Bachelors of Arts of not more than two years' standing. (See page 215.)

Subject for 1904-5.—Zama.

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\* The exercises for these Prizes, which must not be in the handwriting of the author, must be sent to the Registrar before the first day of Lent Term, 1904. They must be contained in an envelope with a motto, and be accompanied by a sealed letter containing the name and motto of the author.



UNIVERSITY Prize—£10. Awarded annually for English Verse (to be written in rhyme). The competition for this Medal is open to all Undergraduates and to Bachelors of Arts of not more than three years' standing. The composition must be at least one hundred lines in length.

Subject for 1904-5.—The Execution of Sir Thomas More.

Professor ANDERSON'S Medal—£10. Awarded annually for an Essay on some Philosophical subject. The competition for this Medal is open to all Bachelors of Arts of not more than two years' standing.

Subject for 1904-5.—The Concept of Matter.

The BEAUCHAMP Prize—Founded by His Excellency the Right Hon. Earl Beauchamp. £25. Awarded for an Essay upon some subject of literary or historical interest. The competition is open to all Undergraduates and Graduates of not more than twenty-five Terms' standing from Matriculation. (See page 218.)

Subject for 1904-5.—The future of Cabinet Government in the Commonwealth and the several States of Australia.

Subject for 1905-6.—The problem of Local Government in New South Wales considered historically, and also in the light of the comparative method.

Candidates are advised to consider the systems of Local Government obtaining in other countries, and especially in the United States of America and Prussia, with a view to ascertaining how far these systems, or any parts of them, are capable of being adapted with advantage to local conditions.

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## TABLE OF FEES.

	£	s.	d.
MATRICULATION EXAMINATION .. .. .	2	0	0
ENTRANCE EXAMINATION FOR LAW, MEDICINE AND SCIENCE .. .. .	2	0	0
LECTURE FEES, <i>per term</i> —			
ANATOMY, DISSECTIONS (including 21s. for “parts”) .. .. .	3	3	0
ANATOMY OF TEETH .. .. .	1	1	0
ANATOMY, GENERAL AND DESCRIPTIVE .. .. .	3	3	0
ANATOMY, REGIONAL AND SURGICAL .. .. .	2	12	6
ANATOMY, SENIOR .. .. .	3	3	0
APPLIED MECHANICS .. .. .	2	2	0
ARCHITECTURE AND BUILDING CONSTRUCTION	2	2	0
ASSAYING ( <i>see Practical Chemistry</i> )			
BIOLOGY .. .. .	2	2	0
BIOLOGY, PRACTICAL .. .. .	2	2	0
BOTANY .. .. .	2	2	0
BUILDING CONSTRUCTION ( <i>see Architecture</i> )			
CHEMISTRY, INTRODUCTORY COURSE FOR STUDENTS IN THE FACULTY OF ARTS	2	2	0
CHEMISTRY, ALL OTHER COURSES .. .. .	3	3	0
CHEMISTRY, PRACTICAL* .. .. .	5	5	0
CHEMISTRY, TUTORIAL .. .. .	1	1	0
CIVIL ENGINEERING .. .. .	2	2	0
DENTISTRY, INTRODUCTORY SURGICAL AND MECHANICAL .. .. .	1	1	0
„ MECHANICAL WORKSHOP .. .. .	2	2	0
„ MECHANICAL .. .. .	2	2	0
„ SURGICAL .. .. .	2	2	0
DENTAL PATHOLOGY AND BACTERIOLOGY .. .. .	3	3	0
DESCRIPTIVE GEOMETRY AND DRAWING .. .. .	1	11	6
ENGINEERING, PRACTICAL, FIRST YEAR .. .. .	† 1	1	0
„ SECOND YEAR (CIVIL AND MINING AND METALLURGY) .. .. .	† 2	2	0

\* For Students who have passed through the Introductory course the following is the Table of Fees; two half-days being counted as one day—

For 6 days in the week, £5 per month, or £12 per term.			
„ 5	„	£4 5s.	£10
„ 4	„	£3 6s. 8d.	£8
„ 3	„	£2 10s.	£6
„ 2	„	£2	£4
„ 1	„	£1	£2

† For Year.

## TABLE OF FEES.

179

LECTURE FEES *per term—continued—*

£ s. d.

## ENGINEERING, THIRD YEAR (MECHANICAL AND

ELECTRICAL .. .. . \* 2 2 0

ENGLISH, FIRST YEAR .. .. . 0 10 6

ENGLISH, SECOND AND THIRD YEARS .. .. . 2 2 0

FRENCH .. .. . 2 2 0

GEOLOGY .. .. . 2 2 0

PRACTICAL GEOLOGY .. .. . 3 3 0

GERMAN .. .. . 2 2 0

GREEK .. .. . 2 2 0

GYNÆCOLOGY .. .. . 3 3 0

HISTORY .. .. . 2 2 0

LATIN .. .. . 2 2 0

LAW†—THIRD YEAR .. .. . 4 4 0

FOURTH AND FIFTH YEARS .. .. . 8 8 0

LOGIC AND MENTAL PHILOSOPHY .. .. . 2 2 0

LOGIC, APPLIED (FOR MEDICAL STUDENTS) .. .. . 1 1 0

MATERIA MEDICA AND THERAPEUTICS .. .. . 3 3 0

MATHEMATICS .. .. . 2 2 0

MECHANICAL DRAWING .. .. . 2 2 0

MECHANICAL ENGINEERING .. .. . 2 2 0

MEDICAL JURISPRUDENCE AND PUBLIC HEALTH .. .. . 3 3 0

MEDICINE .. .. . 3 3 0

MEDICINE, CLINICAL .. .. . 2 2 0

MEDICINE, TUTORIAL .. .. . \* 1 1 0

METALLURGY .. .. . 2 2 0

METALLURGY, PRACTICAL, FOR DENTISTS .. .. . 3 3 0

MIDWIFERY .. .. . 3 3 0

MINERALOGY .. .. . 2 2 0

MINING .. .. . 2 2 0

OPHTHALMIC MEDICINE AND SURGERY .. .. . 1 1 0

PATHOLOGY .. .. . 3 3 0

PATHOLOGY (DENTAL) AND BACTERIOLOGY .. .. . 3 3 0

PATHOLOGY, PRACTICAL .. .. . 4 4 0

PHARMACOLOGY .. .. . 3 3 0

PHYSICS, INTRODUCTORY COURSE FOR STUDENTS

IN THE FACULTY OF ARTS .. .. . 2 2 0

PHYSICS, ALL OTHER COURSES .. .. . 3 3 0

PHYSICS, PRACTICAL .. .. . 3 3 0

PHYSIOGRAPHY .. .. . 2 2 0

\* For Year.

† In the Faculty of Law, the fee payable by Students not going through the regular course is two guineas per Term for each subject.

LECTURE FEES <i>per term—continued.</i>				£	s.	d.
PHYSIOLOGY .. .. .	..	..	..	3	3	0
PHYSIOLOGY, SENIOR .. .. .	..	..	..	3	3	0
PHYSIOLOGY, PRACTICAL .. .. .	..	..	..	3	3	0
PSYCHOLOGICAL MEDICINE .. .. .	..	..	..	1	1	0
QUANTITATIVE ANALYSIS ( <i>see Practical Chemistry</i> )						
SURGERY .. .. .	..	..	..	3	3	0
SURGERY, CLINICAL .. .. .	..	..	..	2	2	0
SURGERY, OPERATIVE .. .. .	..	..	..	4	4	0
SURGERY, TUTORIAL .. .. .	..	..	..	* 1	1	0
SURVEYING .. .. .	..	..	..	2	2	0
ZOOLOGY .. .. .	..	..	..	2	2	0
DEGREE FEES—						
B.A. .. .. .	..	..	..	3	0	0
M.A. .. .. .	..	..	..	5	0	0
LL.B. .. .. .	..	..	..	10	0	0
LL.D. .. .. .	..	..	..	20	0	0
M.B. .. .. .	..	..	..	10	0	0
M.D. .. .. .	..	..	..	10	0	0
Ch.M. .. .. .	..	..	..	10	0	0
B.Sc. .. .. .	..	..	..	3	0	0
D.Sc. .. .. .	..	..	..	10	0	0
B.E. .. .. .	..	..	..	10	0	0
M.E. .. .. .	..	..	..	10	0	0
LICENSE DENTAL SURGERY (L.D.S.) .. .. .	..	..	..	10	0	0
Fee for use of Microscope ( <i>per course</i> ) .. .. .	..	..	..	1	0	0
” ” in Geological Department .. .. .	..	..	..	1	10	0
Fee for entering name on books, to be paid by those who are admitted <i>ad eundem statum</i> or <i>gradum</i>						
				2	0	0
YEARLY EXAMINATION FEE for students who have been exempted from attendance upon lectures						
				2	0	0
Fee payable for a deferred examination in March or at any other time .. .. .						
				2	0	0
PUBLIC EXAMINATION FEES—						
SENIOR EXAMINATION .. .. .	..	..	..	1	10	0
JUNIOR ” .. .. .	..	..	..	1	0	0
LATE FEE FOR ENTRIES FOR EXAMINATION .. .. .						
				0	10	0
PRELIMINARY EXAMINATION FOR ARTICLED CLERKS (payable to the Prothonotary) .. .. .						
				5	10	6

\* For Year.

TABLE OF FEES SHOWING THE TOTAL COST OF  
GRADUATION IN MEDICINE.

	<i>Old Curriculum.</i>			<i>New Curriculum.</i>		
	£	s.	d.	£	s.	d.
<b>1st Year—</b>						
Chemistry .. ..				6	6	0
Chemistry—Organic .. ..				—		
Practical Chemistry .. ..				6	5	0
Physics .. ..				6	6	0
Practical Physics .. ..				3	3	0
Biology .. ..				4	4	0
Practical Biology .. ..				4	4	0
Practical Physiology .. ..				3	3	0
Introductory Anatomy .. ..				3	2	0
					39	17 0
<b>2nd Year—</b>						
Descriptive Anatomy .. 6 6 0	6	6	0	6	6	0
Practical Physiology .. 6 6 0	6	6	0	3	3	0
Physiology .. .. 6 6 0	6	6	0	6	6	0
Applied Logic .. .. 1 1 0	1	1	0	1	1	0
Descriptive Anatomy (Senior) 3 3 0	3	3	0	—		
Dissections and parts .. 9 9 0	9	9	0	9	9	0
Chemistry—Organic .. .. —	—			3	3	0
Physiological Chemistry .. .. —	—			3	3	0
	32	11	0		32	11 0
<b>3rd Year—</b>						
Regional & Surgical Anatomy 5 5 0	5	5	0	5	5	0
Practical Physiology .. .. 3 3 0	3	3	0	—		
Physiology (Senior) .. .. 3 3 0	3	3	0	3	3	0
Materia Medica and Therapeutics .. 6 6 0	6	6	0	—		
Pharmacology .. .. —	—			3	3	0
Dissections and parts .. 9 9 0	9	9	0	6	6	0
Pathology .. .. —	—			3	3	0
Practical Pathology .. .. —	—			4	4	0
	27	6	0		25	4 0
<b>4th Year—</b>						
Surgery .. .. 6 6 0	6	6	0	6	6	0
Pathology .. .. 6 6 0	6	6	0	—		
Operative Surgery .. .. 4 4 0	4	4	0	4	4	0
Clinical Surgery .. .. 4 4 0	4	4	0	4	4	0
Practical Pathology .. .. 4 4 0	4	4	0	—		
Tutorial Surgery .. .. 1 1 0	1	1	0	1	1	0
Special Pathology .. .. —	—			3	3	0
Medicine .. .. —	—			3	3	0
Midwifery .. .. —	—			3	3	0
	26	5	0		25	4 0
<i>Carried forward</i> .. ..					£122	16 0

## TABLE OF FEES.

TABLE OF FEES SHOWING THE TOTAL COST OF GRADUATION IN  
MEDICINE—*continued.*

	<i>Old Curriculum.</i>			<i>New Curriculum.</i>		
	£	s.	d.	£	s.	d.
<i>Brought forward</i> ..						£122 16 0
5th Year—						
Midwifery and Gynæcology	6	6	0	—		
Medicine .. ..	6	6	0	3	3	0
Medical Jurisprudence and						
Public Health .. ..	3	3	0	3	3	0
Clinical Medicine .. ..	4	4	0	4	4	0
Ophthalmic Medicine and						
Surgery .. ..	1	1	0	1	1	0
Psychological Medicine ..	1	1	0	1	1	0
Tutorial Medicine .. ..	1	1	0	1	1	0
Gynæcology .. ..	—			3	3	0
Posology and Prescription						
Writing .. ..	—			1	1	0
Two of the undermentioned						
elective courses* .. ..	—			5	5	0
		23	2	0		23 2 0
Total Lecture Fees ..						£145 18 0
Matriculation Fee .. ..		2	0	0		2 0 0
Fee for M.B. Degree .. ..		10	0	0		10 0 0
Total Fees payable to University ..						£157 18 0
Perpetual Attendance at the						
Royal Prince Alfred Hospital	10	10	0	10	10	0
Practical Midwifery .. ..	5	5	0	5	5	0
Practical Pharmacy .. ..	3	3	0	3	3	0
Fees payable to Hospitals		18	18	0		18 18 0
Total Cost of Education and						
Graduation as M.B. .. ..						£176 16 0
* { Special Bacteriology .. ..	£4	4	0			
{ Special Therapeutics .. ..	1	1	0			
{ Diseases of Children .. ..	1	1	0			
{ Diseases of the Skin .. ..	1	1	0			
{ Diseases of the Ear, Nose and Throat ..	1	1	0			

TABLE OF FEES SHOWING THE TOTAL COST FOR A LICENSE  
IN DENTISTRY.

## 1st Year—

	£	s.	d.	£	s.	d.
Descriptive Anatomy .. ..	3	3	0			
Chemistry—Introductory .. ..	3	3	0			
„    Metals .. ..	3	3	0			
„    Practical .. ..	5	5	0			
Dissections (including Material) .. ..	6	6	0			
Practical Metallurgy .. ..	3	3	0			
Anatomy of Teeth .. ..	1	1	0			
Physics .. ..	6	6	0			
Practical Physics .. ..	3	3	0			
Introductory Surgical and Mechanical Dentistry .. ..	1	1	0			
Mechanical Workshop .. ..	6	6	0			
				42	0	0

## 2nd Year—

Dissections (including Material) .. ..	6	6	0			
Physiology .. ..	6	6	0			
„    (Practical) .. ..	6	6	0			
Surgery .. ..	3	3	0			
Mechanical Dentistry .. ..	4	4	0			
Surgical Dentistry .. ..	4	4	0			
Mechanical Workshop .. ..	6	6	0			
Hospital Fee .. ..	5	5	0			
				42	0	0

## 3rd Year—

Physiology .. ..	3	3	0			
„    (Practical) .. ..	3	3	0			
Regional Anatomy .. ..	2	12	6			
Dental Pathology and Bacteriology .. ..	3	3	0			
Practical Pathology .. ..	4	4	0			
Materia Medica and Therapeutics .. ..	3	3	0			
Mechanical Workshop .. ..	6	6	0			
Hospital Fee .. ..	5	5	0			
				30	19	6
				114	19	6
Matriculation Fee .. ..	2	0	0			
License Fee .. ..	10	0	0			
				12	0	0
				£126	19	6

TABLE OF FEES SHOWING THE TOTAL COST OF GRADUATION IN THE  
DEPARTMENT OF ENGINEERING.

	Civil.		Mining and Metallurgy.		Mechanical and Electrical.	
	£	s. d.	£	s. d.	£	s. d.
<b>FIRST YEAR—</b>						
Mathematics ... ..	6	6 0	6	6 0	6	6 0
Applied Mechanics ... ..	4	4 0	4	4 0	4	4 0
Chemistry—Inorganic ... ..	6	6 0	6	6 0	6	6 0
Practical Chemistry ... ..	8	5 0	8	5 0	8	5 0
Physics ... ..	6	6 0	6	6 0	6	6 0
Practical Physics ... ..	3	3 0	3	3 0	3	3 0
Descriptive Geometry and Drawing ... ..	3	3 0	3	3 0	3	3 0
Physiography ... ..	2	2 0	2	2 0	2	2 0
Mechanical Drawing ... ..	6	6 0	6	6 0	6	6 0
Practical Engineering ... ..	1	1 0	1	1 0	1	1 0
	£47	2 0	£47	2 0	£47	2 0
<b>SECOND YEAR—</b>						
Mathematics ... ..	6	6 0	.....	.....	6	6 0
Applied Mechanics ... ..	4	4 0	4	4 0	4	4 0
Physics ... ..	9	9 0	.....	.....	9	9 0
Practical Physics ... ..	3	3 0	.....	.....	6	6 0
Practical Chemistry ... ..	.....	.....	11	0 0	2	0 0
Geology and Practical Geology ... ..	6	6 0	6	6 0	.....	.....
Surveying ... ..	4	4 0	4	4 0	.....	.....
Civil Engineering ... ..	4	4 0	.....	.....	.....	.....
Mineralogy and Practical Mineralogy ... ..	.....	.....	4	4 0	.....	.....
Mechanical Drawing ... ..	6	6 0	3	3 0	6	6 0
Practical Applied Mechanics ... ..	.....	.....	.....	.....	2	2 0
Practical Engineering ... ..	2	2 0	2	2 0	.....	.....
	£46	4 0	£35	3 0	£36	13 0
<b>THIRD YEAR—</b>						
Mathematics ... ..	4	4 0	.....	.....	4	4 0
Civil Engineering ... ..	4	4 0	.....	.....	.....	.....
Materials and Structures ... ..	6	6 0	2	2 0	2	2 0
Surveying ... ..	2	2 0	.....	.....	4	4 0
Architecture and Building Construction ... ..	2	2 0	.....	.....	.....	.....
Drawing School ... ..	6	6 0	1	1 0	6	6 0
Metallurgy ... ..	.....	.....	4	4 0	.....	.....
Mining ... ..	.....	.....	4	4 0	.....	.....
Assaying ... ..	.....	.....	24	0 0	.....	.....
Mechanical Engineering and Machine Construction ... ..	.....	.....	.....	.....	3	3 0
Transmission of Power ... ..	.....	.....	.....	.....	2	2 0
Practical Engineering ... ..	.....	.....	.....	.....	2	2 0
	£25	4 0	£35	11 0	£24	3 0
<b>FOURTH YEAR—</b>						
Electrical Engineering ... ..	.....	.....	.....	.....	6	6 0
Railway Engineering ... ..	.....	.....	.....	.....	4	4 0
Electrical Engineering Laboratory ... ..	.....	.....	.....	.....	9	9 0
Design of Motors, &c. ... ..	.....	.....	.....	.....	3	3 0
	.....	.....	.....	.....	£23	2 0
Matriculation Fee ... ..	£2	0 0	.....	.....	.....	.....
Fee for B.E. Degree ... ..	10	0 0	12	0 0	12	0 0
<b>Total cost for Degree of B.E.—</b>						
Civil Engineering ... ..	£130	10 0	.....	.....	.....	.....
Mining and Metallurgy ... ..	.....	.....	£129	16 0	.....	.....
Mechanical and Electrical ... ..	.....	.....	.....	.....	£143	0 0



## MICROSCOPES.

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In the Practical Courses of Biology, Physiology, Pathology, and Bacteriology, students may use the microscopes provided by the University, for the use of which a charge is made. But they are strongly recommended to purchase for themselves microscopes of an approved pattern, and to use them throughout their course. A microscope suitable for bacteriological work, and for the proper clinical examination of the blood, is now an essential part of the equipment of every medical man. It is, moreover, a great advantage for the student to use his own microscope during his undergraduate course, as he thus becomes familiar with its working, and is in a better position to profit by its use in after years. With the exercise of a little care the efficiency of a good microscope will not thereby be impaired.

Excellent microscopes are supplied by the English firms, Swift, Beck, Ross, and Watson; by the American firm, Bausch and Lomb; and by the Continental firms, Zeiss, Reichert, and Leitz. The student is particularly warned against the purchase of an inferior type of microscope which will not be approved by the Professors, and it is hardly necessary to point out that not every microscope made by the above-named firms is of a type that can be approved. Students are, therefore, invited to consult the Professors before making any purchase.

The following types of microscope, procurable in Sydney from agents of the manufacturers, are recommended as adequate, and at the same time moderate in price. With the accessories given they are adapted for the Practical Biology and the Practical Physiology:—

W. Watson & Sons' Edinburgh Student's Microscope, Stand "B," with  $\frac{3}{4}$  and  $\frac{1}{2}$  inch objectives, Nos. 2 and 4 eye-pieces, double nose-piece, and illuminating apparatus. Price, £10 12s. 6d

Or W. Watson & Sons' Stand "C," similar to "B," but with better illuminating apparatus, etc. £12 17s. 6d.

Bausch & Lomb's Microscope BB<sup>2</sup>, with double nose-piece, Abbé condenser, No. 3 eye-piece, and 3 and 6 objectives. Price, £12.

Leitz's No. 2A, with double nose-piece and Abbé condenser, £10 9s.

Reichert's Stand III., with Abbé condenser, objectives 3 and 7 of best series, ocular 3, double nose-piece. About £9.

For the Practical Pathology and Bacteriology a higher power objective is required—preferably a  $\frac{1}{2}$  homogeneous immersion, which costs about £5 10s.

#### DEPARTMENT OF GEOLOGY AND MINERALOGY.

Students may use their own microscopes in the demonstrations on Petrology, provided they are of a pattern approved by the demonstrator, to whom they must be shown beforehand. Advice will always be willingly given to any students desiring to purchase a microscope. The microscopes in use for demonstrations are the following:—

- (1) Student's Petrological Microscope, with centering stage or nose-piece, revolving double nose-piece, and two objectives, both of highest numerical aperture. The latter should be 1 inch and  $\frac{1}{8}$  inch, or  $1\frac{1}{2}$  inch and  $\frac{1}{4}$  inch. The best combination is of three or triple nose-piece,  $1\frac{1}{2}$  inch,  $\frac{1}{2}$  inch, and  $\frac{1}{8}$  inch. Price in London, about £14, including two objectives.
- (2) The Dick Petrological Microscope, with revolving nose-piece and objectives as in (1). Price in London, about £23, including two objectives.

The above microscopes are made by Messrs. James Swift and Son, 81 Tottenham Court Road, London, W.

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## FOUNDATIONS.

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### I.

#### CHALLIS FUND.

IN 1880, the late John Henry Challis, Esq., formerly of Sydney, bequeathed his residuary real and personal estate to the University, "to be applied for the benefit of that Institution in such manner as the governing body thereof should direct." The bequest was subject to a tenure until death or re-marriage on the part of his widow, and to the payment of various annuities, and also to a period of five years' accumulation after such death or re-marriage. By the death of the widow, in September, 1884, the University became entitled to the accumulated property in September, 1889. The assets are invested partly in England and partly in New South Wales, and all the specific bequests have been paid.

The assets in England, amounting to £30,000, are retained by the Trustees until the expiration of certain annuities. Those in Australia amount to £245,200.

By a resolution of the Senate passed in 1885, it was determined that the Challis Fund should be applied as a permanent provision of income for educational uses.

From the income of the Fund a sum of £7,500 was applied for the payment of half the cost of the erection of a new Chemical Laboratory, and a further sum of £1,200 devoted to the erection of a marble statue of Mr. Challis, which has been placed in the Great Hall opposite to that of Mr. W. C. Wentworth.

The income arising from the Australian assets is now devoted to the maintenance of seven Challis Professorships in the following subjects, viz., Anatomy, Biology, Engineering, History, Law, Logic and Mental Philosophy and Modern Literature; and four Challis Lectureships in Law.

#### CHALLIS PROFESSORSHIPS.

Anatomy, 1890—James T. Wilson, M.B., Ch.M. (Edin.)

Biology, 1890—William A. Haswell, M.A., D.Sc. (Edin.)

Engineering, 1890—William H. Warren, M.I.C.E.

Law, 1890—Pitt Cobbett, M.A., D.C.L. (Univ. Coll., Oxon.)

Logic and Mental Philosophy, 1890—Francis Anderson, M.A. (Glasg.)

Modern Literature, 1890—Mungo W. MacCallum, M.A. (Glasg.)

History, 1891—G. Arnold Wood, M.A. (Oxon.)

#### CHALLIS LECTURESHIPS.

Equity, Probate, Bankruptcy, and Company Law, 1890—G. E. Rich, M.A.

The Law of Status, Civil Obligations and Crimes, 1890—F. Leverrier, B.A., B.Sc.

Law of Procedure in Civil and Criminal Cases, Evidence and Pleading, 1901—David Ferguson, B.A.

Law of Property, 1903—J. B. Peden, B.A., LL.B.

## II.

### THE PETER NICOL RUSSELL ENDOWMENT FOR THE DEPARTMENT OF ENGINEERING.

In 1896, Peter Nicol Russell, Esq., formerly of Sydney, but now living in London, presented to the University a sum of £50,000 for the endowment of the Department of Engineering in the University. In 1904 he presented a second sum of £50,000, making £100,000 in all.

The second gift was made as an extension of the first endowment, with an additional obligation for the establishment of efficient teaching in electrical engineering, and for the foundation of two additional P. N. Russell Scholarships, to be offered for competition every year, similar to those already established under the first endowment.

In making the second endowment, Mr. P. N. Russell stipulated that the Government of New South Wales should undertake to hand to the University, within three years, a sum of £25,000 for the purpose of providing an extension of the buildings required for the purposes of the School of Engineering or for new buildings; and this the Government has agreed to do.

The conditions of the gift are the following :—

1. That the Department of Engineering at present existing in the University, together with such additions as may be made thereto, shall be called the P. N. Russell School of Engineering.
2. That the University shall, out of the income to be derived from the endowments afford both practical and theoretical teaching in the following subjects, in so far as such subjects relate to the School of Engineering—viz., Mechanical Engineering, Electrical Engineering, Surveying, Mining, Metallurgy, Architecture, and such further instruction as the Senate of the University may deem necessary to give effect to the intention of Mr. P. N. Russell in connection with the P. N. Russell School of Engineering.
3. The University shall apply the income of the Fund in the maintenance of the P. N. Russell School of Engineering, but shall not charge such income with any proportion of the cost of the existing buildings, nor with the expense or any proportion thereof of service by ordinary attendants, nor with the expense or any proportion thereof of the Professorships of Mathematics, Chemistry, Physics, Geology, or the Challis Chair of Engineering.
4. The University shall offer for competition in each year two additional Peter Nicol Russell Scholarships in addition to the one previously founded, the conditions of which are given below.

Other conditions of the Deeds of Gift relate to the mode of investment of the principal sum, and provide that any unused surplus of income shall be added to the principal sum and invested as if it formed a part of the original donation.

A portion of the income of the Russell Fund has been devoted to the maintenance of the following offices :—

Lecturer in Mechanism and Applied Thermodynamics, 1897—  
S. Henry Barraclough, B.E. (Sydney), M.M.E. (Cornell),  
Assoc. M. Inst. C.E.

Lecturer in Surveying, 1890—George H. Knibbs, L.S., F.R.A.S.

Lecturer in Mining, 1892-1902 — E. F. Pittman, A.R.S.M.;  
1903—F. Danvers Power, F.G.S.

Lecturer in Metallurgy, 1899—Basil W. Turner, A.R.S.M.

Lecturer in Architecture, 1887—John Sulman, F.R.I.B.A.

Mechanical Instructor—Henry Blay.

Arrangements for an extension of the teaching in the P. N. Russell School of Engineering are in progress.

### PETER NICOL RUSSELL SCHOLARSHIPS FOR MECHANICAL ENGINEERING.

Under the gift of PETER NICOL RUSSELL, Esq., for the Endowment of the School of Engineering at the University, three Scholarships are offered annually, for the encouragement of higher education in Mechanical Engineering, under the following conditions:—

1. Every candidate must present evidence that he has satisfied one of the two following conditions:—

- (A) That he has been engaged in an approved workshop for a period of at least one year, and has, in addition, obtained certificates of having attended the following courses in the Sydney Technical College, and passed the necessary Examinations in the same:—  
Applied Mechanics, First and Second Year Courses;  
Mechanical Drawing, First and Second Year Courses;  
Mechanical Workshops, a two years' Course; or,
- (B) That he has been engaged, under approved conditions, in the study of practical Mechanical Engineering for at least *two* years, by apprenticeship or service in a mechanical workshop or drawing office, provided that one year at least shall have been spent in a workshop; or,
- (C) That he has been in attendance upon the day classes of the Sydney Technical College in the Department of Mechanical Engineering or the Department of Electrical Engineering for a period of three years, and has obtained the College diploma in one of those departments.

2.—The Scholarships will be awarded, after competitive Examination held in the month of March, and the holders will be styled "Peter Nicol Russell Scholars."

3.—The subjects of Examination will be the following:—

- (a) Applied Mechanics (250 marks).
- (b) Mechanical Drawing (250 marks).

- (c) Arithmetic, including the elements of Mensuration (150 marks).
- (d) Algebra, including the Progressions, the Binomial Theorem for a positive index, and the properties and use of Logarithms (150 marks).
- (e) Geometry, Euclid I.—IV., VI., XI., propositions 1—21, with easy deductions (100 marks).
- (f) Trigonometry (150 marks).

Optional subjects (as in the Senior Public Examination), two may be taken—

- (a) English (150 marks).
- (b) Chemistry (150 marks).
- (c) Physics I. (150 marks).
- (d) Physics II. (150 marks).
- (e) Geometrical Drawing and Perspective (100 marks).
- (f) French (150 marks).
- (g) German (150 marks).
- (h) Latin (150 marks).
- (i) Greek (150 marks).

Candidates must attain a certain standard in each of the compulsory subjects. They will be allowed to take two, but not more than two of the optional subjects, and in these they must also attain the prescribed standard.

Subject to this provision, the Scholarships will be awarded to the candidates who obtain the highest aggregate number of marks in this Examination, provided that they shall have shown sufficient merit to enable them, in the opinion of the Examiners, to profit by the award of a Scholarship.

4.—The scholar will be required to commence attendance forthwith upon the University First Year Classes in the Department of Mechanical and Electrical Engineering, and he can only continue to hold the Scholarship so long as he shall be of good conduct, and shall attend regularly the courses prescribed in the University for candidates for the Degree of Bachelor of Engineering in the Department of Mechanical and Electrical Engineering, and shall pass all the prescribed Examinations.

5.—Each Scholarship will be of the value of £75 per annum, and will be tenable for four years, under the conditions men-

tioned in the preceding paragraph. The payments will be quarterly, commencing on the first of April after the student commences his University course.

6.—Those scholars who have, before entering upon their University course, qualified themselves for admission to the Department of Engineering by passing the Examination prescribed for that purpose, or who have in the Peter Nicol Russell Scholarship Examination passed in (i.) Latin and (ii.) Greek, or French or German, will be entitled, after completing the course, to the Degree of Bachelor of Engineering in Mechanical and Electrical Engineering.

Those who have not so qualified themselves beforehand will be entitled to certificates of their attendance and examination in individual subjects, and a certificate showing that they have held the Peter Nicol Russell Scholarship, under the prescribed conditions, for a period of four years—but not to any Degree.

The candidates' names, together with an examination fee of one pound ten shillings (£1 10s.), and all the required certificates, must be in the hands of the Registrar on the day set down in the University Calendar as the last day for receiving entries for the University Examinations in March.

1900—Vine-Hall, Roger

1901—Morris, L. C.

1902—Bellemey, S. J.

1903—Norman, J. L.

1904—Power, R.

Swain, H. J.

### THE PETER NICOL RUSSELL MEDAL.

THE PETER NICOL RUSSELL MEDAL (value £20) is open to competition amongst Graduates in Engineering of not less than one nor more than three years' standing at the time of award. It is intended to encourage post graduate study. Candidates are required to prepare and submit a thesis upon some subject connected with the studies in the Department of Engineering, under the regulations in force for the time being.

Candidates are required to hand in their theses to the Registrar not later than the first day of Lent Term. The subjects for the thesis are confined to the following:—

I. Civil Engineering, including Engineering Construction in Iron, Steel, Timber, Masonry, and Concrete.

II. Hydraulic and Sanitary Engineering.



III. Railway Engineering, including Railway Location, Permanent Way, Locomotives and Rolling Stock and Railway Appliances.

IV. Mechanical Engineering.

V. Machinery, Mining and Ore Dressing, Machinery Appliances.

VI. The Smelting of Copper and Lead.

VII. The Wet Processes for the Extraction of Gold and Silver.

VIII. Coke and its by-products.

1901—Madsen, J. P. V., B.Sc.

1903—Boyd, A., B.Sc., B.E.

1904—Not awarded

### III.

#### LECTURESHIPS.

1—WILLIAM HILTON HOVELL LECTURESHIP ON GEOLOGY AND PHYSICAL GEOGRAPHY.

In 1877, certain tenements and land situated in the city of Goulburn were bequeathed by the widow of the late William Hilton Hovell, Esq., of that district, for the endowment of a Professorship or Lectureship in Geology and Physical Geography, in honour of her late husband. The present estimated value of the property is £6000.

1877.—Archibald Liversidge, Christ's College, Cambridge.

1882.—William John Stephens, M.A., Queen's College, Oxford.

1891.—T. W. Edgeworth David, B.A., New College, Oxford.

### IV.

#### FELLOWSHIP.

WENTWORTH TRAVELLING FELLOWSHIP.

In 1862, the sum of £445 was given by W. C. Wentworth, Esq., to be invested and allowed to accumulate until it should reach an amount which, in the opinion of the Senate, would be sufficient for the foundation of a Travelling Fellowship, to be awarded upon certain specified conditions. The fund in December, 1903, was £2483 13s. 9d.

### V.

#### CURATORSHIP OF MACLEAY MUSEUM.

In 1888, the sum of £6000 was given to the Senate by the Hon. Sir William Macleay, M.L.C., to provide for the services

of a Curator for the collections in Natural History which he had presented to the University. The present Curator, nominated by Sir William Macleay, is

1888—George Masters.

## VI.

### \* SCHOLARSHIPS.

Awarded only when candidates exhibit a degree of proficiency satisfactory to the Examiners. No Undergraduate may hold more than two Scholarships at one time. Scholars are required to proceed with their studies in the respective Faculties in which their Scholarships are awarded.

#### 1—LEVEY SCHOLARSHIP.

Founded by Solomon Levey, Esq., by a gift of £500 (with accumulations), as an endowment for the education of orphan boys in the Sydney College. In 1853 the fund was transferred to the University of Sydney as an endowment for a Scholarship. Up to 1878 this Scholarship was awarded for general proficiency at the Matriculation Examination.

It is now awarded at the First Year Examination for proficiency in Chemistry and Physics, both theoretical and practical, to a student in the Faculty of Arts or in the Faculty of Science. It shall not be awarded more than once to the same student. It is tenable for one year, and is of the annual value of £40.

1895—Sandes, F. P.  
1896—Woolnough, W. G.  
1897—Harker, G.  
1898—Madsen, John P. V.  
1899—Boyd, W. S.  
Heden, E. C. B. } æq.

1900—Whitfield, H. E., B.A.  
1901—Close, J. C.  
1902—Saunders, G. J.  
1903—Weatherburn, C. E.  
1904—Atkinson, J. } æq.  
Sharp, L. H. } æq.

#### BARKER SCHOLARSHIPS.

Founded in 1853 by a gift of £1000 (with accumulations) from Thomas Barker, Esq., for the encouragement of Mathematical Science.

#### 2—BARKER SCHOLARSHIP, No. I.

Awarded at the Second Year Examination for proficiency in Mathematics. £50, tenable for one year.

1895—Stewart, D. G.  
1896—Chalmers, S. D.  
1897—Griffiths, F. G.  
1898—Sawkins, Dansie T.  
1899—Stephen, H. M.  
1900—Mort, H. S.

1901—Vonwiller, O. U.  
1902—Wellisch, E. M.  
1903—Weatherburn, C. E.  
1904—Tomlinson, G. L. } æq.  
Skillman, Jessie } æq.

\* The names of holders of Scholarships before the year 1894 will be found in the University Calendar for 1900.

## 3—BARKER SCHOLARSHIP, No. II.

Awarded at the Matriculation Examination for proficiency in Mathematics. £50, tenable for one year.

1895—Griffiths, F. G.	1901—Brearley, E. A.	} æq.
1896—Hawken, R. W. H.	Diethelm, O. A. A.	
Waterhouse, G. A., <i>prox. acc.</i>	Weatherburn, C. E.	
1897—Boyd, W. S.	(a) 1902—Stephen, J. F.	} æq.
Horn, W. R.	Henderson, R. G.**	
Mort, H. S.	Mottershead, A.	
Stephen, H. M.	Paul, A.	
1898—Mort, Harold S.	Tomlinson, G. L.	
1899—Tivey, John P.	1903—Lyons, R. J.	} æq.
Vonwiller, O. U.	1904—Dennis, S.	
Smith, W., <i>prox. acc.</i>	Watkins, H. L.	
1900—Wellisch, E. M.		
Roe, R. C.†		

## DEAS-THOMSON SCHOLARSHIPS.

Founded in 1854 by a gift of £1000 (with accumulations), from the Honourable Sir Edward Deas-Thomson, C.B., K.C.M.G. for the encouragement of the study of Natural Science.

## 4—DEAS-THOMSON SCHOLARSHIP FOR PHYSICS.

Awarded at the Second Year Examination to a student in the Faculty of Arts or that of Science for proficiency in Physics. The scholar is required to attend the courses of instruction upon Physics during his tenure of the Scholarship. £50, tenable for one year.

1895—Strickland, T. P.	1902—Close, J. C.
1898—Durack, Joseph J. E.	1903—Taylor, T. G.
1899—Madsen, J. P. V.	1904—Mason, W. H.
1900—Boyd, A.	
1901—Vonwiller, O. U.	

## 5—THE DEAS-THOMSON GEOLOGY SCHOLARSHIP.

Awarded at the Second Year Examination in the Faculty of Science. Candidates must have attended the courses of instruction on Geology (together with Biology or Chemistry) of the Second year, and the scholar is required to attend the lectures and Laboratory practice of the Third Year in Geology and Mineralogy. £50, tenable for one year.

1899—Ball, C. L.	1902—Ward, L. K., B.A.*
Mort, S. R.	Taylor, T. G.
1900—Heden, E. C. B., B.A.	1903—Jensen, H. I.
Newman, J. M.*	1904—Foxall, H. G.
1901—Verge, John, B.A.	

† R. C. Roe did not comply with the conditions for holding a Scholarship.

\*\* Holder of two other Scholarships. (a) Two Scholarships awarded.

\* Did not comply with the conditions for holding a Scholarship.

## COOPER SCHOLARSHIPS.

Founded in 1857 by a gift of £1000 (with accumulations) from Sir Daniel Cooper, Bart., for the encouragement of Classical Literature.

## 6—COOPER SCHOLARSHIP, No. I.

Awarded at the Second Year Examination for proficiency in Classics. £50, tenable for one year.

1895—Waddell, G. W.	1900—Todd, F. A.
1896—Whitfield, H. E.	1902—Barton, W. A.
1897—Evans-Jones, D. P.	1904—Henderson, R. G. } æq.
1898—Teece, R. C.†	Regers, P. H. }
1899—Robson, R. N.	

## 7—COOPER SCHOLARSHIP, No. II.

Awarded at the Matriculation Examination for proficiency in Classics. £50, tenable for one year.

1895—Evans-Jones, D. P.	1899—Browne, C. S.* } æq.
1896—Teece, R. C.†	Teece, R. N.† }
McEvoy, B. P.	1900—Allen, L. H.
1897—Robson, R. N.	1901—Harris, S. H.*
Arnold, A. G. de L. } <i>prox.</i>	1902—Henderson, R. G.
Bourne, Eleanor E. } <i>acc.</i>	1903—Porter, W. E. T.
1898—Power, Percy H.	MacCallum, M. L., <i>prox. acc.</i>
Woodd, G. N. } <i>prox. acc.</i>	1904—Schleicher, B. M. J.
Todd, F. A. }	

## 8—COOPER SCHOLARSHIP, No. III.

Awarded at the First Year Examination for proficiency in Classics. £50, tenable for one year.

1895—Whitfield, H. E.	1899—Todd, F. A.
1896—Evans-Jones, D. P.	1901—Barton, W. A.
1897—Teece, R. C.†	Allen, L. H., <i>prox. acc.</i>
Walsh, J. J.	1903—Henderson, R. G. } æq.
1898—Robson, R. N.	Rogers, P. H. }
	1904—MacCallum, M. L.

## 9—LITHGOW SCHOLARSHIP.

Founded in 1864 by a bequest of £1000 from William Lithgow, Esq. Awarded for proficiency in French and German at the Matriculation Examination. £50, tenable for one year.

1895—Pilcher, N. G. S.	1901—Armstrong, Clare A. C.
1896—Nicholson, G. G.	Gale, B. C. L., <i>prox. acc.</i>
1898—Armstrong, Ina B. H.	1902—Stephen, J. F.†
1899—Wilshire, Hector	1903—Vaughan, E. F.*
1900—Sproule, Margaret	McIntosh, A. M.
	1904—Not awarded

\* Did not comply with the conditions for holding the Scholarship.

† Holder of two other Scholarships.

## 10—WIGRAM ALLEN SCHOLARSHIP.

Founded by gifts of £381 in 1867 (with accumulations), and £500 in 1883, from Sir George Wigram Allen, for the encouragement of the study of Law. Awarded for general proficiency in the subjects of Part I. of the Intermediate Law Examination. £50 tenable for one year.

1895—Bavin, T. R., B.A.	1901—Teece, R. C., B.A.
1896—Hammond, J. H., B.A.	1902—Fahey, B. F., B.A.
1897—Mitchell, E. M., B.A.	1903—Ferguson, J. A., B.A.
1898—Dettmann, H. S., B.A.	1904—Wilson, D. } æq.
1899—Pilcher, N. G. S., B.A.	Teece, R. N. }
1900—Butler, P. J., B.A.	
Rutherford, G. W., B.A. } æq.	

## 11—RENEWICK SCHOLARSHIP.

Founded in 1877 by a gift of £1000 from the Hon. Sir Arthur Renwick, B.A., M.D., for the encouragement of the study of Natural Science, including Comparative Anatomy. Awarded in the Faculty of Medicine for proficiency in the subjects of the First Year Examination in Medicine. £15, tenable for one year.

1895—Sandes, F. P.	1901—Harrison, E. S. } æq.
1896—Burfitt, W. F., B.A.	Leslie, J. R. }
1897—Macintosh, A. H.	1902—Parkinson, T. C.
Graham, Mabel J., <i>prox. acc.</i>	1903—Shellshear, J. L.
1898—Muscio, A.	1904—Archdall, M. } æq.
1899—Dansey, St. J. W.	Brearley, E. A. }
1900—Quaife, C.	

## 12—GEORGE ALLEN SCHOLARSHIP.

Founded in 1877 by a bequest of £1000 from the Hon. George Allen. Awarded at the First Year Examination for proficiency in Mathematics. £40, tenable for one year.

1895—Chalmers, S. D.	1899—Mort, H. S.
1896—Griffiths, F. G.	1900—Vonwiller, O. U.
1897—Hawken, R. W.	1901—Wellisch, E. M.
Morris, J. F. } æq.	1902—Weatherburn, C. E.
Sawkins, D. T. }	1903—Mottershead, A.
Page, E. C. G.* }	1904—Lyons, R. J.
1893—Boyd, W. S.	

## 13—BOWMAN-CAMERON SCHOLARSHIP.

Founded in 1877, by a bequest of £1100 from Andrew Robertson Cameron, Esq., M.D. Awarded every third year for general proficiency at the Matriculation Examination. £50, tenable for three years in the Faculty of Arts.

\* E. C. G. Page did not comply with the conditions for holding the Scholarship.

1893—Mitchell, E. M.  
 1896—Teece, R. C.  
 1899—Browne, C. S.\* } æq.  
           Teece, R. N.  
           Wilshire, H., *prox. acc.*

1902—Stephen, J. F.†  
           Henderson, R. G.

## 14—FREEMASONS' SCHOLARSHIP.

Founded in 1880, by a gift of £1000 from the Freemasons of New South Wales under the Constitution of the Grand Lodge of England, for the endowment of a Scholarship in honour of the District Grand Master of the Order, John Williams, Esq. Awarded for general proficiency at the Matriculation Examination. Competitors must be the sons of Freemasons of five years' standing of the United Grand Lodge of New South Wales. If at any time there shall be no candidates for Matriculation eligible to compete for the Scholarship, or if any such candidates fail to show sufficient merit, it will be open to like competition at the First Year Examination. The Scholarship may be held in any Faculty. £50, tenable for three years, provided that the scholar shall so long faithfully pursue his studies in the University, and shall pass the Annual Examinations with credit. Applications for permission to compete for the Scholarship will be received not later than the last day for receiving entries for the Examination for Matriculation Honours and Scholarships.

1893—Strickland, T. P.  
 1896—Teece, R. C.

1899—Teece, R. N.  
 1902—Stephen, J. F.

## 15—CAIRD SCHOLARSHIP.

Founded in 1886, by a gift of £1000 from George S. Caird, Esq., for the encouragement of the study of Chemistry. Awarded at the Second Year Examination in the Faculty of Science, for proficiency in Chemistry. The Scholar is required to attend the theoretical and practical courses of instruction in Chemistry during the Third Year of the Faculty of Science. If there should be no suitable candidate at the Second Year Examination, the Scholarship may be awarded at the Third Year Examination, the holder being required to devote himself to research work in the Chemical Laboratory during his first post graduate year. £50, tenable for one year.

1894—Simpson, E. S.  
 1898—Harker, George  
 1900—Heden, E. C. B., B.A.

1903—Jensen, H. I.  
 1904—Petrie, J. M., B.Sc.‡  
           Gray, G. J., B.E.

\* C. S. Browne did not comply with the conditions for holding the Scholarship.

† Holder of two other Scholarships.

‡ Special award; Research Scholarship for 1904, £100.

## 16—AITKEN SCHOLARSHIP

Founded in 1878 by a bequest of £1000 from James Aitken, Esq., of Grafton, for a Bursary or Scholarship. Up to 1893 it was applied as a Bursary. It is now awarded as a Scholarship for general proficiency at the Matriculation Examination in the years in which the Bowman-Cameron Scholarship is not awarded. £50, tenable for one year.

1895—Griffiths, F. G.

1897—Horn, W. R.

Bourne, Eleanor E., *prox. acc.*

1898—Todd, Frederick A.

1900—Wellisch, E. M.

Roe, R. C., *prox. acc.*

1901—Diethelm, O. A. A.

1903—Porter, W. E. T.

1904—Sampson, G. A.

## 17—JAMES KING OF IRRAWANG TRAVELLING SCHOLARSHIP.

Founded in 1888 by a bequest of £4000 from William Roberts, Esq., of Penrith, for the foundation of a Scholarship or Scholarships, in memory of the late James King, of Irrawang, near Raymond Terrace. By the terms of the will, the choice of competitors and the decision of their respective merits are vested in the Senate, acting upon the advice of the Professors of Classics, Mathematics, Chemistry, Physics and Natural History. It has been decided that the sum shall be devoted to the foundation of a Travelling Scholarship, to be called the James King of Irrawang Travelling Scholarship, and to be awarded on the following conditions:—

1. The Scholarship shall be awarded to a Graduate of not more than four years' standing, reckoned from his qualification by examination for his first Degree.

2. The holder will be required to prosecute his studies or researches to the satisfaction of the Senate, in some approved place or places during the tenure of his Scholarship.

3. The amount of the Scholarship is £130 per annum, tenable for not more than two years.

Candidates' applications should be in the hands of the Registrar at least three weeks before the first day of Lent Term of the year in which the Scholarship is awarded.

1894—Henderson, G. C., B.A.

1896—Smith, G. E., M.D., Ch.M.

1898—Chalmers, S. D., B.A.

1900—Nicholson, G. G., B.A.

1902—Sawkins, D. T., B.A.

1904—Allen, L. H., B.A.

## 18—JOHN HARRIS SCHOLARSHIP.

Founded in 1887 by a gift of £1000 from John Harris, Esq., then Mayor of Sydney. Awarded for proficiency in Anatomy and Physiology at the Third Year Examination in Medicine. £40, tenable for one year.

1895—Dixon, G. P.	1901—Mason, T. W.
1896—MacPherson, J., M.A., B.Sc.	1902—Buchanan, G. A.
1897—Willis, C. S.	1903—Quaife, C.*
1898—Burfitt, W. F., B.A.	Quaife, W. T.
1899—Barling, E. V. } æq.	O'Reilly, Susannah H. } æq.
Graham, Mabel J. }	1904—Parkinson, T. C.
1900—Page, E. C. G. } æq.	
Wallace, D., B.A. }	
Muscio, A., <i>prox. acc.</i>	

## 19—COUNCIL OF EDUCATION SCHOLARSHIP.

Founded in 1889 by a gift of £300 from the Trustees of the subscribers to a Memorial of the late Council of Education for the foundation of a Scholarship to be called the Council of Education Scholarship. Competition for the Scholarship is to be confined to the sons of teachers or officers in the Department of Public Instruction. It is provided by the deed of gift that before any award is made the fund shall be allowed to accumulate until it shall reach such a sum as will provide a Scholarship of not less amount than those already established in the University. It is to be awarded at the Matriculation Examination for general proficiency, but only when the candidates show such proficiency as in the opinion of the Examiners will entitle them to the award of a Scholarship, and is to be tenable for three years. The fund in December, 1903, amounted to £549 15s. 5d.

## 20—SCIENCE SCHOLARSHIPS OF HER MAJESTY'S COMMISSIONERS FOR THE EXHIBITION OF 1851.

Given by Her Majesty's Commissioners of the Exhibition of 1851, to be awarded to a student of three years' standing for the prosecution of study and research in some branch of Science with a view of developing the manufactures and industries of his country. £150, tenable for two years.

1892—Barracrough, S. H., B.E.	1900—Durack, J. J. E., B.A.
1893—Ledger, W. H., B.E.	1901—Harker, George, B.Sc.
1895—Watt, J. A., M.A., B.Sc.	1903—Boyd, A., B.Sc., B.E.
1897—Strickland, Tom P., B.E.	

## 21—FRAZER SCHOLARSHIP.

Founded in 1890 by a bequest of £2000 from the Hon. John Frazer, M.L.C. £70.

1. The Scholarship is awarded upon the result of the Third Year Examination in History, combined with such further examination or other test as the Professor of History may from time to time determine.

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\* Resigned.



2. Those students only are eligible who have just completed their Third Year, and who at the time of the election are qualified for the B.A. Degree.

3. One half of the Scholarship money will be paid to the successful candidate at the time of election. The second half will be paid to him (i.) on his passing an examination qualifying for the Degree of M.A., with Honours in History, within two years of the date of his election, or (ii.) on his having within the same period pursued for at least one year, to the satisfaction of the Senate, some other course of historical study or research.

The Scholarship will be awarded in March to the student who shows most proficiency in the papers and essays set in connection with the Examination for Honours in the Third Year.

1895—Dennis, J., B.A.	1900—Rutherford, Florence M., B.A.
Griffith, J. S., B.A., <i>prox. acc.</i>	Scrutton, C. Maude, B.A.,
1896—Doust, Edith L., B.A. } <i>prox. acc.</i>	
Yarnold, A. H., B.A. } <i>æq.</i>	1901—Mills, Elsie, A. H., B.A.
Murray, Florence J., B.A.,	1902—Teece, R. N., B.A.
<i>prox. acc.</i>	Mackness, Constance, B.A.,
1897—Chalmers, S. D., B.A.	<i>prox. acc.</i>
1898—Lance, Elisabeth A., B.A. } <i>æq.</i>	1903—Cole, P. R.
Pilcher, N. G. S., B.A. } <i>æq.</i>	King-Kemp, R. C., <i>prox. acc.</i>
1899—Teece, R. C., B.A.	1904—Cramp, K. R.

#### 22—WOOLLEY SCHOLARSHIPS.

The late Edwin Dalton, Esq., of Sydney, by his will in 1875, bequeathed his residuary estate, subject to a life interest on the part of his widow, and an annuity of £75, to the University to found “a Scholarship or Scholarships in commemoration of the late Dr. Woolley, its first Principal and Professor,” desiring that the Scholarship or Scholarships so to be founded should “have reference to that branch of teaching or philosophy which the late Dr. Woolley chiefly inculcated.” By the death of his widow in 1893 the University became entitled to the residuary estate, amounting to about £8000, subject to the annuity of £75.

The following are the regulations which have been adopted by the Senate for the award of the Scholarship:—

1. The Scholarship shall be awarded to a Graduate in Arts of less than four years' standing at the time of the award, reckoning from his qualification by examination for the B.A. Degree.

2. The Scholarship will be awarded by the Senate after report from the Professors of Greek, Latin, Modern Literature, Philosophy and History, who shall recommend to the Senate that

candidate who in their opinion shows the greatest promise of success in further study of any one or more subjects falling under the heads of Language, Literature, History and Philosophy; provided that they consider such candidate to be of sufficient merit.

3. The holder will be required to prosecute his studies or researches to the satisfaction of the Senate at some approved place or places during the tenure of his Scholarship.

4. The amount of the Scholarship is £150 per annum, tenable for not more than two years.

5. An award of this Scholarship shall generally be made in alternate years with an award of the James King of Irrawang Travelling Scholarship.

Candidates' applications should be in the hands of the Registrar at least three weeks before the first day of Lent Term of the year in which the Scholarship is awarded.

1899—Dettmann, H. S., B.A.		1901—Todd, F. A., B.A.
1903—Merrington, E. N., M.A.		

#### GARTON SCHOLARSHIPS.

Founded in 1898, by a bequest of £2050 from the late Thomas Garton, Esq., of Clapham, London, for the establishment of Scholarships for French and German and for Ancient History, or other subjects at the discretion of the Senate. Under the powers granted in the will, the Senate has determined to apply the fund to the foundation of two Scholarships for French and German.

##### 24—GARTON SCHOLARSHIP, No. I.

Awarded at the First Year Examination in the Faculty of Arts, for proficiency in French and German. £30, tenable for one year.

1900—Wilshire, H.		1902—Armstrong, Clare A. C.
1901—Sproule, Margaret.		1904—Not awarded

##### 25—GARTON SCHOLARSHIP, No. II.

Awarded at the Second Year Examination in the Faculty of Arts, for proficiency in French and German. £30, tenable for one year.

1899—Bailey, Margaret A.		1902—Sproule, Margaret
1900—Armstrong, Ina B. H.		1904—Armstrong, Clare A. C.
1901—Wilshire, H.		

## 26—GEORGE AND MATILDA HARRIS SCHOLARSHIP.

Founded in 1900, by a gift of £1700 from Mrs. Matilda Duff Harris, of Ultimo House, in memory of her late husband, George Harris, Esq., to be called the "George and Matilda Harris Scholarship," and to be "awarded in the Faculty of Law, for the encouragement of the study of Law, under such rules and regulations as the Senate of the University may make from time to time for this purpose." Under this power it has been determined that the Scholarship "shall be awarded by the Senate in each year upon the results of Part II. of the Intermediate Examination. £50, tenable for one year.

1901—Robson, R. N., B.A.		1903—King-Kemp, R. C.
1902—Wilson, G. H., B.A.		1904—Rowland, N. de H., B.A.

## VII.

## MILITARY AND CIVIL APPOINTMENTS.

## MILITARY COMMISSIONS.

A Commission in the British Army is offered annually to a student of this University under the regulations issued with Army Orders, dated 1st January, 1892. These will be found in full in the University Calendar for 1896. Amended regulations, issued with Army Orders, dated 1st January, 1898, may be seen in the Registrar's Office.

Under the provisions of No. II. of the Regulations, the Senate has decided that candidates for a nomination must be Matriculated Students who have completed one year in the Faculty of Arts, and passed the First Year Examination, and who have also passed a satisfactory examination in Geometrical Drawing.

After nomination by the Senate the candidate is required to pass in the following September the examination in Military subjects referred to in Regulation 13. The War Office will make arrangements for this examination to be held in Sydney.

1895—Harris, John		1896—Johnson, Robert B. I.
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## MILITARY CADETSHIP AT SANDHURST.

The University has been granted the privilege of one nomination per annum to a Cadetship in the Royal Military College at Sandhurst.

Candidates for a nomination must be Matriculated Students who have completed one year in the Faculty of Arts, and passed the First Year Examination, and who have also passed a satisfactory examination in Geometrical Drawing. They must be within the prescribed limits of age, and must in all other respects comply with the regulations and conditions prescribed by the War Office.

#### NAVAL MEDICAL SERVICE.

The Lords Commissioners of the Admiralty have decided to allot a certain number of Commissions as Medical Officers in the Royal Navy to qualified candidates in the Australasian Colonies under the following arrangement :—

1. During the next three years (1904-6) Australia is to be offered two Commissions a year, and New Zealand one in alternate years, *i.e.*, six for Australia and two for New Zealand during that period.
2. The Candidates to be selected by the Governor-General of the Commonwealth and the Governor of New Zealand, respectively, after consulting the Commander-in-Chief on the Station, on the recommendation of the University Authorities.
3. Candidates must be registered Medical Practitioners, and hold suitable certificates in both medicine and surgery granted by the Universities of Sydney, Melbourne, or Adelaide, or the University of New Zealand.
4. The Candidates are either to be nominated direct or selected after passing an examination held by the local University according as the Governor and Admiral on the Station may determine. They must also pass the physical examination referred to in Clause 8 of the Regulations for entry of Candidates.
5. The selected Candidates are to be appointed provisionally only, their Commissions in the Royal Navy being determined by the result of a course of training at Haslar, in which they will be expected to qualify to the satisfaction of the Naval Medical Authorities.

#### REGULATIONS FOR THE ENTRY OF AUSTRALIAN AND NEW ZEALAND CANDIDATES FOR COMMISSIONS IN THE MEDICAL DEPARTMENT OF THE ROYAL NAVY.

1. Every Candidate for admission into the Medical Department of the Royal Navy must not be under 21 nor over 28 years of age on the day of his acceptance by the Governor-General of

Australia or the Governor of New Zealand. He must produce an extract from the Register of the date of his birth, or, in default, a declaration made before a Magistrate from one of his parents, or other near relative, stating the date of his birth. He must also produce a certificate of moral character, up to date, and a recommendation signed by a Clergyman or Magistrate to whom he has been for some years personally known, or by the President or Senior Professor of the College at which he was educated; and he must declare that he is ready to engage for general service at home or abroad as required.

2. Registration under the Medical Act in force, as qualified to practice Medicine and Surgery in Great Britain and Ireland, may be deferred until after the arrival in England of a Candidate who has been passed on the Australian Station, but a Commission as Surgeon will not be granted until the certificate of the Registrar of the Medical Council has been produced at the Medical Department of the Navy.

3. He must be free from organic or other disease, and his physical fitness will be determined by a Board of Naval Medical Officers on the Station, who are to certify that his vision comes up to the required standard, which will be ascertained by the use of Snellen's Test Types.

4. The certificates of character and birth must accompany the declaration, which is to be filled up and signed by the Candidate, and transmitted to the Chancellor of the University, who, if he recommends the Candidate, will in turn forward it to the Governor-General of Australia or the Governor of New Zealand.

5. Candidates must be Medical Practitioners, and hold suitable certificates in both Medicine and Surgery granted by the Universities of Sydney, Melbourne or Adelaide, or the University of New Zealand. They will be appointed provisionally only, their Commissions in the Royal Navy being determined by the result of the course of training at Haslar, in which they will be expected to qualify to the satisfaction of the Home Naval Medical Authorities.

6. Selected Candidates will be granted a passage to England at the public expense.

7. Surgeons on entry are only required to provide themselves with a pocket case of instruments, a stethoscope, and three clinical thermometers. All other instruments are provided at the public expense.

#### EXAMINATIONS FOR THE CIVIL SERVICE OF INDIA.

Appointments in the Civil Service of India are made after open competition.

These examinations are held in England annually in the month of August, and applicants are required to send their applications on the prescribed form before the 31st of May.

Each candidate must satisfy the Civil Service Commissioners—

1. That he is a natural born subject of His Majesty.
2. That he had attained the age of 21 and had not attained the age of 23 on the first day of the year in which the examination is held.
3. That he has no disease, constitutional affection, or bodily infirmity unfitting him, or likely to unfit him, for the Civil Service of India.
4. That he is of good moral character.

The full regulations, including the subjects of examination, may be seen in the Registrar's Office.

#### ENGINEERS IN HIS MAJESTY'S NAVY.

The regulations for the entry of Engineering students into His Majesty's Navy, for the entry of students in Naval Construction, and the regulations for the guidance of candidates for direct appointments as probationary Assistant Engineers in the Royal Navy, may be seen in the Registrar's Office.

### VIII.

#### EXHIBITIONS.

##### 1—SALTING EXHIBITION.

Founded in 1858 by a gift of £500 (with accumulations) from Severin Kanute Salting, Esq., to be applied for the promotion of sound learning. Awarded on the recommendation of the Trustees of the Sydney Grammar School to a student proceeding thence to the University. £25, tenable for three years in the Faculty of Arts.

1894—Whitfeld, H. E.

1897—Stephen, H. M.

1900—Barton, W. A.

1903—MacCallum, M. L.

## 2—J. B. WATT EXHIBITIONS.

Founded in 1876 by a gift of £1000 from the Honourable John Brown Watt, and two subsequent gifts of £1000 each in 1888 and 1889. The Exhibitions are bestowed on the bursary principle (see p. 208), being not tenable in the Professional Schools, and are awarded to boys or youths who have been for at least three years in private colleges or schools. They are tenable for three years, and entitle the holders to £30 for the first year, £40 for the second, and £50 for the third year. The candidates must have passed with special credit either the Junior or Senior Public Examination. The Exhibition is intended to enable the holder to obtain a course of higher education, either at the University or elsewhere, subject to the direction of the Senate. The complete conditions of award will be found in the Manual of Public Examinations.

## 3—STRUTH EXHIBITION.

Founded in 1883 by a gift of £1000 from John Struth, Esq., for the foundation of an Exhibition to assist students of intellectual promise, but whose means are not otherwise sufficient for the purpose, in obtaining a Degree in the Faculty of Medicine. The Exhibition is awarded to a student who has completed the First Year of the Arts course upon the following conditions:—

1. The Deans of the Faculty of Arts and the Faculty of Medicine shall receive a satisfactory assurance that the means of the applicant are insufficient to enable him to proceed with the Medical course without some such pecuniary assistance.

2. Applications for permission to compete for the Exhibition, accompanied by the necessary certificates, must be sent to the Registrar at least fourteen days before the first day of the Annual Examinations.

3. The Exhibition shall be awarded to that candidate, of those who are allowed to compete, who shall show the greatest proficiency in the First Year Examination of the Arts course, and whose attainments and promise are such as to justify the award.

4. The holder, who shall at once proceed with his studies in the Faculty of Medicine, shall receive the sum of £40 per annum for five years; provided that he shall only continue to hold it on the condition that he is diligent and of good conduct, and that he passes creditably all the Examinations of his course. In the

event of illness of the holder causing prolongation of his course of medical study, the case will be subject to the special consideration of the Senate. The Exhibition is open to students of either sex. The last award was made in March, 1902.

#### 4—HORNER EXHIBITION.

Founded in 1889 by a bequest of £200 from Francis Horner, Esq., M.A. Awarded for proficiency in Mathematics at the Matriculation Examination. It cannot be held with two other Scholarships in the University. In case of equality in order of merit in competition for the Exhibition, preference shall be given to a student matriculating direct from the King's School, Parramatta, or in the absence of a student from that School, to a candidate from Newington College, Stanmore. £8, tenable for one year.

1895—Griffiths, F. G.*	1900—Wellisch, E. M.*	} æq.
Forsyth, W. G.	Roe, R. C.†	
1896—Hawken, R. W. H.	Deck, H. L.	} prox. acc.
Waterhouse, G. A., <i>prox. acc.</i>	Griffiths, J. N.	
1897—Boyd, W. S.	Harris, J. S.	} æq.
Horn, W. R.	1901—Brearley, E. A.	
Mort, H. S.	Diethelm, O. A. A.	} æq.
Stephen, H. M.	Weatherburn, C. E.	
1898—Mort, Harold S.	1902—Henderson, R. G.*	} æq.
1899—Tivey, J. P.	Mottershead, A.	
Vonwiller, O. U.	Paul, A.	} æq.
Smith, W., <i>prox. acc.</i>	Tomlinson, G. L.	
	1903—Lyons, R. J.	} æq.
	1904—Dennis, S.	
	Watkin, H. L.	

### IX.

#### BURSARIES.

The Bursaries at the disposal of the University have all been created (on the initiation of the late Dr. Badham, when Professor of Classics) by private foundations at a cost of £1000 each, together with a margin in some cases to ensure prescribed annual awards amounting to £50; and they are helped, on the part of the Senate, by an accompanying exemption from all lecture fees.

\* Holder of two other scholarships.

† R. C. Roe did not comply with the conditions for holding the Exhibition.



They were created for the purpose of placing the advantages of education in this University within the reach of students, who, whilst giving sufficient promise of benefit, would otherwise be excluded through the want of financial means. And in order to secure privacy as regards the poverty of the candidates and their friends, the nominations are directed to be made by the Chancellor alone.

Other bursaries in greater number have lately been created by the Government in connection with the Public School system, but the University is not concerned in their award, although the Senate has conceded to them a like exemption from fees, upon like conditions.

Some of the founders indicate a preference for students from the country, but the majority are silent on this subject. In two, they "trust that the Senate will coincide in their opinion that except in cases where religion offers an insurmountable barrier, the bursar shall be required to reside in one of the Affiliated Colleges;" and in several, it is expressed that the bursaries are "to enable the recipient to reside in one of the Affiliated Colleges, or in some other place approved of by the authorities of the University from which he may attend the prescribed courses of lectures;" but in the great number there is no corresponding expression. In practice, the Senate has abstained from imposing any restrictions as to residence, not only in the case of bursaries, but of the whole body of students, notwithstanding Section 18 of the Incorporation Act.

In some cases the founders contemplated full bursaries of £50 a year, as for students from the country, though without prohibiting divisions of the amount; but more generally they either expressly allow of awards of £25 a year, or other less sums than £50, or leave the matter open. And of late years the absence of new foundations has created a necessity for extending the usefulness of the bursaries by frequent divisions into halves; and the Senate has granted the same exemptions from fees as in the case of full bursaries.

No bursary is subject to any distinction of creed or of position, except that in one case a preference is expressed, but not imposed, for a student belonging to the donor's own Church, and in another the nomination is confined to sons of a minister of religion, but without distinction of Church; in both of which cases the founder bestowed a second bursary without any restriction.

All the bursaries, except five, which were given by Mr. Thomas Walker, in July, 1881, were founded before women were admitted to the University, and they were ostensibly for men only. But Mr. Walker's bursaries were for both sexes, and his instructions required that women should participate. The practice has since been to observe no distinction of sex.

All the bursaries were founded before the introduction of Professional Schools into the University, except those of Mr. Walker, which were on the verge of such introduction and which referred to a past intention, and all appear to have contemplated only the established three years' course in "Literature, Science, and Art," according to the Foundation Act of 1850. On which ground, and for appropriate and independent reasons, they are not available for students in Professional Schools.

The total number of full bursaries is eleven, in addition to which two more will eventually be created by means of surpluses which are required to be accumulated for the purpose. This enumeration is exclusive of the Exhibitions of Mr. Watt and Mr. Struth, and of the Levey and Alexander Endowment for Graduates, all of which are based on the bursary principle as to inadequacy of means.

The conditions on which the bursaries are conferred are:—

1. That the Chancellor shall have received satisfactory assurance that the candidate's own means, and those of his parents, guardians, "or other friends" (as expressed in some of the foundations), are insufficient to enable him to bear the cost of attending the University without the assistance of a bursary.
2. That the candidate is qualified by education and capacity to benefit by the University course, with which view some of the earlier foundations required that the candidate should be examined by the Professor of Classics and (in some cases "or") the Professor of Mathematics and certified by them, or one of them, to be intellectually fit. But as the University bursaries are now ordinarily granted after the Matriculation Examination, or an equivalent at the Public Examinations, this stipulation has dropped out of use.

3. That the bursar, if not already matriculated, shall matriculate at the commencement of the next Academic year after his appointment, and shall come into his attendance on lectures as the Senate may direct; and that he shall be diligent, and of good conduct; and that he shall pass creditably at the Annual Examinations during his tenure of the bursary.
4. Subject to the above conditions, the bursary is held for three years, except when granted to Undergraduates who have already gone through part of the three years' course, and have then become unable to finish their course without help, in which case the tenure is confined to the residue of the ordinary three years' course.

1—MAURICE ALEXANDER BURSARY.

In 1874, the sum of £1000 was given by Mrs. Maurice Alexander for the endowment of a bursary in memory of her late husband. The annual value is £45.

2—JOHN EWAN FRAZER BURSARY.

In 1876, debentures for £1250, at 4 per cent., were given by the Honourable John Frazer, M.L.C., for the endowment of a bursary, of the annual value of £50, to be called after the name of his deceased son, John Ewan Frazer.

3—ERNEST MANSON FRAZER BURSARY.

In 1876, debentures for £1250, at 4 per cent., were given by the Honourable John Frazer, M.L.C., for the endowment of a bursary, of the annual value of £50, to be called after the name of his deceased son, Ernest Manson Frazer.

4—WILLIAM CHARLES WENTWORTH BURSARY, No. I.

In 1876, the sum of £1000 was given by Fitz-William Wentworth, Esq., for the foundation of a bursary, of the annual value of £50, to be called after the name of his deceased father, William Charles Wentworth, Esq.

5—WILLIAM CHARLES WENTWORTH BURSARY, No. II.

In 1876, the further sum of £1000 was given by Fitz-William Wentworth, Esq., for the foundation of a second bursary, of the annual value of £50, to be called after the name of his deceased father, William Charles Wentworth, Esq.; but the founder directed that this sum should accumulate until it

should reach £1500, that a second bursary should then be established, and that the surplus should accumulate until the sum of £1500 should again be reached, when a similar result is to follow. This foundation reached the sum of £1500 in 1886, and a second bursary was established accordingly.

6—WILLIAM CHARLES WENTWORTH BURSARY, No. III.

This fund was established in 1886 by the setting apart of the sum of £500 from the last-named foundation, to accumulate for the establishment of a third bursary in accordance with the directions of the founder. It amounted in December, 1902, to £1097 8s. 8d.

7—BURDEKIN BURSARY.

In 1876, the sum of £1000 was given by Mrs. Burdekin for the foundation of a bursary, to be called the Burdekin Bursary. The annual value is £40.

8—HUNTER-BAILLIE BURSARY, No. I.

In 1876, a sum of £1000 was given by Mrs. Hunter-Baillie for the foundation of a bursary, to be called the Hunter-Baillie Bursary. The annual value is £50.

9—HUNTER-BAILLIE BURSARY, No. II.

In 1877, a sum of £1000 was given by Mrs. Hunter-Baillie for the foundation of a bursary for the sons of ministers of religion. In the deed of gift the Senate is declared to be the sole judge of who are to be considered ministers of religion. The annual value is £50.

10—WALKER BURSARIES.

In 1881, the sum of £5000 was given by Thomas Walker, Esq., of Yaralla, Concord, for the foundation of bursaries. The gift was especially connected with the late resolution of the Senate, to grant to women equal participation with men in all University privileges, and it was desired by the founder that a portion of the bursaries—up to one half, as circumstances might dictate—should be made applicable to students of the female sex. Three bursaries, of the value of £50 per annum, are now awarded.

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THE LEVEY AND ALEXANDER ENDOWMENT.

In 1879, a sum of £1000 was given by Mrs. Maurice Alexander for the purpose of establishing an endowment in the University, in memory of her late parents, Isaac and Dinah

Levey. It is intended for young men who shall have gone through the regular University course, and shall have passed the Statutory Examination for the Degree of Bachelor of Arts in the University of Sydney, and graduated with credit to themselves, and who shall then be desirous of entering a liberal profession, but be without sufficient pecuniary means to bear the cost of the necessary preparation and superior instruction.

It is directed that no regard whatever shall be had to the religious creed or denomination of any candidate, provided that his personal character and repute shall be good, and that in determining any such award the only considerations shall be such as have reference to the character and to the abilities and learning of the candidate, as proved by University Examinations, and to his financial position.

The award is to be made to a Graduate who shall have recently taken his B.A. Degree; but the preference shall be given to one who had graduated in Honours.

The professions which are held specially in view are those of Medicine and Surgery, and of Law in either branch, and those of Architects, Surveyors and Engineers; but full discretion is given to the University Senate to include any other secular profession which shall be deemed by them to be of a learned or liberal character.

It is intended that the Graduate selected under this endowment shall enjoy the income for three years either by one payment of not exceeding one hundred and fifty pounds (when sufficient accumulations are available) for fees or premiums on articles of pupillage; or by half-yearly payments of twenty-five pounds for three years; or partly in each way, as may be deemed by the Senate best for carrying out the objects in view. The last award was made in 1903.

#### THE HENRY WAIT BURSARY (IN MEDICINE).

Founded in 1900, by a bequest of £1000 from the late Henry Wait, Esq., of Redfern, "for the encouragement of the study of Medicine." The testator provides that the "Senate or Governing Body of the said University of Sydney shall be the proper person to appoint and determine the conditions and provisions of the said bursary, and to pay to the successful candidate for the

same yearly, the amount to be fixed by them therefor." The bursary is awarded to a student who has completed the First Year of the Arts course upon the following conditions:—

1. The Deans of the Faculties of Arts and Medicine shall receive a satisfactory assurance that the means of the applicant are insufficient to enable him to proceed with the Medical course without some such pecuniary assistance.
2. Applications for permission to compete for the Exhibition, accompanied by the necessary certificates, must be sent to the Registrar at least fourteen days before the first day of the Annual Examinations.
3. The bursary shall be awarded to that candidate of those who are allowed to compete who shall show the greatest proficiency in the First Year Examination of the Arts course, provided he shall be deemed to have shown sufficient merit.
4. The holder, who shall at once proceed with his studies in the Faculty of Medicine, shall receive the sum of £40 per annum for five years; provided that he shall only continue to hold the bursary on the condition that he is diligent and of good conduct, and that he passes creditably all the Examinations of his course. In the event of illness of the holder causing prolongation of his course of Medical study, the case will be subject to the special consideration of the Senate. The bursary is open to students of either sex. The last award was made in March, 1901.
5. The holder of this bursary is not exempt from the payment of any fees.

## X.

### \* PRIZES.

#### 1—WENTWORTH MEDAL.

Founded in 1854, by a gift of £200 from W. C. Wentworth, Esq., the interest to be applied for an Annual Prize for the best English Essay.

In 1889 the fund had accumulated sufficiently to provide for two Prizes of the value of £10 each, and a Prize is now given for

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\*The names of prize winners before the year 1894 will be found in the University Calendar for 1900.

competition amongst Undergraduates, and second Prize for competition amongst Bachelors of Arts of not more than three years' standing.

## GRADUATES' MEDAL.

1895—Pratt, F. V., B.A.	1901—Gough, N. J., B.A.	} <i>æq.</i>
1896—Griffith, J. S., B.A.	Read, Elizabeth J., B.A.	
1897—Cowan, David, B.A.	1902—Gough, N. J., B.A.	
Taylor, Eliz. I., B.A., <i>prox. acc.</i>	Scrutton, C. Maude, B.A.	
1898—Dettmann, H. S., B.A.	1903—Green, H. M., B.A.	
1899—Dettmann, H. S., B.A.		

## UNDERGRADUATES' MEDAL.

1894—MacMaster, D. A. D.	1898—Nicholson, G. G.
1895—Griffith, J. S.	1899—Gough, N. J.
1896—Dettmann, H. S.	1900—Gough, N. J.
1897—Dowling, F. V.	1904—Not awarded.

## 2—NICHOLSON MEDAL.

Founded in 1867 by a gift of £200 from Sir Charles Nicholson, Bart., D.C.L., to provide an annual Prize for Latin Verse. The competition for this medal is open to all Undergraduates and Graduates of not more than two years' standing. Value, £10.

1902—Allen, L. H.	1904—Allen, L. H.
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## 3—BELMORE MEDAL.

Founded in 1870, by a gift of £300 from the Right Honourable the Earl of Belmore. Awarded annually to a member of the University, under the standing of M.A., for proficiency in Geology and Practical Chemistry, with special reference to Agriculture. The Examination is held in Michaelmas term. Value, £15. (See page 176.) The last award was made in 1885.

## 4—FAIRFAX PRIZES.

Founded in 1872, by a gift of £500 from John Fairfax, Esq. Awarded to the greatest proficient among the female candidates at the Senior and Junior Public Examinations. In the case of Seniors the candidates must not be over twenty-five years of age, and of Juniors seventeen years. Value, £15 and £10 respectively.

## SENIOR PRIZE.

1894—Lance, Elisabeth Ada } <i>æq.</i>	1899—Armitage, Lilian M.
England, Hannah } <i>æq.</i>	1900—Bilbrough, Jessie
1895—Lane-Latham, Ethel J.	1901—Skillen, Jessie
1896—Bourne, Eleanor E.	1902—Bourne, Florence I. } <i>æq.</i>
1897—Copas, Theodora E. J.	Watson, Maria E. }
1898—Knox, Marjory	1903—Jones, Grace E.

## JUNIOR PRIZE.

1893—Read, Elizabeth Jane	1897—Armitage, Lilian M. } æq.
1894—Lane-Latham, Ethel Jane	Harkess, Blanche J. } æq.
1895—Copas, Theodora E. J. } æq.	Sandford, Blanche V., } prox. acc.
Middleton, Florence G. }	1898—Kellick, Stella M.
1896—Bowmaker, Jessie } æq.	1899—Skillman, Jessie
Bruce, Grace Mitchell }	1900—Watson, Maria E.
Mills, Elsie A. H. } prox. acc.	1901—Jones, Eveline G. } æq.
Stewart, Jessie I. }	Ramsay, Muriel B. }
	1902—MacLean, Lilian Alexia
	1903—Norris, Mabel A. C.

## 5—JOHN WEST MEDAL.

Founded in 1874, by a gift of £200 from the subscribers to a memorial of the Reverend John West, Editor of the *Sydney Morning Herald*. Awarded to the greatest proficient in the Senior Public Examination. Value, £6.

1894—Griffiths, Frederick Guy	1899—Wellisch, E. M. } æq.
Kerr, Richard Alex., } prox. acc.	Roe, R. C.
1895—Teece, R. Clive	1900—Weatherburn, C. E.
1896—Bourne, Eleanor E.	1901—Stephen, J. F. } æq.
Horn, W. R. }	Henderson, R. G. }
Robson, R. N. } prox. acc.	Thelander, C. A., } prox. acc.
Stephen, H. M. }	1902—Porter, W. E. T.
1897—Todd, F. A.	1903—Sampson, G. A.
1898—Browne, C. S. } æq.	
Teece, R. N. }	
Macrossan, H. D. } prox. acc.	
Morton, H. G. S. }	

## 6—SMITH PRIZE.

Founded in 1854, maintained until the year 1885 by annual gifts, and subsequently by a bequest of £100 from the Honourable Professor Smith, M.D., C.M.G. Awarded to the best Undergraduate of the First Year in Experimental Physics. Value, £5.

1895—Burfitt, W. F.	1899—Fraser-Hill, Charlotte E.
1896—Beaver, W. R. } æq.	1900—Close, J. C.
Harker, G. }	1901—Weatherburn, C. E.
1897—Ward, L. K.	1902—Mason, W. H.
1898—Jordan, G. E. G.	1903—Lusby, S. G.

## 7—NORBERT QUIRK PRIZE.

Founded in 1886, by a gift of £144 from the subscribers to a memorial of the Rev. John Norbert Quirk, LL.D., late principal of Lyndhurst College. Awarded for proficiency in Mathematics at the Second Year Examination. Value, £5.

1895—Stewart, D. G.	1901—Vonwiller, O. U.
1896—Chalmers, S. D.	1902—Wellisch, E. M.
1897—Griffiths, F. G.	1903—Weatherburn, C. E.
1898—Sawkins, D. T.	1904—Tomlinson, G. L. } æq.
1899—Stephen, H. S.	Skillman, Jessie }
1900—Mort, H. S.	



8—SLADE PRIZES.

Founded in 1886, by a gift of £250 from G. P. Slade, Esq., for the encouragement of Science. Awarded for proficiency in Practical Chemistry and Practical Physics respectively. Value, £5 each.

CHEMISTRY.

1894—Sandes, F. P.	1899—Whitfield, H. E., B.A.
Warren, E. W. (Class Exam.)	1900—Giblin, N. E.
1895—Reid, N.	1901—Saunders, G. J.
1896—Jack, R. L.	1902—Foxall, H. G.
1897—Winton, L. J.	1903—Priestley, H.
1898—Heden, E. C. B. } æq.	
Newman, J. M. }	

PHYSICS.

1894—Sandes, F. P.	1900—Gray, G. J. } æq.
1895—Woolnough, W. G.	Stoddart, R. }
1897—Madsen, J. P. V.	1901—Brown, G. F. Campbell
1898—Weston, P. L. } æq.	1902—Shellshear, J. L.
Wilson, R. C. }	1904—Atkinson, J. } æq.
1899—Lethbridge, H. O. }	Jones, S. W. }
Whitfield, H. E., B.A. }	

9—GRAHAME PRIZE MEDAL.

Founded in 1891, by a bequest of £100 from William Grahame, Esq., of Waverley. Awarded to such candidate as shall display the greatest general proficiency at the Senior Public Examination. Value, £4.

1894—Griffiths, Frederick Guy	1899—Roe, E. C. } æq.
Kerr, Richard A., <i>prox. acc.</i>	Wellisch, E. M. }
1895—Teece, R. Clive	1900—Weatherburn, C. E.
1896—Bourne, Eleanor E.	1901—Stephen, J. F. } æq.
Horn, W. R. }	Henderson, R. G. }
Robson, R. N. } <i>prox. acc.</i>	Thelander, C. A., <i>prox. acc.</i>
Stephen, H. M. }	1902—Porter, W. E. T.
1897—Todd, F. A.	1903—Sampson, G. A.
1898—Browne, C. S. } æq.	
Teece, R. N. }	
Macrossan, H. D. } <i>prox. acc.</i>	
Morton, H. G. S. }	

10—COLLIE PRIZE.

Founded in 1892, by a bequest of £100 from the Rev. Robert Collie, F.L.S., of Newtown. Awarded to a student of any Faculty at the First Year Examination in Botany. Value, £4.

1895—Burfitt, W. F., B.A.	1900—Quaife, W. T.
1896—Graham, Mabel J.	1901—McCulloch, H. T. C.
1897—Bourne, Eleanor E.	1902—MacInnes, A., B.A.
1898—Higgins, T. E. C.	1903—Dawes, Madeleine M.
1899—Buchanan, G. A.	

## 11—BEAUCHAMP PRIZE.

Founded in 1901, by a gift of £625 from His Excellency the Right Hon. William Lygon, Earl Beauchamp, K.C.M.G., Governor of New South Wales. It is awarded for the best essay on some literary or historical subject, and is of the value of £25. The subject shall be determined either upon the recommendation of the donor or of the Professors of Classics, Modern Literature, History, Philosophy and Law. The Examiners shall be appointed by the Senate at the December meeting in each year. The competition is open to all Undergraduates and Graduates of not more than twenty-five Terms' standing from Matriculation. (See page 177.)

1902—Teece, R. Clive, M.A.

| 1904—Green, H. M., B.A.

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## \*UNIVERSITY PRIZES.

### I.—M.A. EXAMINATION.

A Medal is awarded to the most distinguished candidate in the Honour Examination for the Degree of Master of Arts in the several schools, if of sufficient merit.

#### LOGIC, MENTAL, MORAL AND POLITICAL PHILOSOPHY.

1896—Smairl, J. H.	1902—Fletcher, M. Scott
1899—Garran, R. R.	1903—Merrington, E. N.

#### MODERN HISTORY.

1901—Teece, R. C.

### II.—B.A. EXAMINATION.

A Medal is awarded to the most distinguished candidate in the Honour Examination for the Degree of Bachelor of Arts in the several schools, if of sufficient merit.

#### CLASSICS.

1896—Mitchell, E. M.	1900—Robson, R. N.
1897—Whitfeld, H. E.	1901—Todd, F. A.
Dettmann, H. S., <i>prox. acc.</i>	1903—Barton, W. A.
1898—Evans-Jones, D.P.	1904—Allen, L. H.
1899—Teece, R. C.	

#### MATHEMATICS.

1896—Stewart, D. G.	1903—Wellisch, E. M.
1897—Chalmers, S. D.	1904—Weatherburn, C. E.
1899—Sawkins, D. T.	

#### LOGIC AND MENTAL PHILOSOPHY.

1895—Rowland, N. de H.	} æq.	1900—Merrington, E. N.	} æq.
Whitfeld, Eleanor M.		1901—Bowmaker, Jessie	
1896—Swanwick, K. ff.		Fry, F. Mildred	
1897—Wallace, D.		1902—Ferguson, J. A.	
1898—Pilcher, N. G. S.		1903—Cole, P. R.	
1899—Nicholson, G. G.		1904—Watts, P. R.	

### III.—LL.B. EXAMINATION.

A Medal is awarded to the student who exhibits the greatest proficiency at the LL.B. Examination, if of sufficient merit.

1896—Bavin, T. R.	1900—Mitchell, E. M.
1898—Peden, J. B.	1903—Teece, R. Clive

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\* The names of those who gained prizes before 1895 will be found in the University Calendar for 1900.

## IV.—M.D. EXAMINATION.

A Medal is awarded to the candidate who exhibits the greatest proficiency at the M.D. Examination, if of sufficient merit.

- 1895—Smith, Grafton Elliot (Anatomy)  
1903—Sandes, Francis Percival (Surgery)

## V.—M.B. EXAMINATION.

A Medal is awarded to the student who exhibits the greatest proficiency at the M.B. Examination, if of sufficient merit.

- |                     |  |                                  |
|---------------------|--|----------------------------------|
| 1896—Dixon, G. P.   |  | 1900—Burfitt, W. F., B.A., B.Sc. |
| 1898—MacPherson, J. |  | 1901—Macintosh, A. H.            |

## VI.—B.Sc. EXAMINATION.

A Medal is awarded to the student who exhibits the greatest proficiency at the B.Sc. Examination, if of sufficient merit.

- |                                     |  |   |
|-------------------------------------|--|---|
| 1900—Madsen, J. P. V. (Mathematics) |  | 1902—Vonwiller, O. U. (Mathematics and Physics) |
| 1901—Petrie, J. M. (Chemistry)      |  |   |
| Boyd, A. (Physics).                 |  |   |

## VII.—M.E. EXAMINATION.

A Medal is awarded to the most distinguished candidate in the Honour Examination for the Degree of Master of Engineering, if of sufficient merit.

- |                  |  |                          |
|------------------|--|--------------------------|
| 1894—Dare, H. H. |  | 1896—Bradfield, J. J. C. |
|------------------|--|--------------------------|

## VIII.—B.E. EXAMINATION.

A Medal is awarded to the student who exhibits the greatest proficiency at the B.E. Examination, if of sufficient merit.

- |                        |       |                                       |
|------------------------|-------|---------------------------------------|
| 1895—Doak, W. J.       | } æq. | 1901—Madsen, J. P. V. (Civil)         |
| Jackson, C. F. V.      |       | Boyd, W. S.                           |
| 1897—Strickland, T. P. |       | Newman, J. M. } æq. (Mining)          |
|                        |       | 1902—Boyd, A. (Civil)                 |
|                        |       | 1904—Weston, P. L. (Mechl. & Electl.) |

## IX.—ENGLISH VERSE.

A Medal of the value of £10 is given by the University for the best composition in English Verse. The competition for this Medal is open to all Undergraduates and Bachelors of Arts of not more than two years' standing.

- |                    |  |                         |
|--------------------|--|-------------------------|
| 1901—Austin, A. H. |  | 1903—Green, H. M., B.A. |
| 1902—Austin, A. H. |  | 1904—Green, H. M., B.A. |

## X.—UNIVERSITY PRIZE FOR PHYSIOGRAPHY.

A University Prize of the value of £5 is awarded to the student of the First Year who passes the best Class Examination in Physiography, if of sufficient merit.

1894—Darbyshire, Taylor	1899—Taylor, T. G.	} æq.
Hansard, Edith H., <i>prox. acc.</i>	Mackness, Constance	
1895—Evans-Jones, D. P.	1900—Maxwell, W.	
1896—Harker, G.	1901—Goddard, E. J.	
1897—Rutherford, Florence M.	Cramp, K. R., <i>prox. acc.</i>	
Mutton, I., <i>prox. acc.</i>	1902—Flashman, H. W.	
1898—Jarrett, Marjorie K.	1903—Hammond, W. L.	
Poole, W.	Bridge, J. M., <i>prox. acc.</i>	
Buchanan, G. A., <i>prox. acc.</i>		

## XI.—UNIVERSITY PRIZES AT PUBLIC EXAMINATIONS.

Prizes of £20 and £10 were appropriated annually by the Senate until the year 1894 for the greatest proficient amongst the male candidates at the Senior and Junior Public Examinations. A Prize of £5 is now offered for competition amongst the greatest proficient in the Junior Examination, the Prize for Seniors being withdrawn. The limit of age for Juniors is seventeen years.

## JUNIOR PRIZE.

1894—Robson, Reginald N.	1900—MacCallum, M. L.	} æq.
1895—Browne, Claude S.	Mottershead, A.	
Woodd, George N., <i>prox. acc.</i>	1901—McIntosh, A. M.	} æq.
1896—Teece, R. N.	Atkinson, J.	
1897—Griffiths, J. N.	Mulcahy, F. B., <i>prox. acc.</i>	
1898—Armstrong, R. S.	1902—Castlehow, S.	
Neal, H. E.	1903—Alden, M. C.	} æq.
Molesworth, E. H., <i>prox. acc.</i>	Cohen, C. H.	
1899—Rogers, P. H.		
Stephen, J. F.		
Paterson, John		

## \*PRIVATE ANNUAL PRIZES.

PATHOLOGY.—Prizes, given by Dr. W. Camac Wilkinson, for  
proficiency in Pathology.

1895—Dixon, G. P.	1899—Graham, Mabel J.
1896—MacPherson, J., M.A., B.Sc.	Macintosh, A. H., <i>prox. acc.</i>
1898—Burfitt, W. F., B.A., B.Sc.	

MATERIA MEDICA AND THERAPEUTICS.—Prizes given by  
Dr. Thomas Dixon.

1895—MacPherson, J., M.A.	1898—Graham, Mabel J.
1896—Brennand, H. J. W., B.A.	1899—Page, E. C. G.
1897—McLean, G.	1900—Dansey, St. J. W.
Burfitt, W. F., B.A., <i>prox. acc.</i>	

ENGLISH.—Prizes of £2 10s. each, given by Professor MacCallum  
for English Essays in the First and Second Years, and of £10  
for proficiency in English in the Third Year.

### First Year.

1895—Forsyth, W. G.	1899—Teece, R. N.
1896—Nicholson, G. G.	1900—Allen, L. H.
White, Margaret I. } <i>æq.</i>	Austin, A. H. } <i>æq.</i>
1897—Gough, N. J.	1901—Watts, P. R.
1898—Adams, Frances L.	1902—Paterson, J.
Wilson, D. } <i>æq.</i>	1903—MacCallum, M. L.

### Second Year.

1895—Dettmann, H. S.	1900—Fraser-Hill, Charlotte E. } <i>æq.</i>
1896—Dowling, F. V.	Fullerton, Lottie }
1897—Read, Elizabeth J. } <i>æq.</i>	1901—Allen, L. H.
Withycombe, E. J. }	1902—Watts, P. R.
1898—Gough, N. J.	1903—Henderson, R. G.
1899—Wilson, D.	

### Third Year.

1895—Beardmore, Ada	1901—Armstrong, Helen D. H.
1896—Dettmann, H. S.	1902—Waterhouse, E. G.
1897—Fidler, Isabel M.	Cole, P. R., <i>prox. acc.</i>
1898—Nicholson, G. G.	1903—Allen, L. H.
1899—Scrutton, C. Maude	

\* The names of those who gained prizes before the year 1895 will be found in the Calendar for 1900.

BIOLOGY.—Prizes of £2 2s., given by Professor Haswell, for proficiency in Zoology.

1894—Brennaud, H. J. W.	1899—Buchanan, G. A.
1895—Woolnough, W. G.	1900—Leslie, J. R.
Burfitt, W. F., <i>prox. acc.</i>	1901—Palmer, C. R.
1896—Graham, Mabel J.	1902—Weatherburn, C. E.
1897—Bourne, Eleanor E. } <i>æq.</i>	1903—Archdall, M.
Muscio, A.	
1898—Suckling, F. M.	
Woolnough, R. E., <i>prox. acc.</i>	

BIOLOGY.—A Prize of £1 1s., given by Professor Haswell, for excellence in Laboratory notes.

1895—Holmes, H. G.	1901—Binney, Constance C. } <i>æq.</i>
Durack, W. J. } <i>æq.</i>	Gibson, D. D.
Harris, W. E.	Graham, D. H.
1896—Humphery, E. M.	1902—Bradley, C. H. B. } <i>æq.</i>
1897—Muscio, A.	Poate, H. R. G.
1898—Mansfield, W. C. } <i>æq.</i>	White, W. J.
Smith, S. A.	1903—Archdall, M. } <i>æq.</i>
1899—Connolly, T. P.	Ewing, T.
1900—Power, J. W.	

GEOLOGY.—Prizes of £4 and £5 each, given by Professor David, for proficiency in Geology respectively in the Second and Third Years.

First Year.

1895—Graham, Mabel	1895—Griffiths, F. G.
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Second Year.

1894—Brearley, J. H. D.	1899—Newman, J. M.
1895—Shortland, W. A.	Heden, E. C., B.A., <i>prox. acc.</i>
1896—Woolnough, W. G.	1900—Verge, J., B.A.
1897—Waterhouse, G. A.	Mawson, D.
1898—Ball, L. C.	1901—Green, L. C.†
Winton, L. J.	1902—Jensen, H. I.
	1903—Foxall, H. G.

Third Year.

1894—Burfitt, W. F.	1900—Jordan, G. E. G. } <i>æq.</i>
1897—Woolnough, W. G.	Peterson, A. J.
1898—Waterhouse, G. A.	1901—Verge, J., B.A.
1899—Wilton, E. N.	1902—Taylor, T. G.
	1903—Jensen, H. I.

PRACTICAL PETROLOGY.—Prize of £1, given by Professor David, for proficiency in Practical Petrology.

1899—Gregson, W. H., B.A.	1901—Green, L. C.†
	1903—Nardin, C. C.

† Unmatriculated.

PHILOSOPHY.—A Gold Medal, of the value of £10, given by Professor Anderson, M.A., for the best essay on a Philosophical subject; competition to be open to all Bachelors of Arts of not more than two years' standing.

1895—Barron, J., B.A.	1900—Merrington, E. N., B.A.
1896—Cowan, D., B.A.	1902—Merrington, E. N., B.A.
1898—Wallace, D., B.A.	1904—Austin, A. H., B.A.
1899—Nicholson, G. G., B.A.	

LOGIC AND MENTAL PHILOSOPHY.—Prizes of £5 each, given by Professor Anderson.

Second Year.

1895—Taylor, Eliz. I. } Swanwick, K. ff. } æq.	1901—Ferguson, J. A.
1896—Wallace, D.	1902—Cole, P. R.
1897—Pilcher, N. G. S.	1903—Watts, P. R.
1898—Nicholson, G. G.	1904—Northcott, C. H. } Paterson, J. } æq.
1899—Merrington, E. N. Rutherford, Florence M., <i>prox. acc.</i>	

Third Year.

1895—Rowland, N. de H. } Whitfeld, Eleanor M. } æq.	1900—Merrington, E. N.
1896—Swanwick, K. ff.	1901—Bowmaker, Jessie } Fry, F. Mildred } æq.
Taylor, Elizabeth I., <i>prox. acc.</i>	1902—Ferguson, J. A.
1897—Wallace, D.	1903—Cole, P. R.
1898—Pilcher, N. G. S.	1904—Watts, P. R.
1899—Nicholson, G. G.	

HISTORY.—Prize of £5, given by Professor Wood, for proficiency in History.

1895—Doust, Edith L.	1901—Teece, R. N.
1896—Bloomfield, Elsie I'A.	1902—Cole, P. R.
1897—Lance, Elisabeth A.	King-Kemp, R. C. } æq.
1898—Teece, R. C.	1903—Cramp, K. R. } Maxwell, W. } æq.
1899—Robson, R. N. Rutherford, Florence M. } æq.	1904—Paterson, J. Rogers, P. H. } æq.
1900—Mills, Elsie A. H.	

FRENCH.—Prize of Books given by the Comité de l'Alliance Française for proficiency in French.

1900—Gough, N. J.

CLINICAL MEDICINE.—Prize of £5, given by Dr. R. Scot-Skirving, for proficiency in Clinical Medicine.

1901—Moncrieff, E. W.



METALLURGY — Prizes of £3 and £2, given by Professor Liversidge, for proficiency in Practical Metallurgy.

1901—Freeman, C. C.

Heden, E. C. B., B.A., B.Sc.

1902—†Brereton, E. Le G.

†Stoddart, R.

1903—Saunders, G. J.

Barr, J.

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† Not proceeding to a degree.

# \*HONOURS AT THE DEGREE EXAMINATIONS.

## FACULTY OF ARTS.

### M.A. EXAMINATION.

#### GREEK AND LATIN LITERATURE.

- 1897—Class II.—Pratt, F. V.  
1902—Class II.—McLaren, A. D.  
1903—Class III.—Yarnold, A. H.  
1904—Class II.—Jensen, Klio.

#### MATHEMATICS.

- 1900—Class II.—Sawkins, D. T.

#### LOGIC AND MENTAL PHILOSOPHY, ETC.

- |                             |   |                                 |
|-----------------------------|---|---------------------------------|
| 1896—Class I.—Smail, J. H.  | } | 1902—Class I.—Fletcher, M. S.   |
| Class II.—Millard, G. W.    |   | 1903—Class I.—Merrington, E. N. |
| 1899—Class I.—Garran, R. R. |   | Lasker, S.                      |
| Class II.—Taylor, Eliz. I.  |   |                                 |

#### ENGLISH LITERATURE AND POLITICAL PHILOSOPHY.

- 1894—Russell, F. A. A.

#### FRENCH AND GERMAN LITERATURE.

- 1904—Class I.—Wilshire, H.

#### LATIN AND MODERN FRENCH LITERATURE.

- 1895—Class II.—Bowmaker, Ruth.

#### LATIN AND OLD FRENCH LITERATURE.

- 1903—Class I.—Paxton, Betha.  
1904—Class II.—Uther, Mary H.

#### PHILOSOPHY AND FRENCH LITERATURE.

- 1896—Class II.—Stonham, J.

#### ENGLISH LITERATURE AND MODERN HISTORY.

- 1897—Class II.—Doust, Edith L.

#### MODERN HISTORY.

- |                                |   |                              |        |
|--------------------------------|---|------------------------------|--------|
| 1898—Class II.—Chalmers S. D.  | } | 1903—Class II.—Mills, Elsie, | } req. |
| Edwards, E. S.                 |   | A. H.                        |        |
| 1900—Class I.—Teece, R. C.     |   | Teece, R. N.                 |        |
| Class II.—Lance, Elisabeth A.  |   | Nolan, J. H. M.              |        |
| 1902—Class II.—Jones, C. H. F. | } | 1904—Class I.—Cole, P. R.    | }      |
| Class III.—Gordon, Emily I.    |   | Class III.—Crawford, T. S.   |        |

\* The names of those who obtained Honours before 1895 will be found in the University Calendar for 1900.

## B A. EXAMINATION.

## LATIN.

1895.

- Class II.—Whitfield, Eleanor M.  
Rowland, N. de H.  
Nelson, D. J.  
Griffith, J. S.  
Class III.—Macdonald, Fannie  
Scouler, D.

1896.

- Class I.—Mitchell, E. M.  
Class II.—Murray, Florence J.  
Class III.—Anderson, Maud E.

1897.

- Class I.—Whitfield, H. E.  
Dettmann, H. S.  
Class II.—Armstrong, Margaret J.  
Hobbs, E.

1898.

- Class I.—Fidler, Isabel M.  
Evans-Jones, D. P.  
Class III.—Dunnichiff, Mary C.

1899.

- Class I.—Teece, R. C.  
Parsons, J.  
Class II.—Galt, J.  
Walsh, J. J.  
Read, Elizabeth J.  
Liggins, Jessie H.  
Class III.—Marr, Faunie A.  
Perkins, F. T.

1895.

- Class I.—Griffith, J. S.  
Rowland, N. de H.

1896.

- Class I.—Mitchell, E. M.

1897.

- Class I.—Dettmann, H. S. } æq.  
Whitfield, H. E. }  
Class II.—Hobbs, E.

1900.

- Class I.—Robson, R. N.  
Hill, J. H. F.  
Class II.—Bailey, Margaret A.  
Mutton, I.  
Class III.—Uther, Mary H.  
Gough, N. J.  
Small, E. Ella

1901.

- Class I.—Todd, F. A.  
Mills, Elsie A. H. } æq.  
Paxton, Betha }  
Class II.—Palmer, Selina E.  
Hill, J. G. W.  
Class III.—Bruce, Grace M.  
Power, P. H.

1902.

- Class I.—Fraser-Hill, Charlotte E.  
Teece, R. N.  
Class II.—Ferguson, J. A. }  
Sandford, Blanche V. }  
Class III.—Crisford, Hilda N. M.  
Larcombe, E. R.

1903.

- Class I.—Barton, W. A.  
Jensen, Klio

1904.

- Class I.—Allen, L. H.  
Class II.—Levick, A. M. } æq.  
Jordan, F. R. }  
Bonney, R. S.

## GREEK.

1898.

- Class I.—Evans-Jones, D. P.

1899.

- Class I.—Teece, R. C.  
Walsh, J. J.  
Class II.—Galt, J.  
Class III.—Perkins, F. T.

1900.

- Class I.—Robson, R. N.  
Class II.—Hill, J. H. F.  
Class III.—Mutton, I.

## GREEK—continued.

1901.	1903.
Class I.—Todd, F. A.	Class I.—Barton, W. A. Jensen, Klio
	Class II.—Stewart, J. R.
	Class III.—Brentnall, Nina T.
1902.	1904.
Class I.—Teece, R. N.	Class I.—Allen, L. H.
Class III.—Larcombe, E. R.	Bonney, R. S.
	Class II.—Campbell, A. P.

## FRENCH.

1895.	1901.
Class I.—Stonham, Kathleen Hunter, Mary A. M.	Class I.—Paxton, Betha Armstrong, Ina B. H. Palmer, Selina E.
Class II.—Macdonald, Fannie Mallarky, Ethel M.	
1896.	1902.
Class I.—Montefiore, Hortense H.	Class I.—Mackness, Constance Wilshire, H.
Class III.—Johnston, Mary E.	Fraser-Hill, Charlotte E.
1897.	Armstrong, Helen D. H.
Class II.—Armstrong, Margaret J. Musmann, C. E. G.	Class III.—Reid, Violet M.
1898.	
Class I.—Fidler, Isabel M.	1903.
Class II.—De Lissa, Ethel N. Harwood, Marian F. } eq.	Class I.—Sproule, Margaret Waterhouse, E. G. Sharpe, G. F. Docker, Gladys, M.B. Wardrop, Maggie R.
Dey, Charlotte J. Jarvie, B.	
1899.	1904.
Class I.—Nicholson, G. G. Parsons, J.	Class I.—Jordan, F. R. Murray-Prior, Doroth. K. MacCallum, Isabella R.
Class II.—Curtis, W. J.	Class II.—Spence, J. Carey, Daisy
Class III.—Page, A. E. Lee, T. N.	
1900.	
Class I.—Bailey, Margaret A. Gough, N. J. Uther, Mary H.	
Class III.—Small, E. Ella	

## GERMAN.

1895.	1900.
Class II.—Stonham, Kathleen Hunter, Mary A. M.	Class I.—Bailey, Margaret A.
1897.	1901.
Class I.—Dettmann, H. S.	Class I.—Armstrong, Ina B. H.
Class II.—Musmann, C. E. G.	1902.
1898.	Class I.—Wilshire, H. Armstrong, Helen D. H.
Class II.—Harwood, Marian F. De Lissa, Ethel N.	1903.
1899.	Class I.—Sproule, Margaret Waterhouse, E. G.
Class I.—Nicholson, G. G.	

## ENGLISH.

1895.  
 Class I.—Harker, Constance E.  
           Roseby, Minnie  
 Class III.—Wearne, R. A.  
 1896.  
 Class I.—Beardmore, Ada  
           Bunting, Edith A.  
           Doust, Edith L.  
 Class II.—Byrne, Lily C.  
 1897.  
 Class I.—Dettmann, H. S.  
 Class II.—Barnes, Pearl E.  
 Class III.—Saunders, Eva F.  
 1898.  
 Class I.—Fidler, Isabel M.  
 Class II.—Jarvie, B.  
 1899.  
 Class I.—Nicholson, G. G.  
 Class III.—Slack, Ida M.  
 1900.  
 Class I.—Scrutton, C. Maude  
 Class III.—Gough, N. J.

1901.  
 Class II.—Armstrong, Ina B. H.  
 1902.  
 Class I.—Armstrong, Helen D. H.  
           Phillips, F. G.  
           Mackness, Constance  
           Crisford, Hilda N. M.  
 Class II.—Holt, Edith J. K.  
           Wheeler, H. C. F.  
           Fullerton, Lottie  
           King-Kemp, Laura M.  
 1903.  
 Class I.—Waterhouse, E. G.  
           Cole, P. R.  
 Class II.—Hope, P.  
 1904.  
 Class I.—Allen, L. H.  
           Skillen, Elizabeth } æq.  
           Watts, P. R. }

## HISTORY.

1895.  
 Class I.—Dennis, J.<sup>o</sup>  
           Griffith, J. S.  
           Whitfield, Eleanor M.  
           Harker, Constance E.  
           Elkin, J. B.  
 Class III.—Hunter, Mary A. M.  
           Roseby, Minnie  
 1896.  
 Class I.—Doust, Edith L. } æq.  
           Yarnold, A. H. }  
           Murray, Florence J.  
 Class III.—Foreman, H. J. C.  
 Class I.—Bloomfield, W. J.\*  
 1897.  
 Class I.—Chalmers, S. D.  
           Monahan, W. W.  
 Class II.—Jones, C. H. F.  
 1898.  
 Class I.—Lance, Elisabeth A. } æq.  
           Pilcher, N. G. S. }  
 Class II.—Gordon, Emily I.  
 Class III.—Rossiter, Florence A.

1899.  
 Class I.—Teece, R. C.  
 Class II.—Read, Elizabeth J.  
 1900.  
 Class I.—Rutherford, Florence M.  
           Scrutton, C. Maude  
           Fell, Catherine I.  
 Class II.—Nolan, J. H. M.  
 1901.  
 Class I.—Mills, Elsie A. H.  
           Jarrett, Marjorie K.  
 Class II.—Crawford, T. S.  
 1902.  
 Class I.—Teece, R. N.  
           Mackness, Constance  
           Fullerton, Lottie  
 Class II.—Reid, Violet M.  
 1903.  
 Class I.—Cole, P. R.  
           King-Kemp, R. C.  
 1904.  
 Class I.—Cramp, K. R.  
 Class II.—Maxwell, W.

## MATHEMATICS.

1895.  
Class II.—Burfitt, W. F.  
1896.  
Class I.—Stewart, D. G.  
Strickland, T. P. (Eng.)  
Class II.—Swanwick, K. ff.  
Class III.—Mitchell, E. M.  
1897.  
Class I.—Chalmers, S. D.  
1898.  
Class II.—Griffiths, F. G.  
Class III.—Jarvie, B.  
1899.  
Class I.—Sawkins, D. T.  
Durack, J. J. E.  
Mathews, H. B.

1900.  
Class II.—Stephen, H. M.  
1902.  
Class I.—Hawken, R. W. H.  
Smith, W.  
Class II.—Tivey, J. P.  
1903.  
Class I.—Wellisch, E. M.  
Sharpe, G. F.  
1904.  
Class I.—Weatherburn, C. E.  
Brearley, E. A.  
Class II.—Sutton, Mabel H.

## LOGIC AND MENTAL PHILOSOPHY.

1895.  
Class I.—Rowland, N. de H. } æq.  
Whitfeld, Eleanor M. }  
Class II.—White, C. A. }  
Roseby, Gertrude } æq.  
Roseby, Minnie }  
1896.  
Class I.—Swanwick, K. ff.  
Taylor, Elizabeth I.  
Class II.—Bloomfield, W. J.  
Beardmore, Ada } æq.  
Davis, Agnes M. H. }  
1897.  
Class I.—Wallace, D.  
Whitfeld, H. E.  
Stephen, J. W. F.  
Class II.—Broinowski, L. T.  
1898.  
Class I.—Pilcher, N. G. S.  
De Lissa, Ethel N.  
Class II.—Bavin, Gertrude L.  
Dumolo, Nona  
Class III.—Edwards, E. E.  
1899.  
Class I.—Nicholson, G. G.  
Davies, Edith W.  
Slack, Ida L.  
Class II.—Withycombe, E. J.  
Curtis, W. J.  
Lafferty, T. M.  
Class III.—Clipsham, Gertrude M.  
Turner, Annie E.

1900.  
Class I.—Merrington, E. N.  
Class II.—Bailey, Margaret A.  
Binns, W. J.  
Class III.—Gillam, Dora A.  
Sheridan, Muriel E. B.  
1901.  
Class I.—Bowmaker, Jessie } æq.  
Fry, F. Mildred }  
Class II.—Bruce, Grace M.  
Wilson, G. H.  
Class III.—Crawford, T. S.  
1902.  
Class I.—Ferguson, J. A.  
Green, H. M.  
Class II.—Castleman, A.  
Brownlie, Eveline A.  
1903.  
Class I.—Cole, P. R.  
Austin, A. H.  
Hope, P.  
Class II.—Grant, W. J.  
Stewart, J. R.  
Giles, J. H. P.  
McWilliam, N. G.  
1904.  
Class I.—Watts, P. R.  
Fry, Edith M.  
Class II.—Levick, A. M.  
Wheeler, A. R.  
Campbell, A. P.  
Spence, J.  
Class III.—Goddard, T. H.  
Powell, J. W. G.

## GEOLOGY AND PALÆONTOLOGY.

1895.	1898.
Class I.—Burfitt, W. F.	Class II.—Heden, E. C. B.
Class II.—Elliott, Millicent V.	Potts, Cuthbert
1896.	1899.
Class II.—Montefiore, Hortense H.	Class II.—Lee, T. N.
Brook, H. J. S.	1900.
*Officer, C. G. W.	Class I.—Wilton, E. N.
1897.	1902.
Class II.—Langley, Isabella E.	Class II.—Alexander, Maud N.

## BOTANY.

1893.	1894.
Class I.—MacPherson, J.	Class II.—Holmes, W. F.

## CHEMISTRY.

1894.	1897.
Class II.—Blatchford, T.	Class II.—Sharp, W. A. R.

## PHYSICS.

1899.	1902.
Class I.—Durack, J. J. E	Class II.—Tivey, J. P.

## FACULTY OF LAW.

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### LL.B. EXAMINATION.

<p style="text-align: center;">1895.</p> <p>Class II.—Levy, D. Martin, L. O. Holme, J. B.</p> <p style="text-align: center;">1896.</p> <p>Class II.—Walker, J. E. Boyce, F. S. Kershaw, J. C.</p> <p style="text-align: center;">1897.</p> <p>Class I.—Bavin, T. R.</p> <p style="text-align: center;">1898.</p> <p>Class I.—Peden, J. B. Class II.—Clines, P. J. Hammond, J. H. Parker, W. A.</p> <p style="text-align: center;">1899.</p> <p>Class II.—Waddell, G. W. Edwards, D. S. Bloomfield, W. J.</p>	<p style="text-align: center;">1900.</p> <p>Class I.—Mitchell, E. M. Class II.—Forsyth, W. G.</p> <p style="text-align: center;">1901.</p> <p>Class II.—Pilcher, N. G. S. Stacy, F. S. Clegg, W. C. Davidson, C. G. W. Tozer, S. D.</p> <p style="text-align: center;">1903.</p> <p>Class I.—Teece, R. C. Class II.—Robson, R. N. Arnold, A. G. de L. Rogers, W. A. H. Stephen, H. M.</p> <p style="text-align: center;">1904.</p> <p>Class II.—Browne, J. A. Wilson, G. H. Vickery, E. F.</p>
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## FACULTY OF MEDICINE.

## M.D. EXAMINATION.

1895.—Smith, G. E. (Anatomy).

1903.—Class I.—Sandes, F. P. (Surgery).

Blackburn, C. B. (Medicine).

1904.—Class II.—Hall, E. C. (Materia Medica and Therapeutics).

## M.B. EXAMINATION.

1895.

Class II.—Hall, G. R. P.  
Hughes, M. O'G.  
Jackson, J. W.

1896.

Class II.—Deck, G. H. B. }  
Halliday, J. C. } æq.  
McClelland, W. C.  
Wade, R. B.  
Conlon, W. A.

1897.

Class I.—Dixon, G. P.  
Class II.—Pain, E. M.

1898.

Class I.—MacPherson, J.  
Class II.—Hall, E. C.  
Kater, N. W.  
Throsby, H. Z.  
Ellis, L. E.

1899.

Class II.—MacMaster, D.Æ.D. }  
Blackburn, C. B. } æq.  
Cargill, W. D. }  
Magarey, F. W. A. } æq.

1900.

Class I.—Burfitt, W. F.  
Class II.—McLean, G.

1901.

Class I.—Macintosh, A. H.  
Class II.—Graham, Mabel J.  
Barling, J. E. V.  
Cox, H.

1902.

Class II.—Page, E. C. G.  
Wallace, D., B.A.  
Muscio, A.

1903.

Class II.—Dansey, St. J. W.  
Hipsley, P. L.  
Smith, S. A.  
Mason, T. W. } æq.  
Davis, J. S. }  
Woolnough, R. E.  
Plomley, M. J.  
Suckling, F. M.

1904.

Class II.—Buchanan, G. A.  
Browne, C. S.  
Connolly, T. P.  
Sharp, G. G.  
Mawson, W.  
D'Arcy, Constance E.

## FACULTY OF SCIENCE.

## B.Sc. EXAMINATION.

## CHEMISTRY.

1899.	1901.
Class I.—Harker, G.	Class I.—Petrie, J. M.
	Class II.—Heden, E. C. B., B.A.

## GEOLOGY AND PALÆONTOLOGY.

1894.	1900.
Class I.—Watt, J. A.	Class I.—Jordan, G. E. G. } æq.
Class II.—Bennett, Agnes E. L.	Peterson, A. J. }
	†Süssmilch, C. A.
1897.	1901.
Class I.—Horton, Marion C.	Class I.—*Verge, J., B.A.
	†Green, L. C.
1898.	1902.
Class I.—Woolnough, W. G.	Class I.—Taylor, T. G.
Poole, W.	Class II.—†Stone, W. G.
1899.	1903.
Class I.—Waterhouse, G. A.	Class I.—Jensen, H. I.

## MINERALOGY.

1894.	1903.
Class I.—Watt, J. A.	Class II.—Jensen, H. I.

## GEOLOGY AND MINERALOGY.

1901.	1902.
Class II.—Peterson, A. J. } æq.	Class I.—†Larcombe, C. O. G.
Heden, E. C. B., B.A. }	*Verge, J., B.A.

## PHYSICS.

1896.	1902.
Class II.—*Strickland, T. P.	Class I.—Vonwiller, O. U.
1900.	1903.
Class I.—Madsen, J. P. V.	Class I.—Close, J. C.
1901.	1904.
Class I.—Boyd, A.	Class II.—Taylor, T. G.
Weston, P. L.	
Class II.—Mort, H. S.	

\* Not passing through the regular course.

† Unmatriculated.

## BIOLOGY.

1894. Class II.—Bennett, Agnes E. L.	1901. Class II.—O'Reilly, Susannah H.
1897. Class I.—Horton, Marion C.	1902. Class II.—Johnston, S.J., B.A.
1898. Class II.—Davis, Agnes M. H.	

## MATHEMATICS.

1900. Class I.—Madsen, J. P. V.	1902. Class I.—Vonwiller, O. U.
1901. Class II.—Mort, H. S.	1903. Class II.—Close, J. C.
Boyd, A.	
Class III.—Weston, P. L.	

## M.E. EXAMINATION.

## CIVIL ENGINEERING.

1894. Class I.—Dare, H. H.	1896. Class I.—Bradfield, J. J. C.
-------------------------------	---------------------------------------

## B.E. EXAMINATION.

## CIVIL ENGINEERING.

1895. Class I.—Jackson, C. F. V. } æq. Doak, W. J. Wood, J. P.	1898. Class II.—Boyd, R. J.
Class II.—Arnott, R. F.	1899. Class II.—Beaver, W. R. Mathison, W. C.
1896. Class II.—Hole, W. F. Woore, J. M. S. *Hedgeland, E. W.	1900. Class II.—Hawken, R. W.
1897. Class I.—Strickland, T. P.	1901. Class I.—Madsen, J. P. V. Myers, H. W.
Class II.—Shortland, W. A. Smail, H. S. I.	1902. Class I.—Boyd, A. Class II.—Corlette, J. M. C.

## MINING AND METALLURGY.

1895. Class II.—Simpson, E. S. Dixon, J. T.	1899. Class II.—Jack, R. L. Morris, J. F.
1900. Class II.—Poole, W. Jackson, C. F. V.	

\* Not passing through the regular course.

## MINING.

1901.  
 Class I.—Newman, J. M.  
           Boyd, W. S.  
 Class II.—Gorringe, L. S.  
           \*Horsburgh, J.  
           Grut, C. F. de J.  
           1902.  
 Class II.—Freeman, C. C.  
           †Süssmilch, C. A.  
           Cameron, C. B.  
           Whitfeld, H. E., B.A.  
           Heden, E. C. B., B.A.,  
           B.Sc.

- 1902—*continued*.  
 Class II.—Williams, L. B., B.A.  
           †Green, L. C.  
           Thomas, D.  
           Mawson, D.  
           Gould, H. J.  
           1903.  
 Class II.—Ward, L. K., B.A. } æq.  
           Giblin, N. E. }  
           Peterson, A. J., B.Sc.  
           Gray, G. J.  
           Corlette, J. M. C.

1904.

- Class II.—Patterson, B. G.

## METALLURGY.

1901.  
 Class I.—Newman, J. M.  
           \*Harker, G., B.Sc.  
           Boyd, W. S.  
 Class II.—Grut, C. F. de J.  
           \*Horsburgh, J.

1902.  
 Class II.—Heden, E. C. B., B.A.,  
           B.Sc.  
           Freeman, C. C.  
           Gould, H. J.  
           †Morson, W. J.

1903.  
 Class I.—Ward, L. K., B.A.  
 Class II.—Peterson, A. J., B.Sc.  
           †Brereton, E. Le G.  
           Gray, G. J.  
           Corlette, J. M. C.  
           †Süssmilch, C. A.

1904.  
 Class I.—Shellshear, W.  
           Saunders, G. J.  
 Class II.—Patterson, B. G.  
           Hill, J. H. F., B.A.  
           Barr, J.

## ASSAYING AND ORE TREATMENT.

1903.  
 Class I.—†Brereton, E. Le G.  
           †Stoddart, R.

1903.  
 Class II.—Giblin, N. E. } æq.  
           Ward, L. K., B.A. }  
           Verge, J., B.A.

1904.

- Class II.—Saunders, G. J.  
           Barr, J.

## ELECTRICAL ENGINEERING.

- 1903.—\*Boyd, A., B.Sc., B.E.  
 1904.—Class I.—Weston, P. L.  
           Class II.—†Hall, R. V.

\* Not passing through the regular course.

† Unmatriculated.

# MATRICULATION EXAMINATION.

HONOURS.

NOVEMBER, 1903.

COOPER SCHOLARSHIP No. II. FOR CLASSICS—B. M. J. Schleicher.

BARKER SCHOLARSHIP No. II. AND HORNER EXHIBITION FOR MATHEMATICS—

S. Dennis

H. L. Watkins }  $\text{\text{Æ}q.}$

JAMES AITKEN SCHOLARSHIP FOR GENERAL PROFICIENCY—G. A. Sampson.

QUEEN VICTORIA MEDAL FOR WOMEN—Grace E. Jones.

LATIN.

Class I.

Sampson, G. A.

Schleicher, B. M. J.

Class II.

Hall, M. P. J.

Willis, C. G.

Golledge, K. A. }  $\text{\text{Æ}q.}$

Scroder, Aphra F.

McKeown, F. M.

McPhee, V. J.

Hill, A. C. W.

Parkinson, H. H.

Nimmo, W. M.

Wedd, Evelyn M.

Class III.

Thompson, H. L.

McDonald, S. F.

Marsh, H. T.

Cohen, E. H.

Norrie, J.

Paxton, Grace

Ham, Annie H.

Moffat, Violet M.

Leslie, N.

Dennis, S.

MATHEMATICS.

Class I.

Dennis, S. }  $\text{\text{Æ}q.}$

Watkins, H. L. }  $\text{\text{Æ}q.}$

Carter, H. G. }  $\text{\text{Æ}q.}$

Vaughan, H. }  $\text{\text{Æ}q.}$

Sampson, G. A.

Wedd, Evelyn M. }  $\text{\text{Æ}q.}$

Golledge, K. A. }  $\text{\text{Æ}q.}$

May, H. W.

Hill, A. C. W. }  $\text{\text{Æ}q.}$

Bates, A. W. }  $\text{\text{Æ}q.}$

Jones, Grace E.

Class II.

Fairlie, J. K.

Walker, J. S. D. }  $\text{\text{Æ}q.}$

Nimmo, W. M.

Laverack, J. D. }  $\text{\text{Æ}q.}$

Ham, Annie H.

Ramsay, Muriel B.

Hall, M. P. J.

Parnell, Ethel C. }  $\text{\text{Æ}q.}$

Willis, C. G.

Hogan, P. J.

Class III.

Moffat, Violet M.

Hoets, J. W. von R. }  $\text{\text{Æ}q.}$

Cornwall, Annie J. }  $\text{\text{Æ}q.}$

Parkinson, H. H. }  $\text{\text{Æ}q.}$

Thompson, H. L.

McGill, A. D.

Thompson, E. H.

Smith, K. }  $\text{\text{Æ}q.}$

Ahern, F. K.

Williams, T. R.

Cleary, F. A.

Hughes, J.

Copas, Amanda M.

McPhee, V. J.

Palmer, A. B.

Carmody, T. J.

Barron, T. P.

GERMAN.

Class I.

Cohen, E. H.

May, H. W.

Class II.

Sampson, G. A.

FRENCH.

Class I.

Golledge, K. A.

Hill, A. C. W.

Schleicher, B. M. J. }  $\text{\text{Æ}q.}$

Willis, C. G.

McKeown, F. M.

Moffat, Violet M.

McLaughlin, G.

Booth, Irene M.

Fry, Eva J.

Paxton, Grace }  $\text{\text{Æ}q.}$

Nimmo, W. M.

Parkinson, H. H.

McDonald, S. F.

Bates, A. W.

Cornwall, Annie J. }  $\text{\text{Æ}q.}$

Parnell, Ethel C.

Cohen, E. H.

Hughes, J. }  $\text{\text{Æ}q.}$

Noble, Olive C. }  $\text{\text{Æ}q.}$

Class II.

Leslie, N.

Hall, M. P. J.

Scroder, Aphra F. }  $\text{\text{Æ}q.}$

Smith, H. C. G.

McPhee, V. J.

May, H. W.

Kennedy, Hilda A. L.

Ham, Annie H.

Marsh, H. T.

Vine-Hall, A. }  $\text{\text{Æ}q.}$

Dennis, S. }  $\text{\text{Æ}q.}$

Marr, Mary O. M.

Martin, Laura M.

Innes, Flora R. C. }  $\text{\text{Æ}q.}$

Norrie, J.

Class III.

Norman, Pearl }  $\text{\text{Æ}q.}$

Pridham, Alice M.

Jones, Sarah E. P.

Beazley, R. N.

Noad, Emma A.

Patterson, M. S.	Watkins, H. L. }	Class II.
Wallach, Henriette	Laverack, J. D. } æq.	Sampson, G. A.
Bullock, H.	McConnel, Katharine M.	McKeown, F. M. }
Stanton Cook, Milli- } æq.		Wedd, Evelyn M. }
cent I.		Jones, Grace E.
Curtis, Emily A.	GREEK.	Class III.
Thompson, E. H.	Class I.	Norrie, J.
	Schleicher, B. M. J. }	Fairlie, J. K.
	Parkinson, H. H. } æq.	Leslie, N.

## MARCH, 1904.

## PASS.

Adams, Dorothy M.	Emanuel, F. C.	Marsh, H. T.
Adams, H. W.	English, R. J.	Marsh, Kathleen M.
Allen, C. K.	Eviston, Margaret P.	Martin, Laura M.
Badman, Gladys E.	Finley, C. A.	Martin, R.
Baker, A.	Fitzhardinge, J. F. G.	Matthews, W. F.
Baly, Estelle B.	Fitzgerald, M.	May, H. W.
Barlow, A.	Foster, W. P.	Middleton, J.
Barton, A. S. D.	Fowler, C. W.	Molesworth, C. S.
Bates, A. W.	French, B. R.	Moore, R. S.
Bennett, Tibbie S.	Fry, Eva J.	Monro, J. P.
Berge, C. G.	Gainford, G. Le B.	Morris, A. C.
Binns, J. S.	Gardner, S. L.	Morrison, S. H.
Blakeney, H. A.	George, S.	Newmarch, R. L.
Booth, Irena M.	Gillis, R. C.	Newton, C. V.
Bruce, J. W.	Gordon, G. A.	Nimmo, W. M.
Butler, Gertrude R.	Gormley, Ella M.	Noad, Emma A.
Campbell, Maggie	Gowing, E. N.	Noble, Olive C.
Campbell, Rosemary	Green, Ruth N.	Norman, K. D.
Cantrell, S. W.	Greene, Elsie G.	Norrie, G.
Chandler, H.	Hackett, M. J.	Otton, D. K.
Chard, J. P.	Harvey, R. F.	Owen, G. B.
Cooper, D. M.	Haswell, Irene F.	Paul, C. N.
Cosgrove, C.	Hill, Ida M.	Pennefather, Nina C.
Coward, W. B.	Holland, C. S. P.	Philip, F. C.
Cowie, H.	Howard, Vera	Pinnington, Doris
Cunningham, Margt. A.	Jackson, Elizabeth	Pratt, Annie M.
David, Margaret E.	Kelly, F. P.	Pridham, Alice M.
David, Mary E.	Labat de Lambert, A. E.	Purves, A. M.
Davies, E. S.	Leavers, C. W.	Quirk, F. P.
Davies, H.	Lee, G. R.	Reynolds, A. J.
Dibbs, L. B.	Leroy, A. E.	Robertson, N. K.
Deer, M.	Levinge, Freda	Robinson, Mabel H.
Dent, R. G. I.	Lewis, E.	Roseby, W. L. T.
Docker, Rosamund B.	Lydall, J. F.	Schenk, T. G. W. H.
Donkin, E. G.	Lynch, J.	Scrioder, Alpha F.
Ducker, N. G.	Macfarlane, Ethel B.	See, H. C. M.
Dunstan, Kathleen B.	Mackness, G.	Sherring, Beatrice A. S.
Edwards, R. C.	McLennan, D. M.	Sherwood, Edith M.

Simonds, E. F.	Stokes, S. W.	Waring, Mary G. R.
Smithers, Ada M.	Tarrant, T. A.	Watkins, H. L.
Snow, S. B.	Taylor, K.	Watson, E. O.
Sproule, R.	Taylor, R. C.	Wilby, W.
Stanton-Cook, Millicent I	Thomson, Mary I.	Wiles, Edith E.
Stewart, W. P.	Vaughan, Elizabeth	Young, H. R.
Stokes, Marion E.	Wallach, Henriette	

## ENTRANCE EXAMINATION

FOR THE FACULTIES OF LAW, MEDICINE AND SCIENCE, AND THE  
DEPARTMENT OF ENGINEERING.

March, 1904.

PASS.

*Those whose names are marked with the letter (E) are qualified for admission to the  
Department of Engineering*

Abernethy, C. W.	(E) Gallagher, J. L.	(E) Mort, J. L.
(E) Anderson, W. T.	(E) Grigor, W. E.	(E) Mulligan, E. M.
Bullock, H.	(E) Hudson, J. M.	(E) Norrie, J.
(E) Christie, G.	Johnston, H. H.	(E) Patterson, M. S.
Croll, D. G.	Lucas, C. R.	Rogers, L. H.
(E) Crothers, C. A.	(E) McKillop, L. M.	(E) Schmidt, E. T. C.
(E) Desgrand, G. V. A.	McLeod, Elizabeth	Veech, M. S.
Docker, E. N. B.	(E) Morrison, A.	

# FACULTY OF ARTS.

## FIRST YEAR EXAMINATION.

December, 1903, and March, 1904.

COOPER SCHOLARSHIP NO. III. FOR CLASSICS—M. L. MacCallum.

GEORGE ALLEN SCHOLARSHIP FOR MATHEMATICS—R. J. Lyons.

GARTON SCHOLARSHIP NO. I. FOR FRENCH AND GERMAN—Not awarded.

UNIVERSITY PRIZE FOR PHYSIOGRAPHY—W. L. Hammond.

J. M. Bridge (Eng.), *prox. acc.*

PROFESSOR MACCALLUM'S PRIZE FOR ENGLISH ESSAYS—M. L. MacCallum.

SMITH PRIZE FOR PHYSICS—S. G. Lusby.

### HONOUR LISTS.

LATIN.		MATHEMATICS.		JUNIOR FRENCH.	
Class I.		Class I.		Class I.	
MacCallum, M. L.	} æq.	Lyons, R. J.	} æq.	Lusby, S. G.	
Porter, W. E. T.		Lusby, S. G.		Whitney, G. C.	
Clark, Marjorie D.		McIntosh, A. M.		Class II.	
Class II.		* Cotton, L. A.		McIntosh, A. M.	
Watson, Maria E.		Class II.		Class III.	
Class III.		* Collins, C. M.		Noake, S. C.	
Gibbes, J. W.	} æq.	Jones, S. W. (Eng.)		Hughes, J.	
Hughes, J.		Class III.		Debenham, F.	
GREEK.		Burnell, J. G.		Leeson, Ida	
Class I.		Bourne, Florence I.			
MacCallum, M. L.		Noake, S. C.			
Class II.		JUNIOR GERMAN.			
Porter, W. E. T.		Class I.			
Watson, Maria E.		McIntosh, A. M.			
Manning, H. E.					

The following have completed the First Year Examination.

(Alphabetical.)

Allen, H. G.	Child, Sophia R.	Dawson, Arthur Lacy
Armstrong, Harriet E. M.	Clark, Marjorie D.	Debenham, Frank
* Barron, G. M.	Coen, B. J.	Debenham, Jessie
Bellhouse, Constance A.	Coen, F.	(A)*Easterbrook, I. E.
Blume, Bertha E.	Coghlan, E. G.	Edwards, Dorothea
* Bourke, J. O. A.	(A)*Collins, C. M.	Ewing, T.
Bourne, Florence I.	(A)*Coleman, E. A.	Ferguson, E. W.
Bundock, A. W.	(A)*Cotton, L. A.	Fitzhardinge, Julie G.
Burnell, J. G.	Dalvell, Elsie J.	Flynn, T. T.
Campbell, Florence E.	(A)*Davies, Isobel	(A)*Fraser, G. E.

\* Evening Student.

(A) These students take Physics and Physiography in the Second Year under present teaching arrangements.



## First Year Examination—continued.

Free, Mary G.	McKie, E. N.	(A)*Shortland, P. D.
(A)*Gale, C. A.	MacKinnon, E.	Simpson, M. H.
Gibbes, J. W.	McLean, A. L.	Smith, C. P.
Hall, Florence S.	McPhillamy, M. C.	Smith, G. K.
Hallman, E. F.	Manning, H. H.	Smith, Nellie M.
Hammond, W. L.	Mathie, M.	Smyth, J. S.
Hertzberg, W. M.	Meldrum, H. J.	Sparling, Grace L.
Holden, Florence M.	(A)*Middleton, R. J.	Talbot, Ethel
Hollingdale, B. A.	Milford, G. D.	Thompson, Lucy E.
Hughes, J.	Murray-Prior, Ruth A.	Tietkens, Emily M.
Jones, E. D. L.	*Newton, R. G.	(A)*Toose, S. V.
King, C. A. Z.	Noake, S. C.	Verge, C. A.
Laurie, W. S.	Parsons, Florence L.	(A)*Walker, C. C. P.
Ling, Rose E.	Pearce, W. T. L. A.	(A)*Waring, H. R.
Leeson, Ida E.	Penman, L. E.	Watson, Maria E.
Lennox, Edith	Porter, W. E. T.	(A)Watt, T. E.
*Lovell, H. T.	Portus, G. V.	Waugh, K. C.
Lusby, S. G.	Redgrave, H. W.	Webb, B. L.
Lyons, R. J.	Rees, Ada	White, H. F.
MacCallum, M. L.	Rhodes, Alice O. R.	Whiting, K. M.
MacFarlane, Laurie M.	Roberts, H. A.	Whitney, G. C.
McIntosh, A. M.	Sands, W. G.	(A)*Williams, R. S.
Macintosh, G. D.		

## Order of Merit in Individual Subjects.

## ENGLISH.

Pass, December, 1903.

MacCallum, M. L.	Hollingdale, B.	*Waring, H. R.
*†Mackness, G.	Coen, F.	Noake, S. E.
Dalyell, Elsie J.	Webb, B. L. } æq.	Talbot, Ethel } æq.
Clark, Marjorie D. } æq.	Bourne, Florence I.	Ferguson, E. W. } æq.
*Whitney, G. C. } æq.	*Easterbrook, J. E.	Leeson, Ida E. } æq.
Bellhouse, Constance A.	Hammond, W. L.	Waugh, K. C.
Lusby, S. G.	Jones, E. D. L.	Reynolds, A. J. } æq.
Campbell, F. E.	*Davies, E. S.	*Watt, T. E. } æq.
Watson, Maria E.	Child, Sophia R. } æq.	†*Harvey, R. F. } æq.
McIntosh, A. M.	Hughes, J.	Ling, Rose E. } æq.
Holden, Florence M.	*Fraser, G. E.	Verge, C. A.
Lennox, Edith } æq.	Macintosh, G. D. } æq.	Coen, B. J. } æq.
*Porter, W. E. T. } æq.	Sparling, Grace I. } æq.	Flynn, T. T. } æq.
Parsons, Florence L.	McKean, A.	Allen, H. G.
Redgrave, H. W.	Smith, Nellie M.	*Coleman, E. A. } æq.
Free, Mary G.	Middleton, R. J.	*Davies, Isobel } æq.
*Walker, C. C. P.	Murray-Prior, Ruth A.	Sands, W. G.
Lyons, R. J.	McKinnon, E.	Bundock, A. W.
*†Martin, A. H.	Gibbes, J. W.	McLean, A. L. } æq.
*Collins, C. M.	Debenham, F.	†Rentoul, Annie J. } æq.
*Cotton, L. A. } æq.	Debenham, Jessie } æq.	H.
Meldrum, H. J. } æq.	Hall, Florence S. } æq.	McDonald, W. A.
Portus, G. V. } æq.	*Gale, C. A.	Rees, Ada

\* Evening Student. † Unmatriculated. (M) These students take Chemistry in the Second Year under present teaching arrangements.

## English—continued.

*Page, R. A.	Hallman, E. F.	Armstrong, Harriet	} . ba- bet
†*Baker, Hilda de S.	Thompson, Lucy E. } . æq.	E. M.	
Manning, H. H.	*Williams, R. S.	McKie, E. N.	
Grassick, H. R.	Penman, L. E.	†*Allen, F. T.	
Laurie, W. S.	Burnell, J. G.	*Hampton, Adeline	
*Shortland, P. D.		S.	
Blume, Bertha E.		King, C. A. Z.	

## Pass (alphabetical).

Ewing, T.	Kater, C. F.	Rhodes, Alice O. R.
Fitzhardinge, Joan M.	McPhillamy, M. C.	Simpson, M. H.
Fitzhardinge, Julie G.	McBride, J.	Smyth, J. S.
*Fox, Edith E.	MacFarlane, Laurie M.	Tietkens, Emily M.
Frew, A. E. H.	†*Olsen, J. M. S.	White, H. F.
Hertzberg, W. M.	Pearce, L. A.	Whiting, K. M.

## Pass, March, 1904 (alphabetical).

*Bavin, L.	Fullerton, J. A.	Roberts, H. A.
Bedford, M. E.	Gibson, J. C.	*Rochester, H. R.
Berry, D. H.	Mathie, M.	Smith, C. P.
Coghlan, E. G.	Milford, G. D.	Smith, G. K.
Dawson, A. L.	Ralston, A. W.	*Toose, S. V.
Edwards, Dorothea		

## LATIN.

## Pass, December, 1903.

Lyons, R. J.	McIntosh, A. M.	*Coleman, E. A.	} . æq.
Lennox, Edith	Macintosh, G. D.	Jones, E. D. L.	
*Walker, C. C. P.	Penman, L. E.	Laurie, W. S.	
Fitzhardinge Julie } . G. } . æq.	Smith, Nellie M.	*Watt, T. E.	
Pearce, L. A.	Verge, C. A.	Edwards, Dorothea	} . ba- bet
Blume, Bertha } . æq.	Dalyell, Elsie J. } . æq.	Bellhouse, Con- stance A.	
Noake, S. C.	*Collins, C. M.	Hallman, E. F.	
*Davies, Isobel	McKie, E. N.	*Leroy, A. E.	
Portus, G. V.	Debenham, Jessie } . æq.	Fullerton, J. A.	} . ba- bet
Webb, B. L.	Dawson, A. L.	McLean, A. L.	
Hollingdale, B. A.	*Waring, H. R.	MacFarlane, Laurie	
*Lovell, H. T.	Debenham, F.	*Shortland, P. D.	
*Williams, R. S.	*Fraser, G. E.	Hall, Florence S.	} . æq.
Coen, F.	Sparling, Grace L.	*Toose, S. V.	
Lusby, S. G.	*Gale, C. A.	Armstrong, Harriet	
Roberts, H. A.	Leeson, Ida E.	E. M.	
Waugh, K. C.	Mathie, M.	*Bourke, J. O. A.	} . ba- bet
Coen, B. J.	Parsons, Florence L.	Bourne, Florence I.	
Ferguson, E. W.	Murray-Prior, Ruth A.	Allen, H. G.	
McPhillamy, M. C.		Bundock, A. W.	
Manning, H. H.		Redgrave, H. W.	
*Whitney, G. C.			

Latin—*continued*.

Brennan, W. K.	} æq.	Ascher, C.	} æq.	Gibson, J. C.	} æq.
Child, Sophia R.		Hammond, W. L.		Smith, G. K.	
Holden, Florence M.	} æq.	Free, Mary G.	} æq.	Ewing, T.	} æq.
Ling, Rose E.		Ralston, A. W.		Simpson, M. H.	
MacKinnon, E.	} æq.	*Middleton, R. J.	} æq.	Smith, C. P.	} æq.
Nathan, G. G.		Thompson, Lucy E.		Flynn, T. T.	
Rhodes, Alice O. R.	} æq.	Burnell, J. G.	} æq.	*Cotton, L. A.	} æq.
Talbot, Ethel		McDonald, W. A.		Hertzberg, W. M.	
Campbell, Florence E.	} æq.	Whiting, K. M.	} æq.	King, C. A. Z.	} æq.
*Newton, R. G.				White, H. F.	

## Pass, March, 1904 (alphabetical).

*Barron, G. M.	*Easterbrook, I. E.	Smyth, J. S.
*Bavin, L.	*Hunt, A. F.	Thompson, W. B.
Bedford, M. E.	Milford, G. D.	Tietkens, Emily M.
Coghlan, E. G.	Rees, Ada	Waldron, G. D. K.
*†Cooper, D. M.	Sands, W. G.	

## GREEK (PRELIMINARY) FIRST YEAR.

## Pass, December, 1903.

Sands, W. G.	McKie, E. N.	Laurie, W. S.
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## JUNIOR GERMAN.

## Pass, March, 1904.

Hertzberg, W. M.

## JUNIOR FRENCH.

## Pass, December, 1904.

*Lovell, H. T.	*Walker, C. C. P.	Fitzhardinge, Joan M.
Clark, Marjorie D.	Free, Mary G.	Talbot, Ethel
*Burke, J. O. A.	Lyons, R. J.	Campbell, Florence E.
Hollingdale, B. A.	Holden, Florence M.	} æq.
Webb, B. L.	Bundock, A. W.	
Parsons, Florence L.	*Waring, H. R.	Smith, Nellie M.
Blume, Bertha E.	Bellhouse, Constance A.	King, C. A. Z.
*Davies, Isobel } æq.	Coen, F.	Coen, B. F.
*Mobbs, A. W.	Nathan, G. G.	Waugh, K. C.
Lennox, Edith	Child, Sophia R.	} æq.
Sparling, Grace L.	Ferguson, E. W.	
Armstrong, Harriet E. M.	Gibbes, J. W.	Thompson, Lucy E.
} æq.	Hall, Florence S.	*Cotton, L. A.
	*Rickard, J. C.	Redgrave, H. W.
Dawson, A. L.	*Fraser, G. E.	Verge, C. A.
Debenham, Jessie	*Williams, R. S.	*Watt, T. E.
Collins, C. M.	McPhillamy, M. C.	MacFarlane, Laurie
Dalyell, Elsie J.	Meldrum, H. J.	Murray-Prior, Ruth A.
Ling, Rose E.	Edwards, Dorothea	Burnell, J. G.
Jones, E. D. L.		*Middleton, R. J.
		Portus, G. V.
		McLean, A. L.

\* Evening Student. † Unmatriculated.

## Junior French—continued.

Coleman, Isabella M.	} ad.	Simpson, M. H.	} æq.	Macintosh, G. D.
*Newton, R. G.		Flynn, T. T.		Pearce, W. T. L. A.
Rhodes, Alice O. R.	}	Hallman, E. F.		White, H. F.
Ewing, T.		*Shortland, P. D.		Tietkens, Emily M.
*Toose, S. V.		Mathie, M.		*Gale, C. A.
Smyth, J. S.		*Easterbrook, I. E.		Milford, G. D.
Smith, G. K.				

## Pass, March, 1904 (alphabetical).

Allen, H. G.	Edward, Jessie D.	Penman, L. E.
Ascher, C.	Hammond, W. L.	Rees, Ada
*Barron, G. M.	*Hampton, Adeline S.	Roberts, H. A.
Berry, D. H.	MacKinnon, E.	Smith, C. P.
Brennan, W. K.	Manning, H. H.	Whiting, K. M.
Coghlan, E. G.		

## MATHEMATICS.

## Pass, December, 1903 (alphabetical).

Allen, H. G.	Hammond, W. L.	Noake, S. C.
Armstrong, Harriet M.	Hertzberg, W. M.	Parsons, Florence L.
Bedford, M. E.	Holden, Florence M.	Pearce, W. T. L. A.
Bellhouse, Constance A.	Hollingdale, B. A.	Penman, L. E.
Blume, Bertha E.	Hughes, J.	Porter, W. E. T.
Bourne, Florence I.	Jones, E. D. L.	Portus, G. V.
Bundock, A. W.	Kater, C. F.	Redgrave, H. W.
Burnell, J. G.	Ling, Rose E.	Rees, Ada
*Campbell, Florence E.	Leeson, Ida E.	Rhodes, Alice O. R.
Childs, Sophia R.	Lennox, Edith	Roberts, H. A.
Clark, Marjorie D.	Lusby, S. G.	Sands, W. G.
Coen, B. J.	Lyons, R. J.	Simpson, M. H.
Coen, F.	McBryde, J.	Smith, G. K.
Coghlan, E. G.	MacCallum, M. L.	Smyth, J. S.
Dalyell, Elsie J.	McIntosh, A. M.	Sparling, Grace L.
Debenham, F.	MacFarlane, Laurie M.	Talbot, Ethel
Debenham, Jessie	MacIntosh, G. D.	Thompson, Lucy E.
Ewing, T.	McKie, E. N.	Verge, C. A.
Ferguson, E. W.	MacKinnon, E.	Watson, Maria E.
Flynn, T. T.	McLean, A. L.	Wagh, K. C.
Free, Mary G.	McPhillamy, M. C.	Webb, B. L.
Gibbes, J. W.	Manning, H. H.	White, H. F.
Hall, Florence S.	Meldrum, H. J.	Whitney, G. C.
Hallman, E. F.	Murray-Prior, Ruth A.	

## EVENING STUDENTS.

## Pass, December, 1903 (alphabetical).

†Allen, F. T.	Davies, Isobel	Fox, Edith E.
Brauer, E. H. J.	Easterbrook, I. E.	Fraser, G. E.
Coleman, E. A.	Gale, C. A.	†Mackanness, G.
Collins, C. M.	†Harvey, R. F.	McKean, L. J.
Cotton, L. A.	Hunt, A. F.	†McKean, A.
Davies, E. S.	†Leroy, A. E.	†Martin, A. H.

\* Evening Student. † Unmatriculated.

## Evening Students—continued.

Middleton, R. J.	†Reynolds, A. J.	†Smallwood, H.
Mobbs, A. W.	Rickard, J. C.	Walker, C. C. P.
†Olsen, J. M. S.	Rochester, H. R.	Waring, H. R.
Page, R. A.	Shortland, P. D.	Williams, R. S.

## Pass, March, 1904 (alphabetical).

*Baker, Hilda de S.	King, C. A. Z.	Smith, Nellie M.
*†Cooper, D. M.	Laurie, W. S.	Tietkens, Emily M.
Dawson, A. L.	McDonald, W. A.	*Toose, S. V.
Edwards, Dorothea	Mathie, M.	Whiting, K. M.
Fitzhardinge, Julie G.	Milford, G. D.	*Watt, T. E.
Gibson, J. C.	Smith, C. P.	

## CHEMISTRY.

## Class Examination, May, 1903.

## Pass (Order of Merit).

Ralston, A. W.	Coghlan, E. G.	Webb, B. L.
Simpson, M. H.	Macintosh, G. D.	Cobb, Margaret V.
Burnell, J. G.	Redgrave, H. W.	Allen, H. G.

## Satisfied the conditions of By-laws, Chap. xv., Sec. 13, May, 1903.

Armstrong, Harriet E. M.	Frew, A. E. H.	Noake, S. C.
Ascher, C.	Gibbes, J. W.	Oxenham, N.
Begbie, E. C.	Gibson, J. C.	Parsons, Florence L.
Bellhouse, Constance A.	Grassick, H. R.	Pearce, W. T. L. A.
Blume, Bertha E.	Hammond, W. L.	Porter, W. E. T.
Bourne, Florence I.	Hertzberg, W. M.	Portus, G. V.
Bundock, A. W.	Holden, Florence M.	Murray-Prior, Ruth A.
Callaghan, A. A.	Hollingdale, B. A.	Read, R. A.
Campbell, C. J.	Jones, E. D. L.	Rees, Ada
Campbell, Florence E.	Kater, C. F.	Rhodes, Alice O. R.
Child, Sophia R.	King, C. A. Z.	Riley, H. M.
Clark, Marjorie D.	Laurie, W. S.	Roberts, H. A.
Coen, B. J.	Lennox, Edith	Robertson, W. E.
Coen, F.	Ling, Rose E.	Sands, W. G.
†Cooley, Mary G.	Lusby, S.	Schoeffel, F. L. A.
Dalyell, Elsie J.	Lyons, R. J.	Smith, Nellie M.
Dawson, A. L.	MacCallum, M. L.	Smyth, J. S.
Debenham, F.	McElhone, G. H.	Talbot, Ethel
Debenham, Jessie	MacFarlane, Laurie	Thompson, Lucy E.
Dougall, A. W.	McIntosh, A. M.	Tietkens, Emily M.
Edwards, Dorothea	McKie, E. N.	Verge, C. A.
Ferguson, E. W.	McLean, A. L.	Watson, Maria E.
Fitzhardinge, Julie G.	McPhillamy, M. C.	Wagh, K. C.
Free, Mary G.	Mathie, M.	White, H. F.
	Meldrum, H. J.	

## Satisfied the conditions of By-laws, Chap. xv., Sec. 13, November, 1903.

Bedford, M. E.	Hughes, J.	Smith, G. K.
Berry, D. H.	Leeson, Ida E.	Sparling, Grace L.
Bray, G. W.	McBryde, J.	Thompson, W. B.
Hall, Florence S.	Roberts, R. F.	Whiting, K. M.

## EVENING STUDENTS.

Pass, December, 1903.

Williams, R. S.	Penman, L. E.	Middleton, R. J.
Cotton, L. A.	Walker, C. C. P.	Baker, Hilda de S.
Collins, C. M. } æq.	Fox, Edith E.	Anderson, Rachel } æq.
Gale, C. A. }	Davies, Isobel	Cole, A. G. }
Davies, E. S.	Bourke, J. O. A. }	Leroy, A. E.
MacKinnon, E.	Coleman, E. A. }	Rickard, J. C.
Flynn, T. T.	Martin, A. H. } æq.	
Allen, F. T.	Newton, R. G.	
Reynolds, A. J.	Harris, L. A.	

Satisfied the conditions of By-laws, Chap. xv., Sec. 13.

Allen, H. A.	† Jones, W.	Page, R. A.
Barron, G. M.	Lovell, H. T.	Quinn, J. J.
† Cooper, D. M.	† Mackaness, G.	Terry, F.
Easterbrook, I. E.	Mobbs, A. W.	Toose, S. V.
Hampton, Adeline S.	† Norris, G. W.	Waring, H. R.
† Harvey, R. F.	† Olsen, J. N. S.	Watt, T. E.
Hunt, A. F.		

Satisfied the conditions of By-laws, Chap. xv., Sec. 13, March, 1904.

* Anderson, R.	McDonald, W. A.	Smith, C. P.
Berry, D. H.	* Shortland, P. D.	* Tremlett, F. C. G.

## PHYSICS.

Class Examination, August, 1903.

Pass.

Lusby, S. G.	Gibson, J. C.	Smyth, J. S.
Parsons, Florence L.	Redgrave, H. W. } æq.	Hollingdale, B. A. } æq.
Hammond, W. L.	Thompson, Lucy E. }	Ling, Rose E. }
Ralston, A. W.	Burnell, J. G.	Lennox, Edith }
Ferguson, E. W.	Dougall, A. W.	Laurie, W. S. }
Simpson, M. H.	Bundock, A. W.	Smith, Nellie M. } æq.
Lyons, R. J.	Bourne, Florence I. }	McPhillamy, M. C.
Free, Mary G.	Frew, A. E. H. } bæ	Ascher, C.
MacFarlane, Laurie	Campbell, Florence }	Sands, W. G.
Verge, C. A.	E.	Armstrong, Harriet E.
Webb, B. L. }	McKie, E. N. }	M.
Dalyell, Elsie J. } æq.	King, C. A. Z. }	White, H. F.
Meldrum, H. J.	Debenham, Jessie }	Fitzhardinge, Julie G.
McIntosh, A. M. }	Roberts, H. A. }	Rees, Ada
Clark, Marjorie D.	Hertzberg, M. W.	Thompson, W. B.
Holden, Florence M.	Read, R. A.	Bedford, M. E.
Debenham, F.	Blume, Bertha E.	Lhoest, Elsie
Bellhouse, Constance A.	Jones, E. D. L.	Murray-Prior, Ruth A.
MacCallum, M. L. }	Edwards, Dorothea }	
Allen, H. G. }	Sparling, Grace L. } bæ	
Child, Sophia R. }	Grassick, H. R.	
Portus, G. V.		

\* Evening Student.    † Unmatriculated.

## Pass, December, 1903 (alphabetical).

Balcombe, G.	Kater, C. F.	Penman, L. E.
Berry, D. H.	Leeson, Ida E.	Read, T. W. V.
Bray, G. W.	McBryde, J.	Rhodes, Alice O. R.
Callaghan, A. A.	McDonald, W. A.	Riley, H. M.
Coen, B. J.	McElhone, G. F.	Roberts, R. F.
Ceen, F.	Macintosh, G. D.	Robertson, W. E. K.
Coghlan, E. G.	MacKinnon, E.	Schloeffel, F. L. A.
Edward, Jessie	McLean, A. L.	Smith, C. P.
Fitzhardinge, Joan M.	Mathie, M.	Smith, G. K.
Flynn, T. T.	Nathan, G. G.	Tietkens, Emily M.
Fullerton, J. A.	Noake, S. C.	Waldron, G. D. K.
Gibbes, J. W.	Oatley, F. D. W.	Watson, Maria E.
Hall, Florence S.	Oxenham, N.	Waugh, K. C.
Hughes, J.	Pearce, W. T. L. A.	

## PHYSIOGRAPHY.

## Pass, December, 1903.

Hammond, W. L.	McLean, A. L.	} act	Barker, N. C. (Eng.)
Bridge, J. (Eng.)	McPhillamy, M. C.		Meldrum, H. J.
Debenham, F.	Prescott, W. A. (Eng.)		Jones, S. W. (Eng.)
Ferguson, E. W.	Hallman, E. F. (Sci.)		Matthews, W. W. (Eng.)
Ewing, T. (Sci.)	Burnell, J. G.		Roe, C. W. (Eng.)
Simpson, M. H.	Bundock, A. W.		Von Arnheim, S. F.
Norman, J. L.	Waugh, K. C.	} pas	(Eng.)
Roberts, H. A.	Sharp, L. H. (Eng.)		Forrest, W. T. (Eng.)
Frew, A. E. H.	Skerritt, A. M. (Eng.)		Penman, A. P. (Eng.)
Atkinson, J. (Eng.)	Whear-Roberts, A.		Coldham, J. C. (Eng.)
McBryde, J.	(Eng.)		Milford, G. D.
	Cater, O. T. (Eng.)		

## Satisfied the conditions of By-laws, Chap. xv., Sec. 13.

Allen, H. G.	Debenham, Jessie	Kater, C. F.
Armstrong, Harriet E.	Dougall, A. W.	King, C. A. Z.
M.	Edward, Jessie	Laurie, W. S.
Ascher, C.	Edwards, Dorothea	Ling, Rose E.
Balcombe, G.	Fitzhardinge, Joan M.	Leeson, Ida E.
Bedford, M. E.	Fitzhardinge, Julie G.	Lennox, Edith
Bellhouse, Constance A.	Flynn, T. T.	Lhoest, Elsie
Berry, D. H.	Free, Mary G.	Lusby, S. G.
Blune, Bertha E.	Fullerton, J. A.	Lyons, R. J.
Bourne, Florence I.	Gibbes, J. W.	MacCallum, M. L.
Bray, G. W.	Gibson, J. C.	McDonald, W. A.
Callaghan, A. A.	Grassick, H. R.	McElhone, G. H.
Campbell, Florence E.	Hall, Florence S.	McFarlane, Laurie M.
Child, Sophia R.	Harris, R. W. S.	McIntosh, A. M.
Clark, Marjorie D.	Hertzberg, W. M.	McKie, E. N.
Coen, B. J.	Holden, Florence M.	MacKinnon, E.
Coen, F.	Hollingdale, B. A.	Mathie, M.
Coghlan, E. G.	Hughes, J.	Murray-Prior, Ruth A.
Cooley, Mary G.	Jones, E. D. L.	Nathan, G. G.
Dalyell, Elsie J.	Jones, R. J. E. V.	Noake, S. C.

*Physiography—continued.*

Oatley, F. D. W.	Rhodes, Alice O. R.	Sparling, Grace L.
Parsons, Florence L.	Riley, H. M.	Thompson, Lucy E.
Pearce, W. T. L. A.	Roberts, R. F.	Thompson, W. B.
Penman, L. E.	Robertson, W. E. K.	Tietkens, Emily M.
Portus, G. V.	Sands, W. G.	Verge, C. A.
Ralston, A. W.	Schloeffel, F. L. A.	Waldron, G. D. K.
Read, R. A.	Smith, C. P.	Watson, Maria E.
Read, T. W. V.	Smith, G. K.	Webb, B. L.
Redgrave, H. W.	Smith, Nellie M.	White, H. F.
Rees, Ada	Smyth, J. S.	

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# FACULTY OF ARTS.

## SECOND YEAR EXAMINATION.

December, 1903, and March, 1904.

COOPER SCHOLARSHIP NO. I. FOR CLASSICS—	P. H. Rogers R. G. Henderson	} æq.
BARKER SCHOLARSHIP NO. I. AND NORBERT QUIRK PRIZE FOR MATHEMATICS—	G. L. Tomlinson Jessie Skillman	} æq.
GARTON SCHOLARSHIP NO. II. FOR FRENCH AND GERMAN—	Clare A. C. Armstrong.	
PROFESSOR MACCALLUM'S PRIZE FOR ENGLISH ESSAYS—	R. G. Henderson.	
PROFESSOR ANDERSON'S PRIZE FOR LOGIC AND MENTAL PHILOSOPHY—	C. H. Northcott J. Paterson	} æq.
PROFESSOR WOOD'S PRIZE FOR HISTORY—	J. Paterson P. H. Rogers	} æq.

### HONOUR LISTS.

BIOLOGY (BOTANY).	LATIN.	MATHEMATICS.
Class I.	Class I.	Honours.
Dawes, Madeleine M.	Henderson, R. G. Rogers, P. H.	Class I. Mottershead, A. Tomlinson, G. L. Skillman, Jessie
	} æq.	} æq.
	Class II.	
GEOLOGY.	None	
Class I.	Class III.	Class II.
Wade, R. T.	Manning, H. E. Wade, R. T.	Barry, D. R. Paul, A.
Class II.		
Barry, D. R.	GREEK.	Class III.
Burfitt, Manie B.	Class I.	Roughton, Gladys M.
La Douce, Felicie A.	Henderson, R. G. Paterson, J. Rogers, P. H.	Wade, R. T.
} æq.	} æq.	
		HISTORY.
LOGIC AND MENTAL PHILOSOPHY.	FRENCH.	Class I.
Class I.	Class I.	Paterson, J. Rogers, P. H. Northcott, C. H.
Northcott, C. H.	Armstrong, Clare A. C. Graham, Frances Latreille, Meta G. E.	} æq.
Paterson, J.		
Class II.	GERMAN.	Class II.
Austin, Fanny M.	Class I.	Kaeppel, Andrée A. White, C. J. L. Johnston, T. H.
White, C. J. L.	Armstrong, Clare A. C.	

The following have completed the Second Year Examination (alphabetical).

*Allen, H. A.	*Harris, L. A.	Paterson, J.
Armstrong, Clare A. C.	Henderson, R. G.	Paul, A.
Askham, A. C.	Henry, H.	*Quinn, J. J.
Austin, Fanny M.	Johnston, T. H.	Real, E. T.
*Barrow, I. M.	Kaepfel, Andrée A.	Redgrave, L. A.
Barry, D. R.	La Douce, Felicie A.	Rogers, P. H.
Burftt, Manie B.	Latreille, Meta G. E.	Skillman, Jessie
*Callaghan, S. K.	Markell, H. F.	Slack, Ella M.
Christmas, C. H.	Manning, H. E.	Tebbutt, A. H.
*Coombes, A. J.	Melville, H. P.	Tomlinson, G. L.
Curren, Ethel	Mott, Olive L.	*Townsend, S. E.
Dawes, Madeleine M.	Mottershead, A.	*Tremlett, F. C. G.
Docker, W. B.	*Moylan, W. P.	Waddy, E. F.
Douglas, R. J.	Murray-Prior, R. S.	Wade, R. T.
*Ebsworth, S. W.	Noake, A. R.	White, C. J. L.
Graham, Frances	Northcott, C. H.	Young, P. H. B.
Haigh, V.	Oakes, Florence I. M.	

### Order of Merit in Individual Subjects.

#### ENGLISH.

Pass, December, 1903.

*Coombes, A. J.	Dawes, Madeleine	} æq.	Austin, Fanny M.
Armstrong, Clare A. C.	M.		Docker, W. B.
Henderson, R. G.	Latreille, Meta G.		*Callaghan, S. K.
Kaepfel, Andrée A.	E.	} æq.	*Tremlett, F. C. G.
Northcott, C. H.	Douglas, R. J.		Curren, Ethel
Graham, Frances	Tebbutt, A. H.		*Moylan, W.
Barry, D. R.	Slack, Ella M.		Young, P. H. B.
Johnston, T. H.	Henry, H.		

Pass, March, 1904 (alphabetical).

*Anderson, R.	La Douce, Felicie A.	Noake, A. R.
*Barrow, I. M.	Mott, Olive L.	Redgrave, L. A.
*Gresham, F. W.	Murray-Prior, R. S.	Waddy, E. F.
Haigh, V.		

#### LATIN.

Pass, December, 1903.

Henry, H.	Slack, Ella M.	} æq.	*Loxton, F. E.	} æq.
Dawes, Madeleine	Tebbutt, A. H.		Roughton, Gladys	
M.	Kaepfel, Andrée A.		M.	
Paterson, J.	Johnston, T. H.	} æq.	Waddy, E. F.	
*Townsend, S. E.	Markell, H. F.		*Barrow, I. M.	
Barry, D. R.	*Harris, L. A.		Christmas, C. H.	
Melville, H. P.	Northcott, C. H.		Mott, Olive L.	
Graham, Frances	*Smith, S. C.	} æq.	Burftt, Manie B.	
Real, E. T.	Noake, A. R.		*Allen, H. A.	
Mottershead, A.	*Terry, F.		Askham, A. C.	
White, C. J. L.	Curren, Ethel		Redgrave, L. A.	
Douglas, R. J.			*Ebsworth, S. W.	

\* Evening Student.

## Pass, March, 1904 (alphabetical).

Austin, Fanny M.	Hall, Dorothy V.	Murray-Prior, R. S.
*Callaghan, S. K.	La Douce, Felicie A.	*Tremlett, F. C. G.
Docker, W. B.	*Moylan, W. P.	Young, P. H. B.
Haigh, V.		

## SENIOR FRENCH.

## Pass, December, 1903.

*Townsend, E. S.	*Quinn, J. J. } æq.	Mott, Olive L.
White, C. J. L.	Real, E. T. }	*Allen, H. A.
Wade, R. T.	Austin, Fanny M.	Christmas, C. H.
Kaoppel, Andrée A. }	*Loxton, F. E.	Melville, H. F.
La Douce, Felicie A. }	Henry, H.	Johnston, T. H.
*Terry, F. }	Haigh, V.	Markell, H. F. }
	Slack, Ella M.	Redgrave, L. A. } æq.

## Pass, March, 1904 (alphabetical).

Askham, A. C.	Burfit, Manie B.	Fowler, Enoch
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## MATHEMATICS.

## Pass, December, 1903 (alphabetical).

Askham, A. C.	Burfit, Manie B.	†*Giraud, S. A.
*Barrow, I. M.	Christmas, C. H.	*Harris, L. A.
†*Brown, J.	†*Douglass, A. H.	†*Searle, H. F.
†*Booth, E. E.	*Ebsworth, S. W.	†*Thornbury, E. S.

## Pass, March, 1904 (alphabetical).

†*Brown, F. P. (Trig. and Logs.)	Mott, Olive L.	*Tremlett, F. C. G.
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## SENIOR GERMAN.

## Pass, December, 1903.

\*Harris, L. A.

## LOGIC AND MENTAL PHILOSOPHY.

## Pass, December, 1903.

Young, P. H. B.	Askham, A. C.	Redgrave, L. A.
Armstrong, Clare A. C.	Docker, W. B.	Douglas, R. J.
Melville, H. P.	Tebbutt, A. H.	Fowler, E.
Johnston, T. H.	Markell, H. F.	Waddy, E. F.
Christmas, C. H.	Roughton, Gladys M.	Walker, A. S.
Rogers, P. H.	Latreille, Meta G.	Curren, Ethel
Manning, H. E.	Haigh, V.	Murray-Prior, R. S.
Real, E. T.		

## EVENING STUDENTS.

Smith, S. C.	Ebsworth, S. W.	Callaghan, S. K.
Townsend, E. S.	Harris, L. A.	Noake, A. R.
Tremlett, F. C. G.	Barrow, I. M.	Graham, A. N. (3rd Year)
Quinn, J. J.		

\* Evening Student. † Unmatriculated.

Pass, March, 1904 (alphabetical).

\*Allen, H. A.

\*Moylan, W. P.

## HISTORY.

Pass, December, 1903.

Graham, Frances	} æq.	Melville, H. P.	} æq.	Manning, H. E.	} æq.
Henderson, R. G.		Real, E. T.		Slack, Ella M.	
Dawes, Madeleine	} æq.	Tebbutt, A. H.	} æq.	Waddy, E. F.	} æq.
M.		*Townsend, E. S.		*Evans, Sara (3rd Year)	
Henry, H.	} æq.	†Cooley, Mary G.	} æq.	*Allen, H. A.	} æq.
*Coombes, A. J.		Docker, W. B.		*Noake, R. R. (3rd Year)	
Douglas, R. J.		*Spence, J. (3rd Year)		*Schrader, C. P. (3rd Year)	
		Askham, A. C.			

Pass, March, 1904 (alphabetical).

*Anderson, R.	Hall, Dorothy V.	Noake, A. R.
*Callaghan, S. K.	*Moylan, W. P.	*Smith, S. C.
Futter, V. S.	Murray-Prior, R. S.	Walker, A. D.
*Gresham, F. W.		

## BIOLOGY (BOTANY).

Pass, December, 1903.

Oakes, Florence I. M.

## GEOLOGY.

Pass, December, 1903.

Curren, Ethel	} æq.	Oakes, Florence I. M.	} æq.
Markell, H. F.		Latreille, Meta G. E.	
Young, P. H. B.			

## PHYSICS.

Pass, December, 1903.

Mottershead, A.

# FACULTY OF ARTS.

## THIRD YEAR EXAMINATION.

December, 1903, and March, 1904.

UNIVERSITY MEDAL FOR CLASSICS—L. H. Allen.

UNIVERSITY MEDAL FOR MATHEMATICS—C. E. Weatherburn.

UNIVERSITY MEDAL FOR LOGIC AND MENTAL PHILOSOPHY—P. R. Watts.

FRAZER SCHOLARSHIP FOR HISTORY—K. R. Cramp.

PROFESSOR MACCALLUM'S PRIZE FOR ENGLISH—L. H. Allen.

PROFESSOR ANDERSON'S CLASS PRIZE FOR LOGIC AND MENTAL PHILOSOPHY—  
P. R. Watts.

### HONOUR LISTS.

ENGLISH.	MATHEMATICS.	LOGIC AND MENTAL PHILOSOPHY.
Class I.	Class I.	Class I.
Allen, L. H. Skillen, Elizabeth } æq. Watts, P. R.	Weatherburn, C. E. Brearley, E. A.	Watts, P. R. Fry, Edith M.
	Class II.	Class II.
LATIN.	Sutton, Mabel H.	Levick, A. M. Wheeler, A. R. Campbell, A. P. *Spence, J.
Class I.		Class III.
Allen, L. H.		Goddard, T. H. Powell, J. W. G.
Class II.		
Levick, A. M. } æq. *Jordan, F. R. Bonney, R. S.	FRENCH.	
	Class I.	
	*Jordan, F. R. Murray-Prior, Dorothea K. MacCallum, Isabella R.	
GREEK.	Class II.	HISTORY.
Class I.		Class I.
Allen, L. H. Bonney, R. S.		Cramp, K. R.
Class II.	*Spence, J. Carey, Daisy	Class II.
Campbell, A. P.		Maxwell, W.

\* Evening Student.

The following have completed the Third Year Examination.

(Alphabetical.)

Allen, L. H.	Duff, V. C.	Maxwell, W.
Anderson, Virginia	*Evans, Sara	Morley, Irene M.
*Beckenham, J. G.	Fisher, A. D.	Mugliston, Madeleine L.
Bonney, R. S.	Fry, Edith M.	Murray, C. O'C.
Brearley, E. A.	Goddard, E. J.	Murray-Prior, Dorothea
*Brown, G. E.	Goddard, T. H.	K.
*Cameron, W. T.	*Hewitt, T. C.	*Noake, R. R.
Campbell, A. P.	Holloway, Eirene A.	Powell, J. W. G.
Candlish, R. S.	Jaques, H. V.	Reid, Roberta J. S.
Carey, Daisy	*Jordan, F. R.	Rofe, Ruth I.
Carroll, W. J. S.	Levick, A. M.	*Schrader, C. P.
Carruthers, Ada M.	Loudon, Bertha W.	Skillen, Elizabeth
Collier, F. W. D.	Lowick, Clara	*Spence, J.
Collings, Edith	Lyons, Ettie	Sutton, Mabel H.
*Compton, A. Z.	MacCallum, Isabella R.	Watts, P. R.
Cramp, K. R.	MacInnes, Isabel M.	Weatherburn, C. E.
Cranswick, G. H.	Mackay, I. G.	Wheeler, A. R.

Order of Merit in individual Subjects.

#### LATIN.

Pass, December, 1903.

Collings, Edith	Campbell, A. P.	Lowick, Clara
Cramp, K. R.	Reid, Roberta J. S.	Schrader, C. Peterson
Holloway, Eirene A.	*Cameron, W. T.	Carroll, W. J. S.
Carruthers, Ada M.	Collier, F. W. D.	Duff, V. Clark
Fry, Edith M.	Lyons, Ettie	Mugliston, Madeleine L.
Goddard, T. H.	Wheeler, A. R.	Loudon, Bertha W.
Carey, Daisy		

Pass, March, 1904 (alphabetical).

Anderson, Virginia	Goddard, E. J.	Morley, Irene M.
*Compton, A. Z.	MacCallum, Isabella R.	Rofe, Ruth I.

#### PHILOSOPHY.

Pass, December, 1903.

Cramp, K. R.	Maxwell, W.	Mackay, I. G.
MacInnes, Isabel M.	*Jordan, F. R.	*Evans, Sara
*Beckenham, J. G.	*Brown, G. E.	*Hewitt, T. C.
Murray-Prior, Dorothea	Fox, Millicent	*Noake, R. R.
K.	Reid, Roberta J. S.	Candlish, R. S.
Cranswick, G. H.	*Schrader, C. P.	Fisher, A. D.
*Cameron, W. T.	Anderson, Virginia	

Pass, March, 1904.

*Compton, A. Z.	Jaques, H. Y.
Duff, V. C.	Rofe, Ruth I.

\* Evening Student.

## ENGLISH.

Pass, December, 1903.

Levick, A. M.	Wheeler, A. R.	Powell, J. W. G.
†Green, Hilda M.	Maxwell, W.	Cranswick, G. H.
Holloway, Eirene A.	Lyons, Ettie	Mugliston, Madeleine
Fry, Edith M.	Murray-Prior, Dorothea	*Schrader, C. P.
Carruthers, Ada M.	K.	Lowick, Clara
MacCallum, Isabella R.	Candlish, R. S.	*Noake, R. R.
MacInnes, Isabel M.	Reid, Roberta J. S.	Fox, Millicent

Pass, March, 1904 (alphabetical).

Carroll, W. J. S.	Mackay, I. G.	Rofo, Ruth I.
Duff, V. C.	Morley, Irene M.	

## FRENCH.

Pass, December, 1903.

Skillen, Elizabeth	*Cameron, W. T.	Anderson, Virginia
Collings, Edith	*Evans, Sara	} æq.
MacInnes, Isabel M.	*Hewitt, T. C.	
Murray, C. O'C.	Morley, Irene M.	

Pass, March, 1903 (alphabetical).

Lowick, Clara W.

## GERMAN (SENIOR).

Pass, December, 1903.

MacInnes, Isabel M.

## HISTORY.

Pass, December, 1903.

Watts, P. R.	Carey, Daisy	Mugliston, Madeleine L.	} æq.
Collings, Edith	Lyons, Ettie	Cranswick, G. H.	
Skillen, Elizabeth	Holloway, Eirene A.		
Carruthers, Ada M.			

Pass, March, 1904 (alphabetical).

Candlish, R. S.	*Compton, A. Z.	Goddard, T. H.
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## MATHEMATICS.

Pass, December, 1903 (alphabetical).

*Cameron, W. T.	*Hewitt, T. C.
*Fetherstone, L.	Loudon, Bertha W.
*†Giraud, S. A.	

Pass, March, 1904 (alphabetical).

Carroll, W. J. S.

## BIOLOGY.

Pass, March, 1904.

Goddard, E. J. (Botany) | Loudon, Bertha W. (Zoology)

## GEOLOGY.

Pass, March, 1904.

Powell, J. W. G.

## CHEMISTRY (ORGANIC).

Pass, March, 1904.

Goddard, E. J.

## PHYSICS.

Pass, December, 1903.

Mackay, J. G.





# FACULTY OF ARTS.

## M.A. EXAMINATION.

March, 1904.

### I. SCHOOL OF CLASSICAL PHILOLOGY AND HISTORY.

Honours.

Class II.

Jensen, Klio (Latin and Greek)

Uther, Mary H. (Latin and Old French)

Pass.

J. Parsons (Latin).

### II. SCHOOL OF LOGIC, MORAL, MENTAL AND POLITICAL PHILOSOPHY.

Pass (alphabetical).

Chambers, G. A. (Ethics).

*Thesis*—"The Application of the Idea of Development of Religion."

Louis, P. H. (Education).

*Thesis*—"The Education Problem in New South Wales."

Smith, W. Michael (Ethics).

*Thesis*—"The Relation of Ethics to Religion."

Stoyles, H. G. (Ethics).

*Thesis*—"The Influence of Physical, Political, Moral and Religious Sanctions on Modern Civilisation."

### III. SCHOOL OF MODERN LITERATURE AND LANGUAGE.

Honours.

Class I.

Wilshire, H. (French and German).

Pass.

Molster, Sarah (English).

### IV. SCHOOL OF MODERN HISTORY.

Honours.

Class I.

Cole, P. R.

Class III.

Crawford, T. S.

GRADUATE SCHOLARSHIPS, PRIZE  
COMPOSITIONS, &c.

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JAMES KING OF IRRAWANG TRAVELLING SCHOLARSHIP.

Allen, L. H.

CAIRD RESEARCH SCHOLARSHIP FOR CHEMISTRY.

Petrie, J. M., B.Sc.

NICHOLSON MEDAL FOR LATIN VERSE.

Allen, L. H.

*Subject*—"The Death of Socrates."

WENTWORTH MEDAL FOR ENGLISH ESSAY (GRADUATES).

Green, H. M., B.A.

*Subject*—"The Principles and Methods of Literary Criticism."

UNIVERSITY PRIZE FOR ENGLISH VERSE.

Green, H. M., B.A.

*Subject*—"The Birthday Feast of Herod Antipas."

THE BEAUCHAMP PRIZE FOR AN ENGLISH ESSAY.

Green, H. M., B.A.

*Subject*—"The Value of Education as a Factor in Commercial and Industrial Progress."

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# FACULTY OF LAW.

## INTERMEDIATE LL.B. EXAMINATION.

March, 1904.

GEORGE AND MATILDA HARRIS SCHOLARSHIP—N. de H. Rowland, B.A.

WIGRAM ALLEN SCHOLARSHIP—R. N. Teece, B.A. }  
D. Wilson, M.A. } æq.

PROFESSOR COBBETT'S PRIZE—J. G. Beckenham.

### ROMAN LAW AND CONSTITUTIONAL LAW.

#### Pass, Order of Merit.

Rowland, N. de H., B.A.	} æq.	Merrick, J. O'M.	} æq.	Artlett, W. L., B.A.
Teece, R. N., B.A.		McWilliam, N. G., B.A.		Jaques, H. V.
Wilson, D., M.A.		Brown, G. E., B.A.		Murray, C. O'G.
Beckenham, J. G.		Denham, H. K.,		
Fisher, A. D.		B.A.		

### CONSTITUTIONAL AND INTERNATIONAL LAW.

Breckenridge, C. C. P.

## FINAL LL.B. EXAMINATION.

March, 1904.

#### Class I.

None.

#### Class II.

Browne, J. A.	Wilson, G. H., B.A.	Vickery, E. F., B.A.
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#### Pass.

d'Apice, A. W. M., B.A.		Pitt, A. G. M., B.A.		Hinton, W. S., B.A.
Evans-Jones, D. P.,		Fahey, B. F., B.A.		Curtis, W. J., M.A.
B.A.		Kilgour, A. J., B.A.		

# FACULTY OF MEDICINE.

## FIRST YEAR EXAMINATION.

December, 1903.

RENWICK SCHOLARSHIP FOR GENERAL PROFICIENCY IN THE SUBJECTS OF THE  
EXAMINATION—M. Archdall }  
E. A. Brearley } æq.

PROFESSOR HASWELL'S PRIZE FOR ZOOLOGY (Class Examination)—M. Archdall.  
PROFESSOR HASWELL'S PRIZE FOR ZOOLOGY (Laboratory Notes)—M. Archdall  
and T. Ewing.

### Pass (alphabetical).

Archdall, M.	Furber, R. I.	Ritchie, H. J.
Bottrell, E. H.	Geddes, C. B.	Rogers, F. C.
Brearley, E. A.	Giblin, W. E.	Rutherford, Constance
Brookes, G. A.	Matthews, H. D.	A., B.A.
Collier, F. W. D.	MacFarlane, J. S.	Tomlinson, G. L.
Colvin, A. E.	Murray-Prior, Mabel	Verge, J., B.A., B.E.
Culpin, Daisy E.	Prevost, R. L. de T.	Welch, K. St. Vincent
Fox, A. W.	Ramsden, E. M.	Weedon, C. J.

### CLASS LISTS.

#### CHEMISTRY.

##### Honours.

##### Class I.

Brearley, E. A.

Brookes, G. A.

##### Class II.

Matthews, H. D.

Rogers, F. C.

Archdall, M.

Tomlinson, G. L.

#### BIOLOGY.

##### Honours.

##### Class I.

Brookes, G. A.

##### Class II.

Verge, J., B.A., B.E.

Archdall, M. }  
Brearley, E. A. } æq.

Weedon, C. G.  
Giblin, W. E.

#### PHYSICS.

##### Honours.

(See under Faculty of Science.)

## DEFERRED EXAMINATION.

Pass, March, 1904.

Browne, Elsie F.  
 Dickinson, Evelyn E.  
 Dunn, A. J.  
 Harris, H.

Larkins, N. C.  
 Martin, H.  
 Nathan, V. V.

O'Halloran, C. M.  
 Oxenham, H. B.  
 Stephens, F. G. N.

## SECOND YEAR EXAMINATION.

(Anatomy and Physiology.)

December, 1903.

Passed with Distinction.

Shellshear, J. L.

Passed with Credit.

Deakin, J. E. F.  
 Poate, H. R. G.

Bradley, C. H. B.  
 Edwards, J. G.

Stokes, F. O.

Pass (alphabetical).

Baret, H. V. D., B.A.  
 Chapman, H. O.  
 Craig, F.  
 Diethelm, O. A. A.  
 Elwell, L. B.  
 MacInnes, A., B.A.

Mackenzie, A. J.  
 Ormiston, Martha I.  
 Paul, G. A.  
 Pridham, H. E.  
 Rutledge, E. H.

Schlink, H. H.  
 Stacey, V. O.  
 Steele, A. B.  
 Vickers, W.  
 Walker-Smith, H. B.

## DEFERRED EXAMINATION.

Pass, March, 1904.

Adams, Edith M.  
 Binns, W. J., M.A.  
 Campbell, J. S., B.A.  
 Conolly, H. W.  
 Fitzpatrick, B. J., B.A.

Gilchrist, J. J.  
 Heaslop, J. W.  
 Hutchinson, E. L.  
 McClelland, R. E.

Maher, C. W.  
 Moran, H. M. O.  
 Renwick, C. S.  
 White, W. J.

## THIRD YEAR EXAMINATION.

(Anatomy, Physiology and Materia Medica and Therapeutics.)

December, 1903.

JOHN HARRIS SCHOLARSHIP FOR ANATOMY AND PHYSIOLOGY—T. C. Parkinson.

Passed with Distinction.

Parkinson, T. C.

## Passed with Credit.

Lightoller, G. H. S.  
Bell, G.

MacCulloch, H. T. C.  
Palmer, C. R.

Harris, J. S.  
Cabill, A. C.

## Pass (alphabetical).

Aspinall, A. J.  
Aspinall, Jessie S.  
Binney, Constance C.  
Donovan, H. C. E.  
Harper, Margaret H.

Harris, S. H.  
McKillop, A.  
Molesworth, E. H.  
O'Reilly, T. L.  
Palmer, H. W.

Parker, R. A.  
Sapsford, C. P.  
Wherrett, E. A.  
Wylie, Mary W.

## DEFERRED EXAMINATION.

## Pass, March, 1904.

Clifford, J. P.  
Cook, S. L., B.A.  
Gibson, D. D.

Graham, D. H.  
Hill, J. G. W., B.A.  
Moseley, A. H.

Welch, J. B. St. Vincent  
Willis, C. St. L.

## FOURTH YEAR EXAMINATION.

(Pathology and Operative Surgery and Surgical Anatomy.)

December, 1903.

## Passed with Credit.

Smith, P. E.  
O'Reilly, Susannah H.

MacEncroe, J. M.  
Simpson, F. G. M.

## Pass (alphabetical).

Buchanan, J. D.  
Coen, J.  
Clouston, T. B.  
Culpin, E.  
Gillespie, A. P.  
Griffiths, J. N.  
Holland, J. J.  
Huggart, W. C., B.A.

Johnston, L. P.  
Jones, L.  
Kay, S.  
Leslie, J. R.  
McDowall, V.  
McKelvey, J. L.  
Power, J. W.

Roberts, A. S. C.  
Shellshear, C.  
Stiles, B. T.  
Verge, A.  
Vernon, G. H.  
Whiteman, R. J. N.  
Young, E. H.

## DEFERRED EXAMINATION.

## Pass, March, 1904.

Bligh, E. A. R.  
Cowlishaw, L.

Hammond, K.  
Mansfield, W. C.

Quaife, C.

## FIFTH YEAR EXAMINATION.

June, 1903.

## Pass (alphabetical).

Blaney, H. P.	Flashman, C. E.	Osborne, J. K.
Bourne, Eleanor E.	Grey, W. C.	Sadler, H. F.
Elworthy, W. H.	Langton, W. D.	Walton, J. F.
Fitzpatrick, E. B. L.	Latham, O.	Watson, J. F.

December, 1903.

Honours at Graduation (M.B. and Ch.M.).

Class I.—None.

Class II.

Buchanan, G. A.	Connolly, T. P.	Mawson, W.
Browne, C. S.	Sharp, G. G., B.Sc.	D'Arcy, Constance E.

## SUBJECTS OF THE FIFTH YEAR EXAMINATION.

December, 1903.

Passed with Credit.

Buchanan, G. A.		D'Arcy, Constance E.	} æq.
Browne, C. S.		Sharp, G. G., B.Sc.	
Connolly, T. P.		Mawson, W.	

Pass (alphabetical).

Adams, F. C.	Bond, L. W.	Lethbridge, H. O.
Bell, H. C. R.	Godsall, R. S.	Vernon, M. M.
Benjafield, V.		

## M.D. EXAMINATION.

March, 1904.

## MATERIA MEDICA AND THERAPEUTICS.

Honours.

Class II.

Hall, E. C., M.B., Ch.M.

*Thesis*—"Eucalyptus Oils: Especially in Relation to their Bactericidal Power."

## MIDWIFERY AND GYNÆCOLOGY.

Pass.

Wade, R. B., M.B.

*Thesis*—"Ether Anæsthesia in Children."

Wilson, T. G., M.B., Ch.M.

*Thesis*—"Pelvic Peritonitis and Some of its Sequelæ."

# FACULTY OF SCIENCE.

## FIRST YEAR EXAMINATION.

December, 1903.

The following have completed the First Year Examination.

Dwyer, T. C. (March, 1904)	Gray, G. J., B.E. Hallman, E. F.	Taylor, T. G. Tomlinson, G. L.
Ewing, T.		

### Class Lists in Individual Subjects.

<b>BIOLOGY.</b>	<b>PHYSICS.</b>
Honours.	Honours.
Class I.	Class I.
Taylor, T. G.	Atkinson, J. (Eng.)
Class II.	Sharp, L. H. (Eng.)
Ewing, T.	Matthews, H. D. (Med.)
Gray, G. J., B.E.	Ewing, T. (Sci.)
	Norman, J. L. (Eng.)
	Class II.
<b>CHEMISTRY.</b>	MacFarlane, J. S. (Med.)
Honours.	Paul, A. (Sci.)
Class II.	Whear-Roberts, L.
Paul, A.	(Eng.)
Hallman, E. F.	Flashman, H. W. (Eng.)
Ewing, T.	Archdall, M. (Med.)

## SECOND YEAR EXAMINATION.

December, 1903.

CAIRD SCHOLARSHIP FOR CHEMISTRY—G. J. Gray, B.E.

DEAS-THOMSON SCHOLARSHIP FOR PHYSICS—W. H. Mason.

The following have completed the Second Year Examination.

Gray, G. J., B.E. (March, 1904)	Taylor, T. G. Weatherburn, C. E.
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### Class Lists in Individual Subjects.

<b>BIOLOGY.</b>	<b>CHEMISTRY.</b>	<b>PHYSICS.</b>
Honours.	Honours.	Honours.
Class II.	Class I.	Class I.
†Kesteven, H. L.	Gray, G. J., B.E.	
	Class II.	
	Weatherburn, C. E.	†Laby, T. H.
Pass.	Pass.	Mason, W. H. (Eng.)
Thompson, C. W.	Taylor, T. G.	Weatherburn, C. E.

† Not passing through the regular course.



## THIRD YEAR EXAMINATION.

December, 1903.

PROFESSOR DAVID'S PRIZE FOR GEOLOGY—H. I. Jensen.

The following have completed the Examination.

Jensen, H. I.

Taylor, T. G.

## Class Lists in Individual Subjects.

BIOLOGY.	CHEMISTRY (HISTORY	CHEMISTRY.
Honours.	AND PHILOSOPHY).	Honours.
Class II.	Pass.	Class II.
Thompson, C. W.	†Laby, T. H.	Jensen, H. I.
	GEOLOGY	
MINEROLOGY AND	(PALÆONTOLOGY).	
PETROLOGY.	Honours.	PHYSICS.
Honours.	Class I.	Honours.
Class II.	Jensen, H. I.	Class II.
Jensen, H. I.	Pass.	Taylor, T. G.
	†Jones, L. J.	

## D.Sc. EXAMINATION.

Pass, March, 1904.

Woolnough, W. G., B.Sc. (Geology).

Thesis—"The Continental Origin of Fiji."

† Not passing through the regular course.

# DEPARTMENT OF ENGINEERING.

PETER NICOL RUSSELL SCHOLARSHIPS (TWO) FOR MECHANICAL AND ELECTRICAL  
ENGINEERING—R. Power  
H. J. Swain } æq.

## FIRST YEAR EXAMINATION.

December, 1903, and March, 1904.

LEVEY SCHOLARSHIP FOR CHEMISTRY AND PHYSICS—J Atkinson } æq.  
L. H. Sharp }

SLADE PRIZE FOR PRACTICAL CHEMISTRY—H. Priestley.

SLADE PRIZE FOR PRACTICAL PHYSICS—J. Atkinson } æq.  
S. W. Jones }

### Pass, December, 1903.

Atkinson, J.	Larkins, H. M.	Priestley, H.
Bridge, J. M.	MacMaster, C. F.	Sharp, L. H.
Flashman, H. W.	Norman, J. L.	Whear-Roberts, L.
Jones, S. W.	Prescott, W. A.	

### Pass, March, 1904.

von Arnheim, S. F.	Fitzgerald, H. G.	Penman, A. P.
Coldham, J. C.	Langley, F. B.	Skerritt, A. W.
Cropper, C. H.	Matthews, W. W.	Tivey, J. P., B.A.
Donkin, W. D.		

### Class Lists in Individual Subjects.

PHYSICS.	CHEMISTRY.	DESCRIPTIVE GEOMETRY AND DRAWING.
Honours.	Honours.	Honours.
(See under Faculty of Science.)	Class I.	Class I.
	Atkinson, J.	Norman, J. L.
	Sharp, L. H.	Roberts, L.
	Priestley, H.	Atkinson, G.
	Class II.	Bridge, J. M.
MATHEMATICS.	Jones, S. W.	Jones, S. W.
Honours.	Norman, J. L.	
(See under Faculty of Arts.)	Flashman, H. W.	
	APPLIED MECHANICS.	
	Honours.	
	Class I.	
PHYSIOGRAPHY.	Bridge, J. M.	Class II.
(See under Faculty of Arts.)	Norman, J. L.	Priestley, H.
	Class II.	
	Prescott, W. A.	

## SECOND YEAR EXAMINATION.

December, 1903, and March, 1904.

DEAS-THOMSON SCHOLARSHIP FOR GEOLOGY—H. G. Foxall.

PROFESSOR DAVID'S PRIZE FOR GEOLOGY—H. G. Foxall.

PROFESSOR DAVID'S PRIZE FOR PRACTICAL PETROLOGY—C. C. Nardin.

## DEPARTMENT OF CIVIL ENGINEERING.

Pass, March, 1904.

Martin, A. M.

| Platt, C. P.

| Smail, J. A. M.

## DEPARTMENT OF MINING AND METALLURGY.

Pass, December, 1903.

Burgess, J. H.

| Nardin, C. C.

| Whiteman, W. D.

Foxall, H. G.

| Stephen, J. F.

Pass, March, 1904.

Owen, T. M.

Reid, R. S.

Rae, T. R.

Webb, S. D.

## DEPARTMENT OF MECHANICAL AND ELECTRICAL ENGINEERING.

Pass, December, 1903.

Bellemey, S. J.

Mason, W. H.

†Marriott, E. W.

Maughan, A.

Pass, March, 1904.

Bladon, I. G.

| Cowlshaw, R. G.

| Halloran, H. R.

## Class Lists in Individual Subjects.

GEOLOGY AND MINERALOGY	GEOLOGY	MECHANICAL
(Mining).	(Civil).	DRAWING.
Honours.	Honours.	Honours.
Class I.	Class II.	Class I.
	Smail, J. A. M.	†Marriott, E. W.
	Pass.	
Foxall, H. G.	Platt, C. P.	APPLIED MECHANICS.
Stephen, J. F.	Martyn, A. M.	Honours.
Burgess, J. H.		Class II.
Class II.	CHEMISTRY	
Whiteman, W. D.	(Mining).	Bellemey, S. J.
Owen, T. M. } æq.	Honours.	Halloran, H. R.
Webb, S. D. }	Class II.	
Pass.	Foxall, H. G.	PHYSICS.
Nardin, C. C.	Nardin, C. C.	(See under Faculty of
Rae, T. R.	Stephen, J. F.	Science.)
	Whiteman, W. D.	

†Not proceeding to a degree.

## THIRD YEAR EXAMINATION.

December, 1903, and March, 1904.

PROFESSOR LIVERSIDGE'S PRIZES FOR PRACTICAL METALLURGY AND ASSAYING—  
(i.) G. J. Saunders, (ii.) J. Barr.

## DEPARTMENT OF MINING AND METALLURGY.

Pass, December, 1903.

Barr, J.	Dart, R. N.	Patterson, B. G.
Bennett, V. C.	Hill, J. H. F., B.A.	Saunders, G. J.
Cohen, A. F.	McArdle, F. O.	Shellshear, W.

Pass, March, 1904.

Armstrong, J. N. F.	Freeman, A. W., B.A.	Robertson, J. W.
Caro, P.	Isaacs, R. McI.	

## DEPARTMENT OF MECHANICAL AND ELECTRICAL ENGINEERING.

Pass, December, 1903.

Brooks, H. A.	Mort, H. S., B.Sc.
†Morris, L. C.	Woodcock, L. R.

Class Lists in Individual Subjects.

## MECHANICAL ENGINEERING.

Honours.

Class I.—†Morris, L. C.

## METALLURGY.

Honours.

Class I.

Shellshear, W.  
Saunders, G. J.

Class II.

Patterson, B. G.  
Hill, J. H. F., B.A.  
Barr, J.

MINING.

Honours.

Class II.

Patterson, B. G.

PRACTICAL  
METALLURGY AND  
ASSAYING.

Honours.

Class II.

Saunders, G. J.  
Barr, J.

## FOURTH YEAR EXAMINATION.

## MECHANICAL AND ELECTRICAL ENGINEERING.

UNIVERSITY MEDAL—P. L. Weston, B.Sc.

Pass, December, 1903.

†Hall, R. Vine	Weston, P. L., B.Sc.
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## ELECTRICAL ENGINEERING.

Honours.

Class I.

Weston, P. L.

Class II.

†Hall, R. Vine

+ Not proceeding to a degree

# SCHOOL OF DENTISTRY.

## FIRST YEAR EXAMINATION.

Pass, December, 1903.

Broughton, F. W. W.	Grosse, E. H.	Riley, E. B. G.
Deck, N. C. (Chemistry, Honours, Class II.)	Pridham, E.	Starkey, W. A.
	Punch, J. S.	

Pass, March, 1904.

Burne, A. D.	Kirchner, E. R.	Marshall, W. H.
Capper, L. H.	Love, W.	

## SECOND YEAR EXAMINATION.

December, 1903.

Passed with Credit.

Clark, J. J.

Pass.

Barnes, Margaret E.	Boys, R. S.	Moxham, C. G.
Bond, H. H.	Burkitt, C. T.	Starkey, J. N.

Pass, March, 1904.

Cozens, G. C.	Hardie, H. G.
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## THIRD YEAR EXAMINATION.

(L.D.S.)

December, 1903.

Passed with Credit.

Neave, B. W.	Praed, Annie	MacTaggart, E. A.
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Pass.

Dolan, A. P. B.	Stockwell, L. G.
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Pass, March, 1904.

Bradley, J. H.	Crouch, F. R.	Marshall, F.
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## PHARMACY STUDENTS.

December, 1903.

BOTANY.

Pass with Credit.

Hart, E.

Pass.

Jones, J. T.  
Davey, H. H.  
Archer, W. J.  
Manning, H. W.  
Marks, R. G.  
Benjamin, M.

MATERIA MEDICA.

Pass with Distinction.

MacPherson, Margaret

Pass.

Hart, E.  
Davey, H. H. } æq.  
Marks, R. G.  
Enright, J. J.  
Lunney, W.

Arnott, D. M.  
Jones, J. T.  
Manning, H. W.  
Teale, W. H. A.  
Schofield, E. C.  
Pattinson, S.  
Middleton, W. S.  
George, S. J.  
Carroll, A. S.

Pharmacy Students—*continued.*CHEMISTRY.  
(Introductory.)

Pass with Credit.

Marks, R. G.  
Benjamin, M.  
Hart, E.  
Jones, J. T.

Pass:

Archer, W. J.  
Lunney, W.  
Porter, A.  
Enright, A. J.  
Hewlett, L. E.  
Manning, H. W.  
Probert, C. K.  
Jensen, F. J.  
Mitchell, W. A.  
Rowe, C. C.  
Apps, C.  
Evans, L. H.CHEMISTRY.  
(Metals.)

Pass with Credit.

Hart, E.  
Pass.  
Teale, W. H. A.  
Enright, J. J.  
Jones, J. T.  
Marks, R. G.  
Manning, H. W.CHEMISTRY.  
(Organic.)

Pass with Credit.

Benjamin, M.  
Jones, H. F.  
Hart, E.

Pass.

Marks, R. G.  
Jones, J. T.  
Teale, W. H. A.  
Enright, J. J.  
Moors, C. F.  
Manning, H. W.  
Mitchell, W. A.  
MacPherson, Margaret

## CHEMISTRY.

(Practical.)

Pass with Credit.

Hart, E.  
Archer, W. J.

Pass.

Middleton, W. S.  
Stevens, Bertha V.  
Jones, J. T.  
Lunney, W.  
Manning, H. W.  
Probert, C. K.  
Enright, J. J.  
Campbell, A. McL.  
Newth, A. H.  
Evans, S. H.  
Marks, R. G.

Pass, March, 1904.

## BOTANY.

Enright, J. J.  
Jensen, F. J.

## CHEMISTRY

(Introductory.)

George, S. J.

## CHEMISTRY

(Metals).

Brown, G. A.  
George, S. J.  
Jones, H. F.  
Moors, C. F.  
Probert, C. K.  
Schofield, E. E. C.  
Porter, A.

## CHEMISTRY

(Organic).

Brown, G. A.  
George, S. J.  
Porter, A.

## MATERIA MEDICA.

Hewlett, L.  
Porter, A.  
Probert, C. K.

## UNIVERSITY OFFICERS, ETC.

### VISITOR.

The Governor of the Colony for the time being is *ex officio* Visitor to the University.

\*1850.—His Excellency Sir Charles Augustus Fitz Roy, K.C.B., K.H.

1855.—His Excellency Sir Thomas William Denison, K.C.B.

1861.—His Excellency the Right Hon. Sir John Young, Bart., K.C.B., G.C.M.G.

1868.—His Excellency the Right Hon. the Earl of Belmore, M.A.

1872.—His Excellency Sir Hercules George Robert Robinson, G.C.M.G.

1879.—His Excellency the Right Hon. Lord Augustus W. Loftus, M.A., G.C.B.

1886.—His Excellency the Right Hon. Charles Robert Baron Carrington, P.C., G.C.M.G.

1891.—His Excellency the Right Hon. Victor Albert George Child Villiers, Earl of Jersey, G.C.M.G.

1893.—His Excellency the Right Hon. Sir Robert William Duff, P.C., G.C.M.G.

1895.—His Excellency the Right Hon. Henry Robert, Viscount Hampden.

1899.—His Excellency the Right Hon. William Lygon, Earl Beauchamp, K.C.M.G.

1902.—His Excellency Vice-Admiral Sir Harry Holdsworth Rawson, K.C.B.

At the Commemorations in 1872 and 1879, Sir Alfred Stephen, G.C.M.G. and C.B., administering the Government, presided as Visitor. At the Commemorations in 1893, 1895, 1899, Sir Frederick Darley, Kt., C.J., administering the Government, presided as Visitor.

### CHANCELLOR.

The Chancellor is elected by the Fellows of the Senate out of their own body, for such period as the Senate may from time to time appoint. The period is at present limited by By-law to three years, but the retiring Chancellor is declared to be eligible for re-election.

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\* The dates prefixed to the names of Office Holders refer to their first appointment or entrance upon office.

- 1851.—Edward Hamilton, M.A.  
 1854.—Sir Charles Nicholson, Bart., M.D., D.C.L., LL.D.  
 1862.—The Hon. Francis Lewis Shaw Merewether, B.A.  
 1865.—The Hon. Sir Edward Deas-Thomson, C.B., K.C.M.G.  
 1878.—The Hon. Sir W. M. Manning, Kt., K.C.M.G., LL.D.  
 1895.—The Hon. Sir Wm. Chas. Windeyer, Kt., M.A., LL.D.  
 1896.—The Hon. Sir Henry Normand MacLaurin, Kt., M.A.,  
 M.D., LL.D.

## VICE-CHANCELLOR.

The Vice-Chancellor is annually elected by the Fellows of the Senate out of their own body.

- 1851.—Sir Charles Nicholson, Bart., M.D., D.C.L., LL.D.  
 1854.—The Hon. F. L. S. Merewether, B.A.  
 1862.—The Hon. Edward Deas-Thomson, C.B.  
 1865.—The Hon. J. H. Plunkett, B.A.  
 1869.—The Rev. Canon Allwood, B.A.  
 1883.—The Hon. Mr. Justice Windeyer, M.A., LL.D.  
 1887.—The Hon. Hy. Normand MacLaurin, M.A., M.D., LL.D.  
 1889.—The Hon. Arthur Renwick, B.A., M.D.  
 1891.—Henry Chamberlaine Russell, B.A., C.M.G., F.R.S.  
 \* The Hon. Arthur Renwick, B.A., M.D.  
 1892.—The Hon. Arthur Renwick, B.A., M.D.  
 † His Honour Judge Backhouse, M.A.  
 1893.—His Honour Judge Backhouse, M.A.  
 1895.—The Hon. Hy. Normand MacLaurin, M.A., M.D., LL.D.  
 1896.—His Honour Judge Backhouse, M.A.  
 1900.—The Hon. Sir Arthur Renwick, Kt., B.A., M.D.  
 1902.—The Hon. Mr. Justice A. H. Simpson, M.A.  
 1904.—Philip Sydney Jones, M.D.

## THE SENATE.

The original Senate was appointed by Proclamation on the 24th of December, 1850, under the Act of Incorporation, and consisted of the following :—

The Rev. William Binnington Boyce	Francis Lewis Shaw Merewether, Esq.
Edward Broadhurst, Esq.	Charles Nicholson, Esq.
John Bayley Darvall, Esq.	Bartholomew O'Brien, Esq.
Stuart Alexander Donaldson, Esq.	The Hon. John Hubert Plunkett, Esq.
The Right Rev. Charles Henry Davis	The Rev. William Purves
Alfred Denison, Esq.	His Honour Roger Therry, Esq.
Edward Hamilton, Esq.	The Hon. Edward Deas-Thomson, Esq.
James Macarthur, Esq.	William Charles Wentworth, Esq.

\* Mr. Russell having retired during his year of office, the Hon. Dr. Renwick was elected in his place for the remainder of the year.

† The Hon. Dr. Renwick having retired during his year of office, Judge Backhouse was elected in his place for the remainder of the year.



Under the original Incorporation Act, the election to vacant Fellowships was vested in the Senate until there should be one hundred Graduates holding the Degree of M.A., LL.D., or M.D. By an Act passed in 1861, the election to vacancies was vested in Fellows of the Senate, Professors and other Public Teachers of the University, Examiners, Principals of Incorporated Colleges within the University, Superior Officers declared to be such by By-law, and Graduates who should have taken any or either of the Degrees of M.A., LL.D., or M.D. By an Act passed in 1881, the privilege of voting at such elections was extended to Bachelors of Arts of three years' standing, and by the University Extension Act of 1884 the privilege was further extended to all Bachelors of three years' standing. In addition to the sixteen Fellows, it was provided by the Act of 1861 that there should not be fewer than three, nor more than six, *ex officio* Members of the Senate being Professors of the University in such branches of learning as the Senate might by any By-law select.

## EX-MEMBERS OF THE SENATE.

- 1850-1854—Hamilton, Edward, M.A.
- 1850-1855—Davis, the Right Rev. C. H., D.D.
- 1850-1856—Broadhurst, the Hon. Edward, B.A.
- 1850-1859—Boyce, the Rev. W. B.
- 1850-1859—Therry, His Honour Sir Roger
- 1850-1860—Macarthur, the Hon. James
- 1850-1860—Denison, Alfred, B.A.
- 1850-1861—Donaldson, the Hon. Sir Stuart A.
- 1857-1861—Cooper, Sir Daniel, Bart., G.C.M.G.
- 1853-1865—Douglass, Henry Grattan, M.D.
- 1861-1866—Woolley, the Rev. J., D.C.L. (Principal) (*ex officio*)
- 1850-1868—Darvall, Sir John Bayley, M.A.
- 1850-1869—O'Brien, Bartholomew, M.D.
- 1850-1869—Plunkett, the Hon. John Hubert, B.A.
- 1850-1870—Purves, Rev. W., M.A.
- 1850-1872—Wentworth, the Hon. William Charles
- 1868-1872—Nathan, Charles, M.D.
- 1869-1873—Stenhouse, N. D., M.A.
- 1868-1874—Arnold, the Hon. William M.
- 1850-1875—Merewether, the Hon. F. L. S., B.A.
- 1856-1877—Polding, the Most Rev. Archbishop, D.D.
- 1859-1878—Allen, the Hon. George
- 1873-1878—Dalley, the Right Hon. William Bede, P.C.
- 1858-1878—Martin, the Hon. Sir James, Chief Justice
- 1861-1879—Pell, Professor Morris Birkbeck, B.A. (*ex officio*)
- 1860-1879—Deas-Thomson, the Hon. Sir E., C.B., K.C.M.G.
- 1860-1880—Macarthur, the Hon. Sir William
- 1872-1882—Forster, the Hon. William
- 1850-1883—Nicholson, Sir Charles, Bart., D.C.L., M.D., LL.D.

- 1867-1884—Badham, Professor Charles, D.D. (*ex officio*)  
 1861-1885—Smith, the Hon. Professor, M.D., LL.D., C.M.G. (*ex officio*)  
 1877-1885—Allen, the Hon. Sir George Wigram, K.C.M.G.  
 1885-1886—Martin, the Hon. Sir James, Chief Justice  
 1855-1886—Allwood, Rev. Canon Robert, B.A.  
 1879-1887—Darley, the Hon. Sir F. M., B.A., Chief Justice  
 1878-1887—Stephen, the Rt. Hon Sir Alfred, C.B., G.C.M.G., C.J., P.C.  
 1887-1888—Knox, George, M.A.  
 1872-1888—Rolleston, Christopher, C.M.G.  
 1880-1889—Barton, the Hon. Edmund, M.A.  
 1886-1889—Barry, the Most Rev. Alfred, D.D., LL.D.  
 1884-1890—Stephens, Professor W. J., M.A. (*ex officio*)  
 1883-1891—Jennings, the Hon. Sir Patrick A., LL.D., K.C.M.G.  
 1875-1891—Macleay, the Hon. Sir William, Kt.  
 1870-1892—Hay, the Hon. Sir John, M.A., K.C.M.G.  
 1877-1892—Gurney, Professor Theodore T., M.A. (*ex officio*)  
 1891-1892—O'Connor, the Hon. Richard Edward, M.A.  
 1859-1894—Faucett, the Hon. Peter, B.A.  
 1885-1894—Scott, Professor Walter, M.A. (*ex officio*)  
 1861-1895—Manning, the Hon. Sir Wm. Montagu, Kt., LL.D., K.C.M.G.  
 1892-1896—Manning, the Hon. Mr. Justice Charles J., M.A.  
 1894-1896—Gurney, Professor Theodore T., M.A. (*ex officio*)  
 1866-1897—Windeyer, the Hon. Sir William Charles, Kt., M.A., LL.D.  
 1896-1898—Scott, Professor Walter, M.A. (*ex officio*)  
 1879-1904—Liversidge, Professor Archibald, M.A., LL.D., F.R.S.

## PRESENT SENATE.

- 1895—Anderson, Henry Charles Lennox, M.A.  
 1887—Backhouse, His Honour Judge Alfred Paxton, M.A.  
 1892—Barton, the Right Hon. Sir Edmund, G.C.M.G., M.A.,  
 LL.D., D.C.L., P.C.  
 1888—Butler, Professor Thomas, B.A.  
 1890—Cobbett, Professor Pitt, M.A., D.C.L., Dean of the Faculty  
 of Law (*ex officio*)  
 1896—Cullen, the Hon. William Portus, M.A., LL.D.  
 1904—David, Professor T. W. Edgeworth (*ex officio*), Acting  
 Dean of the Faculty of Science.  
 1887—Jones, Philip Sydney, M.D., Vice-Chancellor.  
 1894—Knox, Edward William  
 1898—MacCallum, Professor Mungo W., M.A., Dean of the  
 Faculty of Arts (*ex officio*)  
 1883—MacLaurin, the Hon. Sir Henry Normand, Kt., M.A., M.D.,  
 LL.D. (St. And. and Edin.), Chancellor.  
 1893—O'Connor, the Hon. Mr. Justice Richard Edward, M.A.  
 1879—Oliver, His Honour Alexander, M.A.  
 1877—Renwick, the Hon. Sir Arthur, Kt., B.A., M.D.  
 1889—Rogers, His Honour Judge Francis E., M.A., LL.B.  
 1875—Russell, Henry C., C.M.G., B.A., F.R.S.

1897—Simpson, The Hon. Mr. Justice Archibald Henry, M.A.

1888—Stephen, Cecil Bedford, M.A., K.C.

—1883—Stuart, Professor T. P. Anderson, M.D., LL.D., Dean  
of the Faculty of Medicine (*ex officio*)

1889—Teece, Richard, F.I.A., F.F.A.

#### EX-PROFESSORS.

CLASSICS AND LOGIC.—1852-1866—Woolley, the Rev. John, D.C.L.; 1867-1883—Badham, Rev. Charles, D.D.

GEOLOGY AND MINERALOGY.—1870-1872—Thomson, Alexander M., D.Sc.

MATHEMATICS AND NATURAL PHILOSOPHY.—1852-1877—Pell, Morris B., B.A.  
1877-1902.—Gurney, Theodore T., M.A.

CHEMISTRY AND EXPERIMENTAL PHYSICS.—1852-1885—Smith, the Hon.  
John, M.D., LL.D., C.M.G.

NATURAL HISTORY.—1882-1890—Stephens, Wm. John, M.A.

PHYSICS.—1886-1898—Threlfall, Richard, M.A.

GREEK.—1885-1900—Scott, Walter, M.A.

#### TEACHING STAFF.

ANATOMY—Challis Professor—1890—\*James T. Wilson, M.B.,  
Ch.M. (Edin.)

Demonstrator—1901—F. P. Sandes, M.B., Ch.M.

Honorary Demonstrators—Arthur A. Palmer, M.B., Ch.M.;  
Gordon Craig, M.B., Ch.M.; R. L. Davies, M.B.,  
Ch.M.; Kate Hogg, M.B., Ch.B.; Mary Booth, M.B.,  
Ch.M.

ARCHITECTURE—P. N. Russell Lecturer—1887—(a) John Sulman,  
F.R.I.B.A.

BIOLOGY—Challis Professor—1890—William A. Haswell, M.A.,  
D.Sc. (Edin.), F.R.S.

Demonstrator—1892—James P. Hill, D.Sc., F.L.S. Junior

Demonstrator—1904—T. H. Goddard, B.A.

CHEMISTRY—Professor—1874—†Archibald Liversidge, M.A.,  
LL.D., F.R.S. (Christ's College; Cambridge), Dean of  
the Faculty of Science (absent on leave). Acting Pro-  
fessor of Inorganic Chemistry—1904—James A.  
Schofield, A.R.S.M., F.C.S. Acting Professor of  
Organic Chemistry—1904—Francis B. Guthrie, F.C.S.

Demonstrator and Evening Lecturer—1892—James A.  
Schofield, A.R.S.M., F.C.S. Junior Demonstrators—  
1901—T. H. Laby; 1902—Douglas Mawson, B.E.  
1904—H. I. Jensen, B.Sc.

\* M.B., Ch.M., Honours 1883; late Demonstrator of Anatomy, University of Edinburgh.  
† Associate of the Royal School of Mines, London; late University Demonstrator of  
Chemistry, Cambridge.

(a) Appointment terminates on December 31st, 1907, under By-laws, Chap. xxvi., Sec. 3.

- Demonstrator in Assaying and Chemistry—1900—Arthur Jarman, A.R.S.M., A.I.M.M. Junior Demonstrator—1903—E. Le Gay Brereton.
- CLINICAL MEDICINE—Lecturer—1889—(a) R. Scot-Skirving, M.B., Ch.M., Edin. (absent on leave), Lecturers for 1904—Cecil Purser, M.B., Ch.M.; Arthur E. Mills, M.B., Ch.M.
- CLINICAL SURGERY—Lecturers—1895—(a) Charles P. B. Clubbe, M.R.C.S., L.R.C.P.; 1899—(a) H. V. Critchley Hinder, M.B., Ch.M.
- DENTISTRY—SURGICAL AND MECHANICAL—1901—H. S. Du Vernet, D.D.S. (Phila.); W. Septimus Hinder, D.D.S. (Phila.); A. H. MacTaggart, D.D.S. (Phila.); N. V. Pockley, D.D.S. (Phila.); R. Fairfax Reading, M.R.C.S., L.R.C.P., L.D.S. (Eng.)
- DISEASES OF WOMEN—1897—(a) Joseph Foreman, M.R.C.S.
- ELECTRICAL ENGINEERING—P. N. Russell Lecturer—1903—A. C. F. Webb, M.I.C.E.
- ENGINEERING—Challis Professor—1884—\*William H. Warren, Wh.Sc., M. Inst. C.E.
- Instructor in Drawing and Design—1903—Alexander J. Gibson. Junior Demonstrator—1904—P. L. Weston, B.Sc., B.E.
- EQUITY, PROBATE, BANKRUPTCY AND COMPANY LAW—Challis Lecturer—1890—(a) G. E. Rich, M.A.\*
- GEOLOGY AND PHYSICAL GEOGRAPHY—Professor—1891—†T. W. Edgeworth David, B.A., F.R.S. (New College, Oxford), Acting Dean of the Faculty of Science.
- Assistant Lecturer in Mineralogy and Petrology and Demonstrator in Geology—Herbert Stanley Jevons, B.A. (Cantab.), B.Sc., (Lond.).
- WILLIAM HILTON HOVELL LECTURER IN GEOLOGY AND PHYSICAL GEOGRAPHY—†T. W. Edgeworth David, B.A., F.R.S. (New College, Oxford).
- GREEK—Professor—1901—William John Woodhouse, M.A. (Queen's College, Oxford).
- HISTORY—Challis Professor—1891—G. Arnold Wood, M.A. (Balliol College, Oxford).

\* Member Inst. Civil Engineers, London; Member of the American Society of Civil Engineers; Whitworth Scholar; Society of Arts Technological Scholar.

† Late Scholar of New College, Oxford, and late Member of the Geological Survey of New South Wales.

(a) Appointment terminates on December 31st, 1907, under By-laws, Chap. xxvi., Sec. 5.

- LATIN** — Professor — 1891 — Thomas Butler, B.A. (Sydney).  
 Assistant Lecturer — 1903 — Frederick Augustus Todd,  
 B.A. (Sydney), Ph.D. (Jena).
- LAW** — Challis Professor — 1890 — Pitt Cobbett, M.A., D.C.L.  
 (University College, Oxford), Dean of the Faculty of Law.
- LAW OF PROCEDURE, EVIDENCE AND PLEADING** — Challis Lecturer —  
 1901 — (a) David Ferguson, B.A.
- LAW OF STATUS, CIVIL OBLIGATIONS AND CRIMES** — Challis Lecturer  
 — 1890 — (a) F. Leverrier, B.A., B.Sc.
- LAW OF PROPERTY, CHALLIS LECTURER** — 1903 — (b) J. B. Peden,  
 B.A., LL.B.
- LOGIC AND MENTAL PHILOSOPHY** — Challis Professor — 1890 —  
 \* Francis Anderson, M.A. (Glasgow).
- MATERIA MEDICA AND THERAPEUTICS** — Lecturer — 1883 — (a) Thos.  
 Dixon, M.B., Ch.M. (Edin.)
- MATHEMATICS, PURE AND APPLIED** — Professor — 1903 — † Horatio  
 Scott Carslaw, M.A. (Cambridge), D.Sc., (Glasgow),  
 F.R.S.E.
- Assistant Lecturers — 1886 — A. Newham, B.A. (St. John's  
 College, Cambridge), Evening Lecturer. 1887 — E. M.  
 Moors, M.A., F.I.A.
- MECHANISM AND APPLIED THERMO-DYNAMICS** — P. N. Russell Lec-  
 turer — (b) † S. Henry Barraclough, B.E. (Syd.), M.M.E.  
 (Cornell), Assoc. M. Inst. C.E.
- MEDICAL JURISPRUDENCE** — Lecturer — 1904 — (c) Sydney Jamieson,  
 BA., M.B., Ch.M.
- MEDICAL TUTOR** — 1901 — G. E. Rennie, B.A., M.D. (Lond.)
- METALLURGY** — P. N. Russell Lecturer — 1899 — (a) Basil W. Turner,  
 A.R.S.M.
- MIDWIFERY** — Lecturer — 1897 — (a) Sir James Graham, Kt., M.D.,  
 Ch.M. (Edin.)
- MINING** — P. N. Russell Lecturer — 1902 — (b) F. Danvers Power  
 F.G.S.

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\* Late Clarke Philosophical Fellow University of Glasgow.

† Fellow of Emmanuel College, Cambridge, and formerly Lecturer in Mathematics, University of Glasgow.

‡ Late Science Research Scholar of the Royal Commissioners of the Exhibition of 1851.

§ Late Professor of English Literature in University College, Aberystwyth, Wales; late Luke Fellow, University of Glasgow.

(a) Appointment terminates on December 31st, 1907, under By-laws, Chap. xxvi., Sec. 3.

(b) Appointment terminates 31st December, 1909, under By-laws, Chap. xxvi., Sec. 3.

(c) Appointment terminates 31st December, 1910, under By-laws, Chap. xxvi., Sec. 3.

**MODERN LITERATURE**—Challis. Professor—1887—§Mungo W. MacCallum, M.A. (Glasgow), Dean of the Faculty of Arts.

Assistant Lecturers—English—1894—Ernest R. Holme, B.A. French and German—1903—George Gibb Nicholson, B.A. (Syd.), B.C.L. (Oxon.). French—Norman John Gough, B.A., A.I.M.M.

**OPHTHALMIC MEDICINE AND SURGERY**—Lecturer—1889—(a)†F. Antill Pockley, M.B., Ch.M. (Edin.)

**PALÆONTOLOGY**—Lecturer—1902—(c) William S. Dun.

**PATHOLOGY**—Professor—1902—David Arthur Welsh, M.A., B.Sc., M.D., M.R.C.P. (Edin.)

Demonstrator—1903—J. E. V. Barling, M.B., Ch.M.

**PHYSICS**—Professor—1899—J. Arthur Pollock, B.Sc. (Sydney), (absent on leave). Acting Professor for 1904—George H. Knibbs, L.S., F.R.A.S.

Demonstrator—1903—O. U. Vonwiller, B.Sc. Junior Demonstrator—1904—Iven G. Mackay, B.A.

**PHYSIOLOGY**—Professor—1883—†T. P. Anderson Stuart, M.D., Ch.M., LL.D. (Edin.), Dean of the Faculty of Medicine.

Demonstrator—1903—H. G. Chapman, M.D., B.S.

**PRINCIPLES AND PRACTICE OF MEDICINE**—Lecturer—1901—(a)§W. Camac Wilkinson, B.A. (Syd.), M.D. (Lond.), M.R.C.P. (Lond.)

**PRINCIPLES AND PRACTICE OF SURGERY**—Lecturer—1890—(a) Alexander MacCormick, M.D. (Edin.)

**PSYCHOLOGICAL MEDICINE**—Lecturer—1889—(a) Chisholm Ross, M.D. (Syd.)

**PUBLIC HEALTH**—(c) William G. Armstrong, B.A., M.B., Ch.M.

**SURGICAL TUTOR**—1901—John Morton, M.B., Ch.M.

**SURVEYING**—P. N. Russell Lecturer—1890—(a) Geo. H. Knibbs, L.S., F.R.A.S.

**TUTOR TO THE WOMEN STUDENTS**—1900—Isabel Margaret Fidler, B.A.

#### HONORARY LECTURERS.

Dr. F. A. Bennet—Diseases of the Skin.

†M.B., Ch.M., First Class Honours, University Medal; Scholar and Prizeman, Edin., 1884.

‡M.B., Ch.M., First Class Honours, Ettles Scholar, 1880; M.D., Thesis Gold Medal, 1882, Edin.; late Assistant to Professor of Physiology, Edinburgh.

§M.B. First Class Honours Medicine, University Scholarship and Gold Medal.

(a) Appointment terminates on December 31st, 1907, under By-laws, Chap. xxvi., Sec. 3.

(c) Appointment terminates 31st December, 1908, under By-laws, Chap. xxvi., Sec. 3.

Dr. J. F. Flashman—Demonstrations in Psychological Medicine and Neurology.

Dr. G. T. Hankins—Diseases of the Ear.

Dr. P. Sydney Jones—The Ethics of Medical Practice.

Dr. A. E. Mills—Diseases of Children.

#### CURATORS OF MUSEUMS.

MUSEUM OF NORMAL AND MORBID ANATOMY—Professor D. A. Welsh, M.A., B.Sc., M.D. (Honorary).

MACLEAY MUSEUM OF NATURAL HISTORY—George Masters.

NICHOLSON MUSEUM OF EGYPTIAN, GREEK, ROMAN AND MEDIEVAL ANTIQUITIES — Professor W. J. Woodhouse, M.A. (Honorary).

### EXAMINERS FOR 1903-4.

#### EXAMINERS IN ARTS.

The Professors.	Rev. F. V. Pratt, B.A.
The Lecturers.	D. G. Stewart, B.A.
W. H. W. Nicholls, B.A.	R. Clive Teece, M.A.

#### EXAMINERS IN LAW.

The Professors.	G. W. Waddell, M.A., LL.D.
The Lecturers.	R. K. Manning, B.A.

#### EXAMINERS IN MEDICINE.

The Professors.

The Lecturers.

W. G. Armstrong, B.A., M.B., Ch.M.

Fourness Barrington, F.R.C.S. (Eng.), M.B., Ch.M. (Edin.)

Thomas Fiaschi, M.D. (Pisa).

J. Macdonald Gill, M.D., L.R.C.P., M.R.C.S.

S. Jamieson, B.A., M.B., Ch.M.

E. J. Jenkins, B.A., M.D. (Oxon.)

G. T. Hankins, M.R.C.S. (Eng.)

P. Sydney Jones, M.D. (Lond.)

Stanhope H. McCulloch, M.B., Ch.M. (Edin.)

The Hon. Sir H. N. MacLaurin, M.A., M.D. (Edin.), LL.D.

W. Odillo Maher, M.D., Ch.M. (Q.U.I.), M.R.C.S. (Eng.)

Arthur E. Mills, M.B., Ch.M.

A. E. Perkins, M.A., M.B., Ch.M.

The Hon. Sir Arthur Renwick, Kt., B.A., M.D. (Edin.)

Eric Sinclair, M.D., Ch.M.

Professor E. C. Stirling, M.D.

EXAMINERS IN DENTISTRY.

The Professors.

The Lecturers.

A. Burne, D.D.S. (Phil.)

A. B. Cox, L.R.C.P. (Lond.), L.S.A. (Lon.), M.R.C.S. (Eng.)

P. B. Reading, L.D.S. (Eng.), L.D.S. (Glas.)

EXAMINERS IN SCIENCE.

The Professors.

The Lecturers.

J. J. C. Bradfield, M.E.

REGISTRAR AND LIBRARIAN, 1882—H. E. Barff, M.A.

ESQUIRE BEDELL, 1897—John Mitchell Purves, M.A.

UNIVERSITY SOLICITOR, 1886—Hon. James Norton, LL.D., M.L.C.

CHIEF CLERK AND ACCOUNTANT, 1887—Robert A. Dallen.

ASSISTANT LIBRARIAN, 1902—John Le Gay Brereton, B.A.

HON. SECRETARY OF THE UNIVERSITY EXTENSION BOARD—

Professor Woodhouse, M.A.

CLERK, 1887—William S. Mayer.

JUNIOR CLERK, 1902—Charles W. Peacock.

JUNIOR ASSISTANTS IN THE LIBRARY—K. Binns, G. C. Whitney.

AUDITOR, 1899—David Fell.

YEOMAN BEDELL—S. Craddock.

OVERSEER OF THE UNIVERSITY PARK AND GROUNDS—Henry Goodhew.



# MEMBERS OF THE UNIVERSITY.

## MEMBERS OF CONVOCATION.

H.R.H. the Prince of Wales, LL.D.‡	Armstrong, Tancred de Carteret, B.A., 1891
Abbott, George H., B.A., 1887, M.B., Ch.M.	Armstrong, William G., B.A., M.B., Ch.M.¶
Abbott, Henry Palmer, B.A., 1893	Arnold, Edwin Charles, B.A., 1896
Abbott, Thos. K., B.A., 1888	Arnott, Robert Fleming, B.E., 1895
Abigail, Eliza L., B.A., 1893 (Mrs. Bates)	Artlett, Ettie, B.A., 1888 (Mrs. Starkey)
Abigail, Ernest Robert, B.A., 1896, LL.B.	Aspinall, Arthur Ashworth, B.A., 1889
Affleck, Ada C., M.B., Ch.M. (Mrs. Hardman)	Atkins, William L., B.A., 1893
Allan, Edith Jeannie, B.A., 1895 (Mrs. Costello)	Auld, John Hay Goodlet, B.A., 1897
Allen, Arthur Wigram, B.A., 1883‡	Ayres, Charles, B.A., 1882
Allen, George Boyce, B.A., 1877	Backhouse, Alfred Paxton, M.A.†
Allen, Reginald C., B.A., 1879	Bailey, Margaret Anne, B.A., 1900
Ambrose, Theodore, M.B., Ch.M.	Ball, Lionel Clive, B.E., 1900
Amess, William, B.A., 1883	Bancroft, Peter, M.B., Ch.M.
Amos, Jeanie Cairns, B.A., 1890 (Mrs. Anderson)	Barber, Richard, M.A.
Amphlett, Edward Albin, B.E., 1889	Barbour, George Pitty, M.A.
Amphlett, Henry Martin, B.E., 1897	Barff, Henry E., M.A.*
Anderson, Arthur, M.B., Ch.M.	Barker, Henry Auriol, B.A., 1881‡
Anderson, Catherine, M.A.	Barker, Reginald Frederick, B.E., 1900
Anderson, Francis, M.A.‡¶	Barker, Thomas Chas., B.A., 1886
Anderson, Henry C. L., M.A.†	Barlee, Frederick R., M.A.
Anderson, Hugh Miller, B.A., M.B., Ch.M.	Barling, James Eric Vernon, M.B., Ch.M.¶
Anderson, Maud Edith, B.A., 1896 (Mrs. Ashton)	Barnes, Edmund H., M.B., Ch.M.
Anderson, William A. S., B.A., 1892	Barnes, Pearl Ella, B.A., 1897
Andrews, Ernest Clayton, B.A., 1894	Barnet, Donald McKay, B.A., 1890
Andrews, William, M.B., 1887‡	Barraclough, Francis Egerton, B.A., 1895, LL.B.
Anstey, George Webb, B.A., 1893	Barraclough, Samuel H., B.E., 1892¶
d'Apice, Antoine Wm. M., B.A., 1899, LL.B.	Barret, James, M.D.
Armstrong, Ina Beatrice Harvey, B.A., 1901	Barrington, Fourness, F.R.C.S., M.B., Ch.M.‡
Armstrong, Isabella, B.A., 1895	Barton, Right Hon. Sir Edmund, M.A.†
Armstrong, Laurens F. M., B.A., 1884, LL.B.	Barton, John a'Beckett Darvall, B.A., M.B., Ch.M.
Armstrong, Margaret Jane, B.A., 1897	Barry, Alfred, LL.D.‡
	Barry, Hugh de Barri, B.A., 1898

\* Superior Officer.

† Fellow of the Senate.

¶ Public Teacher.

‡ Admitted *ad eundem gradum*.

‡ Examiner.

- Barton, Joanna, B.A., 1893  
 Bavin, Gertrude Lillian, B.A., 1898  
 Bavin, Thos. Rainsford, B.A., 1894,  
 LL.B.  
 Baylis, Harold M., B.A., 1883  
 Beardmore, Ada, B.A., 1896  
 Beardsmore, Emily Maud, B.A., 1894  
 Beardsmore, Robt. Henry, B.A., 1895  
 Beaumont, Annie Holloway, B.A.,  
 1898  
 Beaver, William Richard, B.E., 1899  
 Beegling, Daniel, B.A., 1885  
 Beehag, Samuel Alfred, B.A., 1886  
 Belgrave, T. B., M.D. §  
 Bell, Harry Charles Rikard, M.B.,  
 Ch.M.  
 Benjafield, Vivian, M.B., Ch.M.  
 Bennet, Francis Alexander, M.D. §  
 Bennett, Agnes Elizabeth L., B.Sc.,  
 1894  
 Bennetts, Harold Graves, M.B.,  
 Ch.M.  
 Berne, Percy Witton, B.A., 1883  
 Bertie, Charlotte Maud, B.A., 1896  
 Biffin, Harriett E., M.B., Ch.M.  
 Binney, Ed. Harold, M.B., Ch.M.  
 Binns, William Johnstone, M.A.  
 Birch, William John, B.E., 1891  
 Black, Reginald A. W., B.A., 1896,  
 B.E.  
 Blackburn, Charles B., M.D., Ch.M.  
 Blacket, Arthur R., B.A., 1872  
 Blacket, Cuthbert, B.A., 1891  
 Blair, John, M.D.  
 Blatchford, Torrington, B.A., 1894  
 Blaxland, Henry Charles, B.A., 1897  
 Bloomfield, Elsie I'Anson, B.A. 1897  
 (Mrs. Horder)  
 Bloomfield, William John, B.A.,  
 1896, LL.B.  
 Blue, Archibald Irwin, M.B., Ch.M.  
 Blumer, Charles, B.A., 1894  
 Blumer, George Alfred, M.A.  
 Board, Peter, M.A.  
 Bode, Arnold G. H., B.A., 1888  
 Bonamy, Nellie Mildred Blanche,  
 B.A., 1899  
 Boelke, Paul, M.B., Ch.M.  
 Böhrsmann, Gustav Hall, M.B.,  
 Ch.M.  
 Böhrsmann, Rudolph H., M.B.,  
 Ch.M.  
 Bond, Lionel Wilfred, M.B., Ch.M.  
 Booth, Mary, B.A., 1890  
 Bourne, Eleanor Elizabeth, M.B.;  
 Ch.M.  
 Bowden, John Ebenezer, M.A.  
 Bowker, Cedric Victor, M.B., 1898  
 Bowmaker, Jessie, B.A., 1901  
 Bowmaker, Ruth, M.A. (Mrs. Britton)  
 Bowmaker, Theophilus Robert, B.A.,  
 1896  
 Bowman, Alister S., B.A., 1878  
 Bowman, Andrew, M.A.  
 Bowman, Archer, B.E., 1889  
 Bowman, Arthur, B.A., 1880  
 Bowman, Edward, M.A.  
 Bowman, Ernest M., B.A., 1880  
 Boxall, Nelson Leopold, B.A., 1896  
 Boyce, Francis Stewart, B.A., 1893,  
 LL.B.  
 Boyd, Arthur, B.Sc., 1901  
 Boyd, Robert James, B.E., 1898  
 Boyd, William Sprott, B.E., 1901  
 Brade, Gerald Francis, M.B., 1899  
 Bradfield, John Job Crew, M.E. †  
 Brearley, Joseph Henry Draper,  
 B.Sc., 1894, B.E.  
 Brennan, Christopher J., M.A.  
 Brennan, Francis P., M.A.  
 Brennan, Sarah O., M.A., B.Sc.  
 Brennand, Henry John W., B.A.,  
 M.B., Ch.M.  
 Brereton, Ernest Le Gay †  
 Brereton, John Le Gay, B.A., 1894  
 Brierley, Frank Nunan, M.A., LL.B.  
 Britten, Herbert E., B.A., 1888  
 Britton, Theodosia Ada, B.A., 1891  
 Broadbent, Percy Lewis, M.B., Ch.M.  
 Broderick, Cecil Thomas Hawkes,  
 B.A., 1896, LL.B.  
 Brodie, Isabella Esther, B.A., 1895  
 (Mrs. Newton)  
 Broinowski, Gracius Herbert, M.B.,  
 1897  
 Broinowski, Leopold T., B.A., 1897  
 Brook, Henry James Sidney, B.A.,  
 1896  
 Broome, Edward, B.A., 1897  
 Broughton, Alfred, M.A.

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 § Admitted *ad eundem gradum*.

† Public Teacher

‡ Examiner.

Brown, Alfred, B.A., 1866  
 Brown, George Edward, M.A.  
 Brown, Mary E., B.A., 1885  
 Brown, Sophia, B.A., 1894  
 Brown, William Vernon, B.A., 1894  
 Browne, Claude Seccombe, M.B.,  
     Ch.M.  
 Browne, William C., B.A., 1864  
 Brownlie, Elizabeth Alice Dalziel,  
     B.A., 1901  
 Bruce, Annie, B.A., 1901  
 Bruce, Grace Mitchell, B.A., 1901  
 Bruce, Mary H., B.A., 1887 (Mrs.  
     Walker)  
 Bruce, Mary Jane, B.A., 1896  
 Buchanan, Chas. Arthur, B.A., 1889  
 Buchanan, Charles Pakenham, B.A.,  
     1900  
 Buchanan, George Arthur, M.B.,  
     Ch.M.  
 Buckland, Thomas, B.A., 1878  
 Bucknell, D'Arcy H., M.A.  
 Bucknell, Louis Jeffrey, B.E., 1891  
 Bundock, Charles W., B.A., 1878  
 Bundock, Francis F., B.A., 1877  
 Bunting, Edith Annie, B.A., 1896  
 Burfitt, Walter F., B.A., B.Sc.,  
     M.B., Ch.M.  
 Burge, Stephen Bruce, M.B., 1900  
 Burkitt, Edmund Henry, M.B., 1896  
 Busby, Hugh, M.B., Ch.M.  
 Bushnell, Pollie, B.A., 1896  
 Butler, Francis J., B.A., 1882  
 Butler, Patrick James, B.A., 1900  
 Butler, Spencer Joseph St. Clair,  
     B.A., 1893, LL.B.  
 Butler, Stanley Wm. Beauchamp,  
     B.A., 1900  
 Butler, Thomas, B.A., 1876††  
 Byrne, Lily Comyn, B.A., 1896  
 Byrne, James Kevin, B.A., 1894  
 Byrne, William Edmund, B.A., 1892  
 Cadden, Leslie George Barton, B.A.,  
     1899  
 Cahill, Annie Lucilie, B.A., 1894  
 Cakebread, William Jowers, B.A.,  
     1894  
 Cameron, Archibald Peter, B.A., 1894  
 Cameron, Donald Allan, M.B., Ch.M.  
 Campbell, Allan, B.A., 1874

Campbell, Charles Robert, B.A., 1893  
 Campbell, Edward, M.A.  
 Campbell, George P., B.A., 1885  
 Campbell, Gerald R., M.A.  
 Campbell, Joseph, M.A.  
 Canaway, Arthur P., B.A., 1894‡  
 Cape, Alfred John, M.A.  
 Cargill, John Sydney, B.A., 1889  
 Cargill, William Duthie, M.B., Ch.M.  
 Carlisle-Thomas, Ella, B.A., 1900  
     (Mrs. Budden)  
 Carlisle-Thomas, Julia, M.B., Ch.M.  
     (Mrs. Fox)  
 Carlisle, W. W., B.A., 1878  
 Carlos, Joseph, B.A., 1893‡  
 Caro, Hilda, B.A., 1896  
 Carruthers, Joseph H., M.A.  
 Carslaw, Horatio Scott, M.A., D.Sc.¶  
 Carvosso, Albert B., B.A., 1884  
 Casey, Michael Alphonsus, B.A., 1896  
 Castling, James Robert, B.A., 1896  
 Challands, Fred., M.B., Ch.M.  
 Chalmers, Stephen Drummond, M.A.  
 Chambers, George Alexander, M.A.  
 Chapman, Alfred Ernest, B.A., 1893,  
     LL.B.  
 Chapman, Henry G., M.D., B.S.¶  
 Chenhall, William Thomas, M.B.,  
     1897‡  
 Chisholm, Wm., B.A., 1875, M.D.‡  
 Chubb, Montague Charles Lyttelton,  
     B.A., 1896  
 Clark, Francis Geo., B.A., 1900, LL.B.  
 Clarke, Francis W., B.A., 1884  
 Clarke, Gother Robert C., M.B.,  
     Ch.M.  
 Clarke, Philip Sylvester, M.B., Ch.M.  
 Clegg, William Carnegie, B.A.,  
     1899, LL.B.  
 Cleland, John Burton, M.D., Ch.M.  
 Clipsham, Gertrude Mary, B.A., 1899  
 Clines, Peter Jos., B.A., 1896, LL.B.  
 Closs, Wm. John Leech, B.A., 1890  
 Clubb, Wallace, B.A., 1896  
 Clubbe, Chas. P. B., M.R.C.S.,  
     L.R.C.P.¶  
 Cobbett, Pitt, M.A., D.C.L.¶†  
 Cocks, Nicholas John, M.A.  
 Coffey, Francis Louis Verhulst,  
     B.A., 1894, LL.B.

† Fellow of the Senate.

¶ Public Teacher.

‡ Admitted *ad eundem gradum*.

- Coghlan, Charles A., M.A., LL.D.  
 Coghlan, Iza Frances Josephine, M.B., Ch.M.  
 Cohen, John J., M.A.  
 Cole, Louisa, B.A., 1898  
 Colyer, Moreton John Godden, B.E., 1896  
 Combes, Edgar William Anthony, M.B., Ch.M.  
 Combes, Jane Frances, B.A., 1895  
 Conlon, William Aloysius, B.A., M.B., Ch.M.  
 Connellan, John, B.A., 1892  
 Connolly, John, B.A., 1894  
 Connolly, Thomas Patrick, M.B., Ch.M.  
 Connor, Thomas John, B.A., 1895  
 Cook, Sydney Leicester, B.A., 1898  
 Cook, Walter Edmund, M.E.†  
 Cooke, Clarence Hudson, B.A., 1892  
 Cooley, Percy Glover, M.B., Ch.M.  
 Cooper, David John, M.A.  
 Cooper, Pope Alexander, M.A.  
 Cope, Hubert Roger, M.B., 1898  
 Copland, Frank Fawcett, B.A., 1894  
 Corbett, Wm. F., B.A., 1883  
 Corbin, Albert George, B.Sc., M.B., Ch.M.  
 Cordingley, Grace Marian, M.A.  
 Corfe, Anstruther John, M.B., Ch.M.  
 Corlette, Cyril E., M.D., Ch.M.  
 Cormack, Alex. John, M.A.  
 Cosh, James, B.A., 1891  
 Cosh, John Inglis Clark, M.B., Ch.M.  
 Cowan, David, B.A., 1894  
 Cowlishaw, Wm. Patten, M.A.  
 Cowper, Sedgwick Spelman, M.A.  
 Cox, Frederick Henry, M.B., 1895  
 Cox, Harold, B.A., 1889  
 Coyle, William Thomas, B.A., 1891  
 Craig, Alex. Donald, B.A., 1893, B.E.  
 Craig, Charles, B.A., 1892, LL.B.  
 Craig, Robert Gordon, M.B., Ch.M.  
 Crane, Charles, B.A., 1882  
 Crane, John T., B.Sc., 1887  
 Crawford, Stella Maud C., B.A., 1896  
 Crawford, Thomas Simpson, M.A.  
 Crawley, Aubrey Joseph Clarence, M.B., Ch.M.  
 Creagh, Albert J., B.A., 1889  
 Creagh, William John, B.A., 1892, LL.B.  
 Cribb, Estelle Muriel Bridson, M.A.  
 Cribb, John Geo., M.A.  
 Cripps, Esther Fischer, B.A., 1891  
 Crocker, Herbert D., M.A.  
 Crompton, William, M.A.  
 Crowley, Archibald, B.A., 1901  
 Cruise, Emily A., B.A., 1897  
 Cullen, Wm. P., M.A., LL.D.†  
 Cullinane, John Aloysius, B.A., 1895, LL.B.  
 Cumming, Jennie, B.A., 1896 (Mrs. Kinnear)  
 Curlewis, Harold Burnham, B.A., 1897  
 Curlewis, Herbert Raine, B.A., 1890, LL.B.  
 Curnow, William Leslie, B.A., 1890  
 Curtis, William C., M.A.  
 Curtis, William John, M.A., LL.B.  
 Daley, Frank H., B.A., 1889  
 Dalmas, Lizzie, B.A., 1895  
 Daly, May Edith, B.A., 1895 (Mrs. McDonald)  
 Dalton, Gerald T. A., M.A.  
 Dansey, St. John Warburton, M.B., Ch.M.  
 d'Apice, John Edmund Francis, B.Sc., 1900  
 D'Arcy-Irvine, Malcolm Mervyn, B.A., 1889  
 D'Arcy, Constance Elizabeth, M.B., Ch.M.  
 D'Arcy, George Synnott, B.A., 1895  
 D'Arcy, John Synnott, B.A., 1890  
 Dare, Henry H., M.E.  
 Dargin, Sydney, B.A., 1871  
 Dash, Ebenezer, B.A., 1894  
 David, T. W. Edgeworth, B.A., F.R.S.††  
 Davidson, Colin George Watt, B.A., 1899, LL.B.  
 Davidson, Leslie G., M.B., Ch.M.  
 Davies, Arthur Bernard, B.A., 1894, LL.B.  
 Davies, Edith Warlow, M.A.  
 Davies, Reginald L., M.B., Ch.M.

† Fellow of the Senate.

†† Public Teacher.

‡ Admitted *ad eundem gradum*.

- Davies, Wyndham John E., B.A., 1893, LL.B.  
 Davis, Agnes Marianne Harrison, B.A., 1896, B.Sc. (Mrs. S. E. Cook)  
 Davis, Henry, B.A., 1890  
 Davis, James Shedden, M.B., Ch.M.  
 Davison, Samuel Beaumont, B.A., 1896  
 Dawson, Arthur F., M.A.  
 Dawson, James, M.A.‡  
 Day, Leo Septimus, B.A., 1899  
 Deane, Henry, M.A.‡  
 Deane, Henry James, B.E., 1897  
 Deane, William Smith, M.A.  
 De Lissa, Ethel Naida, B.A., 1898 (Mrs. Bensusan).  
 De Lissa, Horace, B.A., 1896  
 Deck, George Henry Baring, M.B., Ch.M.  
 Deck, John Northcote, M.B., Ch.M.  
 Delohery, Cornelius, M.A.  
 Delohery, Henry Charles, M.B., 1899  
 Dennis, James, M.A.  
 Dettmann, Herbert Stanley, B.A., 1897  
 Dey, Charlotte Johnston, B.A., 1898 (Mrs. Stuckey)  
 Dey, Robert, M.B., Ch.M.  
 Dick, James Adam, B.A., 1886  
 Dick, Robert, M.B., Ch.M.  
 Dick, William Thomas, B.A., 1890  
 Dickinson, Edward Moseley, B.A., 1899.  
 Dight, Wilfred Billingsley, M.B., Ch.M.  
 Dimond, Margaret Cecilia, B.A., 1893  
 Dixon, Graham Patrick, M.B., Ch.M.  
 Dixon, James Thomson, B.E., 1895  
 Dixon, Herbert Hutchinson, B.A., 1894  
 Dixon, Thos. S., M.B., Ch.M.¶  
 Doak, Frank Wiseman, B.A., 1891  
 Doak, Walter James, B.E., 1895  
 Docker, Ernest B., M.A.  
 Doig, Alexander John, B.A., 1895  
 Donovan, John J., LL.D.  
 Dove, Wm. Rd. Norton, B.A., 1893  
 Doust, Edith Lucy, M.A.  
 Dowe, Philip William, B.A., 1893  
 Dowling, Frank Vincent, B.A., 1898  
 Doyle, John, B.A., 1891‡  
 Drummond, Shafto L., B.A., 1893  
 Dudley, Joseph T., B.A., 1885  
 Dumolo, Nona, B.A., 1898  
 Dun, William Sutherland¶  
 Dunnicliff, May Clifton, B.A., 1898  
 Dunlop, John W., B.A., 1895  
 Dunlop, Norman John, B.A., B.Sc., M.B., Ch.M.  
 Dunne, John D., B.A., 1873  
 Dunstan, Ephraim, M.A.  
 Durack, Joseph Jerry E., B.A., 1899  
 Du Vernet, A. H., D.D.S.¶  
 Eames, Jane, B.A., 1895  
 Edmunds, John Michael, B.A., 1892  
 Edmunds, May, B.A., 1897  
 Edmunds, Walter, M.A., LL.B.  
 Edwards, David Sutherland, B.A., 1894, LL.B.  
 Edwards, Edward Evan, B.A., 1898  
 Edwards, Edward Samuel, M.A.  
 Edwards, J. Ross, M.A.  
 Edwards, John, B.A., 1891  
 Eichler, William Otto Heldmuth, M.B., Ch.M.  
 Elder, Francis R., B.A., 1877  
 Eldridge, Ada Maitland, M.A.  
 Elkin, Jonathan Bevan, B.A., 1895  
 Elliott, Millicent V., B.A., 1895  
 Ellis, Ethel, B.A., 1894  
 Ellis, Mary, B.A., 1894 (Mrs. George)  
 Ellis, Lawrence Edward, M.B., Ch.M.  
 Elphinstone, Elsie Mary, B.A., 1899  
 Elphinstone, James, B.A., 1881  
 Elphinstone, James Cooke, B.A., 1896, LL.B.  
 Elworthy, William Henry, M.B., Ch.M.  
 Emanuel, Nathaniel, B.A., 1867  
 England, Theo., B.A., 1885  
 England, Thomas H., B.A., 1885  
 Enright, Walter John, B.A., 1893  
 Evans, Ada Emily, B.A., 1895, LL.B.  
 Evans-Jones, David Pentland, B.A., 1898, LL.B.  
 Fahey, Bartley Francis, B.A., 1901, LL.B.  
 Fairfax, Edwd. Wilfred, M.B., Ch.M.  
 Faithfull, George Ernest, M.A.

¶ Public Teacher.

‡ Admitted *ad eundem gradum*.

- Faithfull, Henry Montague, M.A.  
 Faithfull, William Percy, M.A.  
 Farrell, Robert M., M.B., Ch.M.  
 Feez, Arthur H., B.A., 1880  
 Fell, Catherine Isabella, B.A., 1900  
 Ferguson, David, B.A., 1886¶  
 Fiaschi, Thomas, M.D.†  
 Fidler, Carleton B., B.A., 1888  
 Fidler, Isabel Margaret, B.A., 1898¶  
 Finn, William George, B.A., 1895  
 Finney, Charlotte, B.A., 1895 (Mrs. Hodge)  
 Finney, Joseph, B.A., 1894  
 Fisher, Donnelly, M.A.  
 Fitz, Norman, B.E., 1888  
 Fitzgerald, Edmund, B.A., 1866  
 Fitzgerald, John Thomas, B.A., 1890  
 Fitzgerald, Robert Marsden, M.A.  
 Fitzhardinge, Grantley Hyde, M.A.  
 Fitzhardinge, Maude Yeomans, M.A.  
 Fitzpatrick, Bernard Joseph, B.A., 1897  
 Fitzpatrick, Edward Bede Lucien, M.B., Ch.M.  
 Fitzpatrick, Thomas John Augustine, B.A., 1893  
 Flannery, George Ernest, B.A., 1892, LL.B.  
 Flashman, James Froude, B.A., B.Sc., M.D., Ch.M.  
 Flavelle, Lucy Isabel, B.A., 1896  
 Flecker, Oscar Sydney, M.B., Ch.M.  
 Fleming, Howard G. T., B.A., 1894  
 Fletcher, Archibald William, B.A., 1886, B.Sc.  
 Fletcher, Charles R., B.A., 1881  
 Fletcher, Frank E., M.A.  
 Fletcher, Joseph J., M.A.  
 Fletcher, Katherine Elizabeth, B.A., 1895  
 Fletcher, Michael Scott, M.A.,  
 Flint, Charles A., M.A.  
 Flynn, John E., M.A.  
 Flynn, Joseph Alban, M.A.  
 Flynn, William J., B.A., 1884  
 Forde, James, B.A., 1891, B.Sc.  
 Fordyce, Henry St. C., M.B., Ch.M.  
 Foreman, Henry James Clifton, B.A., 1896  
 Foreman, Joseph, M.R.C.S.¶  
 Forster, Charles E., B.A., 1876  
 Forster, Redmond Clarence Hall, M.B., Ch.M.  
 Forsyth, Walter George, B.A., 1898, LL.B.  
 Fosbery, Eustace E., M.A.  
 Fox, Harold S., B.A., 1885  
 Fraser, Robert W., B.A., 1885  
 Francis, Henry Ralph, M.A.  
 Freehill, Francis B., M.A.  
 Freeman, Ambrose William, B.A. 1896  
 Freeman, Charles Cuthbert, B.E.  
 Freshney, Reg., M.B., Ch.M.  
 Fry, Florence Mildred, B.A., 1901  
 Fuller, George W., M.A.  
 Fullerton, Alexander Y., B.A., 1885  
 Galt, James, B.A., 1899  
 Garde, Henry Lee, M.B., Ch.M.  
 Gardiner, Andrew, M.A.‡  
 Garland, James Robert, M.A.  
 Garnsey, Arthur Henry, M.A.  
 Garnsey, Edward R., B.A., 1885  
 Garrick, Joseph Hector, M.A.  
 Garran, Robert R., M.A.  
 Geddes, Samuel, B.A., 1885  
 George, John, B.A., 1893  
 Gerber, Edward W. T., B.A., 1892, LL.B.  
 Gibbs, Alfred George, M.A.  
 Gibson, Alexander J.¶  
 Gibson, Charles George, B.E., 1900  
 Gill, Alfred Chalmers, M.A., LL.B.  
 Gill, J. Macdonald, M.D.‡  
 Gillam, Dora Alice, M.A.  
 Gillies, James, B.A., 1889  
 Godsall, Robert Spencer, M.B., Ch.M.  
 Goldsmid, Albert, M.B., 1895  
 Gordon, Emily Isabel, M.A.  
 Gordon, George Acheson, B.A., 1895  
 Gorman, John R., B.A., 1866  
 Gorringe, Lloyd Septimus, B.E., 1901  
 Gough, Norman John, B.A., 1900¶  
 Graham, Sir James, M.B., 1886‡¶  
 Graham, Mabel Jessie, M.B., Ch.M.  
 Grassick, Charles C., B.A., 1897  
 Gray, Arthur St. J., M.A.‡  
 Green, Arthur V., LL.D.

‡ Examiner.

‡ Admitted *ad eundem gradum*.

¶ Public Teacher.

- Green, Terence Albert, M.B., 1893  
Greenham, Eleanor Constance, M.B., Ch.M.  
Greenlees, Gavin, B.A., 1895  
Greenway, Alfred R., B.A., 1870  
Gregson, William Hilder, B.A., 1898 B.E.  
Grey, William Charles, M.B., Ch.M.  
Grieve, Robert Henry, B.A., 1900  
Griffith, Alfred John, M.A.  
Griffith, James Shaw, B.A., 1895  
Griffith, Rt. Hon. Sir Samuel W., M.A.  
Griffiths, Frederick Guy, B.A., 1898, M.B.  
Grogan, Albert Thos. Henry, B.A., 1897  
Grut, Charles Frederick de Jersey, B.E., 1901  
Gullett, Lucy Edith, M.B., Ch.M.  
Hadley, Alfred Edward, B.A., 1893  
Hadley, Charles William, B.A., 1899  
Hall, Alfred Ernest, B.A., 1893  
Hall, Edwin Cuthbert, M.D., Ch.M.  
Hall, William Hessel, M.A.  
Hall, George R. P., B.Sc., M.B., Ch.M.  
Halliday, George C., B.A., 1884  
Halliday, John Charles W., M.B., Ch.M.  
Halloran, Aubrey, B.A., 1892, LL.B.  
Halloran, George Henry, B.A., 1896  
Halloran, Ida, B.A., 1893 (Mrs. Yabsley)  
Halloran (formerly Guérin), Bella, M.A.‡  
Hammond, Alfred de Lisle, M.A.  
Hammond, John Harold, B.A., 1896, LL.B.  
Handcock, Charles Lancelot, M.B., Ch.M.  
Hankins, George T., M.R.C.S.‡  
Hansard, Edith Hirst, B.A., 1897 (Mrs. Hirst)  
Hardman, Robert, M.B., 1900  
Hargraves, Edw. John, B.A., 1859  
Harker, Constance Elizabeth, B.A., 1895  
Harker, George, B.Sc. 1899  
Harper, Rev. Andrew, M.A., D.D.||  
Harriott, Charles Warre, B.A., 1889  
Harriott, Georgina Jane, B.A., 1894  
Harris, Edward, M.A.‡  
Harris, George, B.A., 1891, LL.B.  
Harris, John, B.A., 1892  
Harris, Lawrence Herschell Levi, M.B., Ch.M.  
Harris, Marian, B.A., 1898, B.Sc.  
Harris, Matthew, B.A., 1863  
Harris, Walter Eli, M.B., Ch.M.  
Harris, William Henry, M.B., Ch.M.  
Hart, Basil Lloyd, M.B., Ch.M.  
Harvey, Revina, B.A., 1895  
Harvey, William George, B.A., 1894  
Harwood, Marian Fleming, B.A., 1898  
Haswell, William A., M.A., D.Sc., 'F.R.S.¶'  
Hawken, Roger Wm. Hercules, B.E., 1900  
Hay, Mary Catherine, B.A., 1897  
Hayes, David John, B.A., 1894  
Hayley, Percy E. L., B.E., 1893  
Healy, Patrick J., M.A.  
Hedberg, John Alfred, B.A., 1896  
Heden, Ernest Charles B., B.A., 1898, B.Sc.  
Helsham, Chas. Howard, B.A., 1892  
Henderson, G. Cockburn, B.A., 1893  
Henderson, Robert Newburn, B.A., 1895  
Henry, Ada, B.A., 1900  
Henry, Arthur, M.B., Ch.M.  
Henry, Arthur G., M.B., Ch.M.  
Higgins, Frederick Charles, M.B., Ch.M.  
Higgins, Michael A., B.A., 1879  
Higgins, Percy Reginald, B.A., 1893, LL.B.  
Hill, Evelyn M., B.A., 1895  
Hill, George Arthur, M.A.  
Hill, James Henry Fraser, B.A., 1900  
Hill, James P., D.Sc., F.L.S.¶  
Hill, John Goodwin Watson, B.A., 1901  
Hill, Thomas, M.A.  
Hilliard, Arthur Vaughan, B.A., 1890  
Hills, Henry H., M.A.  
Hinder, Henry V.C., M.B., Ch.M.¶  
Hinder, Robert John, B.A., 1889  
Hinder, W. Septimus, D.D.S.¶

‡ Examiner.

‡ Admitted *ad eundem gradum*.

¶ Public Teacher.

|| Head of College.

- Hipsley, Alice Ellen, B.A., 1898  
 Hipsley, Percy Leslie, M.B., Ch.M.  
 Hobbs, Edwin, B.A., 1897  
 Hobbs, John William, B.A., 1894  
 Hodge, Ernest Arthur, B.A., 1895  
 Hodgkins, Amy Alice, B.A., 1895  
 Hodgson, Evelyn G., M.A.‡  
 Hogg, James E., M.A.‡  
 Hogg, Kate Emily, B.A., 1894  
 Hole, William Francis, B.E., 1896  
 Holliday, Andrew, B.A., 1898, LL.B.  
 Holme, Ernest Rudolph, B.A., 1891¶  
 Holme, John Barton, B.A., 1893, LL.B.  
 Holmes, Harry Glennie, M.B., Ch.M.  
 Holmes, William Fredk., B.A., 1894  
 Holt, Arthur Christian, B.A., 1895, M.B.  
 Holt, Wilfrid John, M.A.  
 Hood, Dannina, B.A., 1894 (Mrs. Lanfear)  
 Hopkins, Francis Irvine, B.A., 1893  
 Hopman, John Henry, B.A., 1894  
 Horniman, Alexander, B.A., 1866  
 Horton, Marion Charlotte, B.Sc., 1897 (Mrs. White)  
 Houison, Andrew, B.A., 1869  
 Houison, J., B.A., M.D.  
 Houison, Stephen James, B.A., 1898  
 Howard, John Bruton, B.A., 1895  
 Hudson, William, M.A.  
 Huggart, Alfred Theodore, B.A., 1892  
 Huggart, William Charles, B.A., 1898  
 Hughes, Charles Michael, B.A., 1886  
 Hughes, Hugh Jason, B.A., 1897  
 Hughes, James O'Donoghue A., B.A., 1894  
 Hughes, Michael O'Gorman, B.A., 1890, B.Sc., M.B.  
 Humphery, Esca Morris, M.B., Ch.M.  
 Hungerford, Hedley Heber, B.A., 1886  
 Hunt, Claude L. W., M.B., Ch.M.  
 Hunt, Digby St. Clair W., B.A., 1895  
 Hunt, Fanny E., B.Sc., 1888  
 Hunt, Harold W. G., B.A., 1888  
 Hunt, Hugh Alton Stanislaus, B.A., 1897  
 Hunter, John, M.A.  
 Hunter, Mary Alison Miles, B.A., 1895  
 Hunter, Thomas Brown, B.A., 1898  
 Hurst, George, M.A.  
 Hutchinson, George Thos., B.A., 1900  
 Hynes, Sarah, B.A., 1891  
 Iceton, Edward Arthur, M.A.  
 Iceton, Thomas Henry, M.A.  
 Jack, Robert Lockhart, B.E., 1899  
 Jackson, Clements F. V., B.E., 1895  
 Jackson, Frederick Charles, B.A., 1897  
 Jackson, Henry Latimer, M.A.‡  
 Jackson, John Wm., M.B., Ch.M.  
 Jackson, Robert, M.A.  
 Jacobs, James, B.A., 1894  
 James, Arthur Henry, B.A., 1893  
 James, Augustus G. F., B.A., 1888  
 James, George Alfred, B.A., 1893  
 James, Thomas, B.A., 1896  
 James, William Edwin, M.A.  
 Jamieson, George Wellington, B.A., 1893  
 Jamieson, Sydney, B.A., 1884¶  
 Jarman, Arthur, A.R.S.M.¶  
 Jarrett, Marjorie Kate, B.A., 1901  
 Jarvie, Bennie, B.A., 1898.  
 Jefferis, James, LL.D.  
 Jenkins, Charles J., B.A., 1887  
 Jenkins, Charles Warren B., B.E., 1895  
 Jenkins, E. J., M.D.‡  
 Johnson, James William, M.A.  
 Johnson, Martin Luther, B.A., 1893  
 Johnston, Alexander W., M.A.  
 Johnston, Ella Russell, B.A., 1890 (Mrs. Martin)  
 Johnston, John, B.A., 1887  
 Johnston, Mary Eleanor B.A., 1896  
 Johnston, Stephen Jason, B.A., 1894 B.Sc.  
 Johnstone, Henry T., B.A., 1885  
 Jones, Albert E., LL.B., 1889‡  
 Jones, Cortis Harry Frederick, M.A.  
 Jones, Ernest Trevor, B.A., 1884  
 Jones, G. E. Russell, M.A.  
 Jones, P. Sydney, M.D.†‡  
 Jones, Philip Sydney, M.B., Ch.M.  
 Jones, Rees Rutland, M.A.

† Fellow of the Senate.

‡ Examiner.

¶ Public Teacher.

‡ Admitted *ad eundem gradum*.



Jones, Richard Theophilus, M.D.  
 Jones, Thomas, B.A., 1895  
 Jones, Thomas E., B.A., 1884  
 Jordan, George Edward Gustavus,  
     B.Sc., 1901  
 Joseph, Horace B., B.A., 1887  
 Kater, Norman William, M.B., Ch.M.  
 Kay, Robert, M.A.  
 Kellett, Frederick, M.A.  
 Kelly, Patrick J., M.B., 1889  
 Kelynack, Arthur James, B.A., 1889,  
     LL.B.  
 Kelynack, Harold Leslie, B.A., 1893  
 Kemmis, William Henry, B.A., 1890  
 Kemp, Richard Edgar, M.A.  
 Kendall, Frank Louis, B.A., 1893  
 Kendall, Theodore M., B.A., 1876  
 Kenna, Patrick J., B.A., 1882  
 Kennedy, Annie Augusta, B.A.,  
     1893 (Mrs. Atkins)  
 Kennedy, Emily Clara, B.A., 1895  
 Kennedy, Philip, M.A.  
 Kent, Fredk. Deacon, M.A.  
 Kent, Harry Chambers, M.A.  
 Kershaw, Joseph Cuthbert, B.A.,  
     1894, LL.B.  
 Kidston, Robert Matthew, B.A.  
     1892  
 Kilgour, Alexander James, B.A.,  
     1894, LL.B.  
 King, Aubrey Arthur, M.B., Ch.M.  
 King, Cecil J., M.A.  
 King, Copland, M.A.  
 King, Frederick Hart, M.A.  
 King, George C., B.A., 1887  
 King, R. W., B.A., 1884 ‡  
 King, Walter U. S., M.A.  
 Kinross, John, B.A., 1869  
 Kinross, Robert Menzies, B.A., M.B.,  
     Ch.M.  
 Klein, James Augustus, B.A., 1897  
 Knaggs, Saml. Thos., M.D. ‡  
 Knox, Adrian, LL.B., 1895 ‡  
 Knox, Edward William †  
 Knibbs, George H., L.S. †  
 Knight, Arthur, B.A., 1894  
 Laby, Thomas H. †  
 Lafferty, Terence Matthew, B.A.,  
     1899  
 Lamrock, Arthur Stanton, B.A., 1891

Lancaster, Llewellyn Bentley, M.B.,  
     Ch.M.  
 Lance, Elisabeth Ada, M.A.  
 Lander, William H., M.A.  
 Lane, Frederick George, B.A., 1895  
 Lang, John Gavin, M.A.  
 Langley, Isabella Edwardes, B.A.,  
     1897  
 Langton, Frederick W., B.A., 1887  
 Langton, William Digan, M.B., Ch.M.  
 Lasker, Samuel, M.A.  
 Lawes, Charles Herbert Essery,  
     M.B., Ch.M.  
 Layton, John Edward, B.A., 1893  
 Leahy, John Patrick Daunt, B.A.,  
     M.B., Ch.M.  
 Ledger, William Henry, B.E., 1893  
 Lee, Henry Herbert, M.B., Ch.M.  
 Lee, Herbert Ernest, B.A., 1886  
 Lee, Thomas Nelson, B.A., 1899  
 Lee, William, M.A.  
 Lees, Geoffrey John, M.B., 1900  
 Legge, J. Gordon, M.A., LL.B.  
 Leibius, G. Hugo, B.A., 1888  
 Lenthall, Ellen Melicent, B.A., 1893  
 de Lepervanche, Eustace Mézières,  
     B.A., 1900  
 Lethbridge, Harold Octavius, M.B.,  
     Ch.M.  
 Leverrier, Frank, B.A., 1884, B.Sc. †  
 Levy, Daniel, B.A., 1893, LL.B.  
 Lewis, Henry Clyde, B.A., 1893  
 Lichtscheindl, Rose, B.A., 1894 (Mrs.  
     Innes)  
 Liddell, Andrew Innes, M.A.  
 Liggins, Jessie Hunsdon, B.A., 1899  
 Lingen, John Taylor, M.A. ‡  
 Linsley, Wm. H., B.A., 1880  
 Lipscomb, Thomas Walter, M.B.,  
     Ch.M.  
 Lister, Henry, M.B., 1892  
 Litchfield, William Frederick, M.B.,  
     1893  
 Littlejohn, Edward S., B.A., 1887  
 Liversidge, Archibald, M.A., LL.D.,  
     F.R.S. †  
 Lloyd, Frederick, M.D.  
 Lloyd, Thomas, B.A., 1878  
 Lomer, Caroline, M.A. (Mrs. Vidler)  
 Louis, Philip Herbert, M.A.

† Fellow of the Senate.

‡ Public Teacher.

§ Admitted *ad eundem gradum*.

- Loxton, Edward James, M.A.  
 Ludowici, Edward, M.B., Ch.M.  
 Luker, Donald, M.B., Ch.M.  
 Lukin, Gresley W. H., M.A.  
 Lyden, Michael J., M.D.‡  
 Lydon, James, B.A., 1894  
 Lynch, Michael D., B.A., 1870  
 Lynch, William, B.A., 1863  
 Lyon, Pearson, B.A., 1890  
 Macanish, Andrew W., B.A., 1885  
 MacCallum, Mungo W., M.A.†  
 Macarthy, Herbert T. S., B.A., 1860  
 McCarthy, Arthur W., B.A., 1881  
 McClelland, Hugh, B.A., 1881  
 McClelland, Walter Cecil, B.Sc., M.B., Ch.M.  
 McCook, Adam Stuart, B.A., 1895  
 McCook, William Henry, B.A., 1900  
 MacCormick, Alex., M.D.‡  
 McCoy, William Taylor, B.A., 1894  
 MacCreadie, John Laing M., M.B., Ch.M.  
 McCredie, Robert William, M.B., Ch.M.  
 McCulloch, Percy V., B.A., 1881.  
 McCulloch, Stanhope H., M.B., Ch.M.‡  
 McDermott, Vesian B., B.A., 1887  
 McDonagh, John M., B.A. 1879  
 McDonald, Fanny Elizabeth, B.A., 1895  
 MacDonald, James M., M.A.  
 MacDonald, Louisa, M.A.‡  
 McDonnell, Aeneas J., M.D., Ch.M.  
 McDonnell, Randall C. W., B.A., 1888  
 McDowall, James, B.A., 1896  
 McEvelly, Augustus, B.A., 1886  
 McEvelly, Ulric, B.A., 1883  
 McEvoy, Bertie Patrick, B.A., 1899  
 McEvoy, John Joseph Stuart, M.B., 1900  
 McGuinn, Denis, B.A., 1884  
 MacInnes, Angus, B.A., 1901  
 Macintosh, Alexander Hay, M.B., Ch.M.  
 Mackintosh, Bertha Adeline Hilda, B.A., 1899  
 McIntosh, Harold, B.A., 1889  
 McIntyre, Aug. T., B.A., 1879  
 McIntyre, Duncan A., B.A., 1888  
 Mack, Sidney, B.A., 1890, LL.B.  
 McKay, James, B.A., 1896  
 McKay, William J. Stewart, B.Sc., M.B., Ch.M.  
 Mackellar, Hon. Chas. K., M.D.‡  
 Mackenzie, John, M.B., Ch.M.  
 McKinnon, Roger R. S., M.B., Ch.M.  
 MacLardy, J. D. S., M.A.  
 McLaren, Alexander Duncan, M.A., LL.B.  
 McLaren, John Gilbert, B.A., 1895  
 McLaughlin, Daniel, B.A., 1890  
 MacLaurin, Hon. Sir Henry Normand, M.A., M.D., LL.D.†  
 MacLaurin, Henry Normand, B.A., 1899.  
 Maclean, Charles Hector Roderick, B.A., 1901  
 MacLean, Fredk. S., B.A., 1887  
 McLean, George, M.B., Ch.M.  
 McLeod, James, B.A., 1879  
 McLintock, Colin Scott, B.A., 1900  
 McMahon, Gregan, B.A., 1896  
 MacManamey, James Frazer, B.A., 1881  
 MacManamey, John Frazer, B.A., 1889  
 MacManamey, William Frazer, B.A., 1892  
 MacMaster, Donald Aeneas D., B.A., B.Sc., M.B., Ch.M.  
 MacMullen, Frauk, M.A.  
 McMurray, Wahab, M.D.‡  
 MacTaggart, A. H., D.D.S.†  
 MacTaggart, Norman J. C., B.E., 1892  
 McNeil, Andrew, B.A., 1889  
 McNevin, Arthur Joseph, B.A., 1895  
 McNevin, Thomas Butler, B.A., 1893  
 MacPherson, John, M.A., B.Sc., M.B., Ch.M.  
 MacPherson, Peter, B.A., 1889  
 Madsen, John Percival Vissing, B.Sc., 1900, B.E.  
 Maffey, Reginald William H., B.A., 1896, M.B.

‡ Examiner.

† Public Teacher.

‡ Admitted *ad eundem gradum*.

† Fellow of the Senate.

‡ Head of College.

- Magarey, Frank W. A., M.D.,  
Ch.M.
- Maher, Charles H., B.A., 1877
- Maher, Matthew E., B.A., 1867
- Maher, Thomas Francis, B.A., 1893
- Maher, W. Odillo, M.D.‡
- Main, John, B.A., 1892
- Maitland, Herbert Lethington, M.B.,  
Ch.M.
- Mallarkey, Ethel May, B.A., 1895
- Maloney, Andrew William, B.A.,  
1893
- Maloney, John Thomas, B.A., 1899
- Mann, William J. G., M.A.
- Mannell, Francis Worthington, B.A.,  
1892
- Manning, Henry Edward, B.A., 1900
- Manning, James N., M.A., LL.D.
- Manning, Reg. K., B.A., 1887
- Manning, William Alexander, M.A.
- Manning, W. Hubert, M.A.
- Manning, William Ernest, B.A.,  
1892
- Marden, John, LL.D.
- Marks, Hyam, B.A., 1892
- Marks, Florence, B.A., 1893
- Marks, Leah, B.A., 1893
- Marks, Percy J., B.A., 1887
- Marr, Fannie Augusta, B.A., 1899
- Marr, Gordon William Singer, M.B.,  
1901
- Marrack, Jno. Rea M., M.A.
- Marsden, Ernest Ambrose, M.B.,  
Ch.M.
- Martin, Lewis Ormsby, B.A., 1893,  
LL.B.
- Martyn, Sydney Charles, B.A., 1889
- Massie, Richard de Winton, B.A.,  
1886
- Mate, William H., B.A., 1864
- Mathews, Hamilton Bartlett, B.A.,  
1899
- Mathison, Walter, B.A., 1880
- Mathison, Walter Charter, B.E., 1899
- Mawson, Douglas, B.E.¶
- Mawson, William, M.B., Ch.M.
- Maxwell, Henry Francis, B.A., 1895
- Maynard, Ethel Margaret, B.A.,  
1894
- Mayne, Wm. M., M.A.
- Mayne, J. O'Neill, B.A., 1884
- Maze, William A. A., B.A., 1892
- Meagher, Louis Felix, B.A., 1889
- Meares, Hercules, B.A., 1893, LL.B.
- Meares, Matilda, M.A.
- Meillon, John, M.A., LL.B.
- Meillon, Joseph, B.A., 1863
- Mell, Cecil Newton, B.A., 1894
- Menzies, Guy Dixon, M.B., Ch.M.
- Merewether, E. A. M., B.A., 1884,  
B.E.
- Merewether, Hugh H. M., B.A.,  
1894, LL.B.
- Merewether, Walton L., M.A.
- Merewether, William D. M., B.A.,  
1895, LL.B.
- Merrington, Ernest Northcroft, M.A.
- Metcalf, George, M.A.
- Miles, James Albert, B.A., 1894
- Millard, Alfred C., B.A., 1885
- Millard, Godfrey William, M.A.
- Millard, Reginald J., M.B., Ch.M.
- Miller, James W., B.A., 1896
- Miller, Richard, B.A., 1885
- Mills, Arthur E., M.B., Ch.M.‡
- Mills, Elsie Ada Harland, M.A.
- Mills, Percy Harcourt, B.A., 1893,  
LL.B.
- Mitchell, David Scott, M.A.
- Mitchell, Ernest Meyer, B.A., 1896,  
LL.B.
- Mitchell, Ethel Robertson, B.A., 1898
- Molineaux, Amy Atherton, B.A.,  
1891
- Moloney, Thos. P., B.A., 1885
- Molster, Eliza, B.A., 1893 (Mrs.  
Dowe)
- Molster, Sarah, M.A.
- Monaghan, John Graham, M.A.
- Monahan, William Willis, B.A.,  
1897, LL.B.
- Moncrieff, Edward Woods, M.B.,  
Ch.M.
- Monnington, Alfred, M.A.‡
- Montague, James H., M.A.
- Montefiore, Hortense Henriette,  
B.A., 1896
- Montgomerie, John, B.A., 1889
- Moore, David C., B.A., 1883
- Moore, Frank Joseph S., B.A., 1883

‡ Examiner.

¶ Public Teacher.

‡ Admitted *ad eundem gradum*.

- Moore, George, M.D.  
 Moore, John, B.A., 1883  
 Moore, Samuel, M.A.  
 Moore, Verner, B.A., 1884  
 Moore, Walter Albert, B.A., 1894  
 Moors, E. M., M.A.†  
 More, George Allan, B.E., 1901  
 Morgan, Fredk. A., B.A., 1888  
 Morgan, Thos. H. D., B.A., 1892  
 Morrice, John, B.A., 1874  
 Morris, John Fossbrook, B.E., 1899  
 Morris, John James, B.A., 1895  
 Morris, Robt. N., B.A., LL.D.  
 Morrish, Francis, B.A., 1882  
 Mort, Harold Sutcliffe, B.Sc., 1901  
 Mort, H. Wallace, M.A.‡  
 Mort, Selwyn Robert, B.E., 1900  
 Morton, Gavin, M.B., Ch.M.  
 Morton, John, M.B., Ch.M.†  
 Morton, Selby, M.D.  
 Moulton, James E., B.A., 1892  
 Moustaka, Orea Emma Hellas, B.A., 1897  
 Mulholland, John Joseph, B.A., 1899  
 Mullens, Arthur Frank Macquarie, B.A., 1896  
 Mullins, George Lane, M.D.‡  
 Mullins, John Lane, M.A.  
 Munro, Wm. J., B.A., 1880, M.D.‡  
 Murray, Charles Edward Robertson, M.A.  
 Murray, Donald, M.A.  
 Murray, Florence Jane, B.A., 1896 (Mrs. Armitage)  
 Murray, George Lathrop, M.B., Ch.M.  
 Murray, Mercy M., B.A., 1897  
 Musmann, Carl Ernst Gottlieb, B.A., 1897  
 Mutton, Isaiah, B.A., 1900  
 Myers, David M., B.A., 1866  
 Myers, Harold Walter, B.E., 1901  
 Nardin, Ernest Willoughby, B.E., 1894  
 Nash, John Brady, M.D.‡  
 Nathan, Edward Alleyne, M.A., LL.B.  
 Nelson, Duncan John, B.A., 1895  
 Nettleship, Edward, B.A., 1895  
 Newham, Arthur, B.A.†  
 Newman, George Hine, B.A., 1887  
 Newman, James Malcolm, B.E., 1901  
 Newman, Kelsey Illidge, B.A., 1894  
 Newsham, Alice Isabel, B.A., 1900  
 Newton, Alice Sarah, M.B., Ch.M. (Mrs. Newton-Tabrett)  
 Newton, Henry, B.A., 1889  
 Newton, William Thomas Joseph, M.B., 1900  
 Nicholls, William Hunt Ward, B.A., 1891  
 Nicholson, George Gibb, B.A., 1899†  
 Noake, Reginald, B.A., 1877  
 Noakes, Mabel Alicia, B.A., 1896 (Mrs. Stonham)  
 Noble, Edmund Murray, M.A.  
 Nolan, John Henry Monteith, M.A.  
 Nolan, Herbert Russell, M.B., Ch.M.  
 Norton, Hon. James, LL.D.\*  
 O'Brien, Agnes Gertrude, B.A., 1895  
 O'Brien, Francis, M.A.  
 O'Brien, The Right Rev. Monsignor Jas. J., D.D.‡  
 O'Brien, Kathleen Moira, B.A., 1894  
 O'Brien, Lucius, B.A., 1865  
 O'Brien, Ormond, B.A., 1876  
 O'Brien, Patrick Daniel, B.A., 1894, LL.B.  
 O'Connor, Arthur Charles, M.B., Ch.M.  
 O'Connor, Hon. Mr. Justice R. E., M.A.†  
 O'Conor, Broughton B., B.A., 1892, LL.B.  
 O'Donohue, John P. Markham, B.A., 1895, LL.B.  
 Old, George Greensil, M.B., 1900  
 Oliver, Alexander, M.A.†  
 Oliver, James, M.A.  
 Olver, William Reath, M.B., Ch.M.  
 Oram, A. Murray, M.D.‡  
 O'Keefe, John A., B.A., 1887  
 O'Keefe, John James, M.B., 1898  
 O'Mara, Michael, M.A.  
 O'Neill, James Bernard, B.A., 1895  
 O'Reilly, Hubert de Burgh, B.A., 1892, LL.B.  
 O'Reilly, Walter William Joseph, M.D.‡

\* Superior Officer.  
 † Fellow of the Senate.

‡ Head of College.  
 § Admitted *ad eundem gradum*.

‡ Examiner.  
 ¶ Public Teacher.

- Osborne, Henry Stuart, B.A., 1896  
 Osborne, John King, M.B., Ch.M.  
 O'Sullivan, Daniel Roche, B.A., 1901  
 O'Sullivan, Eugene Francis, B.A., 1901  
 Page, Arthur Ernest, B.A., 1899  
 Page, Earle Christmas Grafton, M.B., Ch.M.  
 Pain, Allan Franklyn, B.A., 1894  
 Pain, A. W., B.A., 1884‡  
 Pain, Ernest Maynard, M.B., Ch.M.  
 Paine, Bennington Haille, B.A., 1893  
 Paine, George Henry, B.A., 1894  
 Palmer, Selina Elizabeth, B.A., 1903  
 Palmer, Thomas Henry, B.E., 1898  
 Paris, Jane Elizabeth, B.A., 1897  
 Parish, Walter G., M.A.  
 Park, Joseph, M.B., Ch.M.  
 Parker, Wm. A., B.A., 1892, LL.B.  
 Parsons, Emily Waugh, B.A., 1899  
 Parsons, Joseph, M.A.  
 Paton, Arthur T., B.A., 1887  
 Pattinson, Anthony Walton, B.A., 1894  
 Paxton, Betha, M.A.  
 Peden, John B., B.A., 1892, LL.B.¶  
 Penman, John Edwards Foggon, B.A., 1897  
 Perkins, Alfred Edward, M.A., M.B., Ch.M.‡  
 Perkins, Frederick Thomas, M.A.  
 Perkins, Joseph A. R., B.A., 1892  
 Perry, John, M.A.  
 Perské, Hermann, B.A., 1887  
 Peterson, Arthur James, 1901  
 Petrie, Edith Maud, B.A., 1901  
 Petrie, James Matthew, B.A., 1901  
 Phillips, Catherine Agnes, B.A., 1896  
 Pickburn, James P., B.A., 1892, LL.B.  
 Piddington, Albert Bathurst, B.A., 1893  
 Piddington, Francis Llewellyn, B.E., 1898  
 Pike, George H., M.A.  
 Pilcher, George de Vial, B.A., 1859  
 Pilcher, Charles E., B.A., 1865  
 Pilcher, Norman George Stafford, B.A., 1898, LL.B.  
 Pincombe, Torrington Hawke, B.A., 1890  
 Plomley, Francis James, M.A.  
 Plomley, Morris James, M.B., Ch.M.  
 Plume, Henry, M.A.‡  
 Pockley, Eric Osbaldiston, M.B., Ch.M.  
 Pockley, F. Antill, M.B., 1888‡¶  
 Pockley, Norman V., D.D.S.¶  
 Poidevin, Leslie Oswald Sheridan, B.A., 1900  
 Pollock, James Arthur, B.Sc., 1889¶  
 Poole, William, B.E., 1900  
 Poolman, Arthur Edward, B.A., 1883  
 Pope, Roland J., B.A., 1885  
 Power, F. Danvers¶  
 Potts, Cuthbert, B.A., 1898  
 Powell, Theodore, M.A.  
 Power, Percy Horne, B.A., 1901  
 Pratt, Frederick V., M.A.  
 Pratt, Walter Henry, B.A., 1901  
 Prentice, Arthur J., B.A., 1892  
 Pring, Robert Dorlow, M.A.  
 Pritchard, Alice, B.A., 1895  
 Pritchard, Wm. Clowes, B.A., 1888  
 Proctor, Lizzie, M.A. (Mrs. Cocks)  
 Puckle, Robert Henry, M.B., 1898  
 Purcell, Philip Francis, B.A., 1898  
 Purcell, Winifred Dalton, B.A., 1895  
 Purser, Cecil, B.A., M.B., Ch.M.  
 Purves, John Mitchell, M.A.  
 Quaife, Frederick Harrison, M.A.  
 Quaife, William F., B.A., 1879  
 Quigley, James, B.A., 1890  
 Ralston, Alexander G., M.A.  
 Ramsay, James, B.A., 1885  
 Raves, George Alfred, B.A., 1897  
 Raves, Helen Alice, B.A., 1894  
 Read, Elizabeth Jane, B.A., 1899  
 Read, William Henry, M.B., Ch.M.  
 Reading, Richard Fairfax, M.R.C.S., L.D.S.¶  
 Redshaw, George, B.A., 1895  
 Rees, Walter Llewellyn, M.B., Ch.M.  
 Reid, Norman, B.E., 1898  
 Reidy, John James Galton, B.A., 1896  
 Rennie, Edward Henry, M.A.

‡ Examiner.

‡ Admitted *ad eundem gradum*

¶ Public Teacher.

- Rennie, George E., B.A., 1882¶  
 Renwick, Hon. Sir Arthur, B.A., 1857, M.D.†  
 Renwick, Herbert John, B.A., 1893  
 Reynolds, Arthur J. P. G., B.A., 1890  
 Reynolds, Reginald Blair, M.A.  
 Rich, George E., M.A.¶  
 Richards, Samuel J., M.B., Ch.M.  
 Richardson, Charles Noel Derwent, B.A., 1893, LL.B.  
 Richardson, Henry A., B.A., 1867  
 Rigg, Thomas, M.A.  
 Riley, Ernest Arthur, B.A., 1893  
 Riley, Patrick William, B.A., 1894  
 Riley, Spencer George Birkenhead, B.A., 1897  
 Riley, Valentine B., B.A., 1872  
 Roberts, James W., B.E., 1892  
 Robertson, Joseph, M.A.  
 Robinson, Charles H. P., B.A., 1893  
 Robinson, George Frederick Greenwell, B.A., 1890  
 Robinson, Grace Fairley, M.B., Ch.M. (Mrs. Boelke)  
 Robinson, Mabel Fuller, B.A., 1890 (Mrs. Windeyer)  
 Robjohns, Henry T., M.A.  
 Robjohns, Leonard, B.A., 1894  
 Robson, Wm. Elliott Veitch, B.A., 1889  
 Robson, Reginald Norman, B.A., 1900, LL.B.  
 Roe, James Martin, M.B., 1900  
 Rofe, John F., M.A.  
 Rogers, Francis Edward, M.A., LL.B.†  
 Rolin, Tom, M.A.  
 Rooney, William J., B.A., 1892  
 Roseby, Edmund Rupert, M.B., Ch.M.  
 Roseby, Gertrude Amy, B.A., 1895  
 Roseby, Minnie, B.A., 1895  
 Roseby, Sarah Mabel, B.A., 1900  
 Roseby, Thomas, M.A., LL.D.  
 Roseby, Thomas Ernest, M.A.  
 Ross, Chisholm, M.D.¶  
 Ross, Colin John, B.E., 1891‡  
 Ross, William John Clunies, B.Sc., 1891‡  
 Rossiter, Florence Annie, B.A., 1898  
 Roth-Schmidt, Frederica, B.A., 1897  
 Rourke, Ernest John, B.A., 1893  
 Rourke, George Augustus, B.A., 1893  
 Rourke, Lillie Agnes, B.A., 1895  
 Rowan, Thomas, M.D.  
 Rowland, Norman de Horne, B.A., 1895  
 Rowlands, Harold Berkeley, B.E., 1897  
 Rudder, Sydney Llewellyn, B.A., 1891  
 Russell, Charles Townsend, B.A., 1891  
 Russell, Edward, M.A.  
 Russell, Ethel Albinia, B.A., 1893  
 Russell, Francis Alfred Alison, M.A.  
 Russell, Harry A., B.A., 1887  
 Russell, Henry Chamberlaine, B.A., 1859, C.M.G., F.R.S.†  
 Russell, Jane Foss, M.A. (Mrs. Barff)  
 Russell, John F. S., M.A.  
 Russell, Lillian, B.A., 1891 (Mrs. King)  
 Russell, William, M.A.  
 Rutherford, Florence Marion, B.A., 1900  
 Rutherford, George Washington, B.A., 1900  
 Rutledge, David Dunlop, M.A., M.B., Ch.M.  
 Rutledge, William F., B.A., 1871  
 Ryan, Gerald, B.A., 1893  
 Ryan, James William, B.A., 1901  
 Rygate, Chas. D. H., B.A., 1883  
 Rygate, Henry B., B.A., 1885  
 Rygate, Philip William, M.A., B.E.  
 Saddington, Arthur G., B.A., 1887  
 Sadler, Alexander, B.A., 1900  
 Salting, George, B.A., 1857  
 Salting, William S., B.A., 1857  
 Sandes, Francis Percival, M.D., Ch.M.¶  
 Sands, Jno. Marshall, B.A., 1889  
 Saunders, Arthur, B.A., 1893  
 Saunders, Eva Florence, B.A., 1897  
 Savage, Vincent Wellesley, M.B., Ch.M.  
 Savage, Edward Joseph, M.B., Ch.M.

‡ Admitted *ad eundem gradum*.

† Fellow of the Senate.

¶ Public Teacher.

Sawkins, Dansie Thomas, M.A.  
 Sawkins, Frederick John T., M.B.,  
 Ch.M.  
 Sawyer, Basil, B.E., 1896  
 Saxby, George Campbell, B.A., 1891  
 Saywell, Thomas Stanley, B.A., 1900  
 Scarvell, Edric Sydney, B.A., 1893,  
 LL.B.  
 Schofield, James A., A.R.S.M.,  
 F.C.S.¶  
 Scot-Skirving, Robert, M.B., 1888¶  
 Scott, Edward Henry, M.B., Ch.M.  
 Scoular, David, B.A., 1893, LL.B.  
 Scrutton, Caroline Maude, B.A., 1900  
 Seale, Herbert Percy, B.E., 1894  
 Seaward, William T., B.A., 1892  
 Seldon, Florence Mary, B.A., 1894  
 (Mrs. Stobo)  
 Sellors, Richard P., B.A., 1890  
 Sendall, Alfred E., B.A., 1888  
 Serisier, Lavigne Ernest, B.A.,  
 1891  
 Shand, Alexander B., B.A., 1884  
 Shaw, Frederick C. S., M.B., Ch.M.  
 Shaw, Henry Giles, M.A.  
 Shaw, John A. K., B.A., 1885  
 Sharp, Granville Gilbert, B.Sc., M.B.,  
 Ch.M.  
 Sharp, Rev. Canon W. Hey, M.A.¶§  
 Sharp, Walter Alexander Ramsay,  
 B.A., M.B., Ch.M.  
 Sharpe, Ernest, B.A., 1865  
 Sharpe, William George, B.A., 1897  
 Sheldon, Herbert, M.B., Ch.M.  
 Sheldon, Stratford, B.Sc., M.B.,  
 Ch.M.  
 Sheppard, Arthur Murray, M.B.,  
 Ch.M.  
 Sheppard, Edmund Haslewood, B.A.,  
 1882  
 Sheppard, George, B.A., 1873  
 Sheridan, Francis B., B.A., 1874  
 Sheridan, John Patrick, B.A., 1890  
 Sheridan, Muriel Eulalie Bingham,  
 B.A., 1900  
 Sherlock, John Bolt, B.A., 1895  
 Shewcroft, Alfred John, B.A., 1893  
 Shirley, John, B.Sc., 1887§  
 Shirlow, Syd. S., M.B., Ch.M.  
 Shirlow, Wm. J., M.B., Ch.M.

Shorter, Herbert Leopold Ashton,  
 M.B., 1899  
 Simpson, Hon. Mr. Justice Archibald  
 Henry, M.A.†  
 Simpson, Edward S., B.E., 1895  
 Sinclair, Colin Archibald, B.A., 1899  
 Sinclair, Eric, M.D.‡  
 Slack, Ida Leslie, M.A.  
 Slee, Richard Thilthorpe, B.E., 1901  
 Sloman, Charles Wansbrough, B.A.,  
 1893  
 Sloman, John, B.A., 1872  
 Sly, George J., M.A., LL.D.  
 Sly, Joseph D., M.A., LL.D.  
 Sly, Richard Meares, M.A., LL.D.  
 Smee, Reginald, B.A., 1901  
 Smail, Herbert Stewart Inglis, B.E.,  
 1897  
 Smail, Joseph Henry, M.A.  
 Small, Ethel Ella, M.A.  
 Smith, Archibald, B.A., 1889  
 Smith, Emma Isabel, B.A., 1893  
 Smith, Grafton Elliott, M.D., Ch.M.  
 Smith, Norman, B.A., 1894  
 Smith, Robert, M.A.  
 Smith, Stewart Arthur, M.B., Ch.M.  
 Smith, William, B.A., 1893  
 Smith, William Michael, M.A.  
 Smyth, Frank L. S., M.A.  
 Somerville, George B., B.A., 1882  
 Spark, Ernest J. T., M.B., Ch.M.  
 Squire, Hilton Bell, B.A., 1893  
 Stack, John, M.A.  
 Stacy, Fitzroy Somerset, B.A., 1897,  
 LL.B.  
 Stacy, Harold Skipton, M.D., Ch.M.  
 Stanley, George P., M.B., Ch.M.  
 Steel, Robert, M.A.  
 Stephen, Cecil Bedford, M.A.†  
 Stephen, Edward Milner, B.A., 1891  
 Stephen, John William Farish, B.A.,  
 1897  
 Stephens, Charles T., B.E., 1892  
 Stephenson, Anita Leila, B.A., 1901  
 Stephenson, John Hunter, M.A.  
 Stephen, Henry Montagu, B.A.,  
 1900, LL.B.  
 Stevens, William Woodburn, M.B.,  
 Ch.M.  
 Stewart, Charles, M.D.

† Fellow of the Senate.

‡ Admitted *ad eundem gradum*.

¶ Public Teacher.

‡ Examiner.

|| Head of College.

- Stewart, Donald Grant, B.A., 1896  
 Stokes, Edward S., M.B., Ch.M.  
 Stoney, Edmund Heighton, B.A., 1898  
 Stonham, John, M.A.  
 Stonham, Kathleen, B.A., 1895  
 Stoyles, Herbert George, M.A.  
 Street, Charles James, B.A., 1894  
 Street, Philip Whistler, B.A., 1883  
 Strickland, Tom Percival, B.E., 1897  
 Stuart, T. P. Anderson, M.D., §  
 LL.D. ¶†  
 Stuckey, Francis Seavington, M.B., Ch.M.  
 Studds, Harold Augustus, B.A., 1900  
 Studdy, Albert J., B.A., 1888  
 Studdy, Annie Avice Matilda, B.A., 1898  
 Studdy, William B., M.B., Ch.M.  
 Suckling, Frank Martin, M.B., Ch.M.  
 Sulman, John, F.R.I.B.A. ¶  
 Sullivan, Dennis Joseph, B.A., 1899  
 Sullivan, Henry, B.A., 1872  
 Sullivan, James, B.A., 1894  
 Sullivan, James, B.A., 1867  
 Sullivan, Reginald, B.A., 1892, LL.B.  
 Sutherland, Constance A., M.A.  
 Sutherland, Elmina Louise, B.A., 1891  
 Sutherland, Peter, B.A., 1890  
 Swanwick, Kenneth Boulkes, B.A., 1896  
 Sweet, Geoffrey Bruton, M.B., 1893  
 Swynny, William Frank, B.A., 1899  
 Symonds, Bertha Violet, B.A., 1897  
 Symonds, Daisy, B.A., 1893  
 Tange, Charles L., B.A., 1880  
 Tange, Frank Septimus, M.B., Ch.M.  
 Tarplee, W. F., B.A., 1884  
 Taylor, Charles, M.D.  
 Taylor, Charles James, M.B., Ch.M.  
 Taylor, Elizabeth Ironside, M.A. (Mrs. Bowden)  
 Taylor, Hugh W., M.A.  
 Taylor, James Wilson, M.A. §  
 Taylor, John M., M.A., LL.B.  
 Taylor, Sarah, B.A., 1893  
 Taylor, Thomas Manning, B.A., 1901  
 Teece, Richard, F.I.A., F.F.A. †  
 Teece, Richard Clive, M.A., LL.B. ‡  
 Teece, Roy Noel, M.A.  
 Telfer, James Barnett, M.A.  
 Terrey, Hedley, M.B., Ch.M.  
 Thallon, James B., B.A., 1876  
 Thomas, George Bowen, M.B., Ch.M.  
 Thomas, Richard Weld, B.A., 1893  
 Thompson, Alexander, B.A., 1895  
 Thompson, I. Florence, M.A.  
 Thompson, James A., M.A.  
 Thompson, Joseph, M.A., LL.B.  
 Thompson, Robert Alfred, B.A., 1891  
 Thompson, Sydney A., B.A., 1887  
 Thompson, Wm. Mann, M.A., B.E.  
 Thomson, Alec., B.A., 1891, LL.B.  
 Thomson, Jack Mowbray, M.B., Ch.M.  
 Thorburn, James Thomas, B.A., 1886  
 Thorne, George, B.A., 1865  
 Thornton, Septimus, B.A., 1896  
 Throsby, Herbert Zouch, M.B., 1893  
 Tidswell, Frank, M.B., Ch.M.  
 Tighe, William, B.A., 1892, LL.B.  
 Todd, Frederick Augustus, B.A., 1901, Ph.D. ¶  
 Tole, Joseph, B.A., 1869, LL.B.  
 Tom, Wesley, B.A., 1860  
 Townley, Percy Langford, B.A., M.B., Ch.M.  
 Tozer, Seymour Darvall, B.A., 1899, LL.B.  
 Tracey, Frederick, M.A.  
 Trebeck, Tom Beal, M.A.  
 Trindall, Richard B., B.A., M.B., Ch.M.  
 Tudor-Jones, Evan, M.B., Ch.M.  
 Turner, Annie Elizabeth, B.A., 1899  
 Turner, Emily May, M.A.  
 Turner, Basil W., A.R.S.M. ¶  
 Twynan, Henry, B.E., 1896  
 Ure, Edith, M.B., Ch.M.  
 Uther, Allan Hammill, B.A., 1891, LL.B.  
 Uther, Jennie Bertha, B.A., 1894  
 Uther, Mary Handfield, M.A.  
 Vallack, Arthur Styles, M.B., Ch.M.  
 Veech, Michael, M.B., Ch.M.  
 Veech, Louis Stanislaus, B.A., 1890, LL.B.  
 Verco, Sydney Manton, M.B., Ch.M.

† Fellow of the Senate.

‡ Examiner.

¶ Public Teacher.

‡ Admitted *ad eundem gradum*.



- Verco, Clement Armour, M.B., Ch.M.  
 Verge, John, B.A., 1899  
 Vernon, Murray Menzies, M.B., Ch.M.  
 Vicars, James, M.E.  
 Vickery, Ebenezer Frank, B.A., 1901, LL.B.  
 Vonwiller, Oscar Ubric, B.Sc., 1902¶  
 Waddell, Annie, B.A., 1895 (Mrs. Thomas)  
 Waddell, George Washington, M.A., LL.D.‡  
 Waddy, Percival Richard, B.A., 1891, LL.B.  
 Wade, Robert Blakeway, M.B., 1896  
 Waldron, Thomas W. King, B.A., 1893, LL.B.  
 Walker, James Ernest, B.A., 1894, LL.B.  
 Walker, Samuel Herbert, B.A., 1894  
 Walker, William A., B.A., 1888  
 Wallace, Donald, M.A.  
 Wallace, F. E., B.A., 1889, LL.B.  
 Wallach, Bernard, B.E., 1897  
 Walsh, John James, B.A., 1899  
 Walsh, William M. J., M.A.  
 Walton, George Henry Montague, B.A., 1899, LL.B.  
 Walton, William Bain, M.B., Ch.M.  
 Ward, Leonard K., B.A., 1900, B.E.  
 Ward, Ruby Estelle, B.A., 1897  
 Ward, Thomas W. C., B.A., 1884, B.E.  
 Wardrop, Gabriel, B.A., 1893  
 Warren, Ernest William, B.E., 1897, B.A., LL.B.  
 Warren, William Edward, M.D.§  
 Warren, William Henry, M.I.C.E.¶  
 Wassell, Joseph Leathom, M.B., Ch.M.  
 Waterhouse, Gustavus Athol, B.Sc., 1899, B.E.  
 Waterhouse, John, M.A.  
 Watkins, John Leo, M.A.  
 Watson, James Frederick, M.B., Ch.M.  
 Watson, William Geo., M.A.  
 Watson, Robert S., B.A., 1887  
 Watt, Andrew Robert James, B.A., 1893, LL.B.  
 Watt, Charles Prosper, B.A., 1893  
 Watt, John Alexander, M.A., B.Sc.  
 Waugh, Robert, M.A.  
 Wearne, Amy Isabel, B.A., 1893  
 Wearne, Minnie F., M.A.  
 Wearne, Richard Arthur, B.A., 1895  
 Weigall, Albert Bythessea, M.A.  
 Weigall, A. Raymond, B.E., 1894  
 Weigall, Harold Walter, B.A., 1895  
 Welsh, David Arthur, M.A., B.Sc., M.D.¶  
 Wentworth, Fitzwilliam, M.A.  
 West, Edith Annie, B.A., 1900  
 West, Francis William, M.B., Ch.M.  
 Weston, Percy Leonard, B.Sc., 1901, B.E.  
 White, Charles Alfred, B.A., 1895  
 White, Norman Frederick, B.E., 1894  
 White, W. Moore, LL.D.§  
 Whitfeld, Eleanor Madeline, B.A., 1895 (Mrs. Wood)  
 Whitfeld, Hubert Edwin, B.A., 1897  
 Whitfeld, Lewis, M.A.  
 Whiting, Joseph, B.A., 1895  
 Wilkinson, Fredk. B., M.A.  
 Wilkinson, Henry L., B.A., 1880  
 Wilkinson, W. Camac, B.A., 1878, M.D.¶  
 Williams, A. Lukyn, M.A.§  
 Williams, Alfred James, B.A., 1898  
 Williams, James L., B.A., 1892  
 Williams, John Alfred, B.A., 1894  
 Williams, Leslie Ballesat, B.A., 1899  
 Williams, William, B.A., 1891  
 Williams, William, B.A., 1895  
 Williams, William Henry, B.A., 1894  
 Williamson, Mark A., B.A., 1879  
 Williamson, Percy Leyden, B.A., 1899  
 Willis, Charles Savill, M.B., Ch.M.  
 Willis, Robert Spier, M.A.  
 Wilshire, Hector, M.A.  
 Wilson, David, M.A.  
 Wilson, Ella, M.A.  
 Wilson, Frederick James, B.A., 1893  
 Wilson, George Harry, B.A., 1901, LL.B.

¶ Public Teacher.

‡ Admitted *ad eundem gradum*.

\* Examiner.

- Wilson, Gwendolene Lilian, B.A., 1900  
 Wilson, John Bowie, B.E., 1897  
 Wilson, Jas. T., M.B., Ch.M.†  
 Wilson, Richard Cunliffe, B.Sc., 1901  
 Wilson, Roger, B.A., 1877  
 Wilson, Thos. George, M.D., Ch.M.  
 Wilton, Edward Nowill, B.A., 1900  
 Windeyer, John Cadell, M.D., Ch.M.  
 Windeyer, Richard, B.A., 1891  
 Windeyer, William Archibald, B.A., 1893  
 Winton, Louis Joseph, B.E., 1901  
 Wise, Bernhard R., B.A., 1885‡  
 Withycombe, Ernest John, B.A., 1899  
 Wolstenholme, Harry, B.A., 1890  
 Wood, Ebenezer C., M.A., B.Sc., B.E.  
 Wood, Fredk. Ernest, B.A., 1890  
 Wood, Frederick William, B.A., 1894  
 Wood, George Arnold, M.A.†  
 Wood, James Patrick, B.E., 1895  
 Wood, Harrie Dalrymple, B.A., 1893, LL.B.  
 Woodd, Henry A., B.A., 1887  
 Woodhouse, William John, M.A.†  
 Woodthorpe, Robert A., M.A.  
 Woodward, Frederick P., B.A., 1892  
 Woolcock, John L., B.A., 1883  
 Woolnough, Geo., M.A.  
 Woolnough, Robert Edmund, M.B., Ch.M.  
 Woolnough, Walter Geo., D.Sc.  
 Wootton, Ernest, B.A., 1892  
 Woore, John Morris Simeon, B.E., 1896  
 Worrall, Ralph, M.D. §  
 Wright, Stewart, B.A., 1882  
 Wyatt, Arthur H., M.A.  
 Yarnold, Alfred Henry, M.A.  
 Yarnold, Isabel May, B.A., 1899.  
 Yarrington, Clive T. L., M.A.  
 Yarrington, W. H. H., M.A., LL.B.  
 Yeates, Ainslie Arthur, M.A.  
 Yeomans, Allan, M.A.  
 Young, James, B.A., 1900  
 Zlotkowski, Frederick Sobieski  
 Wladimir, M.B., Ch.M.

† Public Teacher.

‡ Admitted *ad eundem gradum*.

## GRADUATES.

## MASTERS OF ARTS.

Anderson, Catherine, 1901	Davies, Edith Warlow, 1901
Anderson, Francis, 1890§	Dawson, Arthur F., 1877
Anderson, Henry C. L., 1878	Dawson, James, 1903§
Backhouse, Alfred P., 1873	Deane, Henry, 1893§
Barber, Richard, 1889	Deane, William Smith, 1884
Barbour, George Pitty, 1889	Delohery, Cornelius, 1888
Barff, Henry E., 1882	Dennis, James, 1897
Barlee, Frederick Rudolph, 1884	Dillon, John T., 1876
Barton, Edmund, 1870	Docker, Ernest B., 1865
Binns, William Johnstone, 1902	Doust, Edith Lucy, 1898
Blunner, George Alfred, 1897	Dunstan, Ephraim, 1870
Board, Peter, 1891	Edmunds, Walter, 1879
Bowden, John E., 1863	Edwards, J. Ross, 1884
Bowmaker, Ruth, 1895	Edwards, Edwd. Samuel, 1898
Bowman, Andrew, 1864	Eldridge, Ada Maitland, 1903
Bowman, Edward, 1864	Faithfull, George E., 1869
Brennan, Christopher J., 1897	Faithfull, Henry M., 1871
Brennan, Francis P., 1882	Faithfull, William P., 1868
Brennan, Sarah O., 1891	Fisher, Donnelly, 1875
Brierley, Frank Nunan, 1893	Fitzgerald, Robert M., 1859
Broughton, Alfred, 1870	Fitzhardinge, Grantley H., 1869
Brown, George Edward, 1900	Fitzhardinge, Maude Yeomans, 1901
Bucknell, D'Arcy H., 1886	Fletcher, Frank E., 1883
Campbell, Edward, 1884	Fletcher, Joseph J., 1876
Campbell, Gerald R., 1885	Fletcher, Michael Scott, 1902
Campbell, Joseph, 1882	Flint, Charles Alfred, 1884
Cape, Alfred John, 1867	Flynn, John, 1879
Carruthers, Joseph H., 1878	Flynn, Joseph A., 1881
Chalmers, Stephen Drummond, 1899	Fosbery, Eustace E., 1881
Chambers, George Alexander, 1904	Francis, Henry R., 1870
Cocks, Nicholas John, 1892	Freehill, Francis B., 1876
Coghlan, Charles A., 1879	Fuller, George W., 1882
Cohen, John J., 1881	Gardiner, Andrew, 1888§
Cooper, David J., 1871	Garland, James R., 1862
Cooper, Pope A., 1874	Garnsey, Arthur Henry, 1896
Cordingley, Grace Marion, 1903	Garran, Robert Randolph, 1899
Cormack, Alexander J., 1886	Garrick, Joseph H., 1871
Cowlishaw, William Patten, 1862	Gibbes, Alfred George, 1875
Cowper, Sedgwick S., 1870	Gill, Alfred Chalmers, 1899
Crawford, Thomas Simpson, 1904	Gillam, Dora Alice, 1903
Cribb, Estelle Muriel Bridson, 1901	Gordon, Emily Isabel, 1902
Cribb, John George, 1893	Gray, Arthur St. J., 1887§
Crocker, Herbert D., 1886	Griffith, Alfred John, 1896
Crompton, William, 1876	Griffith, Samuel W., 1870
Cullen, William Portus, 1882	Hall, William Hessel, 1890
Curtis, William C., 1859	Halloran (formerly Guérin), Bella, 1892§
Curtis, William John, 1903	Hammond, A. de Lisle, 1884
Dalton, Gerald T. A., 1882	

§ Admitted *ad eundem gradum*.

- Healy, Patrick J., 1877  
 Hill, George Arthur, 1899  
 Hill, Thomas, 1878  
 Hills, Henry H., 1880  
 Hodgson, Evelyn G., 1881‡  
 Hogg, James E., 1890‡  
 Holt, Wilfred John, 1902  
 Hudson, William, 1902  
 Hunter, John, 1869  
 Hurst, George, 1882  
 Icteton, Edward Arthur, 1870  
 Icteton, Thomas H., 1872  
 Jackson, Henry Latimer, 1886‡  
 Jackson, Robert, 1880  
 James, William Edwin, 1903  
 Johnson, James W., 1859  
 Johnston, Alexander W., 1876 \*  
 Jones, Griffith E. R., 1877  
 Jones, Cortis Harry Frederick, 1902  
 Jones, Rees R., 1872  
 Kay, Robert, 1876  
 Kellett, Frederick, 1895  
 Kemp, Richard E., 1873  
 Kennedy, Philip, 1903  
 Kent, Frederick D., 1874  
 Kent, Harry C., 1875  
 King, Cecil J., 1887  
 King, Copland, 1887  
 King, Frederick H., 1876  
 King, Walter Uther S., 1884  
 Lance, Elisabeth Ada, 1900  
 Lander, William H., 1882  
 Lang, John Gavin D., 1884  
 Lasker, Samuel, 1903  
 Lee, Edward, 1859  
 Lee, William, 1878  
 Legge, J. Gordon, 1887  
 Liddell, Andrew I., 1875  
 Lingen, John Taylor, 1881‡  
 Lomer, Caroline, 1891  
 Louis, Philip Herbert, 1904  
 Loxton, Edward James, 1888  
 Lukin, Gresley W. H., 1891  
 MacDonald, Jas. M., 1879  
 Macdonald, Louisa, 1892‡  
 McLaren, Alexander Duncan, 1903  
 Maclardy, J. D. St. Clair, 1883  
 MacMullen, Frank, 1901  
 MacPherson, John, 1895  
 Mann, William J. G., 1882  
 Manning, Jas. Napoleon, 1885  
 Manning, William A., 1875  
 Manning, W. Hubert, 1878  
 Marrack, John Rea Melville, 1884  
 Mayne, Wm. M., 1884  
 Meares, Matilda, 1892  
 Meillon, John, 1888  
 Merewether, Walton L., 1879  
 Merrington, Ernest Northcroft, 1903  
 Metcalfe, George, 1868  
 Millard, Godfrey William, 1896  
 Mills, Elsie Ada Harland, 1903  
 Mitchell, David S., 1859  
 Molster, Sarah, 1904  
 Monaghan, John Graham, 1902  
 Monnington, Alfred, 1888‡  
 Montague, James H., 1877  
 Moore, Samuel, 1882  
 Mort, H. Wallace, 1881‡  
 Mullins, John Lane, 1879  
 Murray, Charles E. R., 1865  
 Murray, Donald, 1892  
 Nathan, Edward A., 1882  
 Noble, Edmund Murray, 1890  
 Nolan, John Henry Monteith, 1903  
 O'Brien, Francis, 1868  
 O'Connor, Richard E., 1873  
 O'Mara, Michael, 1877  
 Oliver, Alexander, 1869  
 Oliver, James, 1885  
 Parish, Walter G., 1866  
 Parsons, Joseph, 1904  
 Paxton, Betha, 1903  
 Perkins, Alfred Edward, 1886  
 Perkins, Frederick Thomas, 1901  
 Perry, John, 1876  
 Pike, George H., 1891  
 Plomley, Francis James, 1876  
 Powell, Theodore, 1876  
 Pring, Robert D., 1875  
 Proctor, Lizzie, 1898  
 Purves, John M., 1873  
 Quaife, Frederick H., 1862  
 Ralston, Alexander G., 1883  
 Rennie, Edward H., 1876  
 Reynolds, Reginald Blair, 1903  
 Rich, George E., 1885  
 Rigg, Thomas, 1890  
 Robertson, Joseph, 1877  
 Robjohns, Henry T., 1891

‡ Admitted *ad eundem gradum*.

Rofe, John F., 1885  
 Rogers, Francis E., 1863  
 Rolin, Tom, 1885  
 Roseby, Thomas, 1871  
 Roseby, Thomas Ernest, 1901  
 Russell, Edward, 1880  
 Russell, Frank A. A., 1894  
 Russell, Jane Foss, 1889  
 Russell, John Frazer S., 1898  
 Russell, William, 1882  
 Rutledge, David D., 1875  
 Rygate, Philip William, 1886  
 Sawkins, Dansie Thomas, 1902  
 Sharp, William Hey, 1881‡  
 Shaw, Henry Giles, 1894  
 Simpson, Archd. H., 1895‡  
 Slack, Ida Leslie, 1901  
 Sly, George J., 1874  
 Sly, Joseph D., 1872  
 Sly, Richard M., 1876  
 Smairl, Joseph Henry, 1896  
 Small, Ethel Ella, 1902  
 Smith, William Michael, 1904  
 Smith, Robert, 1878  
 Smyth, Frank L. S., 1879  
 Stack, John, 1860  
 Steel, Robert, 1879  
 Stephen, Cecil B., 1864  
 Stephenson, John Hunter, 1892  
 Stonham, John, 1896  
 Stoyles, Herbert George, 1904  
 Sutherland, Constance Adelaide, 1889  
 Taylor, Elizabeth Ironside, 1899  
 Taylor, Hugh W., 1884  
 Taylor, James Wilson, 1887‡  
 Taylor, John Michael, 1891  
 Teece, Richard Clive, 1901

Teece, Roy Noel, 1904  
 Telfer, James Barnet, 1903  
 Thompson, I. Florence, 1887  
 Thompson, James A., 1882  
 Thompson, Joseph, 1875  
 Thompson, William M., 1875  
 Tracey, Frederick, 1885  
 Trebeck, Tom Beal, 1884  
 Turner, Emily May, 1902  
 Uther, Mary Handfield, 1904  
 Waddell, George Washington, 1900  
 Wallace, Donald, 1899  
 Walsh, William M. J., 1889  
 Waterhouse, John, 1876  
 Watkins, John L., 1876  
 Watson, William George, 1873  
 Watt, John Alexander, 1892  
 Waugh, Robert, 1879  
 Wearne, Minnie, 1892  
 Weigall, Albert B., 1869  
 Wentworth, Fitzwilliam, 1876  
 Whitfeld, Lewis, 1882  
 Wilkinson, Frederick Bushby, 1884  
 Williams, A. Lukyn, 1881‡  
 Willis, Robert Spier, 1862  
 Wilshire, Hector, 1904  
 Wilson, David, 1903  
 Wilson, Ella, 1895  
 Wood, Ebenezer Clarence, 1886  
 Woodthorpe, Robert A., 1890  
 Woolnough, George, 1873  
 Wyatt, Arthur H., 1869  
 Yarnold, Alfred Henry, 1903  
 Yarrington, Clive Tennyson L., 1895  
 Yarrington, William Henry H., 1880  
 Yeates, Ainslie Arthur, 1900  
 Yeomans, Allan, 1871

## BACHELORS OF ARTS.

Abbott, George H., 1887  
 Abbott, Henry Palmer, 1893  
 Abbott, Thomas K., 1888  
 Abigail, Eliza L., 1893  
 Abigail, Ernest Robert, 1896  
 Alexander, Maud Marion, 1902  
 Allan, Edith Jeannie, 1895  
 Allen, Arthur W., 1883‡  
 Allen, George Boyce, 1877  
 Allen, Leslie Holdsworth, 1904  
 Allen, Reginald C., 1879  
 Amess, William, 1883

Amos, Jeanie Cairns, 1890  
 Amos, Nellie Margaret, 1902  
 Anderson, Hugh Miller, 1890  
 Anderson, Maud Edith, 1896  
 Anderson, Virginia, 1904  
 Anderson, William Addison S., 1892  
 Andrews, Ernest Clayton, 1894  
 Anstey, George Webb, 1893  
 d'Apice, Antoine William M., 1899  
 Armitage, Charles Horsfall, 1902  
 Armstrong, Helen Daphne Harvey,  
 1902

- Armstrong, Ina Beatrice Harvey, 1901  
 Armstrong, Isabella, 1895  
 Armstrong, Laurens F. M., 1884  
 Armstrong, Margaret Jane, 1897  
 Armstrong, Tancred de C., 1891  
 Armstrong, William G., 1884  
 Arnold, Edwin Charles, 1896  
 Artlett, Ettie, 1888  
 Artlett, William Langridge, 1902  
 Aspinall, Arthur Ashworth, 1889  
 Atkins, William Leonard, 1893  
 Auld, John Hay Goodlet, 1897  
 Austin, Alfred Herbert, 1903  
 Ayres, Charles, 1882  
 Bailey, Margaret Anne, 1900  
 Baret, Henri Victor David, 1903  
 Barker, Henry Anriol, 1881 §  
 Barker, Thomas Charles, 1886  
 Barnes, Pearl Ella, 1897  
 Barnett, Donald McKay, 1890  
 Barracrough, Francis Egerton, 1895  
 Barry, Hugh de Barri, 1898  
 Barton, Joanna, 1893  
 Barton, John a'Beckett D., 1896  
 Barton, Wilfrid Alexander, 1903  
 Bathgate, Donald Gordon, 1903  
 Bavin, Gertrude Lillian, 1898  
 Bavin, Thos. Rainsford, 1894  
 Baylis, Harold M., 1883  
 Beardmore, Ada, 1896  
 Beardsmore, Emily Maud, 1894  
 Beardsmore, Robert Henry, 1895  
 Beaumont, Annie Holloway, 1898  
 Beckenham, John George, 1904  
 Beegling, Daniel, 1885  
 Beehag, Samuel Alfred, 1886  
 Berne, Percy Witton, 1883  
 Bertie, Charlotte Maud, 1896  
 Black, Reginald Austin William, 1896  
 Blacket, Arthur R., 1872  
 Blacket, Cuthbert, 1891  
 Blatchford, Torrington, 1894  
 Blaxland, Henry Charles, 1897  
 Bloomfield, Elsie, I'Anson, 1897  
 Bloomfield, William John, 1896  
 Blumer, Charles, 1894  
 Bode, Arnold G. H., 1888  
 Bonamy, Nellie Mildred Blanche, 1899  
 Bolton, Barbara Marion, 1892  
 Bonney, Reginald Schofield, 1904  
 Booth, Mary, 1890  
 Bowmaker, Jessie, 1901  
 Bowmaker, Theophilus Robert, 1896  
 Bowman, Arthur, 1880  
 Bownan, Ernest M., 1880  
 Bowman, Alister S., 1878  
 Boxall, Nelson Leopold, 1896  
 Boyce, Francis Stewart, 1893  
 Brearley, Edwin Andrew, 1904  
 Brennand, Henry John W., 1896  
 Brentnall, Nina Tillotson, 1903  
 Brereton, John Le Gay, 1894  
 Britten, Herbert Edward, 1888  
 Britton, Theodosia Ada, 1891  
 Broderick, Cecil Thomas Hawkes,  
 1896  
 Brodie, Isabella Esther, 1895  
 Broinowski, Leopold T., 1897  
 Brook, Henry James Sidney, 1896  
 Broome, Edward, 1897  
 Brown, Alfred, 1866  
 Brown, George Edward, 1904  
 Brown, Mary Elizabeth, 1885  
 Brown, Sophia, 1894  
 Brown, William Vernon, 1894  
 Browne, William C., 1864  
 Brownlie, Elizabeth Alice Dalziel,  
 1901  
 Brownlie, Eveline Agnes, 1902  
 Bruce, Annie, 1901  
 Bruce, Grace Mitchell, 1901  
 Bruce, Mary Jane, 1896  
 Bruce, Mary H., 1887  
 Buchanan, Charles Arthur, 1889  
 Buchanan, Charles Pakenham, 1900  
 Buckland, Thomas, 1878  
 Bundock, Charles, 1878  
 Bundock, Francis F., 1877  
 Bunting, Edith Annie, 1896  
 Burfitt, Walter F., 1894  
 Bushnell, Pollie, 1896  
 Butler, Francis James, 1882  
 Butler, Patrick James, 1900  
 Butler, Spencer Joseph St. C., 1893  
 Butler, Stanley William Beauchamp,  
 1900  
 Butler, Thomas, 1876  
 Byrne, James Kevin, 1894  
 Byrne, Lily Comyn, 1896  
 Byrne, William Edmund, 1892

- Cadden, Leslie George Barton, 1899  
 Cahill, Annie Lucille, 1894  
 Cakebread, William Jowers, 1894  
 Cameron, Archibald Peter, 1894  
 Cameron, William Thomas, 1904  
 Campbell, Alexander Petrie, 1904  
 Campbell, Allan, 1874  
 Campbell, Charles Robert, 1893  
 Campbell, George Polding, 1885  
 Campbell, John Stuart, 1902  
 Canaway, Arthur P., 1894½  
 Candlish, Robert Smith, 1904  
 Cargill, John Sydney, 1889  
 Carlile-Thomas, Ella, 1900  
 Carlisle, William W., 1878  
 Carlos, Joseph, 1893½  
 Carey, Daisy, 1904  
 Caro, Hilda, 1896  
 Carroll, William John Smyth, 1904  
 Carruthers, Ada Mary, 1904  
 Carvosso, Albert B., 1884  
 Casey, Michael Alphonsus, 1896  
 Castleman, Arthur, 1902  
 Castling, James Robert, 1896  
 Chapman, Alfred Ernest, 1893  
 Chisholm, William, 1875  
 Chubb, Montague Charles Lyttelton, 1896  
 Clark, Francis George, 1900  
 Clarke, Francis William, 1884  
 Clegg, William Carnegie, 1899  
 Clines, Peter Joseph, 1896  
 Clipsham, Gertrude Mary, 1899  
 Closs, William John Leech, 1890  
 Clubb, Wallace, 1896  
 Coffey, Francis Louis Verhulst, 1894  
 Cohen, Alroy Maitland, 1903  
 Cole, Louisa, 1898  
 Cole, Percival Richard, 1903  
 Collier, Frederick William Dean, 1901  
 Collings, Edith, 1904  
 Combes, Jane Frances, 1895  
 Compton, Albert Zarenne, 1904  
 Conlon, William Aloysius, 1891  
 Connellan, John, 1892  
 Connolly, John, 1894  
 Connor, Thomas John, 1895  
 Copland, Frank Fawcett, 1894  
 Cook, Sydney Leicester, 1898  
 Cooke, Clarence Hudson, 1892  
 Corbett, William Francis, 1883  
 Cosh, James, 1891  
 Coutts, Margaret, 1903  
 Cowan, David, 1894  
 Cowlshaw, Winifred, 1903  
 Cox, Harold, 1889  
 Coyle, William Thomas, 1891  
 Craig, Alexander Donald, 1893  
 Craig, Charles, 1892  
 Crane, Charles, 1882  
 Cramp, Karl Reginald, 1904  
 Cranswick, George Harvard, 1904  
 Crawford, Stella Maud C., 1896  
 Creagh, Albert Jasper, 1889  
 Creagh, William John, 1892  
 Cripps, Esther Fischer, 1891  
 Crisford, Hilda Nelsie Moore, 1902  
 Crowley, Archibald, 1901  
 Cruise, Emily A., 1897  
 Cullinane, John Aloysius, 1895  
 Cumming, Jennie, 1896  
 Curlewis, Harold Burnham, 1897  
 Curlewis, Herbert Raine, 1890  
 Curnow, William Leslie, 1890  
 D'Arcy, George Symmott, 1895  
 D'Arcy, John Synnott, 1890  
 D'Arcy-Irvine, Malcolm M., 1889  
 Daley, Frank H., 1889  
 Dalmas, Lizzie, 1895  
 Daly, May Edith, 1895  
 Dash, Ebenezer, 1894  
 Dargin, Sydney, 1871  
 Davidson, Colin George Watt, 1899  
 Davies, Arthur Bernard, 1894  
 Davies, Wyndham John E., 1893  
 Davis, Agnes Marianne Harrison, 1896  
 Davis, Henry, 1890  
 Davison, Samuel Beaumont, 1896  
 Day, Leo Septimus, 1899  
 De Lissa, Ethel Naida, 1898  
 De Lissa, Horace, 1896  
 Denham, Howard Kynaston, 1903  
 Dettmann, Herbert Stanley, 1897  
 Dey, Charlotte Johnston, 1898  
 Dick, James Adam, 1886  
 Dick, William Thomas, 1890  
 Dickinson, Edward Moseley, 1899  
 Dimond, Margaret Cecilia, 1893  
 Dixon, Herbert Hutchinson, 1894

- Doak, Frank Wiseman, 1891  
 Docker, Gladys Mary Brougham, 1903  
 Doig, Alexander John, 1895  
 Dove, William R. Norton, 1893  
 Dowe, Philip William, 1893  
 Dowling, Frank Vincent, 1898  
 Doyle, John, 1891  
 Drummond, Shafto Landour, 1893  
 Dudley, Joseph T., 1885  
 Duff, Victor Clark, 1904  
 Dumolo, Nona, 1898  
 Dunlop, John W., 1895  
 Dunlop, Norman John, 1890  
 Dunne, John D., 1873  
 Dunnicliff, Mary Clifton, 1898  
 Durack, Joseph Jerry E., 1899  
 Eames, Jane, 1895  
 Edmunds, John Michael, 1892  
 Edmunds, May, 1897  
 Edwards, David Sutherland, 1894  
 Edwards, Edward Evan, 1898  
 Edwards, John, 1891  
 Elder, Francis R., 1877  
 Elkin, Jonathan Bevan, 1895  
 Elliott, Millicent V., 1895  
 Ellis, Ethel, 1894  
 Ellis, Mary, 1894  
 Elphinstone, Elsie Mary, 1899  
 Elphinstone, James, 1881  
 Elphinstone, James Cooke, 1896  
 Emanuel, Nathaniel, 1867  
 England, Theophilus, 1885  
 England, Thomas H., 1885  
 Enright, Walter John, 1893  
 Evans, Ada Emily, 1895  
 Evans, Sara, 1904  
 Evans-Jones, David Pentland, 1898  
 Fahey, Bartley Francis, 1901  
 Feez, Arthur H., 1880  
 Fell, Catherine Isabella, 1900  
 Ferguson, David, 1886  
 Ferguson, John Alexander, 1902  
 Fidler, Carleton B., 1888  
 Fidler, Isabel Margaret, 1898  
 Finn, William George, 1895  
 Finney, Charlotte, 1895  
 Finney, Joseph, 1894  
 Fisher, Arthur Donnelly, 1904  
 Fitzgerald, Edmund, 1866  
 Fitzgerald, John Timothy, 1890  
 Fitzpatrick, Bernard Joseph, 1897  
 Fitzpatrick, Thomas John A., 1893  
 Flannery, George Ernest, 1892  
 Flashman, James Froude, 1892  
 Flavell, Lucy Isabel, 1896  
 Fleming, Howard George T., 1894  
 Fletcher, Archibald William, 1886  
 Fletcher, Charles R., 1881  
 Fletcher, J. A., 1879  
 Fletcher, Katherine Elizabeth, 1895  
 Flynn, William J., 1884  
 Forde, James, 1891  
 Foreman, Henry James Clifton, 1896  
 Forster, Charles E., 1876  
 Forsyth, Walter George, 1898  
 Fosbery, Vincent F., 1886  
 Fox, Harold S., 1885  
 Fraser, Robert W., 1885  
 Fraser-Hill, Charlotte Elizabeth,  
 1902  
 Freeman, Ambrose William, 1896  
 Fry, Edith May, 1904  
 Fry, Florence Mildred, 1901  
 Fullerton, Alex. Y., 1885  
 Fullerton, Lottie, 1902  
 Galt, James, 1899  
 Garnsey, Edward R., 1885  
 Geddes, Samuel, 1885  
 George, John, 1893  
 Gerber, Edward William T., 1892  
 Giles, John Porter Harris, 1903  
 Gillies, James, 1889  
 Goddard, Ernest James, 1904  
 Goddard, Thomas Herbert, 1904  
 Gordon, George Acheson, 1895  
 Gorman, John R., 1866  
 Gough, Norman John, 1900  
 Graham, Emily Rebecca, 1903  
 Grant, William James, 1903  
 Grassick, Charles C., 1897  
 Greenlees, Gavin, 1895  
 Green, Henry Mackenzie, 1902  
 Greenway, Alfred R., 1870  
 Gregson, Edward Jesse, 1903  
 Gregson, William Hilder, 1898  
 Grieve, John Thomas, 1902  
 Grieve, Robert Henry, 1900  
 Griffith, James Shaw, 1895  
 Griffiths, Frederick Guy, 1898  
 Grogan, Albert Thomas Henry, 1897  
 Hadley, Alfred Edward, 1893  
 Hadley, Charles William, 1899  
 Hall, Alfred Ernest, 1893  
 Halliday, George C., 1884



- Halloran, Aubrey, 1892  
 Halloran, George Henry, 1896  
 Halloran, Ida, 1893  
 Hammond, John Harold, 1896  
 Hansard, Edith Hirst, 1897  
 Hargraves, Edward John, 1859  
 Harker, Constance Elizabeth, 1895  
 Harley, Helen Louise, 1903  
 Harriott, Charles Warre, 1889  
 Harriott, Georgina Jane, 1894  
 Harris, George, 1891  
 Harris, John, 1892  
 Harris, Marian, 1898  
 Harris, Matthew, 1863  
 Harris, Reginald Arthur, 1902  
 Harvey, Revina, 1895  
 Harvey, William George, 1894  
 Harwood, Marian Fleming, 1898  
 Hawken, Roger William H., 1902  
 Hay, Mary Catherine, 1897  
 Hayes, David John, 1894  
 Hedberg, John Alfred, 1896  
 Heden, Ernest Charles, 1898  
 Helsham, Charles Howard, 1892  
 Henderson, George Cockburn, 1893  
 Henderson, Robert Newburn, 1895  
 Henry, Ada, 1900  
 Henry, Ida Emily, 1902  
 Hewitt, Thomas Cotgrave, 1904  
 Higgins, Michael A., 1879  
 Higgins, Percy Reginald, 1893  
 Hill, Evelyn M., 1895  
 Hill, James Henry Fraser, 1900  
 Hill, John Goodwin Watson, 1901  
 Hilliard, Arthur Vaughan, 1890  
 Hinder, Robert John, 1889  
 Hinton, William Samuel, 1902.  
 Hipsley, Alice Ellen, 1898  
 Hobbs, Edwin, 1897  
 Hobbs, John William, 1894  
 Hodge, Ernest Arthur, 1895  
 Hodge, Sydney Trevillian, 1902  
 Hodgkins, Amy Alice, 1895  
 Hogg, Kate Emily, 1894  
 Holliday, Andrew, 1898  
 Holloway, Eirene Anna, 1904  
 Holme, Ernest Rudolph, 1891  
 Holme, John Barton, 1893  
 Holmes, William Frederick, 1894  
 Holt, Arthur Christian, 1895  
 Holt, Edith Jane Catherine, 1902  
 Hood, Dannina, 1894  
 Hope, Percival, 1903  
 Hopkins, Francis Irvine, 1893  
 Hopman, John Henry, 1894  
 Horniman, Alexander, 1866  
 Houison, Andrew, 1869  
 Houison, James, 1863  
 Houison, Stephen James, 1898  
 Howard, John Bruton, 1895  
 Huggart, Alfred Theodore, 1892  
 Huggart, William Charles, 1898  
 Hughes, Charles Michael, 1886  
 Hughes, Hugh Jason, 1897  
 Hughes, James O'Donoghue A., 1894  
 Hughes, Michael O'Gorman, 1890  
 Hungerford, Hedley Heber, 1886  
 Hunt, Digby St. Clair W., 1895  
 Hunt, Harold W. G., 1888  
 Hunt, Hugh Alton Stanislaus, 1897  
 Hunter, Mary Alison Miles, 1895  
 Hunter, Thomas Brown, 1898  
 Hutchison, George Thomas, 1900  
 Hynes, Sarah, 1891  
 Jackson, Frederick Charles, 1897  
 Jacobs, James, 1894  
 James, Arthur Henry, 1893  
 James, Augustus G. F., 1888  
 James, George Alfred, 1893  
 James, Thomas, 1896  
 Jamieson, George Wellington, 1893  
 Jamieson, Sydney, 1884  
 Jaques, Harold Vivian, 1904  
 Jarrett, Marjorie Kate, 1901  
 Jarvie, Bennie, 1898  
 Jenkins, Charles J., 1887  
 Jensen, Klio, 1903  
 Johnson, Martin Luther, 1893  
 Johnston, Ella Russell, 1895  
 Johnston, John, 1887  
 Johnston, Mary Eleanor, 1896  
 Johnston, Stephen Jason, 1894  
 Johnstone, Henry Thomas, 1885  
 Jones, Thomas, 1895  
 Jones, Thomas E., 1884  
 Jones, Ernest Trevor, 1884  
 Jones, Evan John, 1894  
 Jordan, Frederick Richard, 1904  
 Joseph, Horace B., 1887  
 Kelynack, Arthur James, 1889  
 Kelynack, Harold Leslie, 1893  
 Kemmis, William Henry, 1890  
 Kendall, Frank Louis, 1893

- Kendall, Theodore M., 1876  
 Kenna, Patrick, 1882  
 Kennedy, Annie Augusta, 1893  
 Kennedy, Emily Clara, 1895  
 Kershaw, Joseph Cuthbert, 1894  
 Kidston, Robert Matthew, 1892  
 Kilgour, Alexander James, 1894  
 King, George C., 1887  
 King-Kemp, Laura Mildred, 1902  
 King-Kemp, Richard Cyril, 1903  
 King, R. W., 1884§  
 Kinross, John, 1869  
 Kinross, Robert Menzies, 1889  
 Klein, James Augustus, 1897  
 Knight, Arthur, 1894  
 Lafferty, Terence Matthew, 1899  
 Lamrock, Arthur Stanton, 1891  
 Lane, Frederick George, 1895  
 Langley, Isabella Edwardes, 1897  
 Langton, Frederick W., 1887  
 Larcombe, Ernest Richard, 1902  
 Larkins, Frank Joseph Moore, 1902  
 Layton, John Edward, 1893  
 Leahy, John Patrick Daunt, 1890  
 Lee, Herbert Ernest, 1886  
 Lee, Thomas Nelson, 1899  
 Leibius, G. Hugo, 1888  
 Lenthall, Ellen Melicent, 1893  
 de Lepervanche, Eustace Mézières,  
 1900  
 Leverrier, Frank, 1884  
 Levick, Alfred Manning, 1904  
 Levy, Daniel, 1893  
 Lewis, Henry Clyde, 1893  
 Lichtscheindl, Rosa, 1894  
 Liggins, Jessie Hunsdon, 1899  
 Lindsay, William Carlow, 1903  
 Linsley, William H., 1880  
 Little, Vivian Agincourt Spence,  
 1903  
 Littlejohn, Edward S., 1887  
 Lloyd, Thomas, 1878  
 Logan, George, 1903  
 Lord, Frank Colbran Turner, 1903  
 Loudon, Bertha Winifred, 1904  
 Lowick, Clara Warne, 1904  
 Lydon, James, 1894  
 Lynch, Michael D., 1870  
 Lynch, William, 1863  
 Lyon, Pearson, 1890  
 Lyons, Ettie, 1904  
 MacCallum, Isabella Renton, 1904  
 Macanish, Andrew W., 1885  
 MacCarthy, Herbert T. S., 1860  
 McCarthy, Arthur W., 1881  
 McCook, Adam Stuart, 1895  
 McCook, William Henry, 1900  
 McCoy, William Taylor, 1894  
 McCulloch, Percy V., 1881  
 McDermott, Vesian B., 1887  
 McDonagh, John M., 1879  
 MacDonald, Fannie Elizabeth, 1895  
 McDonald, Timothy George, 1903  
 McDonnell, Randal C. W., 1888  
 McDowall, James, 1896  
 McEvilly, Augustus, 1886  
 McEvilly, Ulric, 1883  
 McEvoy, Bertie Patrick, 1899  
 McGlynn, Rebecca Mary, 1898  
 McGuinn, Denis, 1884  
 MacInnes, Angus, 1901  
 MacInnes, Isabel Mary, 1904  
 McIntosh, Harold, 1889  
 McIntyre, Aug. T., 1879  
 McIntyre, Duncan A., 1888  
 Mack, Sidney, 1890  
 McKay, James, 1896  
 Mackay, Iven Giffard, 1904  
 Mackintosh, Bertha Adeline Hilda,  
 1899  
 Mackness, Constance, 1902  
 McLaren, John Gilbert, 1895  
 McLaughlin, Daniel, 1890  
 MacLaurin, Henry Normand, 1899  
 Maclean, Charles Hector Roderick,  
 1901  
 MacLean, Frederick S., 1887  
 McLelland, Hugh, 1881  
 McLeod, James, 1879  
 McLintock, William Colin Scott,  
 1900  
 McMahon, Gregan, 1896  
 MacManamey, James Frazer, 1881  
 MacManamey, John Frazer, 1889  
 MacManamey, William Frazer, 1892  
 MacMaster, Donald Æneas D., 1894  
 McNeil, Andrew, 1889  
 McNevin, Arthur Joseph, 1895  
 McNevin, Thomas Butler, 1893  
 MacPherson, Peter, 1889

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 § Admitted *ad eundem gradum*.

McWilliam, Neville Gilbert, 1902  
 Macrossan, Hugh Denis, 1902  
 Maffey, Reginald William H., 1896  
 Maher, Charles H., 1877  
 Maher, Matthew E., 1867  
 Maher, Thomas Francis, 1893  
 Main, John, 1892  
 Makin, William, 1902  
 Mallarky, Ethel May, 1895  
 Maloney, Andrew William, 1893  
 Maloney, John Thomas, 1899  
 Mannell, Francis Worthington, 1892  
 Manning, Henry Edward, 1900  
 Manning, Reginald K., 1887  
 Manning, William Ernest, 1892  
 Marks, Hyam, 1892  
 Marks, Percy J., 1887  
 Marks, Florence, 1893  
 Marks, Leah, 1893  
 Marr, Fannie Augusta, 1899  
 Martin, Lewis Ormsby, 1893  
 Martyn, Sydney Charles, 1889  
 Massey-Makinson, Arthur, 1903  
 Massie, Richard de Winton, 1886  
 Mate, William H., 1864  
 Mathews, Hamilton Bartlett, 1899  
 Mathison, Walter, 1880  
 Mayne, J. O'Neill, 1884  
 Maxted, Henry Louis, 1902  
 Maxwell, Henry Francis, 1895  
 Maxwell, William, 1904  
 Maynard, Ethel Margaret, 1894  
 Maze, William Archibald A., 1892  
 Meagher, Louis Felix, 1889  
 Meares, Hercules, 1893  
 Meek, Herbert Arthur, 1903  
 Meillon, Joseph, 1863  
 Mell, Cecil Newton, 1894  
 Merewether, Edward A. M., 1884  
 Merewether, Hugh H. M., 1894  
 Merewether, William D. M., 1895  
 Miles, James Albert, 1894  
 Miller, James W., 1896  
 Millard, Alfred Charles, 1885  
 Miller, Richard J., 1885  
 Mills, Percy Harcourt, 1893  
 Mitchell, Ernest Meyer, 1896  
 Mitchell, Ethel Robertson, 1898  
 Molineaux, Amy Atherton, 1891  
 Moloney, Thomas Patrick, 1885  
 Molster, Eliza, 1897  
 Monahan, William Willis, 1897

Montefiore, Hortense Henriette, 1896  
 Montgomerie, John, 1889  
 Moore, David C., 1883  
 Moore, Frank Joseph Sarsfield, 1883  
 Moore, John, 1883  
 Moore, Verner, 1884  
 Moore, Walter Albert, 1894  
 Morgan, Frederick A., 1888  
 Morgan, Thomas H. D., 1892  
 Morley, Irene Madeline, 1904  
 Morrice, John, 1874  
 Morris, John James, 1895  
 Morris, Robert N., 1870  
 Morrish, Francis, 1882  
 Mote, Arnold Rudolph, 1902  
 Moulton, James Egan, 1892  
 Moustaka, Orea Emma Hellas, 1897  
 Mowbray, Rupert Wallace, 1903  
 Mugliston, Madeleine Lucy, 1904  
 Mulholland, John Joseph, 1899  
 Mullens, Arthur Frank Macquarie, 1896  
 Munro, William J., 1880  
 Murray, Charles O'Connor, 1904  
 Murray, Florence Jane, 1896  
 Murray, Mercy M. H., 1897  
 Murray-Prior, Dorothea Katherine, 1904  
 Mussmann, Carl Ernst Gottlieb, 1897  
 Mutton, Isaiah, 1900  
 Myers, David M., 1866  
 Nelson, Duncan John, 1895  
 Nettleship, Edward, 1895  
 Newman, George Hine, 1887  
 Newman, Kelsey Illidge, 1894  
 Newsham, Alice Isabel, 1900  
 Newton, Henry, 1889  
 Nicholls, William Hunt Ward, 1891  
 Nicholson, George Gibb, 1899  
 Noake, Reginald, 1877  
 Noake, Reginald Robert, 1904  
 Noakes, Mabel Alicia, 1896  
 O'Brien, Agnes Gertrude, 1895  
 O'Brien, Kathleen Moira, 1894  
 O'Brien, Lucius, 1865  
 O'Brien, Ormond, 1876  
 O'Brien, Patrick Daniel, 1894  
 O'Connor, Broughton B., 1892  
 O'Donohue, John P. Markham, 1895  
 O'Keefe, John A., 1887  
 O'Neill, James Bernard, 1895

- O'Reilly, Hubert de Burgh, 1892  
 O'Reilly, Walter Creswell, 1903  
 Osborne, Henry Stuart, 1896  
 O'Sullivan, Daniel Roche, 1901  
 O'Sullivan, Eugene Francis, 1901  
 Oswald, Alfred William, 1903  
 Page, Arthur Ernest, 1899  
 Pain, Allan Franklyn, 1894  
 Pain, A. W., 1884  
 Paine, Bennington Haille, 1893  
 Paine, George Henry, 1894  
 Palmer, Selina Elizabeth, 1901  
 Paris, Jane Elizabeth, 1897  
 Parker, William Arthur, 1892  
 Parsons, Emily Waugh, 1899  
 Paton, Arthur T., 1887  
 Paton, Mary Paterson, 1902  
 Pattinson, Anthony Walton, 1894  
 Peden, John Beverley, 1892  
 Penman, John Edwards Foggon, 1897  
 Perkins, Joseph Abraham R., 1892  
 Perské, Hermann, 1887  
 Petrie, Edith Maud, 1901  
 Phillips, Catherine Agnes, 1896  
 Phillips, Frederick George, 1902  
 Phillips, Reginald Bede, 1902  
 Pickburn, James Prosper, 1892  
 Piddington, Albert Bathurst, 1883  
 Pilcher, Charles E., 1865  
 Pilcher, George de Vial, 1859  
 Pilcher, Norman George Stafford, 1898  
 Pincombe, Torrington Hawke, 1890  
 Pitt, Arthur Gladstone Matcham, 1902  
 Poidevin, Leslie Oswald Sheridan, 1900  
 Poolman, Arthur Edward, 1883  
 Pope, Roland James, 1885  
 Potts, Cuthbert, 1898  
 Power, Percy Horne, 1901  
 Powell, James William Garnet, 1904  
 Pratt, Walter Henry, 1901  
 Prentice, Arthur James, 1892  
 Pritchard, Alice, 1895  
 Pritchard, William C., 1888  
 Purcell, Philip Francis, 1898  
 Purcell, Winifred Dalton, 1895  
 Purser, Cecil, 1885  
 Quaife, William F., 1879  
 Quigley, James, 1890  
 Ramsay, James, 1885  
 Raves, George Alfred, 1897  
 Raves, Helen Alice, 1894  
 Redshaw, George, 1895  
 Read, Elizabeth Jane, 1899  
 Reid, Roberta Jane Sinclair, 1904  
 Reid, Violet Margaret, 1902  
 Reidy, John James Gralton, 1896  
 Rennie, George Edward, 1882  
 Renwick, Arthur, 1857  
 Renwick, Herbert John, 1893  
 Reynolds, Arthur J. P. G., 1890  
 Richardson, Charles Noel D., 1893  
 Richardson, Henry A., 1867  
 Riley, Ernest Arthur, 1893  
 Riley, Patrick William, 1894  
 Riley, Spencer George Birkenhead, 1897  
 Riley, Valentine B., 1872  
 Roberts, Thomas Taylor, 1903  
 Robinson, Charles H. P., 1893  
 Robinson, George Frederick G., 1890  
 Robinson, Mabel Fuller, 1890  
 Robjohns, Leonard, 1894  
 Robson, Reginald Norman, 1900  
 Robson, William Elliott V., 1889  
 Rofe, Ruth Irene, 1904  
 Roger, Robert, 1876  
 Rooney, William James, 1892  
 Roseby, Gertrude Amy, 1895  
 Roseby, Minnie, 1895  
 Roseby, Sarah Mabel, 1900  
 Rossiter, Florence Annie, 1898  
 Roth-Schmidt, Frederica, 1897  
 Rourke, Ernest John, 1893  
 Rourke, George Augustus, 1893  
 Rourke, Lillie Agnes, 1895  
 Rowland, Norman de Horne, 1895  
 Rudder, Sydney Llewellyn, 1891  
 Russell, Charles Townsend, 1891  
 Russell, Ethel Albinia, 1893  
 Russell, Harry Ambrose, 1887  
 Russell, Henry Chamberlaine, 1859  
 Russell, Lillian, 1891  
 Rutherford, Constance Muriel, 1903  
 Rutherford, Florence Marion, 1900  
 Rutherford, George Washington, 1900  
 Rutledge, William F., 1871

- Ryan, Gerald, 1893  
 Ryan, James William, 1901  
 Rygate, Charles D. H., 1883  
 Rygate, Henry Bertram, 1885  
 Saddington, Arthur G., 1887  
 Sadler, Alexander, 1900  
 Salting, George, 1857  
 Salting, William, 1857  
 Sandford, Blanche Vavasour, 1902  
 Sands, John Marshall, 1889  
 Saunders, Arthur, 1893  
 Saunders, Eva Florence, 1897  
 Saunders, Florence Louisa, 1903  
 Saxby, George Campbell, 1891  
 Saywell, Thomas Stanley, 1900  
 Scarvell, Edric Sydney, 1893  
 Schrader, Cyril Petersen, 1904  
 Scoular, David, 1895  
 Scrutton, Caroline Maude, 1900  
 Seaward, William T., 1892  
 Seldon, Florence Mary, 1894  
 Sellers, Rich. Pickering, 1890  
 Sendall, Alfred E., 1888  
 Serisier, Lavigne Ernest, 1891  
 Shand, Alexr. B., 1884  
 Sharp, Walter Alexander Ramsay, 1897  
 Sharpe, Ernest, 1865  
 Sharpe, George Frederick, 1903  
 Sharpe, William George, 1897  
 Shaw, John A. K., 1885  
 Sheridan, Francis B., 1874  
 Sheridan, John Patrick, 1890  
 Sheridan, Muriel Eulalie Bingham, 1900  
 Sheppard, Edmund Haslewood, 1882  
 Sheppard, George, 1873  
 Sherlock, John Bolt, 1895  
 Shewcroft, Alfred John, 1893  
 Sinclair, Colin Archibald, 1899  
 Skillen, Elizabeth, 1904  
 Slade, Oswald Carey, 1903  
 Sloman, Charles Wansbrough, 1893  
 Sloman, John, 1872  
 Smee, Reginald, 1901  
 Smith, Archibald, 1889  
 Smith, Emma Isabel, 1893  
 Smith, Norman, 1894  
 Smith, William, 1893  
 Smith, William, 1902  
 Somerville, George B., 1882  
 Spence, John, 1904  
 Sproule, Margaret, 1903  
 Squire, Hilton Bell, 1893  
 Stacy, Fitzroy Somerset, 1897  
 Stephen, Edward Milner, 1891  
 Stephen, Henry Montagu, 1900  
 Stephen, John William Farish, 1897  
 Stephenson, Anita Leila, 1901  
 Stevenson, William Henry Webster, 1903  
 Stewart, Donald Grant, 1896  
 Stewart, James Robert, 1903  
 Stoney, Edmund Haighton, 1898  
 Stonham, Kathleen, 1895  
 Street, Charles James, 1894  
 Street, Philip Whistler, 1883  
 Studds, Harold Augustus, 1900  
 Studdy, Albert John, 1888  
 Studdy, Annie Avice Matilda, 1891  
 Sullivan, Denis Joseph, 1899  
 Sullivan, Henry, 1872  
 Sullivan, James, 1867  
 Sullivan, James, 1894  
 Sullivan, Reginald, 1892  
 Sutherland, Elmina Louise, 1891  
 Sutherland, Peter, 1890  
 Sutton, Mabel Harriett, 1904  
 Swanwick, Kenneth Foulkes, 1896  
 Swynny, William Frank, 1899  
 Symonds, Bertha Violet, 1897  
 Symonds, Daisy, 1893  
 Tange, Charles L., 1880  
 Tarplee, William F., 1884  
 Taylor, Sarah, 1893  
 Taylor, Thomas Manning, 1901  
 Thallon, James B., 1876  
 Thomas, Richard Weld, 1893  
 Thompson, Alexander, 1895  
 Thompson, Robert Alfred, 1891  
 Thompson, Sydney A., 1887  
 Thomson, Alec., 1891  
 Thorburn, James Thos., 1886  
 Thorne, George, 1865  
 Thornton, Septimus, 1896  
 Tighe, William, 1892  
 Tivey, John Proctor, 1902  
 Todd, Frederick Augustus, 1901  
 Tole, Joseph, 1868  
 Tom, Wesley, 1860  
 Townley, Percy L., 1886  
 Tozer, Seymour Darvall, 1899  
 Trindall, Richard B., 1885  
 Turner, Annie Elizabeth, 1899

- Uther, Allan Hammill, 1891  
 Uther, Jennie Bertha, 1894  
 Veech, Louis Stanislaus, 1890  
 Verge, John, 1899  
 Vickery, Ebenezer Frank, 1901  
 Waddell, Annie, 1895  
 Waddy, Percival Richard, 1891  
 Waldron, Thomas W. King, 1893  
 Walker, James Ernest, 1894  
 Walker, Samuel Herbert, 1894  
 Walker, William A., 1888  
 Wallace, Frank Ernest, 1889  
 Walsh, John James, 1899  
 Walton, George Henry Montague, 1899  
 Ward, Leonard Keith, 1900  
 Ward, Ruby Estelle, 1897  
 Ward, Thomas W. C., 1884  
 Wardrop, Gabriel, 1893  
 Wardrop, Maggie Robertson, 1903  
 Wark, Florence Helen, 1903  
 Warren, Ernest William, 1898  
 Waterhouse, Eben Gowrie, 1903  
 Watt, Andrew Robert James, 1893  
 Watt, Charles Prosper, 1893  
 Watts, Percy Richard, 1904  
 Watson, Herbert Frazer, 1903  
 Watson, Robert S., 1887  
 Wearne, Amy Isabel, 1893  
 Wearne, Richard Arthur, 1895  
 Weatherburn, Charles Ernest, 1904  
 Weigall, Harold Walter, 1895  
 Wellisch, William Montague, 1903  
 West, Edith Annie, 1900  
 Wheeler, Arthur Russell, 1904  
 Wheeler, Harold Charles Fearon, 1902  
 White, Charles Alfred, 1895  
 Whitfield, Eleanor Madeline, 1895  
 Whitfield, Hubert Edwin, 1897  
 Whiting, Joseph, 1895  
 Wilkinson, Henry L., 1880  
 Wilkinson, Ida Beatrice, 1903  
 Wilkinson, W. Camac, 1878  
 Williams, Alfred James, 1898  
 Williams, James Leslie, 1892  
 Williams, John Alfred, 1894  
 Williams, Leslie Ballesat, 1899  
 Williams, William, 1891  
 Williams, William, 1895  
 Williams, William Henry, 1894  
 Williamson, Mark A., 1879  
 Williamson, Percy Leyden, 1899  
 Wilson, Frederick James, 1893  
 Wilson, George Harry, 1901  
 Wilson, Gwendolene Lilian, 1900  
 Wilson, Roger, 1877  
 Wilton, Edward Nowill, 1900  
 Windeyer, Richard, 1891  
 Windeyer, William Archibald, 1893  
 Wise, Bernhard R., 1885½  
 Withycombe, Ernest John, 1899  
 Wolstenholme, Harry, 1890  
 Wood, Frederick Ernest, 1890  
 Wood, Frederick William, 1894  
 Wood, Harrie Dalrymple, 1893  
 Woodd, Henry A., 1887  
 Woodward, Frederick P., 1892  
 Woolcock, John L., 1883  
 Wootton, Ernest, 1892  
 Wright, Stewart, 1882  
 Yarnold, Isabel May, 1899  
 Yates, Malcolm Edwin, 1903  
 Young, James, 1900

## DOCTORS OF LAW.

- His Royal Highness the Prince of Wales, 1901½  
 Barry, Alfred, 1884½  
 Coghlan, Charles A., 1885  
 Cullen, William P., 1887  
 Donovan, John J., 1867  
 Green, Arthur V., 1887  
 Jefferis, James, 1885  
 Manning, J. Napoleon, 1892  
 Marden, John, 1890  
 Morris, Robert Newton, 1886  
 Reseby, Thomas, 1873  
 Sly, George J., 1878  
 Sly, Joseph D., 1873  
 Sly, Richard M., 1877  
 Waddell, George Washington, 1903  
 White, W. Moore, 1882½

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½ Admitted *ad eundem gradum*.

## BACHELORS OF LAW.

- Abigail, Ernest Robert, 1899  
 d'Apice, Antoine William M., 1904  
 Armstrong, Laurens F. M., 1890  
 Arnold, Austin Guerry de Lauret, 1903  
 Barraclough, Francis Egerton, 1899  
 Bavin, Thomas Rainsford, 1897  
 Bloomfield, William John, 1899  
 Boyce, Francis Stewart, 1896  
 Brierley, Frank Nunan, 1897  
 Broderick, Cecil Thomas Hawkes, 1902  
 Browne, Joseph Alexander, 1904  
 Butler, Spencer Joseph St. Clair, 1896  
 Chapman, Alfred Ernest, 1903  
 Clark, Francis George, 1902  
 Clegg, William Carnegie, 1901  
 Clines, Peter Joseph, 1898  
 Coffey, Francis Louis Verhulst, 1896  
 Craig, Charles, 1900  
 Creagh, William John, 1897  
 Cullinane, John Aloysius, 1897  
 Curlewis, Herbert Raine, 1892  
 Curtis, William John, 1904  
 Davidson, Colin George Watt, 1901  
 Davies, Arthur Bernard, 1897  
 Davies, Wyndham John E., 1895  
 Edmunds, Walter, 1881  
 Edwards, David Sutherland, 1899  
 Elphinstone, James Cooke, 1898  
 Evans, Ada Emily, 1902  
 Evans-Jones, David Pentland, 1904  
 Fahey, Bartley Francis, 1904  
 Flannery, George Ernest, 1894  
 Forsyth, Walter George, 1900  
 Gerber, Edward W. T., 1894  
 Gill, Alfred Chalmers, 1895  
 Halloran, Aubrey, 1894  
 Hammond, John Harold, 1898  
 Harris, George, 1893  
 Higgins, Percy Reginald, 1895  
 Hinton, William Samuel, 1904  
 Holliday, Andrew, 1903  
 Holme, John Barton, 1895  
 Jones, Albert E., 1889½  
 Kelynack, Arthur James, 1892  
 Kershaw, Joseph Cuthbert, 1896  
 Kilgour, Alexander James, 1904  
 Knox, Adrian, 1895½  
 Legge, James Gordon, 1890  
 Lehane, Thomas Joseph, 1903  
 Levy, Daniel, 1895  
 Mack, Sidney, 1892  
 McLaren, Alexander Duncan, 1903  
 Manning, Henry Edward, 1902  
 Martin, Lewis Ormsby, 1895  
 Meares, Hercules, 1894  
 Meillon, John, 1892  
 Merewether, Hugh Hamilton Mitchell, 1898  
 Merewether, William David Mitchell, 1898  
 Mills, Percy Harcourt, 1897  
 Mitchell, Ernest Meyer, 1900  
 Monahan, William Willis, 1900  
 Nathan, Edward Alleyne, 1891  
 O'Brien, Patrick Daniel, 1897  
 O'Connor, Broughton B., 1895  
 O'Donohue, John P. Markham, 1902  
 O'Reilly, Hubert de Burgh, 1894  
 Parker, William Arthur, 1898  
 Peden, John Beverley, 1898  
 Pickburn, James Prosper, 1894  
 Pilcher, Norman George Stafford, 1901  
 Pitt, Arthur Gladstone M., 1904  
 Quick, John, 1881 §  
 Richardson, Charles Noel Derwent, 1900  
 Robson, Reginald Norman, 1903  
 Rogers, Francis E., 1867  
 Rogers, William Arnott Halse, 1903  
 Rutherford, George Washington, 1902  
 Saywell, Thomas Stanley, 1902  
 Scarvell, Edric Sydney, 1896  
 Scoular, David, 1899  
 Stacy, Fitzroy Somerset, 1901  
 Stephen, Henry Montagu, 1903  
 Sullivan, Reginald, 1900  
 Taylor, John Michael, 1893  
 Teece, Richard Clive, 1903  
 Thompson, Joseph, 1869  
 Thomson, Alec., 1894  
 Tighe, William, 1894  
 Tole, Joseph, 1869  
 Tozer, Seymour Darvall, 1901  
 Uther, Allan Hammill, 1893  
 Varley, Charles Grant, 1902½  
 Veech, Louis Stanislaus, 1893

Vickery, Ebenezer Frank, 1904  
 Waddy, Percival Richard, 1893  
 Waldron, Thomas W. King, 1895  
 Wallace, Frank Ernest, 1899  
 Walker, James Ernest, 1896  
 Walton, George Henry Montague,  
 1902

Warren, Ernest William, 1900  
 Watt, Andrew R. J., 1894  
 Wilson, George Harry, 1904  
 Wood, Harrie Dalrymple, 1896  
 Yarrington, W. H. H., 1887  
 Young, James, 1902

## DOCTORS OF MEDICINE.

Bennet, Francis Alexander, 1896‡  
 Barret, James, 1873  
 Belgrave, T. B., 1882‡  
 Blackburn, Charles Bickerton, 1903  
 Blair, John, 1877  
 Chisholm, William, 1887‡  
 Cleland, John Burton, 1902  
 Corlette, Cyril Ernest, 1895  
 Flashman, James Froude, 1897  
 Hall, Edwin Cuthbert, 1904  
 Houston, James, 1870  
 Jenkins, Edward Johnstone, 1886‡  
 Jones, Richard T., 1874  
 Knaggs, Samuel T., 1882‡  
 Lloyd, Frederick, 1872  
 Lyden, Michael John, 1892‡  
 McDonnell, Aeneas J., 1896  
 McMurray, Wahab, 1892‡  
 Magarey, Frank William Ashley, 1903  
 Maher, W. Odillo, 1884‡

Moore, George, 1872  
 Morton, Selby, 1877  
 Mullins, George Lanc, 1890‡  
 Munro, William John, 1901‡  
 Nash, John Brady, 1903‡  
 Oram, Arthur Murray, 1882‡  
 O'Reilly, Walter William J., 1882‡  
 Ross, Chisholm, 1886  
 Rowan, Thomas, 1882  
 Sandes, Francis Percival, 1903  
 Smith, Grafton Elliott, 1895  
 Stacy, Harold Skipton, 1901  
 Stewart, Charles, 1872  
 Stuart, T. P. Anderson, 1889‡  
 Taylor, Charles, 1872  
 Wade, Robert Blakeway, 1904  
 Warren, William Edward, 1882‡  
 Wilson, Thomas George, 1904  
 Worrall, Ralph, 1885‡

## BACHELORS OF MEDICINE.

Abbott, George Henry, 1891  
 Adams, Francis Charles, 1904  
 Affleck, Ada C., 1898  
 Aiken, Percy Norman, 1903  
 Ambrose, Theodore, 1902  
 Anderson, Arthur, 1902  
 Anderson, Hugh Miller, 1902  
 Andrews, William, 1887‡  
 Armstrong, William G., 1888  
 Bancroft, Peter, 1888  
 Barling, James Eric Vernon, 1900  
 Barnes, Edmund Horatio, 1897  
 Barton, John à Beckett Darvall,  
 1901  
 Bell, Henry Charles Rikard, 1904  
 Benjafield, Vivian, 1904  
 Bennetts, Harold Graves, 1896  
 Biffin, Harriett Eliza, 1898

Binney, Edward Harold, 1893  
 Blaney, Henry Patrick, 1903  
 Blue, Archibald Irwin, 1901  
 Böhrsmann, Gustav Hall, 1898  
 Böhrsmann, Rudolph Hermann, 1894  
 Boelke, Paul, 1893  
 Bond, Lionel Wilfred, 1904  
 Bourne, Eleanor Elizabeth, 1903  
 Bowker, Cedric Victor, 1898  
 Brade, Gerald Francis, 1899  
 Brennand, Henry John Wolverton,  
 1899  
 Broadbent, Percy Lewis, 1902  
 Broinowski, Gracius Herbert, 1897  
 Browne, Claude Seccombe, 1904  
 Buchanan, George Arthur, 1904  
 Burfitt, Walter Fitzmaurice, 1900  
 Burge, Stephen Bruce, 1900

‡ Admitted *ad eundem gradum*.



- Burkitt, Edmund Henry, 1896  
 Busby, Hugh, 1900  
 Cahill, John Hampton, 1903  
 Cameron, Donald Allan, 1900  
 Cargill, William Duthie, 1899  
 Carlile-Thomas, Julia, 1898  
 Challands, Frederick, 1892  
 Chenhall, William Thomas, 1897§  
 Clarke, Gother Robert Carlisle, 1902  
 Clarke, Philip Sylvester, 1903  
 Coghlan, Iza Frances Josephine, 1893  
 Combes, Edgar William Anthony, 1902  
 Conlon, William Aloysius, 1896  
 Connolly, Thomas Patrick, 1904  
 Courroy, Lionel Bigoe Henzell, 1903  
 Cooley, Percy Glover, 1898  
 Cope, Hubert Roger, 1898  
 Corbin, Albert George, 1900  
 Corfe, Anstruther John, 1903  
 Cosh, John Inglis Clark, 1897  
 Cox, Frederick Henry, 1895  
 Cox, Harrie, 1900  
 Craig, Robert Gordon, 1894  
 Crawley, Aubrey Joseph C., 1896  
 Dansey, St. John Warburton, 1903  
 D'Arcy, Constance Elizabeth, 1904  
 Davies, Reginald Laidlaw, 1901  
 Davidson, Leslie G., 1888  
 Davis, James Shedden, 1903  
 Deck, George Henry Baring, 1896  
 Deck, John Northcote, 1900  
 Delohery, Henry Charles, 1899  
 Dey, Robert, 1898  
 Dick, Robert, 1892  
 Dight, William Billingsley, 1902  
 Dixon, Graham Patrick, 1897  
 Dunlop, Norman John, 1896  
 Durack, William Joseph, 1900  
 Eichler, William Otto Heldmuth, 1900  
 Ellis, Lawrence Edward, 1898  
 Elworthy, William Henry, 1903  
 Fairfax, Edward Wilfred, 1899  
 Farrell, Robert Meredith, 1897  
 Fitzpatrick, Edward Bede Lucien, 1903  
 Flashman, Charles Ernest, 1903  
 Flecker, Oscar Sydney, 1902  
 Fordyce, Henry St. Clair, 1895  
 Forster, Redmond Clarence Hall, 1901  
 Fox, Hedley Ebenezer, 1903  
 Freshney, Reginald, 1892  
 Garde, Henry Lee, 1901  
 Godsall, Robert Spencer, 1904  
 Goldsmid, Albert, 1895  
 Graham, James, 1886§  
 Graham, Mabel Jessie, 1900  
 Green, Terence Albert, 1893  
 Greenham, Eleanor Constance, 1901  
 Grey, William Charles, 1903  
 Griffiths, Frederick Guy, 1900  
 Gullett, Lucy Edith, 1900  
 Halcombe, Charles Digby, 1902  
 Hall, George Reginald Percy, 1895  
 Halliday, John Charles W., 1896  
 Handcock, Charles Lancelot, 1894  
 Hardman, Robert, 1900  
 Harris, Walter Eli, 1900  
 Harris, Lawrence Herschell Levi, 1896  
 Harris, William Henry, 1897  
 Hart, Basil Lloyd, 1900  
 Heggaton, Rupert Dufty, 1900  
 Henry, Arthur, 1889  
 Henry, Arthur G., 1888  
 Higgins, Frederick Charles, 1897  
 Hinder, Henry V. C., 1889  
 Hipsley, Percy Leslie, 1903  
 Holmes, Harry Glennie, 1900  
 Holt, Arthur Christian, 1901  
 Horton, William Henry, 1902  
 Hughes, Michael O'Gorman, 1895  
 Humphery, Escá Morris, 1903  
 Hunt, Claude Leopold W., 1891  
 Hunter, William Allen, 1902  
 Kater, Norman William, 1898  
 Kelly, Patrick J., 1889  
 King, Aubrey Arthur, 1900  
 Kinross, Robert Menzies, 1894  
 Jackson, John William, 1895  
 Jones, Philip Sydney, 1900  
 Lancaster, Llewellyn Bentley, 1896  
 Langton, William Digan, 1903  
 Latham, Oliver, 1903  
 Lawes, Charles H. E., 1892  
 Leahy, John P. D., 1892  
 Lee, Henry Herbert, 1901

- Lees, Geoffrey John, 1900  
 Lethbridge, Harold Octavius, 1904  
 Lipscomb, Thomas Walter, 1898  
 Litchfield, William Frederick, 1893  
 Lister, Henry, 1892  
 Llewellyn, Rees Frank, 1902  
 Ludowici, Edward, 1899  
 Luker, Donald, 1894  
 McClelland, Walter Cecil, 1896  
 MacCreadie, John Laing Martin, 1894  
 McCredie, Robert William, 1901  
 McEvoy, John Joseph Stuart, 1900  
 Macintosh, Alexander Hay, 1901  
 McKay, William John S., 1891  
 Mackenzie, John, 1899  
 Mackinnon, Roger Robert S., 1894  
 McLean, George, 1900  
 MacMaster, Donald Aeneas Dunlop, 1899  
 MacPherson, John, 1898  
 Maffey, Reginald William H., 1900  
 Maitland, Herbert L., 1892  
 Marr, Gordon William Singer, 1901  
 Marsden, Ernest Ambrose, 1901  
 Marsh, Harold Seaward, 1903  
 Mason, Thomas William, 1903  
 Mawson, William, 1904  
 Menzies, Guy Dixon, 1896  
 Millard, Reginald Jeffrey, 1891  
 Mills, Arthur Edward, 1889  
 Moncrieff, Edward Woods, 1902  
 Morton, Gavin, 1890  
 Morton, John, 1890  
 Murray, George Lathrop, 1894  
 Muscio, Allan, 1902  
 Newton, Alice Sarah, 1898  
 Newman, Ernest Ludlow, 1903  
 Newton, William Thomas Joseph, 1900  
 Nolan, Herbert Russell, 1890  
 Oakes, Arthur, 1881½  
 O'Connor, Arthur Charles, 1896  
 O'Keefe, John James, 1898  
 Old, George Greensil, 1900  
 Olver, William Reath, 1900  
 Osborne, John King, 1903  
 Page, Earle Christmas Grafton, 1902  
 Paim, Ernest Maynard, 1897  
 Park, Joseph, 1892  
 Paton, James Wright, 1900  
 Perkins, Alfred E., 1888  
 Plouley, Morris James, 1903  
 Pockley, Eric Osbaldiston, 1900  
 Pockley, Frank Antill, 1888½  
 Pulleine, Robert Henry, 1898  
 Purser, Cecil, 1890  
 Read, William Henry, 1898  
 Rees, Walter Llewellyn, 1902  
 Richards, Samuel J., 1893  
 Robertson, Lionel Joseph, 1903  
 Robinson, Grace Fairley, 1893  
 Robison, Erskine Hugh, 1896  
 Roe, James Martin, 1900  
 Roseby, Edmund Rupert, 1900  
 Rutledge, David D., 1888  
 Sadler, Henry Frank, 1903  
 Savage, Edward Joseph, 1900  
 Savage, Vincent Wellesley, 1901  
 Sawkins, Frederick John T., 1892  
 Scot-Skirving, Robert, 1888½  
 Scott, Edward Henry, 1893  
 Seldon, William, 1902  
 Sharp, Granville Gilbert, 1904  
 Sharp, Walter Alexander Ramsay, 1902  
 Shaw, Frederick C. S., 1892  
 Sheldon, Herbert, 1898  
 Sheldon, Stratford, 1896  
 Sheppard, Arthur Murray, 1890  
 Shirlow, Sydney Stewart, 1892  
 Shirlow, William John, 1892  
 Shorter, Herbert Leopold Ashton, 1899  
 Smith, Stewart Arthur, 1903  
 Spark, Ernest James T., 1895  
 Stanley, George Percival, 1891  
 Stephen, Edward Horatio Milner, 1902  
 Stevens, William Woodburn, 1898  
 Stokes, Edward Sutherland, 1891  
 Stuckey, Francis Seavington, 1902  
 Studdy, William Bradridge, 1895  
 Suckling, Frank Martin, 1903  
 Sweet, Geoffrey Bruton, 1893  
 Tange, Frank Septimus, 1902  
 Tarleton, John Willington, 1902  
 Taylor, Charles James, 1900  
 Terrey, Hedley, 1897

Thomas, George Bowen, 1901  
 Thomson, Jack Mowbray, 1903  
 Tidswell, Frank, 1892  
 Throsby, Herbert Zouch, 1898  
 Townley, Percy Langford, 1890  
 Trindall, Richard B., 1889  
 Tudor-Jones, Evan, 1902  
 Ure, Edith, 1902  
 Vallack, Arthur Styles, 1893  
 Veech, Michael, 1894  
 Verco, Clement Armour, 1901  
 Verco, Sydney Manton, 1900  
 Vernon, Murray Menzies, 1904

Wallace, Donald, 1902  
 Walton, William Bain, 1898  
 Walton, John Francis, 1903  
 Wassell, Joseph Leathom, 1897  
 Watson, James Frederick, 1903  
 Waugh, Richard Andrew Phipps,  
 1903  
 West, Francis William, 1900  
 Willis, Charles Savill, 1899  
 Windeyer, John Cadell, 1899  
 Woolnough, Robert Edmund, 1903  
 Zlotkowski, Frederic Sobieski  
 Wladimir, 1896

## MASTERS OF SURGERY.

Abbott, George Henry, 1891  
 Affleck, Ada C., 1898  
 Ambrose, Theodore, 1902  
 Anderson, Arthur, 1902  
 Anderson, Hugh Miller, 1902  
 Armstrong, William G., 1888  
 Bancroft, Peter, 1888  
 Barling, James Eric Vernon, 1901  
 Barnes, Edmund Horatio, 1897  
 Barton, John a'Beckett Darvall, 1901  
 Bell, Harry Charles Rikard, 1904  
 Benjafield, Vivian, 1904  
 Bennetts, Harold Graves, 1896  
 Biffin, Harriett Eliza, 1898  
 Binney, Edward Harold, 1893  
 Blackburn, Charles Bickerton, 1899  
 Blue, Archibald Irwin, 1901  
 Boelke, Paul, 1893  
 Böhrsmann, Gustav Hall, 1898  
 Böhrsmann, Rudolph Hermann, 1894  
 Bond, Lionel Wilfred, 1904  
 Bourne, Eleanor Elizabeth, 1903  
 Brennand, Henry John W., 1899  
 Broadbent, Percy Lewis, 1902  
 Browne, Claude Seccombe, 1904  
 Buchanan, George Arthur, 1904  
 Burfitt, Walter Fitzmaurice, 1900  
 Busby, Hugh, 1900  
 Cameron, Donald Allan, 1901  
 Cargill, William Duthie, 1899  
 Carlile-Thomas, Julia, 1898  
 Challands, Frederick, 1892  
 Clarke, Gother Robert Carlisle, 1902  
 Clarke, Philip Sylvester, 1903  
 Cleland, John Burton, 1900  
 Coghlan, Iza Frances Josephine, 1893

Combes, Edgar Wm. Anthony, 1902  
 Connolly, Thomas Patrick, 1904  
 Conlon, William Aloysius, 1898  
 Cooley, Percy Glover, 1898  
 Corbin, Alfred George, 1900  
 Corfe, Anstruther John, 1904  
 Corlette, Cyril Ernest, 1892  
 Cosh, John Inglis Clark, 1897  
 Craig, Robert Gordon, 1894  
 Crawley, Aubrey Joseph C., 1896  
 Dansey, St. John Warburton, 1903  
 D'Arcy, Constance Elizabeth, 1904  
 Davies, Reginald Laidlaw, 1901  
 Davidson, Leslie G., 1888  
 Davis, James Shedden, 1903  
 Deck, George Henry Baring, 1901  
 Deck, John Northcote, 1902  
 Dey, Robert, 1898  
 Dick, Robert, 1892  
 Dight, Wilfred Billingsley, 1902  
 Dixon, Graham Patrick, 1897  
 Dunlop, Norman John, 1896  
 Eichler, Wm. Otto Heldmuth, 1900  
 Ellis, Lawrence Edward, 1898  
 Elworthy, William Henry, 1903  
 Fairfax, Edward Wilfred, 1899  
 Farrell, Robert Meredith, 1897  
 Fitzpatrick, Edward Bede Lucien,  
 1903  
 Flashman, James Froude, 1894  
 Flecker, Oscar Sydney, 1902  
 Fordyce, Henry St. Clair, 1895  
 Forster, Redmond Clarence Hall, 1901  
 Freshney, Reginald, 1892  
 Garde, Henry Lee, 1901  
 Godsall, Robert Spencer, 1904

- Graham, Mabel Jessie, 1902  
 Greenham, Eleanor Constance, 1901  
 Grey, William Charles, 1903  
 Gullett, Lucy Edith, 1901  
 Hall, Edwin Cuthbert, 1898  
 Hall, George R. P., 1895  
 Halliday, John Charles W., 1896  
 Handcock, Charles Lancelot, 1894  
 Harris, Lawrence Herschell L., 1896  
 Harris, William Henry, 1897  
 Harris, Walter Eli, 1900  
 Hart, Basil Lloyd, 1901  
 Henry, Arthur, 1889  
 Henry, Arthur G., 1888  
 Higgins, Frederick Charles, 1897  
 Hinder, Henry V. C., 1889  
 Hipsley, Percy Leslie, 1903  
 Holmes, Harry Glennie, 1900  
 Humphery, Esca Morris, 1903  
 Hunt, Claude Leopold W., 1891  
 Jackson, John W., 1895  
 Jones, Philip Sydney, 1901  
 Kater, Norman William, 1898  
 King, Aubrey Arthur, 1900  
 Kinross, Robert Menzies, 1894  
 Lancaster, Llewellyn Bentley, 1901  
 Langton, William Digran, 1903  
 Lawes, Charles H. E., 1892  
 Leahy, John P. D., 1892  
 Lee, Henry Herbert, 1901  
 Lethbridge, Harold Octavius, 1904  
 Lipscomb, Thomas Walter, 1898  
 Ludowici, Edward, 1899  
 Luker, Donald, 1894  
 McClelland, Walter Cecil, 1896  
 MacCreadie, John Laing Martin, 1894  
 McCredie, Robert William, 1901  
 McDonnell, Æneas J., 1889  
 Macintosh, Alexander Hay, 1901  
 McKay, William John S., 1891  
 Mackenzie, John, 1899  
 Mackinnon, Roger R. S., 1894  
 McLean, George, 1900  
 MacMaster, Donald Æneas D., 1899  
 MacPherson, John, 1898  
 Magarey, Frank William A., 1899  
 Maitland, Herbert L., 1892  
 Marsden, Ernest Ambrose, 1901  
 Mawson, William, 1904  
 Menzies, Guy Dixon, 1896  
 Millard, Reginald Jeffrey, 1891  
 Mills, Arthur Edward, 1889  
 Moncrieff, Edward Woods, 1902  
 Morton, Gavin, 1890  
 Morton, John, 1890  
 Murray, George Lathrop, 1894  
 Newton, Alice Sarah, 1898  
 Nolan, Herbert Russell, 1903  
 O'Connor, Arthur Charles, 1896  
 Olver, William Reath, 1901  
 Osborne, John King, 1903  
 Page, Earle Christmas Grafton, 1902  
 Pain, Ernest Maynard, 1897  
 Park, Joseph, 1892  
 Perkins, Alfred E., 1888  
 Plomley, Morris James, 1903  
 Pockley, Eric Osbaldiston, 1901  
 Purser, Cecil, 1890  
 Read, William Henry, 1898  
 Rees, Walter Lewellyn, 1902  
 Richards, Samuel J., 1896  
 Robinson, Grace Fairley, 1893  
 Robison, Erskine Hugh, 1896  
 Roseby, Edmund Rupert, 1902  
 Rutledge, David D., 1888  
 Sandes, Francis Percival, 1899  
 Savage, Edward Joseph, 1901  
 Savage, Vincent Wellesley, 1901  
 Sawkins, Frederick John T., 1892  
 Scott, Edward Henry, 1893  
 Sharp, Granville Gilbert, 1904  
 Sharp, Walter Alex. Ramsay, 1902  
 Shaw, Frederick C. S., 1892  
 Sheldon, Herbert, 1898  
 Sheldon, Stratford, 1896  
 Sheppard, Arthur Murray, 1890  
 Shirlow, Sydney Stewart, 1892  
 Shirlow, William John, 1892  
 Smith, Grafton Elliott, 1893  
 Smith, Stewart Arthur, 1903  
 Spark, Ernest J. T., 1895  
 Stacy, Harold Skipton, 1898  
 Stanley, George Percival, 1891  
 Stevens, William Woodburn, 1900  
 Stokes, Edward Sutherland, 1891  
 Stuckey, Francis Scavington, 1902  
 Studdy, William B., 1895  
 Suckling, Frank Martin, 1903  
 Sweet, Geoffrey Bruton, 1893  
 Tange, Frank Septimus, 1902  
 Taylor, Charles James, 1900  
 Terrey, Hedley, 1900  
 Thomas, George Bowen, 1901

Thomson, Jack Mowbray, 1903  
 Tidswell, Frank, 1892  
 Townley, Percy Langford, 1890  
 Trindall, Richard B., 1889  
 Tudor-Jones, Evan, 1902  
 Ure, Edith, 1902  
 Vallack, Arthur Styles, 1893  
 Veech, Michael, 1894  
 Verco, Sydney Mantou, 1900  
 Verco, Clement Armour, 1901

Vernon, Murray Menzies, 1904  
 Walton, William Bain, 1898  
 Wassell, Joseph Leathom, 1897  
 Watson, James Frederick, 1903  
 West, Francis William, 1900  
 Willis, Charles Savill, 1899  
 Wilson, Thomas George, 1899  
 Windeyer, John Cadell, 1899  
 Woolnough, Robert Edmund, 1903  
 Zlotkowski, Frederic Sob. W., 1896

## LICENTIATES IN DENTAL SURGERY.

Bradley, John Houghton, 1904  
 Crouch, Frederick Richard, 1904  
 Dolan, Alfred Pearson Berkeley, 1904  
 MacTaggart, Edgar Alexander, 1904

Neave, Bevan Walter, 1904  
 Praed, Annie, 1904  
 Stockwell, Leslie George, 1904

## DOCTOR OF SCIENCE.

Woolnough, Walter George, 1904

## BACHELORS OF SCIENCE.

d'Apice, John Edmund F., 1900  
 Bennett, Agnes Elizabeth L., 1894  
 Birks, Lawrence, 1901½  
 Boyd, Arthur, 1901  
 Brearley, Joseph Henry Draper, 1894  
 Brennan, Sarah Octavia, 1898  
 Burfitt, Walter Fitzmaurice, 1898  
 Close, John Campbell, 1903  
 Corbin, Albert George, 1895  
 Crane, John T., 1887  
 Davis, Agnes Marianne Harrison,  
 1898  
 Dunlop, Norman John, 1895  
 Flashman, James Froude, 1893  
 Fletcher, Archibald W., 1888  
 Forde, James, 1893  
 Hall, George Reginald Percy, 1893  
 Harker, George, 1899  
 Harris, Marian, 1902  
 Heden, Ernest Charles Burgess, 1901  
 Horton, Marion Charlotte, 1897  
 Hughes, Michael O'Gorman, 1893  
 Hunt, Fanny E., 1888  
 Jensen, Harold Ingemann, 1904  
 Johnston, Stephen Jason, 1902

Jordan, Geo. Edward Gustavus, 1901  
 Leverrier, Frank, 1885  
 MacMaster, Donald Aeneas Dunlop,  
 1897  
 McClelland, Walter Cecil, 1894  
 McKay, William J. S., 1887  
 MacPherson, John, 1896  
 Madsen, John Percival Vissing, 1900  
 Mort, Harold Sutcliffe, 1901  
 O'Reilly, Susannah Hennessy, 1903  
 Peterson, Arthur James, 1901  
 Petrie, James Matthew, 1901  
 Pollock, James Arthur, 1889  
 Robison, Erskine Hugh, 1894  
 Ross, William John Clunies, 1891½  
 Sharp, Granville Gilbert, 1902  
 Sheldon, Stratford, 1894  
 Shirley, John, 1887½  
 Taylor, Thomas Griffith, 1904  
 Vonwiller, Oscar Ulric, 1902  
 Waterhouse, Gustavus Athol, 1899  
 Watt, John Alexander, 1894  
 Weston, Percy Leonard, 1901  
 Wilson, Richard Cunliffe, 1901  
 Wood, E. Clarence, 1885

## MASTERS OF ENGINEERING.

Bradfield, John Job Crew, 1896  
 Cook, Walter Edmund, 1899½

Dare, Henry Harvey, 1894  
 Vicars, James, 1892

½ Admitted *ad eundem gradum*.

## BACHELORS OF ENGINEERING.

*(Civil Engineering.)*

Amphlett, Edward Albin, 1889	Ledger, William Henry, 1893
Amphlett, Henry Martin, 1897	MacTaggart, Norman J. C., 1892
Arnott, Robert Fleming, 1895	Madsen, John Percival Vissing, 1901
Barracrough, Samuel Henry, 1892	Mathison, Walter Charter, 1899
Beaver, William Richard, 1899	Merewether, Edward A. M., 1885
Birch, William John, 1891	Myers, Harold Walter, 1901
Bowman, Archer, 1889	Poole, William, 1900
Boyd, Arthur, 1902	Roberts, James Waller, 1892
Boyd, Robert James, 1898	Ross, Colin John, 1891½
Brearley, Joseph Henry D., 1895	Rowlands, Harold Berkeley, 1897
Bucknell, Louis Geoffrey, 1891	Rygate, Philip W., 1885
Colyer, Moreton John Godden, 1896	Sawyer, Basil, 1896
Corfe, Duncan Bertram, 1903	Seale, Herbert Percy, 1894
Corlette, James Montague Christian, 1902	Smail, Herbert Stuart Inglis, 1897
Craig, Alexander Donald, 1895	Stephens, Charles Thomas, 1892
Deane, Henry James, 1897	Strickland, Tom Percival, 1897
Doak, Walter James, 1895	Thompson, William Mann, 1886
Fitz, Norman, 1888	Wallach, Bernard, 1897
Hawken, Roger William H., 1900	Ward, Thos. Wm. Chapman, 1886
Hayley, Percy Edmund Llewellyn, 1893	Warren, Ernest William, 1897
Henning, Edmund Tregenna, 1903	White, Norman Frederick, 1894
Hole, William Francis, 1896	Wood, Ebenezer Clarence, 1885
Jackson, Clements F. V., 1895	Wood, James Patrick, 1895
	Woore, John Morris Simeon, 1896

*(Mining and Metallurgy.)*

Armstrong, John Nicholas Fraser, 1904	Foy, Leslie Harold, 1903
Ball, Lionel Clive, 1900	Freeman, Ambrose William, 1904
Barker, Reginald Frederick, 1900	Freeman, Charles Cuthbert, 1902
Barr, James, 1904	Garde, Henry Thomas, 1903
Bennett, Vyvyan Christopher, 1904	Giblin, Norman Ernest, 1903
Black, Reginald Austin Wm., 1898	Gibson, Charles George, 1900
Boyd, William Sprott, 1901	Gorringe, Lloyd Septimus, 1901
Caddy, James Pascoe, 1903	Gould, Hubert John, 1902
Cameron, Colin Bowman, 1902	Gray, George James, 1903
Caro, Phillip, 1904	Gregson, William Hilder, 1901
Clayton, Cyril Henry Joseph, 1903	Grut, Charles Frederick de Jersey, 1901
Cohen, Arthur Francis, 1904	Hall, Ernest Kingsbury, 1903.
Corlette, James Montagu Christian, 1903	Heden, Ernest Charles Burgess, 1902
Dart, Riverine Norman, 1904	Isaacs, Robert McIntosh, 1904
Davies, Harry Warlow, 1903	Hill, James Henry Fraser, 1904
Debenham, Arthur John, 1903	Jack, Robert Lockhart, 1899
Delohery, Ernest Cecil, 1903	Jackson, Clements Frederick V., 1900
Dixon, James Thomson, 1895	Jackson, Frederick Henry, 1903
Docker, Alfred Brougham, 1903	Jenkins, Charles Warren B., 1895
	McArdle, Frederick Owen, 1904

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½ Admitted *ad eundem gradum*.

McCrae, Arthur Gordon, 1903  
 Mack, Augustus Charles, 1902  
 Mawson, Douglas, 1902  
 More, George Allan, 1901  
 Morris, John Fossbrook, 1899  
 Mort, Selwyn Robert, 1900  
 Nardin, Ernest Willoughby, 1894  
 Newman, James Malcolm, 1901  
 Palmer, Thomas Henry, 1898  
 Patterson, Benjamin Gilmore, 1904  
 Peterson, Arthur James, 1903  
 Piddington, Francis Llewellyn, 1898  
 Poole, William, 1900  
 Reid, Norman, 1898  
 Richardson, Rosslyn James Dalyell,  
 1903  
 Robertson, James William, 1904  
 Saunders, George Joseph, 1904  
 Shellshear, Wilton, 1904  
 Simpson, Edward S., 1895

Slee, Richard Thilthorpe, 1901  
 Spier, Reginald Vincent, 1902  
 Stanley, Frederick Vernon, 1902  
 Stewart, Alexander Hay, 1902  
 Thomas, David, 1902  
 Try, John Cowley, 1902  
 Twynam, Henry, 1896  
 Verge, John, 1903  
 Walker, Hugh, 1903  
 Ward, Leonard Keith, 1903  
 Waterhouse, Gustavus Athol, 1900  
 Weigall, Arthur Raymond, 1894  
 Weigall, Henry Stuart, 1903  
 Whitfield, Hubert Edwin, 1902  
 Williams, Leslie Ballesat, 1902  
 Winton, Louis Joseph, 1901  
 Wilson, John Bowie, 1897  
 Wilson, Richard Cunliffe, 1903  
 Wood, Henry, 1903  
 Woodburn, Joseph William, 1903

*(Mechanical and Electrical.)*

Myers, Harold Walter, 1903.

| Weston, Percy Leonard, 1904

## UNDERGRADUATES.

## FACULTY OF ARTS.

## First Year.

Ascher, Clive	Fullerton, James Alexander
Ash, Fortescue Leo	Gainford, Gerrish Le Barron
Badman, Gladys Eunice	Gibson, Joseph Charles
Balcombe, Gordon	Gordon, George Acheson
Bates, Arthur William	*Grassick, Henry Roberts
Bedford, Max Ehrensvärd	Greene, Elsie Gertrude
Berge, Carl Gustavus	Greville, Minnie.
Bland, Henry Stamper	Hamilton, John Simpson
Blaxland, Marcus Herbert	• Hamilton-Browne, Elizabeth Isobel
Booth, Irena Mildred	Harris, Reginald William Sydney
Bray, Gordon Wolseley	• Harker, Mabel
Brennan, William Keating	Howard, Vera
Brierley, Nina Benson	Howatson, George
Bruce, James Whitson	Inglis, John Gordon
• Butler, Lilian	Jackson, Elizabeth
Callaghan, Auriol Albert	Jones, Grace Eveline
*Carment, David Shallard	Jones, Richard John Edward Victor
Carruthers, Ernest Spencer William	Kater, Charles Frederick
Chard, John Patience	• Lee, Norah St. George
Clayton, Hector Joseph Richard	de Lepervanche, Caroline
Clouston, Lavinia	Lhoest, Elsie
• Cosgrove, Charles	Lydall, John French
• Crane, Bertha Elizabeth	McBryde, James
Craven, William Edward	McDonald, William Alphonsus
• David, Margaret Edgeworth	McElhone, George Hill
David, Mary Edgeworth	McKeown, Frederick
• Davis, Isabel Ridley Havergal	Maclardy, St. Clair Margaret
Deane, Wallace	McIntyre
Deer, Margaret	McLennon, William Munro
Dibbs, Leonard Burton	Magney, John
Dixson, Thomas Storie	Marsh, Harold Theodore
Donkin, Edwin Gordon	Martin, Laura
Dougall, Andrew William	Martin, Robert
Ducker, Norman Graham	Matthews, Walter Frederick
• Dunlop, Mabel Laura	Miller, Horace Richard
• Edward, Jessie Dewar	Mills, Archibald Joseph
Edwards, Agnes	Minter, Clifford
Emanuel, Frederick Clive	Molesworth, Cecil Stanley
Fidler, Ethelwyn	Morris, Albert Colin
Finley, Cecil Aubert	Morrison, Stanley Holloway
Fitzhardinge, Joan Margaret	Nathan, Gilbert Grace
Fitzhardinge, John Fortescue	Nimmo, William Muir
Grantley	Noad, Emma Alison
Fowler, Cosmo William	North, Frederick
French, Bernard Russell	Oatley, Frederick Dudley Weedon
Frew, Alison Eavis Harding	Palmer, Allan Burnet
Fry, Eva Jane	Paxton, Grace

\* Unmatriculated.



Philip, Frederick Charles  
 Poulton, Reginald Lancelot  
 • Pratt, Annie Marion  
 Ralston, Alexander Windeyer  
 Read, Thomas Walford Vero  
 Riley, Horace Maynard  
 Roberts, Reginald Fairfax  
 Robertson, Norman Keith  
 Robertson, William Eric Kossuth  
 • Robinson, Katherine  
 • Robinson, Mabel Hawthorne  
 Royle, John McDiarmid  
 Rudder, Llewellyn Bisset  
 Russell-Jones, John  
 Schenk, Theodor William George  
     Henry  
 Schleicher, Bernard Michael John  
 Scroder, Aphra Frances

Sherring, Beatrice Alice Sophia  
 • Sherwood, Edith Marion  
 • Smithers, Ida Margery  
 Stanton-Cook, Millicent Ivy  
 Stewart, William Pentleton  
 • Talbot, Ailsie  
 Taylor, Dorothy Rhodes  
 Teece, Ashley Howard  
 Thompson, William Barber  
 • Wallach, Ettie  
 Waldron, George Dibbs King  
 Ward, Bertha Raymond  
 Waterhouse, Lionel Lawry  
 Watkins, Herbert Lance  
 Watson, Lindsay George Herbert  
 Willis, Carlyle Gordon  
 Young, Hilda May

## Second Year.

Bellhouse, Constance Annie  
 Bourne, Florence Ida  
 Campbell, Florence Eva  
 Clark, Marjorie Dufaur  
 Coen, Francis  
 \*Cooley, Mary Glover  
 Davies, Isobel  
 Debenham, Frank  
 Debenham, Jessie  
 Edwards, Dorothea  
 Ewing, Thomas  
 Fitzhardinge, Julie Grantley  
 Futter, Victor Sedley  
 Garnock, Reginald Charles David  
 Gibbes, John Wilfrid  
 Hall, Dorothy Vine  
 Hall, Florence Sidney  
 Hallman, Edward Francis  
 Hertzberg, W. Marcus  
 Holden, Florence Mackenzie  
 Hollingdale, Bernard Austin  
 Hughes, John  
 Jones, Eric David Lloyd  
 King, Clarence Adrian Zlotkowski  
 Laurie, William Scott  
 Leeson, Ida Emily  
 Lennox, Edith  
 Lyons, Richard Jenkins

Lusby, Sydney Gordon  
 MacCallum, Mungo Loreuz  
 MacFarlane, Laurie  
 McIntosh, Alexander Meuzies  
 McKie, Ernest Norman  
 McLean, Archibald Lang  
 Manning, John  
 Mathie, Malcolm  
 Murray-Prior, Ruth Angela  
 \*Myles, Kathleen  
 Noake, Stephen Charles  
 Parsons, Florence Loney  
 Pearce, William Thomas Louis  
     Archdall  
 Portus, Garnet Vere  
 Robertson, May Douglas  
 Redgrave, Harold Wilfrid  
 Rhodes, Alice Olivia Raybould  
 Roughton, Gladys Muriel  
 Sands, William George  
 Smith, Nellie May  
 Sparling, Lilian Grace  
 Tietkens, Emily Mary  
 Walker, Arthur Dight  
 \*Watkins, Gertrude M. L.  
 Watson, Maria Eleanor  
 Webb, Bernard Linden  
 Whitney, George Charles

\* Unmatriculated.

## Third Year.

Armstrong, Clare Annie Constance  
 Askham, Albert Charles  
 Austin, Fanny May  
 Barry, Duncan Robertson  
 Burfitt, Mary Boyd  
 Curren, Ethel  
 Dawes, Madeleine Mabel  
 Docker, Wilfrid Brougham  
 Douglas, Robert Johnstone  
 Fox, Millicent  
 Graham, Frances  
 Haigh, Victor  
 Henderson, Robert Greenway  
 Jordan, Frederick Richard  
 La Douce, Felicie Aurélie  
 Latreille, Meta Gertrude Emily  
 Manning, Hugh Eldred  
 Markell, Horace Francis

Melville, Hector Pope  
 Mott, Olive Lenore  
 Murray-Prior, Robert Sterling  
 Northcott, Clarence Hunter  
 Oakes, Florence Isabelle Mantell  
 Paterson, John  
 Paul, Alfred  
 Real, Edward Thynne  
 Redgrave, Leslie Alfred  
 Rogers, Percival Halse  
 Skillman, Jessie  
 Slack, Ella Mary  
 Tebbutt, Arthur Hamilton  
 Tomlinson, George Leigh  
 Wade, Robert Thompson  
 Waddy, Ernest Frederick  
 Young, Percy Horace Broughton

## EVENING STUDENTS.

## FACULTY OF ARTS.

## First Year.

\*Allan, Leopold John  
 Bavin, Lancelot  
 Berry, David Houston  
 Blume, George  
 Brauer, Eugene Henry Joseph  
 Brown, James  
 Cantrell, Sidney William  
 Chandler, Harry  
 Cole, Arthur George  
 Cooper, Douglas Maxwell  
 Cowie, Herbert  
 Crane, Olive Charles  
 Davies, Ernest Stanley  
 \*Davis, Archibald Percy  
 Dick, Lily Jane  
 \*Edwards, Henry George  
 Edwards, Rowland Campbell  
 \*Ferguson, William A.  
 Fitzgerald, Maurice  
 Fitzgerald, Alfred Walter  
 \*Fortune, Joseph  
 Fox, Edith Emily  
 Garnsey, Herbert Thomas  
 George, Sydney  
 \*Giltinan, Richard  
 Gowing, Ellis Norman

Hall, Austin Vine  
 Hampton, Adeline Sheppard  
 Harvey, Robert Frederick  
 Hunt, Aubrey Fitzmaurice  
 \*Jones, William  
 Laird, Henry Herman  
 Leavers, Claude William  
 Leroy, Alfred Ernest  
 Lynch, Joseph  
 McDonald, William  
 \*McIlwraith, William Daniel  
 Mackaness, George  
 \*McKean, Alexander  
 McKean, Leslie John  
 \*McMinn, Wilfred  
 Massey, Albert Edward  
 Mobbs, Athol Walter  
 Monro, John Patterson  
 Moore, Henry Edington  
 Noble, Garnet Oliver  
 Rickard, Jonathan Charles  
 \*Olsen, John Murray Sydney  
 Otton, Dudley Keith  
 Page, Reginald Arthur  
 Paul, Charles Norman  
 Quirk, Francis Patrick

\* Unmatriculated.

Reynolds, Alfred John  
 Roberts, William  
 Rochester, Harry Russell  
 Short, Frederick  
 \*Spencer, Sydney  
 Sproule, Robert

Swain, Edith Muriel Maitland  
 Swain, Edward Harold Fulcher  
 \*Sykes, Ernest  
 Tarrant, Thomas Ambrose  
 Taylor, Robert Challis  
 West, William Montague

## Second Year.

Anderson, Robert  
 Bourke, Joseph Ormond Aloysius  
 Coleman, Ernest Albert  
 Collins, Clifford Malua  
 Cotton, Leo Arthur  
 Easterbrook, Isaac Edwin  
 Fraser, George E.  
 Gale, Charles Albert  
 Gresham, Frederick William  
 Hanna, Sarah Ann Rebecca  
 Hunt, Albert Edward  
 \*Jones, Emma  
 Lovell, Henry Tasman  
 Loxton, Frederick Ewen  
 Mallarky, Ethel May, B.A.

Middleton, Robert John  
 Newton, Roland George  
 Penman, Leslie Ethelbert  
 \*Rickard, James  
 \*Ross, John Anderson  
 Shortland, Percy Douglass  
 Smith, Charles Percy  
 Smith, Stanley Clifton  
 Terry, Frank  
 Toose, Stanley Vere  
 Walker, Clifton Claude Parton  
 Walker, John William  
 Waring, Herbert Raymond  
 Watt, Thomas Evans  
 Williams, Robert Sydney

## Third Year.

Allen, Henry Alexander  
 Barrow, Isaac Manly  
 Callaghan, Stanislaus Kostka  
 Coombes, Archie James  
 Cooper, Arthur Wilson  
 \*Douglas, Albert H.  
 Ebsworth, Samuel Wilfred  
 Harris, Lewis Alexander  
 Hughes, Thomas John  
 Johnston, Thomas Harvey

Moylan, William Patrick  
 Noake, Arthur Raynor  
 Quinn, John Joseph  
 Raves, Helen Alice, B.A.  
 \*Searl, Harry Foster  
 Skillen, Elizabeth, B.A.  
 \*Thornbury, Edward S.  
 Townsend, Samuel Edward  
 Tremlett, Frank Cecil Glazebrook

## FACULTY OF LAW.

## Third Year.

Allen, Henry Alexander  
 Barrow, Isaac Manly  
 Bonney, Reginald Schofield, B.A.  
 Compton, Albert Zarenne, B.A.  
 Ebsworth, Samuel Wilfred  
 Harris, Lewis Alexander  
 Henry, Hugh  
 Jordan, Frederick Richard, B.A.  
 Makin, William, B.A.  
 Manning, Hugh Eldred

Murray-Prior, Robert Sterling  
 O'Grady, John Edward  
 O'Reilly, Walter Cresswell, B.A.  
 Quinn, John Joseph  
 Real, Edward Thynne  
 Spence, John  
 Watts, Percy Richard, B.A.  
 Wheeler, Arthur Russell, B.A.  
 Williams, Keith

## Fourth Year.

Artlett, William Langridge, B.A.	McWilliam, Neville Gilbert, B.A.
Bathgate, Donald Gordon, B.A.	Merrick, John
Beckenham, John George, B.A.	Murray, Charles O'Connor, B.A.
Brown, George Edward, B.A.	Rowland, Norman de Horne, B.A.
Denham, Howard Kynaston, B.A.	Teece, Roy Noel, M.A.
Fisher, Arthur Donnelly, B.A.	Wilson, David, M.A.
Jaques, Harold Vivian, B.A.	

## Fifth Year.

† Breckenridge, Charles Campbell Poole	King-Kemp, Richard Cyril, B.A.
Butler, Patrick Joseph, B.A.	Larkins, Frank Joseph Moore, B.A.
Cohen, Alroy Maitland, B.A.	Lindsay, William Carlrow, B.A.
Ferguson, John Alexander, B.A.	Pratt, Walter Henry, B.A.
Green, Henry Mackenzie, B.A.	Sinclair, Colin Archibald, B.A.
Halloran, George Henry, B.A.	Slade, Oswald Carey, B.A.
Hodge, Sydney Trevillian, B.A.	Swanwick, Kenneth Foulkes, B.A.
	Watson, Herbert Frazer, B.A.

## FACULTY OF MEDICINE.

## First Year.

Abernethy, Cecil William	Mackenzie, Donald Stuart
Allen, Hugh George	McKillop, Lachlan Martin
Beazley, Raymond Northfield	McPhee, Vincent Joseph
Barron, George Moncrieff	Manning, Herbert Henry
Beeston, William Read	Milford, Gerald Douglas
Body, Eliel Edmund Irving	Norrie, James
Bullock, Howard	Parkinson, Henry Hallam
Candlish, Robert Smith, B.A.	Parnell, Ethel Caroline
Carroll, William John Smythe, B.A.	Parry, Lloyd Davenport
Child, Sophia Ruth	Patterson, Mervyn Stuart
Close, Douglas Campbell	Powell, James William Garnett
Coen, Bernard Joseph	Rogers, Leslie Halse
Coghlan, Edward George	Roe, Arthur Stanley
Croll, Gifford	Sampson, George Atkin
Crothers, Charles Alexander	Schmidt, Egmont Theodor Carl
Curtin, Austin Sydney	Sinclair, Archibald Fletcher
Docker, Ernest Noel Brougham	Smith, Gerald Keith
Ellard, William Christian	Smith, Hilton Charles Garnet
Fahy, James Francis	Smith, Kenneth
Ferguson, Eustace William	Smyth, John Sands
Fowler, Enoch	Stafford, Herbert Leslie
Fraser, Donald, M.A.	Stewart, Colin Percival
Golledge, Kenneth Alfred	Talbot, Ethel
Grigor, William Ernest	Tebbutt, Arthur Hamilton
Groundwater, John Leslie	Veech, Michael Stanislaus
Hill, Douglas Bayly	Verge, Cuthbert Arnold
Hoets, John William van Rees	Waddy, Richard Granville
Hughes, James	Whiting, Keith Moore
Johnston, Herbert Huff	Woodburn, James John
Lyons, Ettie, B.A.	

† Not passing through the regular course.

## Second Year.

Archdall, Mervyn  
 Bottrell, Edwin Horace  
 Brearley, Edwin Andrew, B.A.  
 Brookes, George Arthur  
 Browne, Elsie Forrest  
 Butler, Thomas  
 Collier, Frederick William Dean  
 Colvin, Arthur Edmund  
 Culpin, Daisy Ellen  
 Dickinson, Evelyn Elizabeth  
 Dunn, Archibald Jamieson  
 Flecker, Hugo  
 Fox, Arthur Wesley  
 Furber, Rupert Iggulden  
 Geddes, Cecil Burtoft  
 Giblin, William Eric  
 Harris, Henry  
 Heydon, George A. M.  
 Larkins, Nicholas Clement

MacFarlane, John Stuart  
 Martin, Harold Joseph  
 Matthews, Henry Delahunt  
 Murray-Prior, Mabel  
 Nathan, Venour Vigne  
 O'Halloran, Charles Michael  
 Oxenham, Humphrey Bede  
 Prevost, Richard Lewis de Teissier  
 Ritchie, Harold John  
 Ramsden, Edward Maxwell  
 Roger, John Morrice  
 Rogers, Francis Cecil  
 Rutherford, Constance Muriel, B.A.  
 Stephens, Frederick Glover Neason  
 St. Vincent Welch, Kenyon  
 Thompson, Clive Wentworth  
 Tomlinson, George Leigh  
 Verge, John, B.A.  
 Weedon, Cyril James

## Third Year.

Adams, Edith Mary  
 Baret, Henri Victor David, B.A.  
 Binns, William Johnstone, M.A.  
 Bradley, Clement Henry Burton  
 Campbell, John Stuart, B.A.  
 Chapman, Herbert Owen  
 Conolly, Henry Willans  
 Craig, Francis  
 Deakin, John Edwin Ferdinand  
 Diethelm, Oscar Albert Anton  
 Edwards, James George  
 Elwell, Lawrence Bedford  
 Fitzpatrick, Bernard Joseph, B.A.  
 Gilchrist, James Joseph  
 Heaslop, James William  
 Hutchinson, Eric Lloyd  
 Maher, Charles Weston  
 McClelland, Reginald Eustace

MacInnes, Angus, B.A.  
 Mackenzie, Arthur Joseph  
 Moran, Herbert Michael  
 Ormiston, Isabel Martha  
 Paul, George Augustus  
 Poate, Hugh Raymond Guy  
 Pridham, Harold Ernest  
 Renwick, Charles Saunders  
 Rutledge, Edward Hamilton  
 Schlink, Herbert Henry  
 Shellshear, Joseph Lexden  
 Stacy, Valentine Osborne  
 Steele, Andrew Buchanan  
 Stokes, Frank Oliver  
 Vickers, Wilfred  
 Walker-Smith, Hugh Bell  
 White, Wilfred James  
 Withers, Oswald Edgar Bruce

## Fourth Year.

Aspinall, Archibald John  
 Aspinall, Jessie Strahorn  
 Bell, George  
 Binney, Constance Clarice  
 Cook, Sydney Leicester  
 Cahill, Arthur Charles  
 Clifford, James Percy  
 Donovan, Harrie Carisfort Edmond.  
 Gibson, Duncan David  
 Graham, David Hannam

Harper, Margaret Hilda  
 Harris, John Solomon  
 Harris, Samuel Henry  
 Harrison, Edgar Selwyn  
 Hill, John Goodwin Watson B.  
 Lightoller, George Henry Standish  
 MacCulloch, Harrington Thomas  
 McKillop, Archibald  
 Miller, Robert Christy  
 Molesworth, Edmund Harold

Moseley, Arthur Henry  
Cuthbert  
O'Reilly, Theophilus Linnell  
Palmer, Henry Wilfred  
Palmer, Charles Reginald  
Parker, Reginald Arthur  
Parkinson, Thomas Carlyle

Quaife, Walter Harold  
St. Vincent Welch, John Basil  
Sapsford, Clinton Pelham  
Willis, Charles St. Leger  
Wherrett, Ernest Albert  
Wylie, Mary Wilhelmina

## Fifth Year.

Bligh, Erasmus Algernon Robert  
Bridge, Norbert Henry  
Buchanan, Joseph David  
Chisholm, Edwin Claude  
Clouston, Thomas Bennett  
Coen, Joseph  
Cowlshaw, Leslie  
Culpin, Ernest  
Doyle William Oscar  
Farrelly, John Thomas  
Finckh, Alfred Edmund  
Finselbach, Friedrich William August  
Gillespie, Arthur Paul  
Griffiths, John Neville  
Goergs, Karl Randolph Wilhelm  
Hammond, Kendall  
Hansard, Norman William  
Higgins, Thomas Edward Charles  
Holland, John Joseph  
Huggart, William Charles, B.A.  
Jones, Lincoln  
Johnston, Langlois Parker  
Kay, Stuart  
Kendall, Herbert William  
Leslie, James Robert

Mansfield, Walter Charles  
McDowall, St. Andrew William  
Logan  
McEncroe, James Michael  
McKelvey, John Lawrence  
O'Reilly, Susannah Hennessy, B.Sc.  
Perkins, Richard  
Phillips, Arthur Bradridge  
Power, John Wardell  
Pritchard, Alice, B.A.  
Quaife, Cyril  
Riley, Spencer Birkenhead, B.A.  
Roberts, Alfred Spencer Cecil  
Sheehy, William  
Shellshear, Cyril  
Simpson, Francis George Macneill  
Smith, Percy Edward Walton  
Stiles, Bernard Tarlton  
Thomson, Jean Graeme  
Ure, Sarah Louisa  
Verge, Arthur  
Vernon, Geoffrey Hampden  
Vivers, George Arthur  
Whiteman, Reginald John Nelson  
Young, Edgar Harold

## SCHOOL OF DENTISTRY.

## First Year.

\*Brindley, Audrey  
Gattenhof, William Vincent  
\*Green, Sydney Edward  
Hicks, Harold Frank  
Labat de Lambert, Aurèle Edmond  
Lane, Alan Philip Reade

\*McIntosh, Arthur Marshall  
\*McLachlan, Cecil Hugh  
\*McLachlan, J. McKenzie  
Moore, Eric Julian  
\*Pantellé, George Henry

## Second Year.

Broughton, Francis William Walford  
Burne, Alfred Dangar  
Capper, Lisle Hyne  
Deck, Norman Cathcart  
Grosse, Edward Henry  
Kirchner, Edward Ruvane

Love, William  
Marshall, William Henry  
Pridham, Edward  
Punch, James Steenson  
Riley, Edwin Blomfield  
Starkey, William Augustus

\* Unmatriculated.

## Third Year.

Barnes, Margaret Estelle  
 Bond, Harold Henry  
 Boys, Reginald Septimus  
 Burkitt, Cyril Theodore  
 Clark, John James

Cozens, George Charles  
 Hardie, Howard Gordon  
 Moxham, Cecil George  
 Neale, James Harold  
 Starkey, John Norman

## PHARMACY STUDENTS.

## First Year.

Acheson, Alfred Thomas  
 Apps, Claude  
 Archer, William John  
 Arnott, David Milne  
 Ballhausen, Louis William  
 Benjamin, Maurice  
 Burgess, Thomas Montague  
 Campbell, Angus McLeod  
 Campbell, George  
 Carroll, Arthur Sydney  
 Davis, Stanley  
 Dinsmore, George Alexander Reardon  
 Edye, Benjamin Thomas  
 Emert, Frederick William  
 Evans, Stanley Hubert  
 Farley, Samuel James  
 Ferguson, Stanley Nigel  
 George, Stanley James  
 Heap, Edmund Arthur  
 Holloway, Edward Spencer  
 Hewlett, Leslie  
 Howard, Robert Joseph  
 Jensen, Frederick J.

McBride, Hugh Robert  
 Middleton, Wilnot Sedgewick  
 Mitchell, William Alfred  
 Mooy, Frederick  
 Newth, Adrian Hastings  
 Pope, Rex Howard  
 Porter, Alexander  
 Probert, Cyril Kingston  
 Renwick, Howard Russel  
 Ritchie, Oliver James  
 Roper, Albert Edward  
 Schofield, Edgar E. C.  
 Scott, Robert Grigor  
 Short, Archibald Gordon  
 Sinclair, Frederick  
 Smitter, Henry  
 Sleeman, James Edward  
 Stevens, Bertha Virginia  
 Stewart, Thomas Ralph  
 Walker, Joseph Benedict  
 West, Frank Victor  
 Williams, Leslie Bridgewater

## FACULTY OF SCIENCE.

## First Year.

Armstrong, Harriet Ethel Mary  
 Blume, Bertha Elizabeth  
 Dalyell, Elsie Jean  
 Flynn, Theodore Thomson  
 Free, Mary Grace  
 Hammond, Walter Leslie  
 \*Hogarth, Julius William  
 Johnston, Thomas Harvey  
 Mackinnon, Ewen

\*McMahou, Patrick  
 Mason, William Henry  
 Mawson, Douglas, B.E.  
 Meldrum, Henry John  
 \*Morris, J. F.  
 Paul, Alfred  
 \*Walton, Sidney Gilbert  
 White, Charles Josiah

## Second Year.

Dwyer, Thomas Cahill  
 Ewing, Thomas  
 Goddard, Ernest James, B.A.  
 Hallman, Edward Francis

Mason, William Henry  
 Mawson, Douglas, B.E.  
 \*Perry, Ernest Arthur  
 Priestley, Henry

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\* Unmatriculated.

## Third Year.

* Challinor, Richard W.	Mason, William Henry
Foxall, Henry George	Mawson, Douglas, B.E.
Gray, George James, B.E.	Weatherburn, Charles Ernest, B.A.
* Laby, Thomas Howell	

## DEPARTMENT OF ENGINEERING.

## First Year.

Barker, Nigel Chase	Morrison, Archibald
Bundock, Arthur William	Mulligan, Edric Noel
Burnell, John Gurner	*Nute, Albert William Lennox
Carter, Herbert Gordon	*Parry-Okeden, Charles Fitzmaurice
Cater, Owen Tom	Power, Reginald
Dennis, Spenser	Roberts, Harold Ashfield
Edgley, Harold Day	Roe, Charles William
Forrest, William Tyler	Simpson, Morris Hay
Hudson, John Macansh	Stewart, Gordon Cox
Lane, John Bayley	*Swain, Herbert John
*McIntyre, William Keveral	Thompson, Harold Lindsay
MacPhillamy, Mowbray Charles	Walker, John Stuart Dight
Manning, Jack	Waugh, Keith Cameron
May, Hubert Walter	White, Harold Fletcher

## Second Year.

*Civil Engineering.*

von Arnheim, Sigmund Frederick	Donkin, William Dalkeith
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*Mining Engineering.*

Atkinson, John	Futter, Frank Cuthbert
Bridge, John Morrice	MacMaster, Colin Forbes
Coldham, John Cockburn	Penman, Arthur Percy
Cropper, Cecil Howe	Skerritt, Alfred William
Fitzgerald, Harrie Gordon.	Waine, Victor Joseph
† Fitzhardinge, Roger Berkeley	* Wilson, Thomas Graham
* Fullerton, James Alexander	

*Mechanical and Electrical Engineering.*

Flashman, Horace West	Matthews, William Washington
Ireland, Oscar Arthur	Norman, John Lupton
Jones, Stephen William	Prescott, William Arnold
Kellick, Arthur Charles Tapley	Sharp, Lewis Hey
Langley, Frederic Barker	Tivey, John Proctor, B.A.
Larkins, Harold Matthew	

## Third Year.

*Civil Engineering.*

Platt, Cecil Percival	Martyn, Athelstan Markham
Smail, James Alexander Moore	

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\* Unmatriculated. † Not passing through the regular course.



*Mining Engineering.*

Burgess, John Henry	* Perry, Ernest Arthur
* Cameron, Henry Gervais	Rae, Thomas Robert
Campbell-Brown, George Frederick	Reid, Robert Stewart
* Cribb, Herbert Bridson	Skuthorpe, Garnett
Dight, Arthur Hilton	Stephen, James Farish
Garry, John Joseph Patrick	† Sussmilch, Carl Adolph
Lees, Ebenezer Joseph	Taylor, Thomas Griffith, B.Sc.
Nardin, Collis Carleton	Webb, Sydney Douglas
Owen, Tom Mackellar	

*Mechanical and Electrical Engineering.*

Bellemev, Sidney James	† Marriott, Edward West
Cowlshaw, Roy Gratton	Maughan, Allan
Halloran, Harry Richmond	

**Fourth Year.***Mechanical and Electrical Engineering.*

Brooks, Harold Arthur	Mort, Harold Sutcliffe, B.Sc.
* Morris, Leonard Cauton	Woodcock, Lancelot Richard

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\* Unmatriculated.      † Not passing through the regular course.

## AFFILIATED COLLEGES.

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By the Act 18 Victoria, No. 37, superseded by Act 64 Victoria, No. 22, provision is made for the Foundation of COLLEGES within the University in connection with the various religious denominations, in which students of the University may enjoy the advantages of residence, instruction in the doctrine and discipline of their respective Churches, and tuition supplementary to the lectures of the University Professors.

No student can be admitted to any such College unless he immediately matriculates in the University, submits to its discipline, and attends the statutory lectures; nor can he continue a member of the College longer than his name remains upon the University books.

### ST. PAUL'S COLLEGE.

Incorporated by an Act 18 Victoria, in connection with the Church of England. In the terms of the Act the Visitor is the Archbishop of Sydney. The Corporation consists of a Warden, who must be in Priests' Orders, and eighteen Fellows, six of whom must be in Priests' Orders, and the remainder must be laymen. The Fellows, with the Warden, form the Council in which the Government of the College is vested.

VISITOR.

THE LORD ARCHBISHOP OF SYDNEY.

WARDEN.

The Rev. Canon William Hey Sharp, M.A., TH. Soc.

VICE-WARDEN.

N. de Horne Rowland, B.A.

LECTURER.

W. H. W. Nicholls, B.A.

BURSAR.

F. B. Wilkinson, M.A.

## FELLOWS.

Ashton, J., M.L.A.	Peden, J. B., B.A., LL.B.
Backhouse, His Hon. Judge, M.A.	Plume, Rev. H., M.A.
Carr Smith, Rev. W. I.	Russell, F. A. A., M.A.
Champion, Rev. A. H., M.A.	Stanton, Right Rev. G. H., D.D., Bishop of Newcastle.
Chisholm, W., M.D.	Uther, A. H., B.A., LL.B.
Corlette, C. E., M.D.	Weigall, A. B., M.A.
Flower, Rev. W., M.A.	Wilkinson, F. B., M.A., Bursar (Vacant)
Günther, Ven. Archdeacon, M.A.	
Hodges, C. H., M.A.	
Norton, Hon. J., M.L.C., LL.D.	

## GRADUATES.

*(Continuing on the Books.)*

## M.A.

Stephen, C. B.	Powell, T.	Russell, F. A. A.
Faithfull, W. P.	Dawson, A. F.	Millard, G. W.
Purves, J. M.	Taylor, Rev. H. W.	Perkins, F. T.
Faithfull, H. M.	Campbell, Ven. J.	Abbott, Ven. T. K.
Pring, R. D.	Hills, H.	Chambers, Rev. G. A.

## B.A.

Sharpe, E.	D'Arcy-Irvine, M. M.	Rowland, N. de H.
Blacket, A. R.	McIntosh, H.	Merewether, W. D. M.
Noake, Rev. R.	Roseby, T. E.	Holt, A. C.
Bundock, F. F.	Blacket, Rev. C.	Maxwell, H. F.
Buckland, T.	Uther, A. H.	Barton, J. A'B. D.
Elder, Rev. F. R.	Stephen, E. M.	Hobbs, E.
Bundock, C. W.	Doak, F. W.	Blaxland, H. C.
Feez, A.	Windeyer, R.	Houison, Rev. S. J.
Tange, C.	Russell, C. T.	Gregson, W. H.
Morrish, Rev. F.	Peden, J. B.	Pilcher, N. G. S.
Piddington, A. B.	Helsham, C. H.	Evans-Jones, D. P.
Baylis, H. M.	Tighe, W.	Brown, Rev. G. E.
Street, P. W.	Williams, J. L.	Verge, J.
Merewether, E. A. M.	Abbott, H. P.	Stephen, H. M.
Clarke, Rev. F. W.	Dove, W. N.	Mutton, I.
Millard, A. C.	Dowe, Rev. P. W.	Rutherford, G. W.
Jenkins, Rev. C. J.	Thomas, Rev. R. W.	Harris, R. A.
Woodd, Rev. H. A.	Waldron, T. W. K.	Gregson, E. J.
Bode, Very Rev. A. G. H.	Merewether, H. H. M.	Slade, O. C.
Britten, H. E.	Cakebread, Rev. W. J.	Cranswick, G. H.
Newton, Rev. H.		

## LL.B.

Uther, A. H.	Peden, J. B.	Pilcher, N. G. S.
Waldron, T. W. K.	Merewether, H. H. M.	Rutherford, G. W.
Tighe, W.	Merewether, W. D. M.	Evans-Jones, D. P.

## M.D.

Chisholm, W.

## M.B. AND CH.M.

Armstrong, W. G.	Kater, N. W.	Marsh, H. S.
Bancroft, P.	Ludowici, E.	Sharp, G. G.
Hunt, C. L. W.	Barton, J. A'B. D.	Lethbridge, H. O.
Millard, R. J.	Stuckey, F. S.	

## B.E.

Merewether, E. A. M.	McCrae, A. G.	Verge, J.
White, N. F.		

## B.Sc.

Crane, J. T.	Stuckey, F. S.	Sharp, G. G.
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## STUDENTS.

Ash, F. L.	Hudson, J. M.	Rutledge, E. H.
Barry, D. F.	Jones, R. J. E. V.	Sharp, L. H.
Beeston, W. R. C.	Manning, H. E.	Simpson, F. G. McN.
Bland, H. S.	Manning, H. H.	Simpson, M. H.
Conolly, H.	Nathan, V. V.	Stokes, F. O.
Cowlishaw, L.	Nathan, G. G.	Verge, A.
Docker, W. B.	Oatley, D. F. W.	Verge, C. A.
Forrest, W. T.	Paul, G. A.	Waddy, E. F.
French, B. R.	Portus, G. V.	Waddy, R. G.
Futter, V. S.	Read, T. W. V.	White, H. F.
Halloran, H. R.	Ritchie, H. J.	Young, P. H. B.

## ENDOWMENTS AND PRIZES.

1. Edward - Aspinall Scholarship.—This Scholarship is awarded to a student of the Second Year who shall have taken at least a second class in the University Examinations. The principal is £500.

2. Kemp Scholarship.—The sum of £400 was bequeathed to the Warden and Fellows by the late Mrs. C. Kemp, to found a Scholarship in memory of her husband, the late Rev. C. Kemp. It is for a First Year student.

3. Canon Stephen Scholarship.—Founded by subscription in memory of the late Canon Stephen. This scholarship is awarded to a student of the Third Year who shall have taken at least a second-class in the University Examinations. The principal is £761.

4. Augusta Priddle Memorial Scholarship.—The sum of £600 was paid to the Warden and Fellows by the late Rev. C. F. D. Priddle, to found a memorial Scholarship. The scholarship is tenable for three years, and is awarded to a resident student who intends to take Holy Orders, and is the son of a clergyman licensed in New South Wales.

5. *Starling Foundation*.—The sum of £1000 has been paid to the Warden and Fellows to form a foundation for the assistance of resident students who intend to take Holy Orders.

6. *Henry William Abbott Scholarship*.—The sum of £1000 has been paid to the Archbishop of Sydney under the will of the late T. K. Abbott, Esq., the interest of which is appropriated for the maintenance of a Scholarship, to be held by a resident student who is preparing to take Holy Orders.

7. *Burton Exhibition*.—This Exhibition is awarded to a student proceeding from the King's School to St. Paul's College. It is tenable for three years, the value not exceeding £40 per annum. The holder is required to produce at the end of each term a certificate of residence in College, and of good conduct, signed by the Warden.

8. *Mitchell Prize*.—This Prize was founded by the late Hon. James Mitchell, and is awarded to the Bachelor of Arts of the College who shall, within twelve months after taking that Degree, pass the best examination (of sufficient merit) in the Doctrines and History of the Church of England.

9. A prize of books is given by the Council to the student who shows the greatest proficiency in the College Divinity Examination.

A PROSPECTUS giving further information may be obtained on application to the Warden.

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### ST. JOHN'S COLLEGE.

Incorporated by Act 21 Victoria, in connection with the Roman Catholic Church. In the terms of the Act, the Visitor is the Roman Catholic Archbishop of Sydney. The Corporation consists of a Rector (who must be a duly approved Priest), and eighteen Fellows, of whom six must be duly approved Priests, and twelve Laymen. These eighteen Fellows, with the Rector, form the Council, in which the government of the College is vested.

VISITOR.

THE ROMAN CATHOLIC ARCHBISHOP OF SYDNEY.

1894—His Emirence Cardinal Moran.

THE PRESENT SOCIETY.

RECTOR.

The Right Rev. Monsignor O'Brien.

## FELLOWS.

Butler, F. J., B.A.	Manning, Sir W. P.
Coffey, F. L. V., B.A., LL.B.	McEvilly, U., B.A.
Flannery, G., B.A., LL.B.	Mort, Laidley
Flynn, J. E., M.A.	Moynagh, Rev. J.
Freehill, F. B., M.A.	Mullins, J. L., M.A.
Gallagher, Right Rev. J.	Sheehy, The Very Rev. Dr., V.G.
Heydon, Judge	Slattery, Very Rev. P. A.
Le Rennetel, Very Rev. P., S.M.	Slattery, T., M.L.C., K.C.S.G.
Maher, W. Odillo, M.D.	

## M.D.

Maher, W. Odillo.

## M.B., CH.M.

Blaney, H. P.	Fitzpatrick, E. B.	Newell, B. A.
Connolly, T. P.	Godsall, R.	Veech, M.
Elworthy, W. H.	Crawley, A. J. C.	

## M.B.

Durack, W. J.	Lister, H.	Marsden, E. A.
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## B.Sc.

Leverrier, F.

## LL.D.

Coghlan, C. A.

## LL.B.

Coffey, F. L. V.	Lehane, T. J.	Veech, L.
Fahey, B. F.	O'Donohue, J. P. M.	Watt, A. R. J.
Edmunds, W.	Toole, J. A.	

## M.A.

Brennan, F. P.	Flynn, J. E.	O'Connor, Richard E.
Coghlan, C. A.	Flynn, J. A.	O'Mara, M.
Clune, M. J.	Freehill, F. B.	Quirk, Rev. D. P.
Dalton, G. T.	Healy, P. J.	Walsh, W. M. J.
	Mullins, J. L.	

## B.A.

Browne, W. C.	Enright, W. J.	Lloyd, T.
Butler, T.	Fahey, B. F.	Macnamara, P. B.
Butler, F. J.	Flynn, W. F.	Macrossan, H. D.
Carroll, W. J.	Fitzpatrick, T. J. A.	McNevin, T.
Challachor, Rev. H. B.	Gorman, J. R.	Maher, M. E.
Casey, M.	Higgins, M. A.	Maher, C. H.
Connellan, J.	Kelly, T.	Mayne, J.
Corbett, W.	Kenina, P. J.	Mayne, W. M.
Coffey, F. L. V.	Leverrier, F.	McDonagh, J.
Cullinane, J. A.	Leahy, J. P.	McEvilly, A.
Daley, F. H.	Lehane, T. J.	McEvilly, U.
Durack, J. J. E.	Lynch, W.	McGuinn, D.

Meagher, L. F.  
 Meillon, J.  
 Moloney, T. P.  
 Morris, J. M.  
 O'Brien, P. D.  
 O'Donohue, J. P. M.

O'Keefe, J. A.  
 Phillips, R. B.  
 Power, P. H.  
 Sheridan, F. B.  
 Shorthill, J. R.  
 Sullivan, H.

Sullivan, J. J.  
 Swanson, E. C.  
 Tole, J. A.  
 Veech, L. S.  
 Watt, A. R. J.  
 Walsh, J. J.

## UNDERGRADUATES.

Breslin, E. J.  
 Carroll, W. J. S.  
 Coen, J.  
 Coen, F.  
 Coen, B.  
 Coghlan, E. G.  
 Dalton, P.

Douglass, R. J.  
 Fahey, B. F., B.A.  
 Garry, J. J. P.  
 Lehane, T. J.  
 Maher, C.  
 McKelvey, J. L.

O'Halloran, C. M.  
 Power, P. H., B.A.  
 Power, R.  
 Real, E. F.  
 Schlink, H. H.  
 Veech, M. S.

## LECTURERS.

SACRED SCRIPTURE .. ..  
 LOGIC AND GEOLOGY .. ..  
 CLASSICS .. ..  
 MATHEMATICS .. ..

The Rev. the Rector  
 Rev. L. Murphy, S. J.  
 J. Carlos, B.A.  
 H. de B. O'Reilly, B.A.

## ENDOWMENTS AND PRIZES.

The O'Connell Scholarship (value £40).—Open for competition to resident students who have newly matriculated in 1879 and the years following. (Subscribers—Sir P. A. Jennings, K.C.M.G., and others.) The origin of this Scholarship was the O'Connell Centenary Celebration.

1904—Power, R.

The Dunne Scholarship (value £40).—Donor, the late Very Rev. P. Dunne, D.D., of Hobart.

1904—Veech, M. S.

## ST. ANDREW'S COLLEGE.

Incorporated by Act of Parliament, 31 Victoria, in connection with the Presbyterian Church of New South Wales. The Moderator for the time being of the General Assembly of the Presbyterian Church is Visitor. The Corporation consists of a Principal, who must be a duly ordained Presbyterian Minister, holding and prepared to subscribe (when called upon to do so) the standards of the Presbyterian Church of New South Wales, and twelve Councillors, of whom four, but not more, must be ordained Ministers of the same Church. These twelve Councillors, with the Principal, form the Council, in which the government of the College is vested.

## VISITOR.

THE MODERATOR OF THE GENERAL ASSEMBLY.  
 The Right Rev. R. Hope Waugh, M.A.

## PRINCIPAL.

The Rev. Andrew Harper, M.A., D.D. (Edin.)

## HUNTER-BAILLIE PROFESSORS.

ENGLISH LANGUAGE AND LITERATURE (IN RELATION TO RELIGION)—J. Kinross, B.A., D.D.

ORIENTAL AND POLYNESIAN LANGUAGES—Andrew Harper, M.A., D.D.

## MATHEMATICAL LECTURER.

Wyndham J. E. Davies, B.A., LL.B.

## SCIENCE LECTURER.

S. J. Johnston, B.A., B.Sc.

## HON. TREASURER.

J. T. Walker.

## LECTURER IN MEDICINE.

H. S. Stacy, M.D., Ch.M.

## CLASSICAL LECTURER.

G. W. Waddell, M.A., LL.D.

## LECTURER IN PHILOSOPHY.

G. G. Nicholson, B.A. (Syd.), B.C.L. (Oxon.)

## SECRETARY.

William Wood.

## COUNCILLORS.

Bowman, Arthur, B.A.

Bowman, E., M.A., LL.B.

Bruce, Rev. D., D.D.

Cameron, Rev. James, M.A., D.D.

Campbell, John

Clouston, Rev. T. E., B.A., D.D.

Ferguson, Rev. John

Fuller, G. W., M.A.

Garland, John, M.A., LL.B.

Goodlet, John Hay

Hay, John, LL.D.

Walker, J. T., Senator

## TRUSTEES.

Anderson, H. C. L., M.A.

MacLaurin, Hon. H. N., M.D., LL.D.

Bowman, Arthur, B.A.

Thomson, Dugald, M.P.

Walker, J. T., Senator

## M.A.

Anderson, H. C. L.

Cohen, J. J.

Cribb, J. G.

Flint, C. A.

Fuller, G. W.

Gill, A. C.

Hill, Rev. Thomas

Jackson, Rev. R.

Kay, Rev. Robert

Mann, W. J. G.

Marrack, J. R. M.

Merrington, E. N.

Moore, S.

Nolan, J. H. M.

Perkins, A. E.

Ralston, A. G.

Rygate, P. W.

Smail, J. H.

Steel, Rev. Robert

Teece, R. Clive

Thompson, J. A.

Waddell, G. W.

Waugh, Rev. Robert

## M.B. AND CH.M.

Blue, A. J.

Bond, L. W.

Browne, C. S.

Cameron, D. A.

Davidson, Leslie G.

Davies, R. L.

Dick, Robert

Freshney, Reginald

Griffiths, F. G.

Henderson, J.

Jones, P. Sydney

King, A. A.

Kinross, R. M.

Perkins, A. E.

Purser, C.

Savage, Vincent W.

Sheppard, A. M.

Stokes, Edward S.

Thomson, J. M.

Townley, Percy L.

## LL.D.

G. W. Waddell, M.A.

## LL.B.

Edwards, D. S.

Gill, A. C.

Parker, W. A.

Teece, R. N.

Tozer, S. D.

Walker, J. E.



## B.A.

Anderson, W. A. S.	Gordon, G. A.	Perské, H.
Auld, J. H. G.	Griffiths, F. G.	Poidevin, L. O. S.
Barnet, Rev. Donald	Halliday, G. C.	Pope, Roland J.
Barton, W. A.	Hope, P.	Powell, J. W. G.
Beegling, D. H.	Hunt, Harold W. G.	Prentice, A. J.
Bowman, Alister S.	Hunter, T. B.	Purser, Cecil
Bowman, Arthur	Jamieson, S.	Quigley, J.
Bowman, Ernest	Johnston, J.	Ramsay, J.
Campbell, C. R.	Kinross, R. M.	Robson, R. N.
Cameron, A. P.	Linsley, W. H.	Rygate, C. D. H.
Copland, F. F.	Lyon, Pearson	Rygate, H. B.
Cosh, Rev. J., B.D.	McCook, A. S.	Shand, A. B.
Craig, A. D.	Mackay, I. G.	Sheppard, E. H.
Crane, Rev. C.	McLelland, Hugh	Somerville, G. B.
Crawford, T. S.	McManamey, James F.	Stacy, F. S.
Dettmann, H. S.	McNeil, A.	Swanwick, K. ff.
Dick, J. A.	Manning, R. K.	Teece, R. N.
Dick, W. T.	Miller, Rev. R.	Thorburn, Rev. J. T.
Doig, A. J.	Moore, J.	Townley, Percy L.
Dudley, J. T.	Mowbray, R. W.	Tozer, S. D.
Edwards, J.	Munro, W. J.	Walker, J. E.
Edwards, D. S.	Nelson, D. J.	Walker, S. H.
Edwards, E. E.	Paine, Bennington H.	White, Rev. C. A.
Elphinstone, James	Parker, W. A.	Whitfield, H. E.
Gill, A. C.	Perkins, J. A. R.	Woodward, F. P.

## M.E.

Bradfield, John J. C.

## B.E.

Bowman, Archer	Jack, R. L.	Stanley, F. V.
Cameron, C. B.	Rowlands, H. B.	Whitfield, H. E.
Freeman, A. W., B.A.		

## STUDENTS IN RESIDENCE.

Brookes, G. A.	Hope, Percival, B.A.	Minter, C.
Callaghan, A. A.	(Divinity)	Nimmo, W. N.
Carter, H. G.	Lane, J. B.	Owen, T. M.
Dixson, T. S.	Laurie, W. S.	Phillips, A. B.
Donkin, E. G.	Lightoller, G. H. S.	Powell, J. W. G.
Donkin, William D.	MacCallum, M. L.	Roberts, S. A. C.
Ducker, N. G.	Malcolmson, G. A.	Roger, J. M.
Edgley, H. D.	McCook, W. H., B.A.	Rogers, Percival H.
Fowler, E.	(Divinity)	Sampson, G. A.
Gibson, J. C.	McDowall, St. A. W. L.	Smith, P. A.
Griffiths, J. N.	McDowall, Valentine	Stewart, W. T.
Heaslop, J. W.	McKenzie, Arthur J.	Thomson, Clive W.
Henderson, R. G.	McKie, E. N.	Webb, S. D.
Henry, Hugh	McLennan, W. M.	Webb, B. L.
	McPhillamy, M. C.	Whiteman, Reg. J. N.

## NON-RESIDENT STUDENTS.

Dudley, J. T., B.A.	} (Divinity)	Logan, G., B.A.	} (Divinity.)
Gresham, F. W.		McGee, J. N.	
Henderson, E. S.		Nolan, J. H. M., M.A.	

## ENDOWMENTS AND PRIZES.

## I.—SCHOLARSHIPS.

1. Bowman Scholarship.—A sum of £1000 was bequeathed in 1873 by the late Robert Bowman, Esq., M.D., of Richmond, for the foundation of a Scholarship.

1904—W. H. McCook, B.A. (3rd Divinity).

2. Frazer Scholarship.—In 1884, a sum of £1000 was bequeathed by the late Hon. John Frazer, M.L.C., for a Scholarship.

1904—W. M. Nimmo (1st Arts)

3. The Gordon Scholarship.—A sum of £1000 was given in 1882, by the late S. D. Gordon, Esq., M.L.C., for the foundation of a Scholarship for students who have taken the B.A. Degree, or first class in Classics.

1904—R. D. Henderson (3rd Arts)

P. H. Rogers (3rd Arts)

P. Hope (Divinity 2nd)

4. The Lawson Scholarship.—A sum of £1000 (in bank shares) was bequeathed in 1882, by the late George Lawson, Esq., of Yass, for the foundation of a Scholarship for students who have taken the B.A. Degree.

5. The Struth Scholarship.—A sum of £1000 was given in 1884, by J. Struth, Esq., for the foundation of a Scholarship.

1904—M. L. MacCallum, (2nd Arts)

6. The Horn Scholarships.—In 1883, the late Mr. John W. Horn, of Corstorphine, Edinburgh, bequeathed eighty shares of the A. G. Co., to found three Scholarships.

1904—H. G. Carter (1st Arts)

J. C. Gibson (1st Arts)

7. The Coutts Scholarship.—In 1884, the sum of £1000 was bequeathed by the late Rev. James Coutts, M.A., of Newcastle, for the foundation of a Scholarship. A student of the name of Coutts to have preference.

1904—G. A. Sampson (1st Med.)

8. The late Rev. Colin Stewart, M.A., in 1886, bequeathed his property to the College in trust for (among other objects) the founding of Scholarships.

1904—P. A. Smith (3rd Divinity)  
G. A. Brookes  
W. S. Laurie..

#### II.—PRIZES.

1. The Dean Prize.—A sum of £100 was given in 1879, by Alexander Dean, Esq., for the foundation of an Annual Prize for General Excellence.

2. The Jarvie Hood Prize.

1904—

3. Frazer Prize of £25, for Modern History.

1891—Parker, W. A.

1892—A. C. Gill  
J. E. Walker } æq.

1893—A. C. Gill  
J. E. Walker

1894—C. A. White

1895—A. J. Doig  
G. W. Waddell } æq.  
F. G. Griffiths (2nd)

Of the above Scholarships, the Frazer, one Gordon, and the Lawson are restricted to students for the Ministry of the Presbyterian Church. A first class at the University Examinations is a necessary qualification for the Gordon, but not for any of the other Scholarships.

### THE WOMEN'S COLLEGE.

Incorporated by Act 53 Vict., No. 10, and not attached to any religious denomination. In the terms of the Act the Visitor is the Chancellor of the University, or in his absence the Vice-Chancellor. The Corporation consists of the Principal, who must be a woman, and twelve elected Councillors, of whom four at least must be women, and two *ex-officio* Councillors, nominated by the Senate of the University. The Councillors, with the Principal, form the Council in which the government of the College is vested.

According to the Act of Incorporation, the Women's College is a College within the University of Sydney, wherein may be afforded residence and domestic supervision for women students of the University, with efficient tutorial assistance in their preparation for the University Lectures and Examinations. All students in the College not already matriculated shall, as soon as shall be practicable, matriculate in the University, and shall

thereafter be required duly to attend the lectures of the University in those subjects, an examination and proficiency in which are required for Degrees, with the exception, if thought fit by any such student, of the Lectures on Ethics, Metaphysics, and Modern History.

The Women's College is strictly undenominational, the Act of Incorporation providing "That no religious catechism or formulary which is distinctive of any particular denomination shall be taught, and no attempt shall be made to attach students to any particular denomination, and that any student shall be excused from attendance upon religious instruction or religious observances on express declaration that she has conscientious objections thereto."

The College fees are as follow :—

*Resident Students.*—£21 for each University Lecture Term, with £2 2s. a week for residence during vacation.

The fee of £21 for the Lecture Term covers all College dues, including fire and light.

The Council provides all necessary furniture, but each student may arrange and add to the furniture in her room as she pleases.

*Non-Resident Students.*—Term fee, £4 4s., or £12 12s. per annum.

#### VISITOR.

THE CHANCELLOR OF THE UNIVERSITY.

#### PRINCIPAL.

Miss L. Macdonald. M.A. (London).

#### COUNCILLORS.

Barff, Mrs., M.A.	McMillan, Sir W., K.C.M.G.
Cohen, Mrs. G.	Owen, Mrs. Langer
Cullen, Hon. W. P., LL.D. ( <i>ex officio</i> )	Rich, G. E., M.A., <i>Hon. Secretary.</i>
Fairfax, Miss	Stuart, Prof. Anderson, M.D., LL.D.
Fairfax, G. E.	Walker, J. T. (Chairman and Hon.
Jones, Sydney P., M.D. ( <i>ex officio</i> )	Treasurer)
Kater, Mrs. H. E.	Woolley, Miss
Macdonald, Miss, M.A. ( <i>Principal</i> )	

#### M.A.

Cribb, Estelle	Fitzhardinge, Maude Y.	Lance, E. A.
Cordingley, Grace	Jensen, Chlo	

## B.A.

Armstrong, H. D.	Hill, Evelyn M.	Saunders, E. F.
Armstrong, I. B. H.	Holt, Edith	Stephenson, A. L.
Ashton ( <i>née</i> Anderson), Maud E.	Montefiore, Hortense H.	Uther, J. B.
Brownlie, E. A. D.	Read, Elizabeth J.	Wark, F. H.
Brownlie, E. A.	Roseby, Minnie	Wilson, G. L.
Dunnicliff, Mary C.	Rutherford, F. M.	Wilkinson, I. B.
Fell, C. I.	Rutherford, C. M. (in residence)	Wood ( <i>née</i> Whitfeld), Eleanor M.
Harker, Constance E.		

## M.B. AND CH.M.

Bourne, E. E.	Greenham, Eleanor C.	White, M. I.
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## B.Sc

Horton, Marion C.

## UNDERGRADUATES IN RESIDENCE.

Adams, Edith	Dawes, M. M.	Noad, E. A.
Binney, C. C.	Dunlop, M. L. T.	Parnell, E. C.
Bourne, Ida	Edwards, D.	Robertson, May
Browne, E. F.	Fitzhardinge, J.	Skillman, Jessie
Child, S. R.	Jones, Grace E.	Thomson, Jean G.
Clark, M. D.	Murray-Prior, M.	Watson, Eleanor
Curren, Ethel		

## EXHIBITIONS.

The Walker Exhibition.—An Exhibition of the value of £25, presented by Mrs. J. T. Walker, given to the student who on entering the College shows evidence of the highest attainments, provided that no student shall be eligible for the Exhibition unless she shall make it appear to the satisfaction of the Principal that she cannot, without such assistance, pay the expenses of residence in the College.

1892—Harker, Constance E.

1893—Montefiore, H. H.

1894—Saunders, Eva Florence

1895—De Liassa, Ethel N.

## GRACE FRAZER SCHOLARSHIP.

The Grace Frazer Scholarship, of the value of £30 (being the interest of £1000 invested in New South Wales Government Funded Stock), presented by Mrs. C. B. Fairfax, in memory of her late sister. Awarded upon conditions settled from time to time by the Council, but hitherto tenable for three years.

1892—Whitfeld, Eleanor Madeline

1895—Lance, Elisabeth A.

1898—Armstrong, Ina Beatrice H.

1899—Armstrong, H. D. H.

1900—Murray-Prior, D. K.

1901—Not awarded.

1902—Skillman, Jessie

## COUNCILLORS' SCHOLARSHIPS.

Two Scholarships, of £25 each, tenable for one year, presented by the Councillors, were awarded in Lent Term, 1893, on the results of the University Examinations.

1893—Harker, C. E.  
Broad, A. W.

One Scholarship, of £25, tenable for one year, awarded on the same terms as the Walker Exhibition.

1895—Saunders, Eva F.	1900—Brownlie, E. A.
1896—Dunnicliff, Mary	1901—Saunders, F. L.
1897—Read, E. J.	1903—Curren, Ethel
1898—Bourne, Eleanor	1904—Clark, M. D.
1899—Stephenson, A. L.	

A Scholarship, of the value of £50, tenable for one year, presented by Miss Walker, of Yaralla, given on similar terms to the Walker Exhibition.

1895—Dunnicliff, Mary	1900—Saunders, F. L.
1896—Read, Elizabeth J.	1901—Mugliston, M.
1897—Bourne, Eleanor E.	1902—Divided between Curren, Ethel, and Mugliston, M.
1898—Divided between Holt, E. J. K., and Stephenson, A. L.	1903—Divided between Bourne, Ida, and Watson, Eleanor
1899—Divided between Brownlie, E. A., and Loudon, B. W.	1904—Jones, Grace E.

A Prize of Books to the value of £5, presented by the Kambala Girls' Union, on similar terms to the Walker Exhibition.

1898—Divided between Holt, E. J. K., and Stephenson, A. L.	1900—Murray-Prior, D. K.
1899—Loudon, B. W.	1901—Mugliston, M.
	1902—Skillman, Jessie

A Prize of Books, presented by the Alliance Française.

White, M. I.

## THE HOLT SCHOLARSHIP.

A Scholarship of the value of £25, presented by Mrs. Holt, Parramatta, given on similar terms to the Walker Exhibition.

Clark, Marjorie D.

## ROYAL PRINCE ALFRED HOSPITAL.

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*Established and maintained in accordance with the provisions of the "Prince Alfred Hospital Act," 36 Vic., and the "Prince Alfred Memorial Hospital Site Dedication Act," 36 Vic., No. 28.*

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The Hospital was framed as a general Hospital and Medical School for the instruction of students attending the Sydney University, and for the training of nurses for the sick.

The design was adapted to the site dedicated to the Hospital by the Government, aided by the co-operation of the Sydney University.

The Hospital is managed by a Board of fifteen Directors. The Chancellor of the University and the Dean of the Faculty of Medicine are Directors *ex officio*; three Directors are appointed by the Government, and the remaining ten are elected by the Governors and subscribers.

The Medical Officers are all appointed by a conjoint Board, consisting of the Senate of the University and the Directors of the Hospital. This conjoint Board likewise makes the By-laws regulating the mode in which the students shall have access to, and the course of studies to be pursued in, the Hospital.

The University Lecturers in Medicine and Clinical Medicine are Honorary Physicians, the Lecturers in Surgery and Clinical Surgery are Honorary Surgeons, the Lecturer in Ophthalmic Medicine and Surgery is Honorary Ophthalmic Surgeon, and the Lecturer on Diseases of Women is Honorary Surgeon for Diseases of Women at the Royal Prince Alfred Hospital.

All Physicians and Assistant Physicians must be Graduates in Medicine of the University of Sydney, or of some University recognised by the University of Sydney.

All Surgeons and Assistant Surgeons must possess a Degree in Surgery, or a Surgeon's diploma from some University or College of Surgeons recognised by the University of Sydney.

Clinical Lectures are delivered in accordance with the University curriculum. All Honorary and Resident Medical Officers are required to give such Clinical instruction to the Medical students as may be directed by the Conjoint Board.

## PATRONS :

H.M. the King.  
 H.M. the Queen.  
 H.R.H. the Duchess of Edinburgh.

## DIRECTORS :

The Chancellor of the University of Sydney.  
 The Dean of the Faculty of Medicine (Chairman).

Sir James Fairfax	John Keep, Esq.
J. Russell French, Esq.	H. S. Levy, Esq.
Moritz Gotthelf, Esq.	P. H. McArthur, Esq.
Senator A. J. Gould	The Hon. Dr. Mackellar, M.L.C.
Sir James Graham	Dr. F. Antill Pockley
James Inglis, Esq.	William Trotter, Esq.
The Hon. H. E. Kater, M.L.C.	

*Honorary Treasurer* : The Hon. H. E. Kater.

*Honorary Secretary* : Vacant.

HONORARY CONSULTING PHYSICIAN.—P. Sydney Jones, M.D.  
 (Lond.)

HONORARY PHYSICIANS.—Robert Scot-Skirving, M.B., Ch.M.  
 (Edin.); Cecil Purser, B.A., M.B., Ch.M. (Syd.); W.  
 Camac Wilkinson, B.A., M.D.

HONORARY SURGEONS.—Alexander MacCormick, M.D., Ch.M.  
 (Edin.), M.R.C.S. (Eng.); Charles P. B. Clubbe, L.R.C.P.  
 (Lond.), M.R.C.S. (Eng.); H. V. C. Hinder, M.B.,  
 Ch.M. (Syd.).

HONORARY GYNÆCOLOGICAL SURGEONS.—Jos. Foreman, L.R.C.P.  
 (Edin.), M.R.C.S. (Eng.); Edward T. Thring, F.R.C.S.  
 (Eng.), L.R.C.P. (Lond.).

HONORARY OPHTHALMIC SURGEON.—F. Antill Pockley, M.B.,  
 Ch.M. (Edin.), M.R.C.S. (Eng.).

HONORARY PHYSICIAN FOR DISEASES OF THE SKIN.—F. A. Bennet,  
 M.A., M.D.

HONORARY SURGEON FOR DISEASES OF THE EAR, THROAT, AND  
 NOSE.—George T. Hankins, M.R.C.S. (Eng.).

HONORARY ASSISTANT PHYSICIANS.—A. E. Mills, M.B., Ch.M.  
 (Syd.); Sinclair Gillies, M.A., M.D. (Lond.); G. E.  
 Rennie, B.A., M.D. (Lond.); C. Bickerton Blackburn,  
 B.A., M.D., Ch.M. (Syd.); E. W. Fairfax, M.B., Ch.M.  
 (Syd.).



HONORARY ASSISTANT SURGEONS.—Charles MacLaurin, M.B., Ch.M. (Edin.); G. H. Abbott, B.A., M.B., Ch.M. (Syd.); R. Gordon Craig, M.B., Ch.M. (Syd.).

HONORARY ASSISTANT SURGEON, DISEASES OF WOMEN.—H. C. Taylor Young, M.D.

HONORARY ASSISTANT OPHTHALMIC SURGEON.—H. Guy. S. Warren, M.R.C.S. (Eng.), L.R.C.P. (Lond.).

HONORARY ASSISTANT SURGEON FOR DISEASES OF THE EAR, NOSE AND THROAT.—H. Russell Nolan, M.B., Ch.M.

HONORARY PATHOLOGIST.—Professor Welsh, M.A., B.Sc., M.D., M.R.C.P. (Edin.).

MEDICAL TUTOR.—George Edward Rennie, B.A., M.D. (Lond.).

SURGICAL TUTOR.—John Morton, M.B., Ch.M.

HONORARY SECRETARY OF THE MEDICAL BOARD.—A. E. Mills, M.B., Ch.M. (Syd.).

MEDICAL SUPERINTENDENT.—A. H. Macintosh, M.D., Ch.M.

SENIOR RESIDENT MEDICAL OFFICERS.	{	ANÆSTHETIST AND REGISTRAR.—St. J. W. Dansey, M.B., Ch.M.
		RESIDENT PATHOLOGIST.—S. A. Smith, M.B., Ch.M.

RESIDENT RADIOGRAPHER.—J. S. Davis, M.B., Ch.M.

JUNIOR RESIDENT MEDICAL OFFICERS.—G. A. Buchanan, M.B., Ch.M.; C. S. Browne, M.B., Ch.M.; T. P. Connolly, M.B., Ch.M.; W. Mawson, M.B., Ch.M.; V. Benjafield, M.B., Ch.M.; H. O. Lethbridge, M.B., Ch.M.

## ROYAL PRINCE ALFRED HOSPITAL.—MEDICAL SCHOOL.

*Rules and Regulations for the Clinical Study and Training of the University Students of Medicine.*

The Hospital shall be open to students for Clinical work from 9 a.m. to 5 p.m. throughout the year.

In order to obtain the certificate of hospital practice necessary to qualify for admission to the Final Examination for the Degrees of Bachelor of Medicine and Master in Surgery of the University of Sydney, students are required to pass through the hospital curriculum of study and practice in the various departments, according to the following scheme and time table of Clinical work.

The respective duties of all students, under the time table, shall be apportioned by the Medical Superintendent, and the necessary certificates will only be issued to those students who have shown punctuality, diligence, and efficiency in the performance of the duties assigned to them.

The Registrar shall report in writing to the Medical Superintendent each month as to the work done in his department by each Clinical Clerk and Surgical Dresser, and the Medical Superintendent shall obtain reports from the members of the Honorary and Resident Medical Staff concerning the character of the work done by the students under supervision.

The Medical Superintendent shall report to the House Committee upon the character of the work done by each fourth and fifth year student, at the first or second meeting after the end of each term.

Students attending the Hospital shall be arranged by the Medical Superintendent in four divisions in each year, A, B, C and D respectively, and a list of the names thus appointed to the various departments shall be hung up in the Board Room and the Entrance Hall of the Hospital.

CLINICAL WORK TABLE.  
FOURTH YEAR STUDENTS.

GROUP.	LONG VACATION.	LENT TERM.
A.	Casualty and Surgical Out Patients.	Surgical Ward Dressing. Clinical Surgery Lectures.
B.	Surgical Ward Dressing.	Casualty Dressing. Surgical Out Patients' Attendance.
C.	Attendance optional.	Surgical Ward Dressing. Clinical Surgery Lectures.
D.	Attendance optional.	Surgical Ward Dressing. Clinical Surgery Lectures.

## MEDICAL SCHOOL.

## FOURTH YEAR STUDENTS.

GROUP.	TRINITY TERM.	MICHAELMAS TERM.
A.	Surgical Ward Dressing.	Clinical Surgery Lectures (optional).
B.	Clinical Surgery Lectures.	Surgical Ward Dressing (optional).
C.	Surgical Ward Dressing.	Clinical Surgery Lectures.
D.	Clinical Surgery Lectures.	Surgical Ward Dressing.
	Casualty Dressing.	Clinical Surgery Lectures.
	Surgical Out Patients' Attendance.	Casualty Dressing.
		Surgical Out Patients' Attendance.

## FIFTH YEAR STUDENTS.

GROUP.	LONG VACATION.	LENT TERM.
A.	Attendance optional.	Clinical Clerkship; General Medical Wards.
B.	Attendance optional.	Clinical Clerkship, General Medical Wards.
C.	Clinical Clerkship, General Medical Wards.	Clinical Clerkship, General Medical Wards.
D.	Clinical Clerkship, Gynaecological Ward	Gynaecological Out Patients' Attendance.
	Medical Out Patients' Attendance.	Clinical Clerkship, General Medical Wards.
	Clinical Clerkship, General Medical Wards.	Clinical Clerkship, Gynaecological Wards.
	Gynaecological Out Patients' Attendance	Medical Out Patients' Attendance.

GROUP.	TRINITY TERM.	MICHAELMAS TERM.
A.	Clinical Clerkship, General Medical Wards.	Clinical Clerkship, General Medical Wards.
B.	Clinical Clerkship, Gynaecological Ward	Gynaecological Out Patients' Attendance.
	Medical Out Patients' Attendance.	Clinical Clerkship, General Medical Wards.
C.	Clinical Clerkship, General Medical Wards.	Clinical Clerkship, Gynaecological Ward.
D.	Clinical Clerkship, General Medical Wards.	Medical Out Patients' Attendance.
		Attendance optional.
		Attendance optional.

It shall be the duty of each Clinical Clerk to take the history of every patient admitted to the beds placed under his charge within forty-eight hours of admission, and to make all needful periodical reports upon the progress, symptoms, treatment, and results of each case.

It shall be the duty of each Surgical Dresser to take the history of every patient under his charge within twenty-four hours of admission, and to make all needful periodical reports upon the progress, symptoms, treatment and results of each case.

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## OTHER HOSPITALS.

RECOGNISED BY THE UNIVERSITY AS PLACES WHERE STUDY MAY  
BE CARRIED ON IN CONNECTION WITH THE  
FACULTY OF MEDICINE.

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THE SYDNEY HOSPITAL.

ST. VINCENT'S HOSPITAL.

THE BENEVOLENT ASYLUM.

THE HOSPITAL FOR SICK CHILDREN.

THE GLADESVILLE HOSPITAL FOR THE INSANE.

THE CALLAN PARK HOSPITAL FOR THE INSANE.

THE WOMEN'S HOSPITAL.

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## UNIVERSITY DENTAL HOSPITAL.

This Hospital was established in 1901 for the purpose of providing dental attendance for persons unable to pay the fees of ordinary dentists, and also to provide facilities for the instruction of the students attending the University Dental School. The business of the Hospital is carried on in a building at the corner of George and Bathurst Streets, opposite St. Andrew's Cathedral.

The Hospital is open for the treatment of patients from 2 to 5 p.m. daily; Saturdays excepted.

The Honorary Dental Surgeons are appointed by the Senate of the University.

The University Lecturers in Surgical and Mechanical Dentistry are *ex officio* Honorary Dental Surgeons of the Hospital, and four additional Honorary Dental Surgeons have been appointed.

The fee payable by students for the dental practice of the Hospital is £5 5s. per annum.

### HONORARY DENTAL SURGEONS

(*ex officio*).

R. Fairfax Reading, M.R.C.S., L.R.C.P., L.D.S. (Eng.).

W. Septimus Hinder, D.D.S. (Phila.).

A. H. MacTaggart, D.D.S. (Phila.).

N. V. Pockley, D.D.S. (Phila.).

H. S. Du Vernet, D.D.S. (Phila.).

TO HOLD OFFICE UNTIL DECEMBER 31ST, 1904.

A. R. Marks, L.D.S. (Eng.), D.D.S. (Phila.).

Adin T. Parsons, D.D.S. (Phila.).

P. B. Reading, L.D.S. (Eng.).

W. H. Weston, M.D., D.D.S.

P. A. Ash, D.D.S. (Phila.).

E. F. Deck, L.D.S. (Eng.), D.D.S. (Phila.).

Donald Smith.

### HONORARY CONSULTING SURGEONS.

E. W. Fairfax, M.B., Ch.M.

C. MacLaurin, M.B., Ch.M.

### HONORARY ANÆSTHETISTS.

E. H. Binney, M.B., Ch.M. (Lecturer)

C. B. Blackburn, M.D., Ch.M.

E. Ludowici, M.B., Ch.M.

*Instructor in Mechanical Dentistry*—A. B. A. Palmer.

# BENEFACCTIONS

## BESTOWED BY PRIVATE PERSONS.

Date.	Donor.	Amount.	Object of Foundation.
		£ s. d.	
1853	Solomon Levey, Esq. ...	500 0 0	<i>Scholarship</i> —Originally for education of Orphans in the Sydney College; now for Natural Science in Second Year in the University.
	Thomas Barker, Esq. ...	1,000 0 0	„ For Proficiency in Mathematics.
1854	Hon. Sir E. Deas-Thomson, C.B., K.C.M.G. ...	1,000 0 0	„ For Proficiency in Chemistry and Experimental Physics.
	W. C. Wentworth, Esq. ...	200 0 0	<i>Annual Prize</i> —For English Essay.
1857	Sir D. Cooper, Bart. ...	1,000 0 0	<i>Scholarship</i> —For Proficiency in Classics.
1858	S. K. Salting, Esq. ...	500 0 0	<i>Exhibition</i> —For a Student from the Sydney Grammar School.
1862	W. C. Wentworth, Esq. ...	445 0 0	<i>Fellowship</i> —For a Travelling Fellowship (amount to accumulate sufficiently).
1864	W. Lithgow, Esq. ...	1,000 0 0	<i>Scholarship</i> .
1867	Sir C. Nicholson, Bart. Educational Fund, devised by Dr. Gilchrist, of Sydney. ...	200 0 0	<i>Annual Prize</i> —For Latin Verse. The right of the Presentation every other year to a Scholarship of £100 per annum, tenable for three years, and to be held at the University of London or of Edinburgh. Withdrawn by the Gilchrist Trustees in 1882.
1870	Earl Belmore ...	300 0 0	<i>Annual Prize</i> —For Agricultural Chemistry.
1872	Hon. John Fairfax ...	500 0 0	„ For Females at the Public Examinations.
1874	Mrs. Maurice Alexander ...	1,000 0 0	<i>Bursary</i>
1880	„ „ ...	1,000 0 0	„ To assist young men in entering a Learned Profession.
1874	Subscribers to testimonial to Rev. John West	200 0 0	<i>Annual Prize</i> —At Public Examinations.
	Edwin Dalton, Esq. ...	8,000 0 0	<i>Scholarships</i> —In memory of the Rev. Dr. Woolley.
1876	Hon. John Frazer ...	2,000 0 0	<i>Bursaries</i> —In memory of his deceased sons.
	Fitzwilliam Wentworth Esq. ...	2,000 0 0	„ In honour of his father, William Charles Wentworth.
	Mrs. Burdekin ...	1,000 0 0	<i>Bursary</i> .
	Mrs. Hunter-Baillie ...	1,000 0 0	„
1877	„ „ ...	1,000 0 0	„ For sons of Ministers of Religion.
1877	} Hon. J. B. Watt ...	3,000 0 0	<i>Exhibitions</i> —For Students from Primary Schools.
1888			
1889			
	Professor Smith ...	350 0 0	<i>Lectureship</i> —In Geology.
1877	Sir Arthur Renwick, M.D. ...	1,000 0 0	<i>Scholarship</i> —In the Faculty of Medicine.

## BENEFACTIONS.

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Date.	Donor.	Amount.			Object of Foundation.
		£	s.	d.	
1877	Andrew R. Cameron, Esq., M.D.	1,100	0	0	<i>Scholarship</i> —For General Proficiency.
	Mrs. Hovell	6,000	0	0	<i>Lectureship</i> —Geology and Physical Geography.
1878	Hon. George Allen	1,000	0	0	<i>Scholarship</i> —For Mathematics.
	Sir Charles Nicholson, Bart.				Collection of Egyptian Antiquities, etc.
	J. H. Challis, Esq.	750	0	0	For Great Northern Window in University Hall.
	Sir Charles Nicholson, Bart.	500	0	0	For Great Western Window.
	Sir Daniel Cooper, Bart.	500	0	0	For Great Eastern Window.
	Henry O'Brien, Esq.	100	0	0	For Side Windows in the Hall.
	Charles Newton, Esq.	100	0	0	
	Edward Knox, Esq.	100	0	0	
	William Long, Esq.	100	0	0	
	John Dobie, Esq.	100	0	0	
	Robert-Fitzgerald, Esq.	100	0	0	
	A. Moses, Esq.	100	0	0	
	John Reeve, Esq.	100	0	0	
	Thomas Barker, Esq.	100	0	0	
	Henry and Alfred Denison, Esqs.	100	0	0	
	Thomas W. Smart, Esq.	1,100	0	0	Towards an Organ for the Great Hall.
	Sir P. A. Jennings	125	0	0	For purchase of book, "Lepsius' Antiquities of Egypt and Æthiopia."
	Sir A. Renwick, M.D.	315	0	0	For a Travelling Fellowship.
	Thomas S. Mort, Esq.	700	0	0	Being the amount paid by him for the Library of the late Mr. Stenhouse, presented to the University.
	Thomas Walker, Esq.				<i>Scholarship</i> —For the sons of Freemasons.
	Freemasons under the English Constitution	1,000	0	0	
1880	J. H. Challis, Esq.	250,000	0	0	<i>Bequest</i> —Property of the estimated value of £250,000, to be applied to the general purposes of the University.
1881	Thomas Walker, Esq.	500	0	0	Towards an Organ for the Great Hall.
	Fitzwilliam Wentworth Esq.	415	0	0	To provide a Screen for the Organ Gallery.
	James Aitken, Esq.	1,000	0	0	<i>Bursary or Scholarship.</i>
	Thomas Walker, Esq.	5,000	0	0	<i>Bursaries.</i>
1882	Sir G. W. Allen	1,000	0	0	<i>Scholarship</i> —In the Faculty of Law.
1883	John Struth, Esq.	1,000	0	0	<i>Exhibition</i> —In the Faculty of Medicine.
1885	Thos. Fisher, Esq.	30,000	0	0	For establishing and maintaining a Library in the University.
1886	Subscribers to Testimonial of Rev. Dr. Norbert Quirk.	143	12	6	<i>Annual Prize</i> —For Mathematics.
	Professor Smith	100	0	0	For Physics.
1887	G. S. Caird, Esq.	1,000	0	0	<i>Scholarship</i> —In Chemistry.
	Subscribers to Memorial to Late Professor Badham.	1,000	0	0	<i>Bursary.</i>
	G. P. Slade, Esq.	250	0	0	For the Advancement of Science.
1888	William Roberts, Esq.	4,000	0	0	<i>Scholarship</i> —In memory of Mr. James King, of Irrawang, Raymond Terrace.
	Hon. Sir W. Macleay				Museum of Natural History.
	Hon. Sir W. Macleay	6,000	0	0	For establishing a Curatorship for the Macleay Museum of Natural History.

Date.	Donor.	Amount.			Object of Foundation.
		£	s.	d.	
1888.	John Harris, Esq. ....	1,000	0	0	<i>Scholarship</i> —In the Faculty of Medicine.
	Lady Renwick ... ..	202	0	0	For a Window in the Medical School, in memory of her late father.
	P. S. Jones, Esq., M.D. ....	220	0	0	For Windows in the Medical School.
	G. Bennett, Esq., M.D. ....	140	0	0	
1889	The Trustees of the Council of Education Scholarship Fund. ....	290	10	1	<i>Scholarship</i> —For Sons of Officers of the Department of Public Instruction.
	John Harris, Esq. ....	120	0	0	For a Window in the Medical School, in memory of the late Dr. Harris.
	F. J. Horner, Esq., M.A. ....	200	0	0	<i>Exhibition</i> —In Mathematics.
1890	The Trustees of the Will of the Hon. John Frazer, M.L.C. ....	2,000	0	0	<i>Scholarship</i> —In History.
	George Bennett, Esq., M.D. ....				John Gould's Works on Ornithology.
1891	William Grahame, Esq. ....	100	0	0	<i>Annual Prize</i> —In the Senior Public Examination.
1892	Rev. R. Collie, F.L.S. ....	100	0	0	<i>Annual Prize</i> —For Botany.
1896	P. N. Russell, Esq. ....	50,000	0	0	For the endowment of the P. N. Russell School of Engineering.
1904	Thomas Garton, Esq. ....	50,000	0	0	<i>Scholarships</i> —In French and German.
1898	Henry Wait, Esq. ....	2,050	0	0	<i>Bursary</i> —In the Faculty of Medicine.
1900	Mrs. George Harris ....	1,000	0	0	<i>Scholarship</i> —In the Faculty of Law.
	Cecil Darley, Esq. ....	1,700	0	0	An Astronomical Equatorial Telescope and Accessories.
1901	Earl Beauchamp ....	625	0	0	Prize for an English Essay.
	Mrs. Jessie E. Duncan ....	808	19	6	<i>Bursary</i> .
1903	George Masters, Esq. ....				A Natural History Collection.



# A LIST OF DONATIONS TO THE LIBRARY,

APRIL, 1903, TO MARCH, 1904.

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Twenty-three Specimens of Educational Publications by Messrs. Macmillan and Co. ; and two by Messrs. Geo. Bell and Co.

Calendars and other Publications by the following Universities, etc. :—

Aberdeen, Adelaide, Allahabad, Athens, Auckland, Bendigo School of Mines, Birmingham, Bodleian Library (Oxford), Bombay, Brown (Providence), Budapest, Calcutta, California, Cambridge, Canterbury College (Christchurch), Cape of Good Hope, Catania, Chicago, Clinical Society (London), Columbia (New York), Columbus (Ohio), Cornell, Dalhousie (Halifax), Dublin, Durham (College of Medicine), Edinburgh, Evanston, Glasgow, Grenoble, Harvard (Cambridge), Iowa, Japan (Tokyo), Johns Hopkins (Baltimore), King's College (London), Klausenburg, Lemberg, Lille, Liverpool, London, Lyon, Madras, McGill College (Canada), Melbourne, Michigan, Missouri, Montana, New Zealand, New York, North Wales (Bangor), North-Western, Ohio, Otago, Owen's College (Manchester), Panjab (Lahore), Pennsylvania, Perth Technical School, Pisa, Princeton (New Jersey), Queen's College and University (Canada), Regia Università degli Studi di Roma, Rennes, Royal College of Surgeons (London), Royal University of Ireland, St. Andrew's, Sanskrit College (Benares), Syracuse, Tasmania, Torino, Toronto, Trinity College (London), Trinity College (Dublin), Union of Graduates in Music, Universidad Central de España, University College (Auckland), University College (Liverpool), University College (South Wales and Monmouthshire), Venezuela, Vermont, Victoria (Manchester), Worcester Polytechnic Institute, Yale (New Haven), Zurich.

Proceedings, Transactions, etc., from the following Societies, etc. :—

Aachen Technischen Hochschule, Académie de Neuchâtel, Académie Nationale des Sciences (Cordoba), Adelaide Public Library, Australian Institute of Mining Engineers, Australian Museum, Biblioteca Nazionale Centrale di Firenze, British Museum, Cambridge Philosophical Society, Carnegie Museum (Pittsburg), Chicago Academy of Sciences, Clinical Society of London, Colombo Museum, Earthquake Investigation Committee (Tokyo), Ecole Pratique des hautes études, Egyptian Government School of Medicine (Cairo), Engineering Association of New South Wales, Hunterian Collection Trustees (Glasgow University), Institute of Chemistry (London), Institute of Civil Engineers (London), Institute of Electrical Engineers, International Engineering Congress, John Rylands Library, Linnean Society of New South Wales, London School of

Economics, Malay States Institute for Medical Research, Manchester Steam Users' Association, Medical Council (London), Mutual Life Insurance Company of New York, National Academy of Science (Washington), National Physical Laboratory (England), New Sydenham Society, New Zealand Institute, Osservatorio Vaticano (Roma), Pathological Society of London, Pharmaceutical Society of Great Britain, Royal Prince Alfred Hospital (Sydney), Regia Scuola Superiore di Agricoltura di Portici, Royal Academy of Medicine (Ireland), Royal College of Physicians (London), Royal College of Science (London), Royal College of Surgeons of England, Royal Colonial Institute (London), Royal Irish Academy (Dublin), Royal Societies of Canada, Dublin, Edinburgh, London, New South Wales, Queensland, South Australia, and Victoria; St. Bartholomew's Hospital (London), Smithsonian Institution (Washington), Société française de Physique, South African Museum, South African Philosophical Society, Sydney Public Library, Sydney University Engineering Society, Technological Museum of New South Wales, Thames School of Mines (New Zealand), Tokyo Zoological Society, University Club (New York), Volta Bureau (Washington), Wellcome Chemical Research Laboratories, Wesleyan Methodist Mission House, Wisconsin Academy of Science, Worcester Polytechnic Institute, Zeehan School of Mines, Zurich Naturforschenden Gesellschaft.

Publications of the Archæological Survey and Meteorological Department of India; Bureau of American Ethnology; Bureau of Education, Coast and Geodetic Survey, Department of Agriculture and Geological Survey of United States; Geological Survey of Minnesota; Geological Survey of Canada; Mines Department of New Zealand; La Familistère de Guise; Government Printing Office, Burma.

Internâtionâl Catalogue of Scientific Literature, by the Department of Education, New South Wales.

Acts of the Parliament of Victoria and Report of the Minister of Public Instruction, by the Government of New Zealand.

Proceedings of the Legislative Assembly of Queensland, by the Government of Queensland.

Statutes of New Zealand, by the Government of New Zealand.

Meteorological Observations, by the Government Astronomers of South Australia and Western Australia.

Report of the Royal Observatory, Cape of Good Hope, by the Government Astronomer of South Africa.

Publications of the Government of New South Wales, by the Government of New South Wales.

Records of the Sydney Observatory, by the Government Astronomer.

Books, etc., were presented by the Lords of the Treasury of Great Britain and Ireland, T. Anderson, Esq., W. Bateson, Esq., J. W. Benson, Esq., J. Le Gay Brereton, Esq., Lord Crawford, H. Devaux, Esq., Prof. W. A. Haswell, T. B. Hunter, Esq., Surgeon-Major H. H. Johnston, M. P. Jovanovitch, Esq., T. McKie, Esq., Messrs. Macmillan & Co., H. S. Mort, Esq., F. M. Pears, Esq., W. Poole, Esq., Messrs. Andrew Reid & Co., Ltd., Prof. T. P. A. Stuart, Dr. F. A. Todd, Adair Welcker, Esq.

Books, etc., were presented to the Library in terms of the "Copyright Act, 1879," by The Bulletin Publishing Company, The Law Book Publishing Company of Australasia, Messrs. Angus & Robertson, Baker & Rouse, S. V. Bennett, W. Brooks & Co., T. Burke, A. Gehde, Glen & Co., Gordon & Gotch, C. J. W. Green, Kealy and Philip, J. Paine, W. H. Paling & Co., W. C. Penfold & Co., T. Powell, Esq., John Sands, J. Slater, W. E. Smith, W. H. Sproull & Co., W. C. Wearne, F. B. Wilkinson, Williamson & Co., and the publishers of Aborigines' Advocate, Australasian Medical Gazette, Australian Field, Australian Hen, Australian Journal of Education, Australian Photographic Journal, Courier Australien, Christian World, Dalgety's Review, Dawn, Hall's Mercantile Gazette, Home Queen, Journal of the Institute of Bankers, Knaggs' Almanac, New South Wales Educational Gazette, Nepean Times, Pastoralists' Review, The Pilot, New South Wales Railway Budget, The Review, Sands' Sydney and Suburban Directory, Sheepbreeders' Year Book, Sydney Daily Telegraph, Sydney Diocesan Directory, Sydney Mail, Sydney Morning Herald, Stock and Station Journal, Trade Protection Institute Reports, White Wings, Wilcox's Review, Year Book of Australia.

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# REPORT

## OF THE

# SENATE OF THE UNIVERSITY

## OF SYDNEY

FOR THE YEAR ENDED 31ST DECEMBER, 1903.

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1. The Senate of the University of Sydney, in pursuance of the provisions of section 16 (1) of the "University and University Colleges Act, 1900," has the honour to transmit the account of its proceedings during the year 1903 for the information of his Excellency the Governor and Executive Council.

### *Matriculation.*

2. The number of persons who qualified themselves for Matriculation in 1903 by passing one of the various University Examinations was 395. Of these, 156 passed the ordinary Matriculation Examination, 139 the Junior Public Examination, 19 the Law Matriculation, 59 the Senior Public Examination, and 22 the Entrance Examination for Law, Medicine and Science. The number of students actually admitted to Matriculation, with a view to proceeding with the curriculum in one of the various Faculties, was 186.

### *Annual University Examinations.*

3. The number of students who attended and passed the Annual Examinations in December, 1902, and March, 1903, after attending the prescribed courses of lectures, is shown in the following table:—

FACULTY OF ARTS.					Candidates.	Passed.
First Year Examination	..	..	..	..	88	75
Second Year Examination	..	..	..	..	55	51
Third Year Examination	..	..	..	..	47	45

In addition to the students passing through the regular curriculum, 21 evening students and students of special subjects, including four women, passed the examinations in individual subjects, after attendance upon the prescribed lectures.

## FACULTY OF LAW.

	Candidates.	Passed.
Intermediate Examination .. .. .	13	10
Final Examination .. .. .	9	9

## FACULTY OF MEDICINE.

	Candidates.	Passed.
First Year Examination .. .. .	44	32
Second Year Examination .. .. .	33	28
Third Year Examination .. .. .	29	26
Fourth Year Examination .. .. .	31	25
Fifth Year Examination .. .. .	38	32

## FACULTY OF SCIENCE.

	Candidates.	Passed.
First Year Examination .. .. .	4	3
Second Year Examination .. .. .	2	2
Third Year Examination .. .. .	2	2

## FACULTY OF SCIENCE—DEPARTMENT OF ENGINEERING.

	Candidates.	Passed.
First Year Examination .. .. .	31	22
Second Year Examination—Civil .. .. .	1	0
“ “ “ Mining and Metallurgy .. .. .	18	17
“ “ “ Mechanical and .. .. .		
“ “ “ Electrical .. .. .	5	3
Third Year Examination—Civil .. .. .	2	2
“ “ “ Mining and Metallurgy .. .. .	26	25
“ “ “ Mechanical and .. .. .		
“ “ “ Electrical .. .. .	2	2
Fourth Year Examination— .. .. .	1	1

In the Faculty of Science and the Department of Engineering 10 students of special subjects passed in the final examinations of their subjects.

## SCHOOL OF DENTISTRY.

	Candidates.	Passed.
First Year Examination .. .. .	14	9
Second Year Examination .. .. .	9	9

Forty-two students seeking a qualification in Pharmacy attended the University Examinations at the conclusion of the courses of lectures which they had attended. Seventeen passed in individual subjects, eleven completing the whole course.

*Attendance at Lectures.*

4. The following table shows the number of students who attended lectures in the several Faculties :—

Faculty of Arts (day), 233; (evening), 108.	Total	..	..	341
Faculty of Law	..	..	..	42
Faculty of Medicine	..	..	..	198
Faculty of Science	..	..	..	23
Faculty of Science—Department of Engineering	..	..	..	91
School of Dentistry	..	..	..	35
Pharmacy Students	..	..	..	47
				<hr/>
				777

Included are 88 women who attended in the Faculty of Arts, 19 in Medicine, 2 in Dentistry and 3 in Pharmacy; total, 112. The above total also includes 53 non-matriculated students, and 17 students attending special courses.

*Degrees Conferred.*

5. The following degrees were conferred after examination :—

Master of Arts (M.A.) :—Grace Marion Cordingley, William John Curtis, Ada Maitland Eldridge, Dora Alice Gillam, William Edwin James, Phillip Kennedy, Samuel Lasker, Alexander Duncan McLaren, Ernest Northcroft, Merrington, Elsie Ada Harland Mills, John Henry Monteith Nolan, Betha Paxton, Reginald Blair Reynolds, James Barnet Telfer, David Wilson, Alfred Henry Yarnold.

Bachelor of Arts (B.A.) :—Alfred Herbert Austin, Henri Victor David Baret, Wilfred Alexander Barton, Donald Gordon Bathgate, Nina Tillotson Brentnall, Alroy Maitland Cohen, Percival Richard Cole, Margaret Coutts, Winifred Cowlshaw, Howard Kynaston Denham, Gladys Mary Brougham Docker, John Porter Harris Giles, Emily Rebecca Graham, William James Grant, Edward Jesse Gregson, Helen Louise Harley, Percival Hope, Klio Jensen, Richard Cyril King-Kemp, William Carlow Lindsay, Vivian Agincourt Spence Little, George Logan, Frank Colbran Turner Lord, Timothy George McDonald, Neville Gilbert McWilliam, Arthur Massey-Makinson, Herbert Arthur Meek, Rupert Wallace Mowbray, Walter Cresswell O'Reilly, Alfred William Oswald, Thomas Taylor Roberts, Constance Muriel Rutherford, Florence Louisa Saunders, George Frederick Sharpe, Oswald Carey Slade, Margaret Sproule, William Henry Webster Stevenson, James Robert Stewart, Maggie Robertson Wardrop, Florence Helen Wark, Eben Gowrie Waterhouse, Herbert Frazer Watson, Edward Montagu Wellisch, Ida Beatrice Wilkinson.

Doctor of Laws (LL.D.):—George Washington Waddell.

Bachelor of Laws (LL.B.):—Austen Guerry de Lauret Arnold, Alfred Ernest Chapman, Andrew Helliday, Thomas Joseph Lehané, Alexander Duncan McLaren, William Arnott Halse Rogers, Reginald Norman Robson, Henry Montagu Stephen, Richard Clive Teece.

Doctor of Medicine (M.D.):—Charles Bickerton Blackburn, Frank William Ashley Magarey, Francis Percival Sandes.

Bachelor of Medicine (M.B.):—Percy Norman Aiken, Henry Patrick Blayney, Eleanor Elizabeth Bourne, John Hampton Cahill, Philip Sylvester Clarke, Lionel Bigoe Henzell Conroy, Anstruther John Corfe, St. John Warburton Dansey, James Shedden Davis, William Henry Elworthy, Edward Bede Lucien Fitzpatrick, Charles Ernest Flashman, Hedley Ebenezer Fox, William Charles Grey, Percy Leslie Hipsley, Esca Morris Humphery, William Digan Langton, Oliver Latham, Harold Seaward Marsh, Thomas William Mason, Ernest Ludlow Newman, John King Osborne, Morris James Plomley, Lionel Joseph Robertson, Henry Frank Sadler, Stewart Arthur Smith, Frank Martin Suckling, Jack Mowbray Thomson, John Francis Walton, James Frederick Watson, Richard Andrew Phipps Waugh, Robert Edmund Woolnough.

Master of Surgery (Ch.M.):—Eleanor Elizabeth Bourne, Philip Sylvester Clarke, St. John Warburton Dansey, James Shedden Davis, William Henry Elworthy, Edward Bede Lucien Fitzpatrick, William Charles Grey, Percy Leslie Hipsley, Esca Morris Humphery, William Digan Langton, Herbert Russell Nolan, John King Osborne, Morris James Plomley, Stewart Arthur Smith, Frank Martin Suckling, Jack Mowbray Thomson, James Frederick Watson, Robert Edmund Woolnough.

Bachelor of Science (B.Sc.):—John Campbell Close, Susannah Hennessy O'Reilly.

Bachelor of Engineering (B.E.):—Civil Engineering: Duncan Bertram Corfe, Edmund Tregenna Henning. Mining and Metallurgy: James Pascoe Caddy, Cyril Henry Joseph Clayton, James Montagu Christian Corlette, Harry Warlow Davies, Arthur John Debenham, Ernest Cecil Delohery, Alfred Brougham Docker, Leslie Harold Foy, Henry Thomas Garde, Norman Ernest Giblin, George James Gray, Ernest Kingsbury Hall, Frederick Henry Jackson, Arthur Gordon McCrae, Arthur James Peterson, Rosslyn James Dalryell Richardson, John Verge, Hugh Walker, Leonard Keith Ward, Henry Stewart Weigall, Richard Cunliffe Wilson, Henry Wood, Joseph William Woodburn. Mechanical and Electrical: Harold Walter Myers.

6. The following *ad eundem* degrees were conferred in accordance with the provisions of section 21 of the "University and University Colleges Act, 1900":—

Master of Arts (M.A.):—James Dawson, M.A. (University of Glasgow).

Doctor of Medicine (M.D.):—John Brady Nash, M.D. (University of Edinburgh).

7. The total number of degrees conferred during the year was as follows:—M.A., 17; B.A., 44; LL.D., 1; LL.B., 9; M.D., 4; M.B., 32; Ch.M., 18; B.Sc., 2; B.E., 26. Total, 153.

8. The degrees conferred by the University from its foundation to the end of 1903 are:—M.A., 311; B.A., 1148; LL.D., 25; LL.B., 109; M.D., 45; M.B., 266; Ch.M., 188; B.Sc., 49; M.E., 4; B.E., 116. Total, 2261.

#### *University Examinations.*

9. The results of the Annual University Examinations, held in December, 1902, and March, 1903, including the award of Annual Prizes and Scholarships, will be found appended to this report.

#### *Woolley Travelling Scholarship.*

10. The Woolley Travelling Scholarship (£150 per annum for two years) was awarded to the Rev. E. N. Merrington, M.A., a distinguished student in the department of Philosophy. Mr. Merrington is pursuing his studies in the University of Edinburgh.

#### *Caird Research Scholarship.*

11. A Caird Research Scholarship of £100 has been awarded for the year 1904 to Mr. J. M. Petrie, B.Sc., a distinguished student of Chemistry, to enable him to pursue a series of investigations in the Chemical Laboratory upon the composition of the New South Wales shale oils.

#### *Prize Compositions.*

12. The awards made for Prize Composition are as follows:—

*University Prize for English Verse.*—Subject: "The Death of Chatterton." H. M. Green, B.A.



*Bursaries, etc.*

13. The number of students permitted to attend lectures without paying fees was 126, including 43 State Bursars and holders of the University Bursaries, and 66 students and ex-students of the Training College also attended without paying fees. The payments to bursars, other than State Bursars, amounted to £764, and to scholars, £1468.

14. The following bursaries were awarded, each consisting of a payment to the student of a certain sum per annum, for three years, together with exemption from the payment of lecture fees in the Faculty of Arts, or that of pure Science:—

The *Watt* Exhibition (£30, £40, £50).

The *John Ewan Frazer* Bursary (£25).

The *Thomas Walker* Bursaries (£50, £50 and £25).

The *Ernest Manson Frazer* Bursary (£50).

*Public Examinations.*

15. The Junior Public Examination was held in the month of June, in Sydney, and at the following local centres:—

NEW SOUTH WALES.—Albury, Armidale, Ballina, Bathurst, Bega, Boggabri, Bombala, Braidwood, Broken Hill, Canowindra, Cobar, Cooma, Cowra, Deniliquin, Dubbo, Forbes, Glen Innes, Goulburn, Grafton, Grenfell, Gunnedah, Hay, Hillgrove, Hinton, Inverell, Jerilderie, West Kempsey, Kiama, Lismore, Lithgow, Maitland, Milton, Mudgee, Murrumburrah, Murwillumbah, Narromine, Newcastle, Nowra, Orange, Parramatta, Penrith, Scone, Singleton, Tamworth, Wagga Wagga, Wahroonga, Wialda, Wentworth, Wingham, Wollongong, Yass, and Young.

QUEENSLAND.—Brisbane, Bundaberg, Charters Towers, Goondiwindi, Ipswich, Maryborough, Rockhampton, Toowoomba, Townsville, and Warwick.

The number of candidates was 1153, and of these 791 gained certificates.

16. The Senior Public Examination was held in November concurrently with an examination for Matriculation Honours and Scholarships, in Sydney, and at the following local centres:—

NEW SOUTH WALES.—Armidale, Bathurst, Goulburn, Maitland, Wahroonga, and Wagga Wagga.

QUEENSLAND.—Brisbane, Ipswich, Maryborough, Rockhampton, and Toowoomba.

The number of candidates was 142, and of these 124 were successful.

17. The Prizes for general proficiency in the Senior and Junior Public Examinations were awarded as follows:—

*Seniors.*

*John West Medal and Grahame Prize Medal—*

George Atkin Sampson, Brisbane Boys' Grammar School, Queensland.

*Fairfax Prize for Senior Females—*

Evelyn Mabel Wedd, Brisbane Girls' Grammar School, Queensland (disqualified on account of having previously passed the Senior Examination).

Grace Eveline Jones, Maryborough Girls' Grammar School, Queensland.

*Juniors.*

*University Prize for General Proficiency among male candidates—*

Milton Cromwell Alder, Boys' Public High School, Sydney. }  
Cecil Hope Cohen, Sydney Grammar School. } *Æq.*

*Fairfax Prize for female candidates—*

Mabel Alice Constance Norris, Ipswich Girls' Grammar School, Queensland.

*Examination for Articled Clerks.*

18. Three Law Examinations were held, similar to that prescribed for Matriculation, for candidates for articles of Clerkship with Solicitors. At these examinations there were 34 candidates, and 19 passed.

*Meetings of Senate.*

19. The Senate held 11 ordinary meetings and one special meeting, in addition to the Annual Commemoration. There were also two meetings of the Conjoint Board, consisting of the Senate of the University and the Directors of the Prince Alfred Hospital. The attendances of the various Fellows were as follows:—

MacLaurin, the Hon. Sir Normand, M.A., LL.D., M.D.,	
M.L.C., Chancellor .. .. .	15
Simpson, His Honour Mr. Justice A. H., M.A. Vice-Chancellor .. .. .	13

*Anderson, H. C. L., Esq., M.A. . . . .	5
Backhouse, His Honour Judge, M.A. . . . .	15
*Barton, the Right Hon. Sir Edmund, G.C.M.G., P.C., M.A., LL.D. . . . .	0
*Butler, Professor T., B.A. . . . .	5
Cobbett, Professor Pitt, M.A., D.C.L. . . . .	13
Cullen, the Hon. W. P., M.A., LL.D., M.L.C. . . . .	11
Jones, P. Sydney, Esq., M.D. . . . .	12
Knox, Edward W., Esq. . . . .	11
Liversidge, Professor A., M.A., LL.D., F.R.S. . . . .	14
MacCallum, Professor M. W., M.A. . . . .	13
O'Connor, Senator R. E., M.A. . . . .	2
*Oliver, His Honour Alexander, M.A. . . . .	8
Renwick, the Hon. Sir Arthur, B.A., M.D., M.L.C. . . . .	14
Rogers, His Honour Judge, M.A., LL.B. . . . .	9
*Russell, H. C., Esq., B.A., F.R.S., C.M.G. . . . .	9
Stephen, C. B., Esq., M.A. . . . .	7
Stuart, Professor T. P. Anderson, LL.D., M.D. . . . .	13
Teece, Richard, Esq., F.I.A. . . . .	11

20. At the various meetings of Sub-Committees of the Senate, for Finance, By-laws, Grounds and other matters, held during the year, the attendances of members were as follows:—The Chancellor (the Hon. Sir Normand MacLaurin), 16; the Vice-Chancellor (the Hon. Mr. Justice A. H. Simpson), 14; His Honour Judge Backhouse, 17; Professor Cobbett, 1; Hon. Dr. Cullen, 1; Dr. P. Sydney Jones, 3; E. W. Knox, Esq., 7; Professor Liversidge, 3; Professor MacCallum, 1; His Honour Alexander Oliver, 1; Hon. Sir Arthur Renwick, 10; C. B. Stephen, Esq., 1; Professor Stuart, 6; R. Teece, Esq., 5.

#### *The Chancellor.*

21. The triennial election to the office of Chancellor, held in the month of March, resulted in the unanimous re-appointment of the Hon. Sir Normand MacLaurin for a period of three years.

#### *The Vice-Chancellor.*

22. The annual election to the office of Vice-Chancellor, in the month of April, resulted in the unanimous re-election of the Hon. Mr. Justice A. H. Simpson, M.A.

#### *The late Sir Charles Nicholson.*

23. The Senate reports, with great regret, the death, in November, 1903, of Sir Charles Nicholson, Bart., M.D., D.C.L., a gentleman whose influence upon the University has been of the

\* Absent on leave.

highest value to the community. Upon the receipt of a notification from the Agent-General of his death, the following resolution was unanimously adopted by the Senate :—

The Senate of the University desires to place on record its sense of the loss sustained by the University through the death of Sir Charles Nicholson, Bart., M.D., D.C.L., LL.D., and of the inestimable value of his services to the University during the fifty-three years which have elapsed from its foundation. As Speaker of the Legislative Council of New South Wales during the passage of the Act of Incorporation of the University, in 1850; as the first Vice-Chancellor of the University, in 1851; as Chancellor, from 1854 to 1862; and as a Fellow of the Senate, from 1851 until 1883, he devoted his best energies to fostering the development of the University. The Nicholson Museum of Antiquities, the valuable books, tapestries and other works of art which he presented to the University, are monuments of his learning, his generosity, and his zealous desire for the elevation of his fellow countrymen.

That a copy of the above resolution be forwarded to Lady Nicholson, together with an expression of the sympathy of the Fellows, with her in her bereavement.

#### *Staff Appointments, &c.*

24. The Department of Modern Literature has for several years been undermanned through retrenchments necessarily made at the time of financial stress. To remove this over-pressure upon the teaching staff, Mr. G. G. Nicholson, B.A. (Syd.), B.C.L. (Oxon.), was appointed an Assistant Lecturer in French and German, from the commencement of March. Mr. Nicholson, after graduating with high honours at Sydney, was awarded the James King of Irrawang post-graduate Scholarship, during his tenure of which he had a distinguished career at the University of Oxford.

By the retirement of Dr. E. J. Trechmann from the office of Assistant Lecturer in French and German, from the 31st of December, 1903, a further re-arrangement of the work of the department became necessary, and Mr. Nicholson has been invested with additional duties, from the commencement of the next academic year, in the Departments of French and German, while Mr. N. J. Gough, B.A., a distinguished graduate of the University of Sydney in modern literature, has been appointed Assistant Lecturer in French.

In receiving Dr. Trechmann's resignation the Senate passed a resolution of appreciation of his faithful services to the University for a period of fifteen years.

25. The office of Demonstrator in Physiology, rendered vacant by the resignation of Mr. H. Hawker, was filled in the beginning of the year by the appointment of Mr. H. G. Chapman, M.D., B.S. Dr. Chapman is a highly distinguished graduate of the University of Melbourne.

26. Mr. O. W. Brain, the Chief Electrical Engineer in the Railway and Tramway Department, having found it impossible to continue to perform the duties of Lecturer in Electrical Engineering, Mr. A. C. F. Webb, M.Inst.C.E., was appointed in his place.

27. In the month of March, Mr. J. E. V. Barling, M.B., Ch.M., was appointed to the office of Demonstrator in Pathology.

28. The arrangements for teaching in the Department of Engineering have been reorganised in certain directions. A lectureship in Mechanics and Applied Thermo-dynamics has been established, and filled by the appointment of Mr. S. H. Barraclough, B.E., M.M.E., whose previous office of Assistant Lecturer and Demonstrator has been abolished.

29. The Junior Demonstratorship in Drawing has also been abolished; and an Instructorship in Drawing, of a higher status, has been established, and filled by the appointment of Mr. Alexander J. Gibson, formerly draughtsman in the Government service.

30. A Junior Demonstratorship in Engineering was also established, and filled by the appointment of Mr. R. W. Hawken, B.A., B.E., who, however, has since resigned, and whose place will be filled from the commencement of the next academic year by Mr. P. L. Weston, B.Sc.

31. The Demonstratorship in Physics became vacant early in the year by the appointment of the holder (Mr. R. C. Simpson) to a position as Lecturer in Electrical Engineering at the Sydney Technical College. The office was filled by the promotion of Mr. O. U. Vonwiller, B.Sc., from the position of Junior Demonstrator to that of full demonstrator.

32. In the Department of Chemistry, leave of absence for six months was granted to Mr. D. Mawson, Junior Demonstrator, to enable him to carry out some scientific investigations in one of the South Sea Islands, and his place was taken by Mr. L. B. Williams, B.A., B.E.

33. Mr. E. le Gay Brereton was appointed Junior Demonstrator in Metallurgy in the place of Mr. C. C. Freeman, B.E., resigned.

34. Messrs. E. Ludowici, M.B., Ch.M.; W. H. Read, M.B., Ch.M.; J. C. Windeyer, Ch.M., were appointed Honorary Demonstrators in Anatomy for the year 1903.

35. In the School of Dentistry, the following additional appointments have been made:—Mr. E. H. Binney, M.B., Ch.M., to be Lecturer in the Administration of Anæsthetics, and Honorary Anæsthetist to the University Dental Hospital; Mr. E. W. Fairfax, M.B., Ch.M., and Mr. C. B. Blackburn, M.D., Ch.M., were also appointed Honorary Anæsthetists; and Mr. Charles MacLaurin, M.B., Ch.M. (Edin.), was appointed Honorary Consulting Surgeon.

36. The Department of Classics suffered a great loss by the death, in the month of July, of Mr. F. Lloyd, B.A., LL.B., who had held the office from the year 1891. The Senate placed on record its appreciation of his services to the University, and particularly of the good he did by his influence with those who had the advantage of his teaching.

The vacancy was filled by the appointment of Mr. F. A. Todd, B.A., a distinguished graduate of the University of Sydney, who upon graduation was awarded the Woolley Travelling Scholarship, and pursued his studies in classical literature and philology for a period of two years in the Universities of Leipsic and Jena, and became entitled to the degree of Doctor of Philosophy from the latter University.

37. The Lectureship in Medical Jurisprudence and Public Health became vacant in Michaelmas Term by the death of Mr. W. H. Goode, M.A., M.D., after twenty years' faithful service to the University.

The office has now been divided; and from the beginning of next academic year the duties of Lecturer in Public Health will be performed by Mr. Sydney Jamieson, B.A., M.D., Ch.M., and those of the lectureship in Medical Jurisprudence by Mr. W. G. Armstrong, B.A., M.B., Ch.M.

38. Professor D. A. Welsh, the Professor of Pathology, has been appointed Honorary Curator of the Museum of Normal and Morbid Anatomy, in lieu of Dr. Sydney Jamieson, who has vacated that office.

39. Leave of absence for a period of twelve months, after thirty-one years' service, has been granted to Professor Liversidge, M.A., LL.D., F.R.S., to enable him to visit centres of scientific thought and research in Europe and America.

In order to carry on the work of his Chair during his absence, Mr. F. B. Guthrie, F.C.S., has been appointed Acting-Professor of Organic Chemistry; and Mr. J. A. Schofield, F.C.S. (the Senior Demonstrator), Acting-Professor of Inorganic Chemistry, with the charge of the chemical laboratory; Mr. T. H. Laby, Junior Demonstrator, being placed in a more responsible position in the laboratory.

40. Leave of absence for Lent Term, 1904, has also been granted to Professor Anderson Stuart, to enable him to pay a short visit to Europe and America.

Dr. H. G. Chapman has been appointed to take charge of the Physiological laboratory during the Professor's absence.

The Hon. Sir Arthur Renwick, B.A., M.D., Ch.M., has been appointed Acting-Dean of the Faculty of Medicine, and Professor J. T. Wilson, M.B., Ch.M., Vice-Dean.

41. By permission of the Senate, Mr. T. Storie Dixon, M.B., Ch.M., Lecturer in Materia Medica and Therapeutics, is visiting Europe and America during the period when no lectures are required of him, in order to make himself better acquainted with the most modern methods of teaching and research in his department.

42. Leave was granted to Professor Thomas Butler, B.A., the Professor of Latin, for Michaelmas Term, in consequence of illness.

Mr. G. W. Waddell, M.A., LL.D., and the Rev. F. V. Pratt, M.A., were appointed to deliver lectures in Latin for the term, under the superintendence of Professor Woodhouse, the Professor of Greek.

*University Library.*

43. The total sum appropriated by the Senate from the Fisher Fund for the purchase of books and for binding was £1350, of which £1050 was set aside for the purchase of books. Of this sum, £150 was devoted to the purchase of books relating to the department of Pathology and Bacteriology, and £75 to the purchase of books not specially connected with any of the teaching departments; the balance being divided equally between the Faculties of Arts and Law on the one hand, and those of the Faculties of Medicine and Science on the other.

Amongst the donations to the Library during the year 1903 may be mentioned the following:—The original draft of the second stanza of the late Lord Tennyson's poem, "Will," presented by his Excellency Lord Tennyson, K.C.M.G., the Governor-General; Strabo's Geography, two folio volumes, by F. N. Pears, Esq.; The Public Works of Great Britain, by W. Poole, Esq.; Catalogue of Tracts by Luther, etc. (limited edition), by Lord Crawford, K.T., LL.D., F.R.S.; 30 volumes of the Journal of Physiology, and the transactions of the British Congress on Tuberculosis, by Professor Stuart; two volumes of the Woods' Hall Biological Lectures, by Professor Haswell.

Fair progress was made during the year in the erection of the new Library building.

*Women's College.*

44. Under the Act of Incorporation of the Women's College the Senate appoints two representatives for a limited period to the Council of the Women's College. In the month of September the Honourable W. P. Cullen, M.A., LL.D., and P. Sydney Jones, Esq., M.D., were re-appointed as representatives of the Senate for a further period of two years.

*Rhodes Scholarships.*

45. In the month of October, Dr G. R. Parkin, the representative of the Trustees of the late Mr. Cecil J. Rhodes, visited Sydney to make enquiry as to the most suitable conditions for



the award of the New South Wales Rhodes Scholarships. At his request the Chancellor called a meeting of representatives of educational institutions, which was held on Tuesday, the 6th of October, at the Royal Society's Rooms. Dr. Parkin, who was present, addressed the meeting as to the objects of the scholarships and the conditions of award according to the interpretation of the Will by the Trustees, and the following resolutions were adopted:—

1. That the Scholarship be given to a student of the University of Sydney of three years' standing, but may, in exceptional cases, be given to a student of greater or less standing.
2. That the selection be left to the Senate of the University acting on the recommendation of the Professorial Board.
3. That the competition be confined to persons who have been residing in New South Wales for the five years preceding the appointment.

#### *Kindergarten Training College.*

46. At the request of the management of the New South Wales Kindergarten Training College, Professor Francis Anderson, M.A. and Mr. G. H. Knibbs were appointed representatives of the University on the Board of Management of the Kindergarten Training College.

#### *Commercial Lectures.*

47. Early in the year a communication was received from the President of the Chamber of Commerce requesting the University to take into consideration the expediency of establishing courses of lectures in the Faculty or Department of Commerce. The matter was discussed by the Senate and by the Professorial Board, and referred to the University Extension Board. That Board, with the kind co-operation of the President and other members of the Chamber of Commerce, was able to establish a course of lectures on Commercial Law. Reference is made to this course under the head of University Extension:

#### *Allied Universities' Conference.*

48. In the month of July a Conference of Representatives of British and Colonial Universities was held in London with the object of discussing subjects relating to the co-ordination of arrangements for Higher Education and Research throughout the Empire. The University of Sydney was represented at the

Conference by Mr. T. T. Gurney, M.A., late Professor of Mathematics; Mr. R. Threlfall, M.A., late Professor of Physics; and Mr. W. Scott, M.A., late Professor of Greek. The following resolutions were passed at the Conference:—

1. That in the opinion of this Conference it is desirable that such relations should be established between the principal teaching Universities of the Empire as will secure that special or local advantages of study, and, in particular, for post-graduate study and research, be made as accessible as possible to students from all parts of the King's Dominions.
2. That a Council, consisting in part of representatives of British and Colonial Universities, be appointed to promote the objects set out in the previous resolution.

*University Extension Board.*

49. The University Extension Board reports that three courses of lectures were organised, and successfully carried out in New South Wales:—

- (A) A course of 12 lectures on educational subjects, each lecture being delivered by an expert in his subject during the months April-August, 1903, in the University Great Hall, the Girls' High School, the Queen's Hall, and the Centennial Hall. The attendance varied from 200 to over 1000, the average attendance being 480. These lectures were generously supported by the Public School Teachers' Association of New South Wales.
- (B) A similar course of six lectures was also organised by Professor Anderson, at the request of the Public Schools Association, at Newcastle. These lectures were attended by the teachers at Newcastle and neighbouring towns. The attendance varied from 70 to 180, the average attendance being 120.
- (C) In conjunction with the Sydney Chamber of Commerce, a course of 10 lectures on Commercial Law was organised. Ninety-nine students, drawn from the commercial houses of Sydney, were enrolled and attended the lectures. The Board hopes that commercial courses may prove a permanent feature of the work of the Board. The Board is pleased to recognise the very valuable services ungrudgingly rendered by Mr. G. S. Littlejohn, President of the Sydney Chamber of Commerce, in the organisation and arrangement of the course on Commercial Law.

In Brisbane, eight courses of lectures were delivered by lecturers approved by the University Extension Board. Five of

these courses consisted each of over twenty lectures. The following were elected in December to be members of the University Extension Board for the year 1904 :—

Members of the Senate: His Honour Judge Backhouse, Mr. H. C. L. Anderson, the Hon. Dr. Cullen, and Mr. R. Teece.

Members of the Teaching Staff: Professors Anderson, Cobbett, David, MacCallum, Wood, and Woodhouse.

Unofficial Members: Rev. Dr. Fordyce, Rev. Dr. Harper, Messrs. H. Goodere, H. S. Robinson, E. B. Taylor, J. Kent, G. S. Littlejohn, and J. M. Taylor.

#### *Macleay Museum of Natural History.*

50. The Senate has to acknowledge with thanks the receipt of a very valuable donation to the Macleay Museum from Mr. George Masters (the Curator) of his private collection of Insects, together with the cabinets in which they are arranged; and also a collection of Birds' Eggs and other Zoological specimens.

#### *Nicholson Museum of Antiquities.*

51. An addition has been made to the Museum of Antiquities by a further donation of Egyptian Antiquities presented by the Egypt Exploration Fund. The office of Curator of the Nicholson Museum, rendered vacant by the death of the late Mr. F. Lloyd, B.A., LL.B., was filled by the appointment of Professor W. J. Woodhouse, M.A. (Professor of Greek), as Honorary Curator.

#### *The Queensland Examinations.*

52. At the request of the Minister of Public Instruction in Queensland, the University has again conducted an examination of candidates for Exhibitions to Universities, granted by the Queensland Government, and also an Examination of Teachers seeking admission into Class I of the Queensland Department of Public Instruction.

#### *Science Research Scholarship.*

53. The Royal Commissioners for the Exhibition of 1851 having given the University a seventh nomination to a research scholarship of £150 per annum, for two years, the Senate nominated Mr. Arthur Boyd, B.Sc., B.E., and his nomination has been accepted by the Commissioners. Mr. Boyd was a

distinguished student in the Faculty of Science and the Department of Engineering, and he is now pursuing his researches in the University of Cambridge, upon the properties of materials, with special reference to their electrical and magnetic properties under stress.

54. The last appointed scholar, Mr. George Harker, B.Sc., studied in the Chemical Laboratory of the City and Guilds Institute in London, in connection with the University of London, and gained the degree of Doctor of Science from that University,

*Accounts.*

55. The annual statement of receipts and expenditure, and statements showing the position of the various funds of the University at the 31st of December, duly certified by the Auditor, David Fell, Esq., are appended to this report.

H. E. BARFF,  
Registrar.

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# ACCOUNTS

## RECEIPTS AND EXPENDITURE OF THE UNIVERSITY OF

Gr.

## GENERAL ACCOUNT.

## RECEIPTS.

	£	s.	d.	£	s.	d.
Received from the Government of New South Wales:—						
The Statutory Annual Endowment ... ..	10,000	0	0			
Towards Evening and Extension Lectures ... ..	2,000	0	0			
For Scientific Apparatus ... ..	2,000	0	0			
Towards Carpenter's Salary, from vote for "Additions, Repairs and Furniture," 1902-3 ... ..	200	0	0			
The Statutory Annual Endowment (balance for 1902) ...	500	0	0			
The Additional Endowment (balance for 1902) ... ..	686	13	4			
Towards Evening and Extension Lectures (balance for 1902) ... ..	166	13	4			
				15,533	6	8
Received Lecture Fees ... ..	13,114	19	0			
Less paid to Professors and Lecturers ... ..	2,329	5	9			
				10,785	13	3
Matriculation Fees ... ..	647	1	0			
Degree Fees ... ..	1,163	0	0			
University Examination Fees ... ..	438	10	0			
Public Examination Fees ... ..	100	0	0			
Testing Fees ... ..	27	12	11			
P. N. Russell Examination Fees ... ..	1	10	0			
Fees for use of Microscopes ... ..	174	10	0			
				13,837	17	2
for Pasturage ... ..				12	10	0
Fines ... ..				1	0	0
from Macleay Curatorship Fund, towards Salary of Curator of Macleay Museum ... ..				96	3	3
from Howell Lectureship Fund, towards salary of Lecturer in Geology and Physical Geography ... ..				52	1	10
from Challis Fund, towards Administration Expenses from Challis Fund, to make up deficiency of year 1902 ... ..				500	0	0
				1,124	2	0
				<u>£30,657</u>	<u>0</u>	<u>11</u>

Audited and found correct.

DAVID FELL, Auditor.

## PUBLIC EXAMINATIONS ACCOUNT.

## RECEIPTS.

	£	s.	d.
Received Candidates' Fees, Junior and Senior Public Examinations ...	1,326	10	0
Balance due Commercial Banking Co. of Sydney, 31st December, 1903 ...	443	11	11
	<u>£1,770</u>	<u>1</u>	<u>11</u>

Sydney, 9th January, 1904—Audited and found correct.

DAVID FELL, Auditor.

## SYDNEY FOR THE YEAR ENDING 31st DECEMBER, 1903.

Cr.

## GENERAL ACCOUNT.

## EXPENDITURE.

	£	s.	d.	£	s.	d.	
Balance due Commercial Banking Co. of Sydney, 31st Dec., 1902				2,132	3	8	
Paid Salaries	21,088	6	7				
„ Examiners' Fees	493	3	0				
				21,581	9	7	
„ Printing & Stationery, including University Calendar	618	4	1				
„ Advertising	102	12	5				
„ Repairs and Alterations, Fittings, &c.	298	12	1				
„ Fuel and Lighting	126	19	0				
„ Fire Insurance Premiums	240	13	2				
„ Rent	430	0	0				
„ Supervision and Attendance at Examinations	49	15	9				
„ Water and Sewerage Rates	288	6	6				
„ Cleaning	31	7	0				
„ Postage and Duty Stamps and Bank Charges	86	1	4				
„ Premiums for Annuities	711	0	0				
„ Passage Money and other expenses, Chair of Mathematics and Instructor in Mechanical Dentistry	126	12	2				
„ Restoring Paintings	42	0	0				
„ Miscellaneous Charges	73	12	4				
				3,231	15	10	
„ Scientific Apparatus, and Maintenance of Scientific Departments				2,856	2	7	
„ Microscopes				90	5	4	
„ Improvement of Grounds				51	5	0	
„ Alterations to and Tuning Organ				174	4	6	
„ Prizes and Medals				18	15	0	
„ University Extension Lectures	108	3	2				
„ Less Fees received for Courses	101	5	0				
					6	18	2
Balance in Commercial Banking Co. of Sydney, 31st Dec., 1903				514	1	3	
				£30,657	0	11	

ROBERT A. DALLEN, ACCOUNTANT.

## PUBLIC EXAMINATIONS ACCOUNT.

## EXPENDITURE.

	£	s.	d.
Balance due Commercial Banking Co. of Sydney, 31st December, 1902	397	3	4
Paid Examiners' Fees and all other expenses in connection with the Public Examinations, and Grants towards Expenses of Local Centres	1,372	18	7
	£1,770	1	11

ROBERT A. DALLEN, ACCOUNTANT.

## RECEIPTS AND EXPENDITURE OF THE UNIVERSITY OF

Fr.

## PRIVATE FOUNDATIONS ACCOUNT.

## REVENUE ACCOUNT.

## RECEIPTS.

	£	s.	d.	£	s.	d.
Received from the English Trustees of the Dalton Estate, balance of interest on investments				232	10	3
„ from the following for Prizes:—						
Professor A. Liversidge, M.A., LL.D.	10	10	0			
„ G. Arnold Wood, M.A.	5	0	0			
„ T. W. Edgeworth David, B.A., F.R.S.	10	0	0			
„ M. W. MacCallum, M.A.	15	0	0			
„ F. Anderson, M.A.	10	0	0			
„ W. A. Haswell, M.A., D.Sc., F.R.S.	5	5	0			
„ Pitt Cobbett, M.A., D.C.L.	5	0	0			
				60	15	0
Received Income from Investments on account of the following Foundations:—						
Levey Scholarship	43	12	8			
Barker Scholarships	268	11	2			
Deas-Thomson Scholarships	147	18	5			
Cooper Scholarships	274	7	0			
Lithgow Scholarship	96	1	8			
Renwick Scholarship	41	13	0			
Bowman Cameron Scholarship	42	8	0			
George Allen Scholarship	37	10	8			
Freemasons' Scholarship	50	14	3			
James Aitken Scholarship	54	1	8			
G. Wigram Allen Scholarship	71	14	5			
Caird Scholarship	77	5	9			
James King of Irrawang Travelling Scholarship	138	9	8			
John Harris Scholarship	45	12	8			
Council of Education Scholarship	22	18	4			
Frazer Scholarship	84	17	11			
Woolley Scholarships	39	12	5			
Garton Scholarships	95	16	5			
George and Matilda Harris Scholarship	74	10	5			
Salting Exhibition	41	6	3			
J. B. Watt Exhibitions	144	10	11			
Struth Exhibition	52	11	6			
Horner Exhibition	9	16	11			
Maurice Alexander Bursary	47	9	6			
Levey and Alexander Bursary	51	0	11			
Ernest Manson Frazer Bursary	66	0	7			
John Ewan Frazer Bursary	60	7	9			
W. C. Wentworth Bursary No. 1	41	8	3			
„ „ No. 2	43	9	8			
„ „ No. 3	48	10	4			
Burdekin Bursary	45	11	7			
Hunter-Baillie Bursaries	106	9	0			
Thomas Walker Bursaries	182	11	0			
Badham Bursary	44	11	7			
Henry Wait Bursary	43	11	9			
Duncan Bursary	36	11	0			
Wentworth Prize Medal	24	13	9			
Nicholson Medal	29	1	8			
Belmore Medal	27	7	0			
John Fairfax Prizes	24	2	7			
John West Prize	9	3	11			
Norbert Quirk Prize	6	12	3			
Smith Prize	4	15	2			
Carried forward	£2,899	10	11	£293	5	3



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Cr.

	£	s.	d.	£	s.	d.
Balance due Commercial Banking Co. of Sydney, 31st Dec., 1902				4,576	9	1
Paid Scholarships, Bursaries, Prizes, &c., on account of the following Foundations :—						
Levey Scholarship .....	30	0	0			
Barker Scholarships .....	100	0	0			
Deas-Thomson Scholarships .....	100	0	0			
Cooper Scholarships .....	100	0	0			
Lithgow Scholarship .....	50	0	0			
Renwick Scholarship .....	35	0	0			
Bowman-Cameron Scholarship .....	50	0	0			
George Allen Scholarship .....	30	0	0			
Freemasons' Scholarship .....	50	0	0			
Aitken Scholarship .....	50	0	0			
G. Wigram Allen Scholarship .....	50	0	0			
Caird Scholarship .....	50	0	0			
James King of Irrawang Travelling Scholarship .....	130	0	0			
John Harris Scholarship .....	20	0	0			
Frazer Scholarship .....	105	0	0			
Woolley Scholarship .....	150	11	4			
P. N. Russell Scholarships .....	313	8	9			
Garton Scholarship .....	30	0	0			
George and Matilda Harris Scholarship .....	50	0	0			
Sailing Exhibition .....	25	0	0			
J. B. Watt Exhibitions .....	145	0	0			
Horner Exhibition .....	8	0	0			
Struth Exhibition .....	40	0	0			
Maurice Alexander Bursary .....	35	0	0			
Levey and Alexander Bursary .....	50	0	0			
Ernest Manson Frazer Bursary .....	50	0	0			
John Ewan Frazer Bursary .....	18	15	0			
W. C. Wentworth Bursary No. 1 .....	50	0	0			
" " No. 2 .....	50	0	0			
Burdekin Bursary .....	30	0	0			
Hunter-Baillie Bursaries .....	40	0	0			
Thomas Walker Bursaries .....	225	0	0			
Badham Bursary .....	40	0	0			
Henry Wait Bursary .....	30	0	0			
John Fairfax Prizes .....	50	0	0			
John West Prize .....	10	0	0			
Norbert Quirk Prize .....	5	0	0			
Slade Prizes .....	9	0	0			
Grahame Prize Medal .....	5	0	0			
Collie Prize .....	3	10	0			
Smith Prize .....	5	0	0			
Liversidge Prize .....	2	2	0			
Wood Prize .....	5	0	0			
David Prize .....	10	0	0			
MacCallum Prizes .....	18	7	0			
Anderson Prizes .....	10	0	0			
Scott Prize .....	3	12	6			
Haswell Prize .....	3	2	0			
Cobbett Prize .....	5	0	0			
Paid on account of Fisher Library :—				2,475	8	7
Librarians' Salaries .....	335	6	8			
Purchase of Books, Binding, etc. ....	1,329	18	0			
				1,665	4	8
Carried forward ...				£8,717	2	4

## RECEIPTS AND EXPENDITURE OF THE UNIVERSITY OF

Tr.

## PRIVATE FOUNDATIONS ACCOUNT—Continued.

## REVENUE ACCOUNT.

RECEIPTS.		£	s.	d.	£	s.	d.
<i>Brought forward</i>		2,899	10	11	293	5	3
Received Income from Investments on account of the following							
Foundations:—							
Slade Prizes	...	14	2	7			
Grahame Prize Medal	...	4	4	3			
Collie Prize	...	4	8	5			
Beauchamp Prize	...	28	0	9			
Wentworth Fellowship	...	99	19	9			
Hovell Lectureship	...	152	6	1			
J. G. Raphael Foundation	...	4	8	3			
Macleay Curatorship	...	206	13	7			
Fisher Estate	...	1,757	14	5			
P. N. Russell Endowment	...	1,909	19	2			
"	" Sinking Fund	18	16	3			
					7,100	4	5
"	from P. N. Russell Endowment for P. N. Russell Endowment Sinking Fund				140	8	0
"	Principal Sums of Investments, being amount over invested				2,655	19	6
Balance due Commercial Banking Co. of Sydney, 31st Dec., 1903					401	6	7
					<u>£10,591</u>	<u>3</u>	<u>9</u>

Sydney, 9th February, 1904—Audited and found correct.

DAVID FELL, Auditor.

## SYDNEY FOR THE YEAR ENDING 31ST DECEMBER, 1903.

PRIVATE FOUNDATIONS ACCOUNT—*Continued.*

Cr.

## REVENUE ACCOUNT.

EXPENDITURE.		£	s.	d.	£	s.	d.
<i>Brought forward</i> ...					8,717	2	4
Paid to General Account towards Salaries:—							
Hovell Lectureship	...	52	1	10			
Macleay Curatorship	...	96	3	3			
		<hr/>				148	5 1
„ on account of P. N. Russell Endowment for Salaries, etc....						1,725	16 4

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£10,591 3 9


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 ROBERT A. DALLEN, ACCOUNTANT.

## RECEIPTS AND EXPENDITURE OF THE UNIVERSITY

Dr.

P. N. RUSSELL ENDOWMENT.  
(Included in Private Foundations Account.)

	£	s.	d.
Received Interest from Investment	1,909	19	2

## SINKING FUND.

Received from Endowment Fund	140	8	0
„ Interest on Bank Deposit (half-year only), the balance, £18 16s. 3d., being received in January, 1904	18	16	3
	<u>£159</u>	<u>4</u>	<u>3</u>

Sydney, 9th February, 1904.—Audited and found correct.  
DAVID FELL, Auditor.

## CHALLIS FUND ACCOUNT.

## REVENUE ACCOUNT.

	RECEIPTS.	£	s.	d.	£	s.	d.
Received Interest on Investments:—							
Government Stock	...	2,408	0	0			
Mortgages	...	6,254	18	6			
Bank Deposits	...	50	0	0			
Rents of Properties	...	1,025	9	3			
		9,738	5	9			
Less transfer to Challis Special Reserve Fund		419	6	10			
					9,318	18	11
„ Principal sums of Investments, being amount over-invested					5,000	0	0
Balance due Commercial Banking Co. of Sydney, 31st December, 1903					937	0	9
					<u>£15,255</u>	<u>19</u>	<u>8</u>

## SPECIAL RESERVE ACCOUNT.

SPECIAL RESERVE ACCOUNT.						£	s.	d.	£	s.	d.	
Received Interest on Investments:—												
Government Stock						...	...	...	...	63	19	6
Bank Deposits						...	...	...	...	19	7	6
Mortgages						...	...	...	...	623	3	0
Rents of Properties						...	...	...	...	224	14	0
										931	4	0
,, from Challis Fund, Interest over 4 per cent. on Investments for providing quinquennial increments to Professors, and for equalising income from Investments						...	...	...	...	419	6	10
,, Principal sums of Investments						...	...	...	...	1,550	0	0
Balance due Commercial Banking Co. of Sydney, 31st Dec., 1903...										155	6	8
										£3,055	17	1

Sydney, 9th February, 1904.—Audited and found correct.  
DAVID FELL, Auditor.

## OF SYDNEY FOR THE YEAR ENDING 31st DECEMBER, 1903.

Cr.

## P. N. RUSSELL ENDOWMENT.

*(Included in Private Foundations Account.)*

	£	s.	d.
Paid Scholarships and Medal ... ..	313	8	
Salaries ... ..	1,485	8	4
Scientific Apparatus ... ..	100	0	0
eight instalment towards Sinking Fund to defray premium on Funded Stock ... ..	140	8	0
	<u>£2,039</u>	<u>5</u>	<u>1</u>

## SINKING FUND.

Paid Investment—Bank Deposit ... ..	178	0	6
	<u>£178</u>	<u>0</u>	<u>6</u>

ROBERT A. DALLEN, ACCOUNTANT.

## CHALLIS FUND ACCOUNT.

## REVENUE ACCOUNT.

## EXPENDITURE.

	£	s.	d.
Balance due Commercial Banking Co. of Sydney, 31st December, 1902 ...	6,541	18	3
Paid Salaries ... ..	7,083	6	8
Maintenance of Challis Tomb ... ..	4	10	0
Miscellaneous Expenses ... ..	2	2	9
General Account towards Expenses of Administration ... ..	500	0	0
" " " to make up Deficiency of 1902 on General Fund ...	1,124	2	0
	<u>£15,255</u>	<u>19</u>	<u>8</u>

## SPECIAL RESERVE ACCOUNT.

	£	s.	d.
Balance due Commercial Banking Co. of Sydney, 31st December, 1902 ...	1,155	17	1
Paid Salaries—Quinquennial Increases ... ..	1,900	0	0
	<u>£3,055</u>	<u>17</u>	<u>1</u>

ROBERT A. DALLEN, ACCOUNTANT.

# REPORT OF THE RECEIPTS AND EXPENDITURE OF THE UNIVERSITY

Dr.

## CAPITAL ACCOUNT AT 31st DECEMBER, 1903.

Private Foundations Account—	£	s.	d.	£	s.	d.	£	s.	d.
Benefactions, original amounts .. ..	142,008	11	4						
„ received during 1903 ... ..	121	11	4						
				142,130	2	8			
Accumulated Income to 31st Dec., 1902 ...	28,280	1	8						
„ „ added during 1903 ... ..	1,419	0	2						
				29,699	1	10			
Annual Prizes ... ..				34	6	2			
							171,863	10	8
Challis Fund Account—									
Original Amount handed over by Challis Trustees ... ..	224,362	10	0						
Balance of Accumulated Income (after transfers to Special Reserve Fund) to 31st December, 1902 ... £3,620 11 9									
Added during 1903 ... ..	604	17	6						
				4,225	9	3			
							228,587	19	3
Special Reserve Fund—									
Accumulations from Challis Fund at 31st December, 1902 ... ..	21,274	2	11						
Less excess of expenditure over receipts during 1903 ... ..	549	9	2						
							20,724	13	9
							<u>£421,176</u>	<u>3</u>	<u>8</u>

Sydney, 9th February, 1904.—Audited and found correct.

DAVID FELL, Auditor.

## OF SYDNEY FOR THE YEAR ENDING 31st DECEMBER, 1903.

CAPITAL ACCOUNT AT 31st DECEMBER, 1903.						Cr.	
Private Foundations Account—						£	s. d.
						£	s. d.
Investments—Government Stock	...	...	...	...	73,915	7	3
Bank Deposits	...	...	...	...	23,290	10	0
Mortgages	...	...	...	...	30,300	0	0
Properties...	...	...	...	...	44,759	0	0
					172,264	17	3
Less Bank overdraft	...	...	...	...	401	6	7
						171,863	10 8
Challis Fund Account—							
Investments—Government Stock	...	...	...	...	58,700	0	0
Mortgages...	...	...	...	...	147,975	0	0
Properties	...	...	...	...	22,850	0	0
					229,525	0	0
Less Bank overdraft	...	...	...	...	937	0	9
						228,587	19 8
Challis Fund Special Reserve Fund—							
Investments—Government Stock	...	...	...	...	1,600	0	0
Mortgages...	...	...	...	...	14,380	0	0
Properties...	...	...	...	...	4,900	0	0
					20,880	0	0
Less Bank overdraft	...	...	...	...	153	6	3
						20,724	13 9
						£421,176	3 8

ROBERT A. DALLEN, ACCOUNTANT.

PRIVATE FOUNDATIONS, ORIGINAL ENDOWMENTS AND  
CREDIT BALANCES AT 31st DECEMBER, 1903.

NAME OF FOUNDATION.	Original Amount of Endowment.	Ledger Account. Cr. Balance.
	£ s. d.	£ s. d.
Levey Scholarship	500 0 0	1,040 11 0
Barker Scholarships	1,000 0 0	3,165 10 6
Deas-Thomson Scholarships	1,000 0 0	2,511 5 3
Wentworth Prize Medal	200 0 0	610 8 4
Cooper Scholarships	1,000 0 0	3,304 8 1
Salting Exhibition	500 0 0	881 6 8
Wentworth Fellowship	445 0 0	2,433 13 9
Lithgow Scholarship	1,000 0 0	2,360 8 10
Nicholson Medal	200 0 0	711 5 1
Belmore Medal	300 0 0	703 13 7
John Fairfax Prizes	500 0 0	535 12 0
Maurice Alexander Bursary	1,000 0 0	1,111 16 5
Levey and Alexander Bursary	1,000 0 0	1,183 18 3
John West Prize	200 0 0	211 15 1
Ernest Manson Frazer Bursary	1,250 0 0	1,648 13 0
John Ewan Frazer Bursary	1,250 0 0	1,534 18 10
W. C. Wentworth Bursary, No. 1	2,500 0 0	1,000 0 0
W. C. Wentworth Bursary, No. 2		1,000 0 0
W. C. Wentworth Bursary, No. 3		1,130 16 11
Burdekin Bursary	1,000 0 0	1,085 12 9
Hunter-Baillie Bursaries	2,000 0 0	2,582 11 0
J. B. Watt Exhibitions	3,000 0 0	3,878 2 1
Renwick Scholarship	1,000 0 0	1,125 4 2
Bowman-Cameron Scholarship	1,000 0 0	967 8 0
Hovell Lectureship	6,000 0 0	6,133 4 0
George Allen Scholarship	1,000 0 0	1,073 9 2
Freemasons' Scholarship	1,000 0 0	1,274 0 2
J. G. Raphael Foundation	43 0 4	105 1 11
James Aitken Scholarship	1,000 0 0	1,254 2 4
Thomas Walker Bursaries	5,000 0 0	5,210 2 7
G. Wigram Allen Scholarship	1,000 0 0	1,637 3 5
Struth Exhibition	1,000 0 0	1,233 19 4
Fisher Estate	30,000 0 0	41,871 3 2
Norbert Quirk Prize	143 12 6	158 10 6
Smith Prize	100 0 0	109 19 6
Badham Bursary	1,000 0 0	950 3 4
Slade Prizes	250 0 0	311 19 11
Caird Scholarship	1,000 0 0	1,825 6 2
James King of Irrawang Scholarship	4,000 0 0	4,452 11 3
Bursary	881 0 0	786 4 6
Macleay Curatorship	6,000 0 0	6,028 16 11
John Harris Scholarship	1,000 0 0	1,071 3 10
Horner Exhibition	200 0 0	213 13 7
Council of Education Scholarship	290 10 1	549 15 5
Frazer Scholarship	2,000 0 0	2,391 3 1
Grahame Prize Medal	100 0 0	94 16 6
Collie Prize	100 0 0	109 3 6
Woolley Scholarship	900 7 8	993 0 3
P. N. Russell Fund	50,000 0 0	47,355 2 8
" Sinking Fund	—	1,234 13 9
Garton Scholarships	2,050 0 0	2,261 0 11
Henry Wait Bursary	1,000 0 0	1,012 16 9
George and Matilda Harris Scholarship	1,700 0 0	1,736 14 9
Duncan Bursary	808 19 6	873 11 3
Beauchamp Prize	600 0 0	717 10 4
Private Annual Prizes in Trust	34 6 2	34 6 2
Challis Fund	224,362 10 0	228,587 19 3
" " Special Reserve Fund	—	20,724 13 9
	£366,409 6 3	£421,176 3 8



## UNIVERSITY CLUBS, ETC.

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### SYDNEY UNIVERSITY UNION.

The object of the Union, which was founded in 1874, is the promotion of the mental culture and fellowship of its members by means of Debates, Lectures, Reading of Papers, etc. The meetings are held at the University every Friday evening at 8 p.m. Past and Present Members meet at the Annual Dinner, which is held during Lent Term. The Professors, Lecturers, and Examiners of the Sydney University are *ex officio* Honorary Members. All other members of the University, or student attending lectures, or fellow or councillor or student of an affiliated college, may become a member of the Union by paying his subscription to the Treasurer. Except in the case of members of other Universities, the formality of an election is dispensed with. Subscription, 2s. 6d. per annum. Life Membership is obtained on the payment of four annual subscriptions.

#### OFFICE BEARERS FOR 1904.

PRESIDENT—Professor W. J. Woodhouse, M.A.

VICE-PRESIDENT—W. L. Artlett, B.A.

HON. SECRETARIES—W. S. Hinton, B.A., J. Paterson.

HON. TREASURER—J. W. G. Powell.

COMMITTEE—H. N. MacLaurin, B.A., N. J. Gough, B.A., C. St. L. Willis, H. I. Jensen, I. G. Mackay.

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### UNIVERSITY OF SYDNEY MEDICAL SOCIETY.

The objects of this Society, which was founded in 1885, are the intellectual and social improvement of its members, by lectures, essays, and discussions, in any branch of Medical Science, and by any other means calculated to advance the objects of the Society.

The Annual General Meeting is held early in Lent Term. Ordinary general meetings are held twice in Lent Term, three times in Trinity Term, and once in Michaelmas Term, in the Harveian Theatre. At the last meeting in Trinity Term an address is delivered by some eminent physician or surgeon on some subject of special interest.

All teachers in the Faculty of Medicine are honorary members *ex officio*. All Students of Medicine, or qualified Medical Practitioners, whose qualifications are recognised by the University of Sydney, are eligible for ordinary membership.

The transactions of the Society, together with other matters of Medical interest, are published in the Society's Journal.

## OFFICE BEARERS FOR 1904.

PRESIDENT—G. A. Buchanan, M.B., Ch.M.

VICE-PRESIDENTS—S. A. Smith, M.B., Ch.M., St. J. W. Dansey, M.B., Ch.M., T. P. Connolly, M.B., Ch.M., T. C. Parkinson, M.B., Ch.M., J. D. Buchanan.

HON. SECRETARY—L. Cowlshaw.

HON. TREASURER—J. M. McEncroe.

HON. LIBRARIAN—W. T. Quaife.

HON. AUDITORS—V. Benjafield, M.B., Ch.M., A. J. Aspinall.

EDITORIAL COMMITTEE FOR SOCIETY'S JOURNAL—S. A. Smith, M.B., Ch.M., J. D. Buchanan, J. M. McEncroe.

COUNCIL—Five members, one from each year in Medicine.

## SYDNEY UNIVERSITY SPORTS UNION.

The Union has been formed by the amalgamation of the existing Football, Cricket, Boat, Athletic, and Tennis Clubs. Such other Clubs as may from time to time be approved by the Committee shall be admitted.

Membership.—Any person who shall have matriculated according to the by-laws of the University of Sydney, and shall be proceeding to a degree or to a license in dentistry at such University, and any graduate of the said or any other recognised University, shall be eligible for membership. Any undergraduate who has attended lectures for at least six (6) consecutive terms shall be entitled to continue his membership, and nothing in this rule shall affect any member at the date of the passing thereof (April 6th, 1903).

Annual Subscription.—The annual subscription to the Sports Union for full active members shall be £2 2s. per annum, and for honorary members £1 1s. Ladies, who comply with the provisions of the above rule as to membership, may become members on payment of an annual subscription of £1 1s. Any person eligible for membership may become a life member on payment of £15 15s.; a life honorary member on payment of £10 10s. A life member of any constituent club at the time of amalgamation shall continue a life member of that club, and shall be made a life member of the Sports Union on payment of an additional subscription to be fixed in each case by the Committee. Any member who shall have paid the aggregate sum of 25 guineas in annual subscriptions shall forthwith become entitled to life membership.

The Oval.—The Oval is controlled and managed by a Ground Committee of five (5), appointed annually by the General Committee.

## OFFICE BEARERS FOR 1904.

PATRON—The Hon. Sir Normand MacLaurin, M.A., M.D., LL.D., Chancellor.

PRESIDENT—H. F. Maxwell, B.A.

VICE-PRESIDENTS—His Honour Judge Backhouse, M.A., H. E. Barff, M.A., H. M. Faithfull, M.A., E. W. Knox, Professor Pollock, B.Sc., Mr. Justice A. H. Simpson, Senator J. T. Walker, H. D. Wood, B.A., LL.B., A. W. Freeman, B.E., C. H. Holsham, B.A.

HON. TREASURERS—H. M. Stephen, B.A., LL.B.,<sup>2</sup> A. G. M. Pitt, B.A., LL.B., E. F. Waddy, D. C. Close.

HON. SECRETARY—T. B. Clouston.

GENERAL COMMITTEE—J. Manning, J. Verge, J. S. Harris, S. H. Harris, J. W. G. Powell, V. S. Fatter, J. N. Griffiths, M. L. MacCallum, W. Balcombe, J. S. Cargill, I. G. Mackay, A. G. de L. Arnold, W. J. White, F. C. Rogers.

GROUNDS COMMITTEE—H. D. Wood, B.A., LL.B. (Chairman), C. A. Sinclair, B.A., J. S. Cargill, E. I. Body, I. G. Mackay, B.A. (Secretary).

#### UNIVERSITY BOAT CLUB.

All members of the Sports Union are members of the Boat Club. The boat shed of the Club is now situated in Blackwattle Bay.

#### OFFICE BEARERS FOR 1904.

PATRON—His Honour Judge Backhouse, M.A.

PRESIDENT—M. C. Chubb.

VICE-PRESIDENTS—C. H. Helsham, B.A., Professor Pollock, B.E., B.Sc., R. R. P. Hickson, A. G. Purves, H. O. Lethbridge, M.B., Ch.M., E. M. Mitchell, B.A., LL.B., W. H. Palmer, H. Kendall, A. Consett Stephen, A. MacCormick, M.D.

CAPTAIN—C. H. Cropper.

VICE-CAPTAIN—G. H. S. Lightoller.

HON. SECRETARY—V. Nathan.

HON. TREASURER—W. J. White.

COMMITTEE—O. A. Ireland, F. Coen, F. O. Stokes, A. McKillop, J. W. Heaslop, E. A. Brearley.

TRUSTEES—H. E. Barff, M.A., Robert Smith.

DELEGATES TO N.S.W. R.A.—M. C. Chubb, C. H. Cropper.

DELEGATES TO SPORTS UNION—W. J. White (*ex officio*), A. G. de L. Arnold.

HON. MEDICAL OFFICER—H. O. Lethbridge, M.B., Ch.M.

#### UNIVERSITY CRICKET CLUB.

This Club was established in the year 1865. All members of the Sports Union are Members of the Cricket Club. The Senate has granted to the Club the use of that portion of the University grounds known as the "Oval." A considerable sum of money has been spent upon this ground, and a handsome pavilion has been erected upon it. Practice is carried on daily (Wednesdays excepted) from October to April (inclusive) on the Oval.

Twenty-two matches have been played between this University and that of Melbourne. Of these, thirteen have been won by Sydney, seven by Melbourne, and two drawn.

#### OFFICE BEARERS FOR 1904.

PRESIDENT—H. M. Faithfull, M.A.

VICE-PRESIDENTS—H. E. Barff, M.A., Thos. Buckland, John Harris. E. W. Knox, Theo. Powell, R. Teece, H. M. Stephen, B.A., LL.B., J. W. Woodburn, B.E., H. E. Manning, B.A., LL.B.

HON. SECRETARY—F. C. Rogers.

ASSISTANT HON. SECRETARY 2ND XI.—J. S. Harris.

„ „ „ 3RD XI.—C. P. Sapsford.

„ „ „ VETERANS—A. G. Purves.

HON. TREASURER—S. H. Harris.

DELEGATES TO S.U.S.U.—W. J. White, F. C. Rogers.

DELEGATES TO N.S.W.C.A.—H. M. Stephen, C. A. Sinclair.

DELEGATES TO C.S.C.A.—A. G. Purves, C. A. Sinclair.

COMMITTEE—Dr. H. S. Stacy, H. Marks, B.A. Dr. P. S. Jones, junr. D. C. Close, I. G. Mackay, V. S. Futter, A. Verge, E. F. Waddy.

SELECTION COMMITTEES—1st XI.: E. F. Waddy, A. Verge, D. C. Close. 2ND XI.: I. G. Mackay, W. J. White, J. S. Harris. VETERANS: A. G. Purves, C. A. Sinclair, H. Marks.

#### UNIVERSITY TENNIS CLUB.

The Club was established in September, 1885. All members of the Sports Union are also members of the Tennis Club.

#### OFFICE BEARERS FOR 1904.

PATRON—Professor Wood, M.A.

PRESIDENT—G. W. Waddell, M.A., LL.D.

VICE-PRESIDENTS—Professor Pollock, B.Sc., Professor Carslaw, D.Sc., H. E. Barff, M.A., Dr. H. C. Hinder, H. F. Maxwell, B.A., G. G. Sharp, M.B., Dr. E. O. Pockley, A. G. M. Pitt, B.A.

HON. SECRETARY—M. L. MacCallum.

HON. TREASURER—J. N. Griffiths.

DELEGATES TO N.S.W.L.T.A.—J. N. Griffiths, M. L. MacCallum.

GENERAL COMMITTEE—W. B. Docker, C. W. Maher, O. C. Slade, E. F. Waddy, E. N. Docker, E. D. L. Jones.

#### UNIVERSITY ATHLETIC CLUB.

#### OFFICE BEARERS FOR 1904.

PATRON—The Chancellor.

PRESIDENT—Professor Anderson, M.A.

VICE-PRESIDENTS—Senator J. T. Walker, H. E. Barff, M.A., Professor Pollock, B.Sc., F. T. Perkins, M.A., R. Coombes, D. B. Corfe, Dr. H. P. Blaney, Professor David.

HON. SECRETARIES—N. C. Barker and S. D. Webb.

HON. TREASURER—V. S. Futter.

GENERAL COMMITTEE—Messrs. Powell, Palmer, Allen, Manning, Roe, Oxenham, Thompson and Kater.

DELEGATES TO N.S.W.A.A.A.—N. C. Barker, C. W. Thompson, E. W. Roe and C. Kater.

DELEGATES TO S.U. SPORTS UNION—V. S. Futter and J. W. G. Powell.

#### UNIVERSITY FOOTBALL CLUB.

This Club was formed in 1863. Matches are played every Saturday and Wednesday during the season, which lasts from April till September. All members of the Sports Union are members of the Football Club.

##### OFFICE BEARERS FOR 1904.

PATRON—The Hon. Sir Normand MacLaurin, M.L.C., M.D., LL.D.

PRESIDENT—H. D. Wood, B.A., LL.B.

VICE-PRESIDENTS—H. E. Barff, M.A., H. P. Blaney, M.B., H. Marks, B.A., G. P. Barbour, M.A., T. P. Connolly, M.B., Ch.M., J. J. Garry, C. S. Browne, M.B.

GENERAL COMMITTEE—J. Manning, C. A. Sinclair, B.A., J. Coen, D. C. Close, A. D. Fisher, B.A.

SELECTION COMMITTEE—1ST XV.: J. Manning, A. D. Fisher, A. Verge. 2ND XV.: J. Coen, D. C. Close, E. E. I. Body. 3RD XV.: R. J. N. Whiteman, J. Smail.

HON. TREASURER—A. Verge.

DELEGATE TO SPORTS UNION—J. Manning.

DELEGATES TO METROPOLITAN UNION—J. Manning, G. P. Barbour, M.A., and T. B. Clouston.

DELEGATE TO BOROUGH COMMITTEE—J. Smail.

REPRESENTATIVE ON COMMITTEE OF METROPOLITAN UNION—T. B. Clouston.

HON. SECRETARIES—First XV.: J. W. G. Powell, B.A. Second XV.: A. J. Aspinall. Third XV.: R. J. N. Whiteman, J. Smail.

#### UNIVERSITY BASEBALL CLUB.

Founded, 1904.

##### OFFICE BEARERS FOR 1904.

PRESIDENT—H. E. Barff, M.A.

VICE-PRESIDENTS—Professor Pollock, Professor Welsh, Dr. Pope, Messrs. G. P. Barbour, G. F. Frith, C. G. Roche, C. A. Buchanan, A. J. Aspinall, Father Brennan and Brother Sebastian.

TREASURER—G. T. Balcombe.

SECRETARY—J. S. Harris.

GENERAL COMMITTEE—F. C. Rogers, E. F. Waddy, H. C. E. Donovan, V. O. Stacy, H. G. Allen, H. Clayton, and the Treasurer and Secretary.

DELEGATES TO S.U.S.U.—G. T. Balcombe and J. S. Harris.

DELEGATES TO N.S.W.B.A.—H. C. E. Donovan and J. S. Harris.

SELECTION COMMITTEE—G. T. Balcombe, E. F. Waddy and H. C. E. Donovan.

## LADIES' TENNIS CLUB.

## OFFICE BEARERS FOR 1904.

PATRONESS—Lady MacLaurin.

PRESIDENT—Mrs. MacCallum.

VICE-PRESIDENTS—Mrs. Wood, Miss Fidler, B.A., Mrs. Butler, Mrs. Haswell.

HON. SECRETARY—M. G. E. Latreille.

HON. TREASURER—F. L. Parsons.

COMMITTEE—Muriel Rutherford, Florence Holden, F. M. Austin, C. A. C. Armstrong, M. Dunlop, B. Ward.

## UNIVERSITY WOMEN'S SOCIETY.

The object of this Society is, as far as lies in its power, to help those requiring and deserving help. All women members of the University of Sydney are eligible for membership. Honorary members may be admitted by consent of a general meeting. Subscription, 1s. 6d. per Term.

FOUNDRESS—The Countess of Jersey.

## OFFICE BEARERS FOR 1904.

PATRONESS—Lady Rawson.

PRESIDENT—Lady Manning.

VICE-PRESIDENTS—Mrs. Hey Sharp, Mrs. Wilson, Mrs. Harper, Mrs. Welsh, Miss Fidler, B.A., Miss Duncan.

HON. SECRETARY—Miss Ida Henry, B.A.

HON. ASSISTANT SECRETARY—Miss M. Dawes.

HON. TREASURER—Miss J. Skillman.

REPRESENTATIVES—Newington Asylum, Miss S. O. Brennan, M.A. B.Sc.; Girls' Club, Miss Macdonald, M.A.

COMMITTEE—Miss Larkins, Miss Fell, B.A., Miss V. Reid, B.A., Miss E. E. Bourne, Miss M. Watson, Miss M. E. David, Miss S. R. Child.

## SYDNEY UNIVERSITY WOMEN'S ASSOCIATION.

This Association was founded in May, 1892, with the aim of bringing all women Graduates and Undergraduates together from time to time for social and intellectual purposes, and of taking cognizance of all matters affecting their well-being.

## OFFICE BEARERS FOR 1904.

PRESIDENT—Miss Kate Hogg, M.B., Ch.M.

HON. SECRETARY—Miss D. K. Murray-Prior, B.A.

HON. TREASURER—Miss Ida Leeson.

COMMITTEE—Miss L. Macdonald, M.A., Miss A. Bennett, M.B., Ch.M., Miss M. G. E. Latreille, Miss R. Murray-Prior, Miss M. H. Sutton, B.A., Miss I. M. Fidler, B.A.

DELEGATE TO THE NATIONAL COUNCIL OF WOMEN—Miss D. Murray-Prior, B.A.

#### SYDNEY UNIVERSITY UNDERGRADUATES' ASSOCIATION:

##### OFFICE BEARERS FOR 1904.

PRESIDENT—S. L. Cook, B.A.

VICE-PRESIDENTS—A. D. Fisher, B.A., J. G. W. Hill, B.A., A. Verge.

HON. SECRETARIES—J. W. G. Powell, B.A., F. C. Kater.

HON. TREASURER—H. B. Oxenham.

COMMITTEE—Arts: H. S. Bland, H. J. R. Clayton, M. L. MacCallum, G. V. Portus, W. B. Docker, P. H. Rogers. Law: P. R. Watts, B.A., J. A. Ferguson, B.A., H. V. Jaques, B.A. Medicine: C. A. Verge, F. C. Rogers, A. MacInnes, B.A., A. J. Aspinall, G. A. Buchanan. Science: H. G. Carter, J. P. Tivey, B.A., J. F. Stephen. Evening Students: A. J. Reynolds, S. C. Smith, S. W. Ebsworth. Pharmacy: C. W. Probert. Dentistry: C. T. Burkitt.

#### SYDNEY UNIVERSITY WOMEN-UNDERGRADUATES' ASSOCIATION.

##### OFFICE BEARERS FOR 1904.

PRESIDENT—Frances Graham.

VICE-PRESIDENTS—Florence M. Holden, Ida F. Bourne.

HON. SECRETARY—Madeleine M. Dawes.

HON. TREASURER—Florence E. Campbell.

COMMITTEE—Ella Slack, Ruth Murray-Prior, Bertha Crane, Isabel Ormiston.

#### SYDNEY UNIVERSITY EVENING STUDENTS' ASSOCIATION.

This Association was founded in April, 1900, with the object of promoting social relations among Evening Students, past and present.

##### OFFICE BEARERS FOR 1904.

PRESIDENT—J. Spence, B.A.

VICE-PRESIDENTS—W. J. Binns, M.A., W. L. Artlett, B.A., G. Barron.

HON. SECRETARY—S. C. Smith.

HON. TREASURER—R. G. Newton.

COMMITTEE—H. Chandler, C. Lindsay, B.A., C. P. Walker.

## SYDNEY UNIVERSITY ENGINEERING SOCIETY.

The object of the Society is to promote the welfare of the Department of Engineering by bringing into closer association the Graduates and Under-graduates in Engineering, by the reading of papers and the delivery of lectures on professional subjects, and by such other similar means as may be approved of by the Council of the Society. Membership is open to all students in the Faculty of Science, whether matriculated or not, also to members of the teaching staff and graduates in Science or Engineering. The subscription is 10s. 6d. per annum (including proceedings), payable before the beginning of May. The Society offers an annual prize of the value of £2 2s. for the best paper contributed by an undergraduate during the year.

## OFFICE BEARERS FOR 1904.

PRESIDENT—T. P. Strickland, B.E.

VICE-PRESIDENTS—J. W. Roberts, B.E., A. Jarman, A.R.S.M., G. A. Waterhouse, B.Sc., B.E., F.E.S., W. R. Beaver, B.E.

HON. TREASURER—H. S. Mort, B.Sc., Stud. Inst. C.E.

HON. SECRETARY—R. J. Boyd, B.E.

HON. ASSISTANT SECRETARY AND TREASURER—H. A. Brooks.

COUNCIL—S. H. Barraclough, B.E., M.M.E., Assoc. M. Inst. C.E., J. J. C. Bradfield, M.E., Assoc. M. Inst. C.E., N. J. C. MacTaggart, B.E., Assoc. M. Inst. C.E., A. J. Gibson, Assoc. M. Inst. C.E., E. A. Amphlett, B.E., Assoc. M. Inst. C.E., J. F. Stephen, L. R. Woodcock, J. P. Tivey, B.A., R. S. Reid, J. Atkinson.

## SYDNEY UNIVERSITY CHRISTIAN UNION.

The Sydney University Christian Union was founded on May 19th, 1896.

This Union is a branch of the Australasian Student Christian Union, which in its turn is a branch of the World's Students Christian Federation. This federation is composed of 1540 associations, with an aggregate membership of over 82,000. The federation has made all the student movements of the world better acquainted with each other by establishing among them practical means of communication, such as world's conferences, inter-visitation, correspondence, and interchange of publications.

Its objects may be gathered from Article II. of the Constitution :—

“To strengthen the bonds of union among Christian students; to influence fellow-students to become followers of Christ; to deepen the spiritual life of students; to promote Christian work, especially by and for students; to lead students as they go forth from the University to place their lives where they will be most useful in extending the Kingdom of Christ.”

Lectures are held on Thursday, at 4 p.m. and at 8 p.m. Bible Classes are arranged weekly for the different faculties. Classes are also arranged fortnightly for studying the progress which Christianity is making throughout the world.

The Union is in possession of a library, which contains many standard works on the religious problems of the day.

Membership is open to all members of the University. Subscription, 2s. 6d. per annum.



Under the Constitution the annual general meeting of the Union is held in the second week of the Third Term, at which the executive officers are elected to serve for one year.

OFFICE BEARERS FOR 1904.

PRESIDENT—J. Paterson.

VICE-PRESIDENTS—Frances Graham, R. E. McClelland.

RECORDING SECRETARY—H. J. Meldrum.

ASSISTANT RECORDING SECRETARY—E. F. Waddy.

CORRESPONDING SECRETARIES—Florence M. Holden, H. M. Riley.

TREASURER—H. G. Allen.

CHAIRMEN OF COMMITTEES—R. E. McClelland (Membership), T. L. O'Reilly (Handbook), C. Northcote (Bible Study), H. O. Chapman (Missionary), L. C. Morris (Lads' Club), M. Archdall ("Intercollegian").

UNIVERSITY WOMEN'S BOAT CLUB.

OFFICE BEARERS FOR 1904.

PRESIDENT—Miss Fidler, B.A.

VICE-PRESIDENTS—Mrs. G. A. Wood, B.A., Miss M. H. Uther, M.A.

HON. SECRETARY—Miss Eleanor Watson.

HON. TREASURER—Miss Dorothy Edwards.

CAPTAIN—Miss Dickenson.

COMMITTEE—Misses Muriel Rutherford, Constance Binney, Ida Bourne, Dorothy Vine Hall, Mabel Murray-Prior.

UNIVERSITY AND CITY LEAGUE.

OFFICE BEARERS FOR 1904.

PRESIDENT—Professor J. T. Wilson, M.B., Ch.M.

VICE-PRESIDENT—R. C. Teece, M.A.

HON. SECRETARIES—J. N. Griffiths, H. S. Nicholas, B.A.

HON. TREASURER—N. Walker.

COMMITTEE—A. H. Austin, E. V. Barling, M.B., Ch.M., D. D. Dey, J. G. W. Hill, B.A., O. Latham, E. Ludowici, M.B., Ch.M., R. N. Robson, B.A., E. H. M. Stephen, J. R. Stewart, F. S. Stuckey, B.Sc., R. N. Teece, M.A., G. H. Wilson, B.A., J. Young, B.A.

## SYDNEY UNIVERSITY SCOUTS RIFLE CORPS.

The Club was formed in connection with the Sydney University Scouts. The object of the Rifle Club is to promote rifle shooting amongst the members of the Sydney University Scouts. Only members of the Sydney University Scouts (active and hon.) are eligible for membership to the Rifle Club. The subscription is 2s. 6d. per term, in advance.

## OFFICE BEARERS FOR 1904-5.

PRESIDENT—Captain R. C. Simpson, commanding Sydney University Scouts.

VICE-PRESIDENTS—Brig. Gen. Finn, Major MacLagan, Prof. MacCallum, Prof. David, Capt. Wilson, Col. Campbell, D. Gordon Craig, Major Smail, Lieutenants Barraclough, Flashman, Clouston, Smail, Martyn, Brooks, Mr. E. M. Mitchell, Dr. A. Anderson.

HON. SECRETARY—Lance-corporal Bedford.

HON. TREASURER—Lieutenant Martyn.

COMMITTEE—Senior Colour-Sergeant Foley, Colour-Sergeant Vine Hall, Sergeant Corlette, Sergeant MacInnes, Corporal Weston, Lance-corporal Mort, Private Roberts.

## SYDNEY UNIVERSITY LAW SOCIETY.

This Society was formed in Lent Term, 1902. The following persons are eligible for membership on election by the Committee, and payment of an annual subscription of 5s. :—(1) Any Graduate in Law; (2) any Graduate of the University who is a Barrister or Attorney of the Supreme Court of New South Wales or Queensland, or any Articled Clerk or Student-at-Law in New South Wales; (3) any person attending lectures in the Faculty of Law. The rooms of the Society are situated in Selborne Chambers, Phillip Street, City.

## OFFICE BEARERS FOR 1904.

PATRON—Professor Pitt Cobbett, M.A., D.C.L.

PRESIDENT—G. W. Waddell, M.A., LL.D.

VICE-PRESIDENTS—G. E. Rich, M.A., F. Leverrier, B.A., B.Sc., D. Ferguson, B.A., J. B. Peden, B.A., LL.B., J. P. Pickburn, B.A., LL.B.

COMMITTEE—G. H. Wilson, B.A., LL.B., A. G. M. Pitt, B.A., H. M. Green, B.A., W. Hinton, B.A., LL.B., R. Murray-Prior.

HON. SECRETARIES—J. Young, B.A., LL.B., D. Wilson, M.A.

HON. TREASURER—A. M. Cohen, B.A.

## SYDNEY UNIVERSITY PHILOSOPHICAL SOCIETY.

This Society was inaugurated on November 12th, 1901, when a meeting of Graduates and Undergraduates was held to draw up a constitution and elect officers. The object of the Society is to promote interest in the study

of Philosophy. To further this object meetings are held monthly, at which papers are read and discussed. The Inaugural Address was delivered by Professor Anderson, M.A., in December, 1901, on "Philosophy and Modern Life."

## OFFICE BEARERS FOR 1904.

PATRON—Professor F. Anderson, M.A.

PRESIDENT—C. Brennan, M.A.

VICE-PRESIDENTS—Rev. M. Scott Fletcher, M.A., C. Nicholas, B.A.,  
K. ff. Swanwick, B.A.

COMMITTEE—Rev. E. N. Merrington, M.A., R. B. Reynolds, M.A.,  
N. G. S. Pilcher, B.A., LL.B., T. E. Roseby, M.A., Miss E. I. Taylor, M.A.,  
Miss M. Fry, B.A.

TREASURER—A. M. Levick.

SECRETARY—J. A. Ferguson, B.A.

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# \* EXAMINATION PAPERS.

DECEMBER, 1903.

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## FACULTY OF ARTS.

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### FIRST YEAR EXAMINATION.

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ENGLISH.

PASS.

(a) SHAKESPEARE.

1. Explain fully—

- (a) O that I served this lady,  
And might not be delivered to the world,  
Till I had made mine own occasion mellow  
What my estate is.
- (b) Wherefore have these gifts a curtain before 'em? Are  
they like to take dust like Mistress Mall's picture?
- (c) Shall we rouse the night-owl in a catch that will draw  
three souls out of one weaver?
- (d) He must observe their mood on whom he jests,  
The quality of persons, and the time,  
And, like the haggard, check at every feather  
That comes before his eye.
- (e) Though my soul disputes well with my sense,  
That this may be some error but no madness,  
Yet doth this accident and flood of fortune  
So far exceed all instance, all discourse,  
That I am ready to distrust mine eyes,  
And wrangle with my reason that persuades me  
To any other trust, but that I am mad.
- (f) Desperate of shame and state.

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\* The time allowed for each paper is three hours, except where otherwise stated.

2. Explain the metrical peculiarities of the following—
  - (a) Than in a nuncio's of more grave aspect.
  - (b) What is your parentage?  
Above my fortunes, yet my state is well.
  - (c) Do give thee five-fold blazon : not too fast : soft, soft.
 And the grammatical peculiarities of the following—
  - (a) Love make his heart of flint that you shall love.
  - (b) I have one heart . . . .  
And that no woman has ; nor never none  
Shall mistress be of it, save I alone.
  - (c) Challenge me the count's youth to fight with him.
3. Discuss the character of Viola, comparing her if you can with any other of Shakespeare's heroines who adopt a masculine disguise.
4. Point out the significance of the following passages in *Twelfth Night* for the plot or characterisation—
  - (a) *For the Plot*—  
He named Sebastian: I my brother know.  
Yet living in my glass: even such and so  
In favour was my brother, and he went  
Still in this fashion, colour, ornament,  
For him I imitate: O, if it prove,  
Tempests are kind and salt waves fresh in love.
  - (b) *For Malvolio*—  
Dost thou think, because thou art virtuous, there shall be  
no more cakes and ale?
  - (c) *For Feste*—  
I saw him put down the other day with an ordinary foot  
that has no more brain than a stone. Look you now,  
he's out of his guard already.
  - (d) *For the Duke*—  
The tailor make thy doublet of changeable taffeta, for thy  
mind is a perfect opal.

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(b) CHAUCER.

1. Explain fully—
  - (a) Therwyth the hunte wonder faste  
Blew a forloyne at the laste.

- (b) Craft that can and hath the myght  
To don by force a wight to don folye.
- (c) Unto my sovereyn lady, and nat my fere  
I chese and ches with wille and herte and thocht  
The formel on youre hond so wel iwroght.
- (d) Live thou soleyn, wormes corrupcioun!  
For no fors is of lak of thy nature.
- (e) Of smal coral aboute hire arm she bar  
A peire of bedes, gauded al with grene.
- (f) "Shal it be conseil?" seyde the firste shrewe,  
"And I shal tellen thee in wordes fewe  
What we shal doon."

2. Note peculiarities of Chaucerian grammar in—

- (a) Wel koude she carie a morsel and wel kepe,  
That no drope ne fille upon hire brest.
- (b) Beth of good herte, and serveth, alle thre.
- (c) The knyght fyght with his fon.  
And of metre in—
- (a) Yf they be crafty, rekene and noumbre  
And telle of everything the noumbre.
- (b) That wel wende i the wode hadde al toshyvered.
- (c) And al was conscience and tendre herte.

3. Give a description of the Yeoman.

4. Summarise the debate in the Parliament of Birds, and indicate its allegorical purpose.

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(c) LANGUAGE AND STYLE.

1. In what respect is there a continual change in language?
2. What is the difference between Tautology, Pleonasm, and Verbosity?
3. Distinguish between the figures of Metonymy and Synecdoche.
4. Describe the character and uses of a curt, a loose, and a periodic style.
5. Criticise the following sentences, indicating exactly how they are defective or unsatisfactory—
  - (a) The candidate emphasises his Imperialism in his letter, which is an excellent quality, of course, and suggests that his rivals have no saving grace at all.

- (b) He not only allowed me to see the document but copy from it too.
- (c) There was a man in the room with unkempt hair and negligent attire, and who looked the Bohemian all over, so that we all cried out "That's him!"
- (d) In my dramatic composition I was sailing in a vast ocean without other help than the pole-star of the ancients and the rules of the French stage among the moderns.
- (e) He looked extremely surprised, like one struck through the heart with a thunderbolt.

### LATIN PROSE COMPOSITION AND UNSEEN TRANSLATION.

#### PASS.

#### 1. Translate into Latin—

- (a) The news was brought to Rome that a crushing defeat had been sustained at Cannae.
- (b) The consul declared that if the fugitives were pursued and captured all might yet be well.
- (c) For my own part I am quite willing that you should go, but I am afraid you will not be able to induce the others to grant your request.
- (d) At Rome all was confusion and dismay. Long trains of fugitives passed over the Tiber and the hill of Janiculum, leaving the doomed city to its fate. With them fled the flamen of Quirinus and the Vestal virgins, who buried some of their sacred things, and carried off with them the eternal fire to the friendly town of Caere. The flower of the patricians resolved to defend to the last the hill of the Capitol, the citadel of Rome, the true home of its citizens and its gods. Thus, when the Gauls at length appeared, on the third day after the battle, they found the walls unguarded and the gates open. Fearing an ambush, they hesitated for a whole day to enter the city, and so gave the Romans time to garrison and provision the Capitol. But not all the citizens of Rome had fled or taken refuge in the citadel. The men who had, in years long past, swayed the counsels and led the armies of the state, and were now too old to fight in its defence, proudly refused to escape death by exile.

## 2. Translate into English—

Patentibus iam portis, priusquam irrumperent victores, fuga e castris Gallorum in omnis partes facta est. Ruunt caeci per vias, per invia; nulla praecipitia saxa, nullae rupes obstant; nihil praeter hostem metuunt: itaque plerique praecipites per vastam altitudinem prolapsi ac debilitati exanimantur. Consul captis castris direptione praedaeque abstinet militem; sequi pro se quemque et instare et percussis pavorem addere iubet. Supervenit et alterum cum L. Manlio agmen; nec eos castra intrare sinit; protinus ad persequendos hostis mittit, et ipse paulo post tradita captivorum custodia tribunis militum sequitur, debellatum ratus, si in illo pavore quam plurimi caesi forent aut capti. Egresso consule C. Helvius cum tertio agmine advenit, nec continere suos ab direptione castrorum valuit, praedaeque eorum, iniquissima sorte, qui pugnae non interfuerant, facta est. Equites diu ignari et pugnae et victoriae suorum steterunt; deinde et ipsi, quantum equis subire poterant, sparsos fuga Gallos circa radices montis consecrati cecidere aut cepere. Numerus interfectorum haud facile iniri potuit, quia late per omnis amfractus montium fugaeque et caedes fuit, et magna pars rupibus inviis in profundae altitudinis convalles delapsa est, pars in silvis vepribusque occisa.

## LATIN AUTHORS.

## PASS.

1. Translate into English, extracts from Virgil, *Aeneid* XI and XII.

2. Translate, with brief comments —

(a) Ipse Mycenaeus magnorum ductor Achivum  
Coniugis infandae prima intra limina dextra  
Oppetit; devictam Asiam subsedit adulter.

(b) Hinc pater Aeneas, Romanae stirpis origo,  
Sidereo flagrans clipeo et caelestibus armis,  
Et iuxta Aescanius, magnae spes altera Romae,  
Procedunt castris.

3. Translate into English, extracts from Cicero in *Catilinam*.



## 4. Translate, with brief comments—

(a) Illa nimis antiqua praetereo, quod C. Servilius Ahala Sp. Maelium, novis rebus studentem, manu sua occidit.

(b) L. Sulla P. Sulpicium oppressit: C. Marium, custodem huius urbis, multosque fortes viros partim eiecit ex civitate, partim interemit.

(c) Sit Scipio clarus ille, cuius consilio atque virtute Hannibal in Africam redire atque Italia decedere coactus est.

## GREEK—PRELIMINARY CLASS.—(FIRST YEAR PASS.)\*

## PROSE COMPOSITION AND UNSEEN TRANSLATION.

## PASS.

## 1. Translate into English—

(a) Τοῦτό ἐστι τὸ πλοῖον, ὡς φασιν Ἀθηναῖοι, ἐν ᾧ Θησεύς ποτὲ εἰς Κρήτην τοὺς δις ἑπτὰ ἐκείνους ᾤχετο ἄγων καὶ ἔσωσέ τε καὶ αὐτὸς ἐσώθη. τῷ οὖν Ἀπόλλωνι εὖξαντο, ὡς λέγεται, τότε, εἰ σωθεῖεν, ἐκάστον ἐτοὺς θεωρίαν ἀπάξειν εἰς Δῆλον· ἦν δὴ αἰεὶ καὶ νῦν ἐτι ἐξ ἐκείνου κατ' ἐνιαυτὸν τῷ θεῷ πέμπουσιν. ἐπειδὴν οὖν ἄρξωνται τῆς θεωρίας, νόμος ἐστὶν αὐτοῖς ἐν τῷ χρόνῳ τούτῳ καθαρῆναι τὴν πόλιν καὶ δημοσίᾳ μηδένα ἀποκτινύναι, πρὶν ἂν εἰς Δῆλον ἀφίκηται τὸ πλοῖον καὶ πάλιν δεῦρο· τοῦτο δ' ἐνιοτε ἐν πολλῷ χρόνῳ γίγνεται, ὅταν τύχωσιν ἄνεμοι ἀπολαβόντες αὐτοὺς. ἀρχὴ δ' ἐστὶ τῆς θεωρίας, ἐπειδὴν ὁ ἱερεὺς τοῦ Ἀπόλλωνος στέψῃ τὴν πρῦμναν τοῦ πλοίου· τοῦτο δ' ἔτυχεν, ὡς περ λέγω, τῇ προτεραίᾳ τῆς δίκης γεγενοῦς. διὰ ταῦτα καὶ πολλὺς χρόνος ἐγένετο τῷ Σωκράτει ἐν τῷ δεσμωτηρίῳ ὁ μεταξὺ τῆς δίκης τε καὶ τοῦ θανάτου.

(b)

## JASON IS PLAUSIBLE.

οὐ νῦν κατεῖδόν· πρῶτον, ἀλλὰ πολλάκις  
τραχεῖαν ὁργὴν ὡς ἀμήχανον κακόν.  
σοὶ γὰρ παρὸν γῆν τήνδε καὶ δόμους ἔχειν,  
κούφως φερούσῃ κρείσσωνων βουλευμάτων,  
λόγων ματαίων οὐνεκ' ἐκπεσεῖ χθονός.  
κάμοι μὲν οὐδὲν πρᾶγμα· μὴ πάντῃ ποτὲ  
λέγουσ' Ἰάσων ὡς κακίστός ἐστ' ἀνὴρ.  
ἂ δ' ἐς τυράννους ἐστί σοι λελεγεμένα,

\* For First Year Honours see "Greek—Junior Class," under Second Year.

πάν κέρδος ἥργοῦ ζημιουμένη φυγῇ·  
 κἀγὼ μὲν αἰὲ βασιλέων θυμουμένων  
 ὀργὰς ἀφήρουν καὶ σ' ἐβουλόμην μένειν.  
 σὺ δ' οὐκ ἀνίεις μωρίας, λέγουσ' αἰὲ  
 κακῶς τυράννους· τοίγαρ ἐκτεσεῖ χθονός.

2. Translate into Greek Prose—

In the following year Cleon was sent to Macedonia to recover the cities which had been taken by the Spartans. He first marched to Amphipolis, and encamped on a certain hill near the city. In the meantime Brasidas, the Spartan general, who knew what sort of man Cleon was, resolved to deceive him by a trick. He ordered his men not to show themselves on the wall, but to conceal themselves behind the ramparts. Meanwhile he sent out spies to discover how large the forces of Cleon were, and if reinforcements were coming. These men brought back word that the army of the enemy was small, and was not drawn up carefully. Then Brasidas ordered his men to throw open the gates and attack the enemy at once. The Athenians, who did not trust their general, immediately took to flight, and most of them were killed. Cleon, also, was himself slain by a certain Thracian.

GREEK—PRELIMINARY CLASS.—(FIRST YEAR PASS).\*

AUTHORS.

1. Translate into English, extracts from Sophocles, Philoctetes.
2. Write short notes upon the grammar of the following, without translating—

NE. ἀλλ' αἰσχροὶ μέντοι σοῦ γέ μ' ἐνδεέστερον  
 ξένῳ φανῆναι πρὸς τὸ καίριον πονεῖν.  
 ἀλλ' εἰ δοκεῖ, πλέωμεν, ὁρμάσθω ταχύς·  
 χῆ ναὺς γὰρ ἄξει κούκ ἀπαρνηθήσεται.  
 μόνον θεοὶ σώζοιεν ἕκ τε τῆσδε γῆς  
 ἡμᾶς ὅποι τ' ἐνθένδε βουλοίμεσθα πλεῖν.

ΦΙ. ὦ φίλτατον μὲν ἡμαρ, ἥδιστος δ' ἀνὴρ,  
 φίλοι δὲ ναῦται, πῶς ἂν ὑμῖν ἐμφανῆς  
 ἐργῇ γενοίμην, ὥς μ' ἔθεσθε προσφιλή.

\* For First Year Honours see "Greek—Junior Class," under Second Year.

ἴωμεν, ὦ παῖ, προσκύνσαντε τὴν ἔσω  
 οἶκον εἰσοίκησιν, ὥς με καὶ μάθης  
 ἀφ' ὧν διέζων, ὥς τ' ἔφυν εὐκάρδιος.

3. Translate into English, extracts from "Selections from the Attic Orators."—(Jebb.)
4. Write short notes, without translating, upon the underlined words—

Εἰ μὲν οὖν ἐν τῷ δικαστηρίῳ ἐκρίνοντο, ῥαδίως ἂν ἐσψύζοντο.  
 ἅπαντες γὰρ ἤδη ἐγνωκότες ἦτε οὐ ἦν κακοῦ ἡ πόλις, ἐν ᾧ οὐδὲν  
 ἔτι ὠφελεῖν ἐδύνασθε· νῦν δ' εἰς τὴν βουλὴν αὐτοὺς τὴν ἐπὶ  
τῶν τριάκοντα εἰσάγουσιν. ἡ δὲ κρίσις τοιαύτη ἐρίγνετο, οἷαν  
 καὶ ὑμεῖς αὐτοὶ ἐπίστασθε. οἱ μὲν γὰρ τριάκοντα ἐκάθηντο  
 ἐπὶ τῶν βάθρων, οὗ νῦν οἱ πρυτάνεις καθέζονται· δύο δὲ  
τράπεζαι ἐν τῷ πρόσθεν τῶν τριάκοντα ἐκείσθην· τὴν δὲ  
ψήφον οὐκ εἰς καδίσκους ἀλλὰ φανερὰν ἐπὶ τὰς τραπέζας  
ταύτας ἔδει τίθεσθαι.

## GEOMETRY AND MENSURATION.

TWO HOURS AND A HALF.

### PASS.

1. The opposite sides and angles of a parallelogram are equal, and either diagonal bisects the parallelogram.
2. If two opposite sides of a quadrilateral are equal but not parallel, and its other opposite sides are parallel but not equal, then its opposite angles are supplementary.
3. Enunciate and prove a proposition which connects the lengths of chords of a circle with their distances from the centre.
4. Two parallel chords of a circle are 10 inches and 24 inches long respectively, and their distance apart is seven inches. Find the radius of the circle.
5. The bisector of the vertical angle of a triangle cuts the base into segments, which are in the same ratio as the sides of the triangle.
6. The equal sides of an isosceles triangle each measure 3 ft. 4 in., and the base measures 4 ft.; prove that the in-radius and the circum-radius respectively measure 1 ft. and 2 ft. 1 in.

7. Equal triangles, which have one angle of the one equal to one angle of the other, have their sides about the equal angles reciprocally proportional.
8. Find the weight of a conical piece of metal, whose height is 3 ft., and the radius of its base 2 ft., having given that a cubical block of the metal, each edge of which measures 2 ft., weighs a ton.
9. A quadrant of one circle has the same perimeter as the segment of another circle, of which the angle at the centre is  $60^\circ$ , namely, 100 ft. Find the radii of the two circles.

ALGEBRA.

TWO HOURS AND A HALF.

PASS.

1. Solve the equations

(i.)  $x^2 + x + \sqrt{(x-2)(x+3)} = 48.$

(ii.)  $\begin{cases} x+y=1 \\ x^3+y^3=\frac{1}{4} \end{cases}$

(iii.)  $\begin{cases} x^2-2xy+2y^2=\frac{1}{4} \\ 2xy+4y^2=1\frac{1}{2} \end{cases}$

2. Find an equation whose roots are the sum of the squares, and the square of the sum of the roots of the quadratic equation  $ax^2-bx+c=0$ .
3. From a thread of length equal to the perimeter of a square, 3 feet are cut off; the remainder is equal to the perimeter of another square of area four-ninths that of the first. What is the length of thread?
4. Find the square root of  $1 - \sqrt{1-4a^2}$ .

If  $x = \sqrt{\frac{1 + \sqrt{1-4a^2}}{2}}$ , find the value of  $x\sqrt{1-x^2}$ .

5. Simplify the following expressions

(i.)  $\frac{1}{a^{\frac{1}{4}} + a^{\frac{1}{8}} + 1} + \frac{1}{a^{\frac{1}{4}} - a^{\frac{1}{8}} + 1} - \frac{2a^{\frac{1}{4}}}{a^{\frac{1}{2}} - a^{\frac{1}{4}} + 1}$

(ii.)  $\frac{1}{4}(xa^{-1} - ax^{-1})\left(\frac{a^{-1} - x^{-1}}{a^{-1} + x^{-1}} - \frac{a^{-1} + x^{-1}}{a^{-1} - x^{-1}}\right)$

6. Four numbers are in proportion ; the sum of the extremes is  $6\frac{1}{2}$ , the sum of the means is 4, and the sum of the squares of the extremes is  $36\frac{1}{4}$ . Find the four numbers.
7. If  $m$  and  $n$  are the  $(p+q)$ th and the  $(p-q)$ th terms of an A.P., find the  $p$ th and the  $q$ th terms. Verify your results by means of the numerical case :—2 and  $4\frac{1}{2}$  are the 7th and the 3rd terms of an A.P., find the 5th term and the 2nd term.
8. The second term of a H.P is  $\frac{1}{2}$ , the seventh term is  $\frac{2}{25}$ . Find the first term and the eighth term.
9. Find an expression for the sum of  $n$  terms of G.P. Explain what is meant by the sum to infinity of a series in G.P., pointing out in what cases the sum to infinity is a finite quantity.

## TRIGONOMETRY.

TWO HOURS AND A HALF.

PASS.

1. Define the sine and cosine of an angle in such a way that your definitions apply to angles of any size.  
Write down the values of  $\sin 120^\circ$ ,  $\cos 225^\circ$  and  $\tan 300^\circ$ .
2. Construct two angles whose sines are  $\frac{1}{2}$ , these angles being between  $0^\circ$  and  $360^\circ$ .

Obtain the other ratios of these angles, using the figures of your geometrical constructions.

3. Two points B and C distant  $100\sqrt{3}$  yards from one another are in a straight line, which meets the foot D of a vertical flagstaff AD. The angles of elevation of the top A of the flagstaff are  $30^\circ$  and  $60^\circ$  from B and C.

Find (i.) the length of AD.

(ii.) the length of CD.

(iii.) the tangent of the angle of elevation of the top of the flagstaff from C if 10 feet were added to its length.

4. Prove, geometrically, that  $\sin A = \sin(180^\circ - A)$   
 $\cos A = -\cos(180^\circ - A)$   
 Express  $\sin 200^\circ$ ,  $\cos 300^\circ$ ,  $\tan 400^\circ$  in terms of the ratios of angles between  $0^\circ$  and  $45^\circ$ .
5. Prove, geometrically, that  
 $\cos(A+B) = \cos A \cos B - \sin A \sin B$ ,  
 assuming that  $A$  and  $B$  are angles between  $0^\circ$  and  $45^\circ$ .  
 Hence shew that  $\cos 75^\circ$  lies between .2588 and .2589.
6. Prove the following identities—  
 (i)  $\cos^3 A + \sin^3 A = (\cos A + \sin A)(1 - \cos A \sin A)$ .  
 (ii.)  $\frac{\cos A + 2 \cos 5A + \cos 9A}{\sin A + 2 \sin 5A + \sin 9A} = \cot 5A$ .  
 (iii.)  $\tan\left(45^\circ + \frac{A}{2}\right) - \tan\left(45^\circ - \frac{A}{2}\right) = 2 \tan A$ .
7. Solve the following equations, giving in each case the general solution expressed in Circular Measure—  
 (i.)  $\sin \theta = 2 \sin^3 \theta$ .  
 (ii.)  $4 \cos^2 \theta - 2\sqrt{2} \sin \theta + 2 \sin^2 \theta = 1$ .  
 (iii.)  $\sin \theta + \cos \theta = \sqrt{2}$ .
8. Prove that  

$$\cos A = \frac{b^2 + c^2 - a^2}{2bc}$$
- The sides  $BC$ ,  $CA$  and  $AB$  of a triangle are 6 feet, 5 feet and 4 feet in length,  $AD$  is perpendicular to  $BC$ . Find the lengths of  $BD$ ,  $DC$  and  $AD$ .
9. The sides of a triangle are 3, 4 and 6 feet in length. Prove that the triangle has an obtuse angle, and that this angle is less than  $120^\circ$ .

JUNIOR FRENCH I.—PROSE COMPOSITION AND UNSEEN  
 TRANSLATION.

PASS.

1. Translate into French—

It is perhaps impossible in a large government to distribute rewards and punishments strictly proportioned to the merits of every action. The Spartan commonwealth was

indeed wonderfully exact in this particular; and I do not remember in all my reading to have met with so nice an example of justice as that recorded by Plutarch, with which I shall close my paper of this day.

The city of Sparta being unexpectedly attacked by a powerful army of Thebans, was in very great danger of falling into the hands of their enemies. The citizens suddenly gathering themselves into a body fought with a resolution equal to the necessity of their affairs, yet no one so remarkably distinguished himself on this occasion, to the amazement of both armies, as Isidas, the son of Phœbidas, who was at that time in the bloom of his youth, and very remarkable for the comeliness of his person. He was coming out of the bath when the alarm was given, so that he had not time to put on his clothes, much less his armour; however, transported with a desire to serve his country in so great an exigency, snatching up a spear in one hand and a sword in the other, he flung himself into the thickest ranks of his enemies. Nothing could withstand his fury: in what part soever he fought, he put the enemies to flight without receiving a single wound. Whether, says Plutarch, he was the particular care of some god, who rewarded his valour that day with an extraordinary protection, or that his enemies, struck with the unusualness of his dress, and beauty of his shape, supposed him something more than man, I shall not determine.

The gallantry of this action was judged so great by the Spartans that the Ephori, or chief magistrates, decreed he should be presented with a garland; but, as soon as they had done so, fined him a thousand drachmas for going out to the battle unarmed.

## 2. Translated (at sight)—

### LES COMPAGNONS DE VOYAGE.

(a) Le lendemain, je le vis monter le premier en voiture et s'asseoir dans le fond. "Tout beau, monsieur le marquis, lui dis-je; sur le devant, s'il vous plaît: c'est à mon tour d'être à mon aise." Il me répondit qu'il était à sa place,

et que monsieur son père avait entendu qu'il fût dans le fond. Je répliquai que, si monsieur son père avait entendu cela dans son marché, je ne l'avais pas entendu, moi, dans le mien. Il persistait à garder la bonne place; mais, quoiqu'il fût aussi grand que moi, je le priai de ne pas m'obliger à le tirer de force et le mettre à terre. Il entendit cette raison et il se mit sur le devant. Il eut de l'humeur jusqu'à la dinée; cependant il se contenta de me priver de son entretien. Mais à dîner sa supériorité lui revint dans la tête. On nous servit une perdrix. Il la prit sur son assiette, en détacha très adroitement les deux cuisses et les deux ailes, garda les deux ailes pour lui, et me laissa les deux cuisses. "Vous aimez donc, lui dis-je, les ailes de perdrix?—Oui, me dit-il, assez.—Et moi aussi," lui dis-je. Et en riant, sans m'émouvoir, je rétablis l'égalité. "Vous êtes bien hardi, dit-il, de prendre une aile sur mon assiette.—Vous l'êtes bien plus, lui répondis-je d'un ton ferme, d'en avoir pris deux dans le plat." Il était rouge de colère; mais il se modéra, et nous dinâmes paisiblement.

- (b) Cœur si chaud, si vivant, tu n'as qu'une heure à vivre!  
 Applique ton effort à la bien employer.  
 Des maux qu'on se créa le tombeau nous délivre;  
 Il ne respectera ni l'or, ni le laurier.

Ainsi qu'Hamlet mourant, il faut dire: "Silence!"  
 Du plaisir, de la gloire il ne restera rien.  
 Seul, le bien qu'on sème pèse dans la balance:  
 Tâche, avant ton départ, de faire un peu de bien.

Sois indulgent à tous, et tâche de comprendre.  
 Heureux le cœur naïf qui n'aura point compté!  
 Être héroïque est beau, vois-tu,—mais être tendre  
 Vaut mieux, et le seul mot de la vie est: bonté.

Bonté pour les souffrants, les victimes qu'on froisse;  
 Bonté pour les mauvais: ils souffrent, eux aussi!  
 Bonté pour tous enfin, tous ont leur lot d'angoisse,  
 Et tu dois partager l'universel souci.

Rien ne nous survivra de nos petites haines;  
 Des crimes accomplis jadis, rien n'est resté;  
 C'est en allant profond dans les pitiés humaines  
 Qu'on ajoute au trésor de la postérité.



L'amour qu'on répandit est l'unique héritage.  
 Donc, ô cœur qui doutes, qui t'es longtemps fermé,  
 Malgré les trahisons; ouvre-toi davantage!  
 Tâche, avant ton départ, d'avoir beaucoup aimé.

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## JUNIOR FRENCH II.—AUTHORS.

## PASS.

- 1, 2, 3. Translate into English, extracts from Bornier, *Fille de Roland*; Daudet, *Tartarin de Tarascon*; Regnard, *Le Joueur*.
  4. In what respects has de Bornier (*a*) modified and (*b*) extended the legend of Roland?
- 

## JUNIOR GERMAN I.—PROSE COMPOSITION AND UNSEEN TRANSLATION.

## PASS.

## 1. Translate into German—

(*a*) When I was a boy, I amused myself one day with flying a paper kite; and approaching the bank of a pond, which was near a mile broad, I tied the string to a stake, and the kite ascended to a very considerable height above the pond, while I was swimming. In a little time, being desirous of amusing myself with my kite, and enjoying at the same time the pleasure of swimming, I returned, and loosing from the stake the string with the little stick which was fastened to it, went again into the water, where I found, that lying on my back, and holding the stick in my hands, I was drawn along the surface of the water in a very agreeable manner. Having then engaged a boy to carry my clothes round the pond, to a place which I pointed out to him, on the other side, I began to cross the pond with my kite, which carried me quite over without the least fatigue, and with the greatest pleasure imaginable. I was only obliged occasionally to halt a little in my course, and resist its progress, when it appeared that,

by following too quick, I lowered the kite too much; by doing which, occasionally, I made it rise again. I have never since that time practised this singular mode of swimming, though I think it is not impossible to cross in this manner from Dover to Calais. The packet boat, however, is still preferable.

- (b) The figure of Rebecca might, indeed, have compared with the proudest beauties of England, even though it had been judged by as shrewd a connoisseur as Prince John. Her form was exquisitely symmetrical, and was shown to advantage by a sort of Eastern dress, which she wore according to the fashion of the females of her nation. Her turban of yellow silk suited well the darkness of her complexion. The brilliancy of her eyes, the superb arch of her eyebrows, her well-formed aquiline nose, her teeth as white as pearl, and the profusion of her sable tresses—all these constituted a combination of loveliness, which yielded not to the most beautiful of the maidens who surrounded her.

## 2. Translate (at sight)—

### DER VORZUGSSCHÜLER.

Mutter und Sohn saßen einander gegenüber am Tische, der als Arbeits- und Speisetisch diente, und dessen eine Hälfte schon für die Abendmahlzeit gedeckt war. Eine Petroleumlampe mit grünem Schirm beleuchtete hell die Schulbücher, die der Knabe vor sich aufgeschichtet hatte, und die ungemein geschont aussahen nach einer mehr als halbjährigen Benützung. Es war Ende März, und in wenigen Monaten mußte Georg Pfanner aus der dritten Classe, wie aus jeder früheren Vorbereitungs- und Gymnasialclasse, als Vorzugsschüler hervorgegangen sein. Musste! Wohl und Weh des Hauses hing davon ab, der—wenigstens relative—Frieden seiner Mutter, der Schlaf ihrer Nächte. . . Wenn dem Vater schien, dass "sein Bub" im Fleiß nachlasse, wurde sie zur Verantwortung gezogen. Das wirkte viel stärker auf den Jungen, als die strengste Ermahnung und Strafe gethan hätte. Für seine Mutter empfand er eine anbetende Liebe und war das Ein und Alles der freudlosen, vor der Zeit gealterten Frau. Die Beiden gehörten zu einander,

verstanden einander wortlos, sie hatten, ohne es sich selbst zu gestehen, ein Schutz- und Trutz-Bündniß gegen einen Dritten geschlossen, dem sie im Stillen immer Unrecht gaben, auch wenn er Recht hatte, weil sie sich im Grund ihrer Seele in steter Empörung gegen ihn befanden. Frau Agnes würde erstaunt und wahrscheinlich entrüstet gewesen sein, wenn man ihr gesagt hätte, dass ihre Empfindung für ihren Mann längst nichts mehr war als eine Mischung von Furcht und von Mitleid. Georg würde eher die ganze Schule zum Kampf herausgefordert, als geduldet haben, dass ein unehrerbietiges Wort über seinen Vater gesprochen werde. Aber weder der Mutter noch dem Sohne wurde es wohl in seiner Nähe. Seine Anwesenheit bedrückte, löschte jede heitere Regung im ersten Aufflackern aus. Und doch war der einzige Lebenszweck dieses Mannes die Sorge um das Wohl seines Kindes in Gegenwart und Zukunft.

(b)

## DIE LAUTE KLAGE.

Sanft entschlummert lag des Greises Antlitz,  
Hingegangen schien die fromme Seele,  
Als der Brüder laute Todtenklage  
Noch einmal zurück ihn rief in's Leben.

Auferwachend lächelt' er und sagte  
Bittend: "Brüder, wozu dieses Jammern?  
Fürchtet ihr den Tod? Er ist ein Engel!  
Mög' er euch, wie mir anjetzt, erscheinen.

"Oder gönnet ihr dem matten Wandrer  
Nicht die Ruh, bei'm letzten Augenblicke  
Nicht die Einkehr in mich selbst, dass heiter  
Ich vor Gott and unverworren trete?

"Hab' ich es verdient, dass ihr die letzte  
Stunde mir betrübt?"—Er sank danieder  
Und entschlief: Der Engel, der die Seele  
Von ihm nahm, sah eine stumme Thräne

In des Jünglings Auge, den als Vater  
Er geliebt (es hielt der Greis die Hand ihm  
Sterbend noch); die stille stumme Zeuginn  
Trät vor Gott mit der entflohenen Seele.

DECEMBER EXAMINATION.

xvii.

JUNIOR GERMAN II.—AUTHORS.

PASS.

1 and 2. Translate into English, extracts from Goethe's Prose;  
Riehl, Culturgeschichtliche Novellen.

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CHEMISTRY (INTRODUCTORY), PHYSICS, AND PHYSIOGRAPHY.

The same papers as those set in the First Year of Science.

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## SECOND YEAR EXAMINATION.

## ENGLISH I.

## PASS.

*Not more than EIGHT questions to be attempted. No. 11 is compulsory for all students.  
No. 1 is compulsory for those who have not passed the class examination on Chaucer,  
and optional for the rest.*

## 1. Paraphrase, with explanatory notes, the following passages—

- (a) Me mette, "Awak" to me he seyde  
 Right in the same vois and stevene,  
 That useth oon I coude nevene;  
 And with that vois, soth for to seyn,  
 My mynde cam to me ageyn  
 For hit was goodly seyde to me,  
 So nas hit never wont to be.
- (b) Swich wreche on (Troy) for fecching of Eleyne  
 Ther shal ben take or that we hennes wende,  
 That Manes, whiche that Goddes ben of peyne  
 Shal ben agast that Grekes wol hem shende.
- (c) In noble courage oughte ben arest  
 And weyen every thing by equitye,  
 And ever have rewarde to his owen degree.  
 For, syr, it is no maistrye for a lorde  
 To dampne a man, without answere of worde
- (d) Our Hoste answerde, "O Jankyn be ye there  
 I smelle a Loller in the wind," quod he.
- (e) Youre termes, youre colours, and youre figures  
 Keepe hem in stoor til so be ye endite  
 Heigh style, as whan that men to Kynges write.

## 2. Describe the character of Merrygreek, and distinguish its various elements.

3. "The Ideal of Culture prescribed in the court of Navarre is characteristic of the Renaissance period, and Shakespeare, while sympathising with it in many respects, is a keen critic of its defects."

Explain and illustrate this statement.

4. Trace the development of the story of *As You Like It* from its earliest treatment till Shakespeare.
5. Examine the character of Jacques.
6. Discuss the sources of the story of the *Tempest*.
7. "Shakespeare fully appreciates the wholesome influences of Nature, but is not misled into representing a merely natural life un moulded by civilisation and culture as the highest."  
Examine this statement with reference to *As You Like It* and the *Tempest*.
8. State the arguments against and for Shakespeare's participation in the authorship of the *Two Noble Kinsmen*.
9. "In Sir Giles Overreach the conventional miser is elevated into a great man by a kind of inverse heroism, and made terrible instead of contemptible."
10. "Sidney had hardly any contemporary models in poetry to guide his researches; nevertheless he seems to explain in advance the performance of Spenser, and that is a notable feat. His principles, indeed, give no account of the Shakespearian drama, but of that the subtlest critic could form no anticipation."

Discuss this statement.

11. Explain the following—

- (a) I cannot skill of such changeable mettle  
There is nothing with them but in dock out nettle.
- (b) Me thinks I deserve to be pounded for straying from  
Poetrie to Oratorie.
- (c) You are not free,  
For the Lord's tokens on you I do see.
- (d) I hope it is no dishonest desire to desire to be a woman  
of the world.
- (e) We steal by line and level.
- (f) They stand a greise above the reach of report.
- (g) I'll have you dragged in your lavender robes to the gaol.

## SECOND YEAR IN ARTS.

## ENGLISH II.

## PASS.

*Not more than EIGHT questions to be answered, and not more than FOUR from each part.*

## A.

1. Sketch the development of Chaucer's art between the time at which he translated the Romance of the Rose, and that at which he wrote the Legend of Good Women.
2. Explain the decline of the Chaucerian tradition in the later Middle Ages.
3. What was "The School of Courtly Makers"? Estimate its contribution to English literature.
4. "Between the reign of Henry VIII. and the last dozen years or so of Elizabeth's reign much literary prose was produced, but it is distinguished more by promise than performance."

Discuss this.

5. Fulke Greville says of his friend Sir Philip Sidney: "His end was not writing even while he wrote, nor his knowledge moulded for tables or school; but both his wit and understanding beat upon his heart to make himself and others not in word or opinion, but in life and action good and great."

Examine this.

6. Consider the comparative unpopularity of Spenser's work in relation to its peculiar qualities.
7. Appreciate the early poetical work of Milton.

## B.

1. Give a brief account of the Elizabethan Classic Tragedy, and point out how it diverged from the true classic type.
2. Explain the emergence of the Pastoral Drama in Italy, and describe its influence on English literature.
3. How did Peele Greene and Kyd contribute to the development of the English Drama?

*Or,*

Discuss the personal and dramatic relations of Kyd with his contemporaries.

4. In what way is Marlowe's *Dr. Faustus* characteristic of the age and the author?
  5. Examine the charges of malignant hostility to Shakespeare brought against Ben Jonson.
  6. Discuss the significance of the serious or tragic element which we find in almost all Shakespeare's comedies.
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## LATIN PROSE COMPOSITION AND UNSEEN TRANSLATION.

## PASS.

1. Translate into Latin—

The Commissioners repaired to Corinth, and it was generally known that their resolutions would be publicly announced at the approaching Isthmian games. That city of old renown was thronged by the assembled Greeks, who came not so much to witness the national festival as to learn their country's fate from the lips of the conqueror. The day arrived. Flamininus took his seat among the spectators. Amid the expectations of all men a trumpet sounded, and a crier advanced into the arena, who proclaimed that "the Roman Senate and T. Quinctius, the General, having conquered King Philip and the Macedonians, declared all the Greeks who had been subject to the King free and independent." The glad news was more than men could believe; they gazed incredulously on each other; they asked their neighbours whether they had heard aright. Then a general cry arose that the proclamation be repeated. And now, when doubt gave way to certainty, a deafening shout of joy burst from the assembled multitude. Men's minds were too much absorbed with serious topics to be interested by show; the games were hurried over.

2. Translate into English—

"Ardeates" inquit, "veteres amici, novi etiam cives mei, quando et vestrum beneficium ita tulit et fortuna coegit mea, nemo vestrum condicionis meae oblitum me huc processisse putet; sed res ac periculum commune cogit, quod quisque possit in re trepida praesidii, in medium conferre. et quando ego vobis pro tantis vestris in me meritis gra-



tiam referam, si nunc cessavero? aut ubi usus erit mei vobis, si in bello non fuerit? hac arte in patria steti et, invictus bello, in pace ab ingratis civibus pulsus sum. vobis autem, Ardeates, fortuna oblata est et pro tantis populi Romani beneficiis, quanta ipsi meministis—nec enim exprobranda ea apud memores sunt—, gratiae referendae et huic urbi decus ingens belli ex hoste communi pariendi, qui effuso agmine adventat. gens est, cui natura corpora animosque magna magis quam firma dederit; eo in certamen omne plus terroris quam virium ferunt. argumento sit clades Romana: patentem cepere urbem; ex arce Capitolioque iis exigua resistitur manu; iam obsidionis taedio victi abscedunt vagique per agros palantur. cibo vinoque raptim hausto repleti, ubi nox adpetit, prope rivos aquarum sine munimento, sine stationibus ac custodiis passim ferarum ritu sternuntur, nunc ab secundis rebus magis etiam solito incauti. si vobis in animo est tueri moenia vestra nec pati haec omnia Galliam fieri, primā vigiliā capite arma frequentesque me sequimini ad caedem, non ad pugnam.

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#### LATIN AUTHORS.

##### PASS.

1. Translate into English, extracts from Horace, Satires.
2. Translate, with brief comments—
  - (a) Nil comis tragici mutat Lucilius Acci?  
Non ridet versus Enni gravitate minores?
  - (b) Quorsum pertinuit stipare Platona Menandro,  
Eupolin, Archilochum, comites educere tantos?
  - (c) Septimus octavo propior iam fugerit annus,  
Ex quo Maecenas me coepit habere suorum  
In numero.
3. Translate into English, extracts from Cicero in Verrem, Act II., Book V.; pro Lege Manilia.
4. Translate, with brief comments—
  - (a) Ex suo regno sic Mithridates profugit, ut ex eodem Ponto Medea illa quondam profugisse dicitur.

- (b) Alios Sertorianos milites fuisse insimulabat et ex Hispania fugientis ad Siciliam adpulsos esse dicebat.
- (c) O graviter desiderata et aliquando reddita plebi Romanae tribunicia potestas!
- (d) Nolo in hoc delecto consilio tantum flagitii esse commissum; nolo eos iudices, quos ego probarim atque delegerim, sic in hac urbe notatos isto absoluto ambulare, ut non cera sed caeno obliti esse videantur.

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### ROMAN HISTORY.

TWO HOURS AND A HALF.

PASS.

*Not more than FOUR questions to be answered.*

1. Describe the constitution and the powers of the *comitia centuriata*.
2. "Tiberius Gracchus so shook the power of the Senate that it never entirely recovered from the blow."  
Comment on this statement.
3. Briefly describe the career and sketch the character of Cicero.
4. Describe the differences of political *status* among the communities of Italy in Cicero's childhood. How was the unification of Italy brought about in his youth?
5. Describe how Sulla "moulded anew the political constitution of Rome."

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### GREEK—JUNIOR CLASS.

(FIRST YEAR HONOURS AND SECOND YEAR PASS.)\*

UNSEEN TRANSLATION.

PASS.

1. Translate into English—

SUBTLE POLICY OF PHILIP.

- (a) Τοῦ γὰρ Φωκικοῦ συστάντος πολέμου, πρῶτον μὲν ὑμεῖς οὕτω διέκρισθε, ὥστε Φωκέας μὲν βούλεσθαι σωθῆναι, καίπερ οὐ

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\* For Second Year Honours see "Greek—Senior Class," under Third Year.

δίκαια ποιοῦντας ὀρώντες, Θηβαίοις δ' ὅτιοῦν ἂν ἐφῆσθῆναι παθοῦσιν, οὐκ ἀλόγως οὐδ' ἀδίκως αὐτοῖς ὀργιζόμενοι· οἷς γὰρ εὐτυχήκεσαν ἐν Λεύκτροις, οὐ μετρίως ἐκέχρητο· ἔπειθ' ἡ Πελοπόννησος ἅπασα διειστήκει, καὶ οὐθ' οἱ μισοῦντες Λακεδαιμονίους οὕτως ἰσχυον ὥστε ἀνελεῖν αὐτοὺς, οὐθ' οἱ πρότερον δι' ἐκείνων ἄρχοντες κύριοι τῶν πόλεων ἦσαν, ἀλλὰ τις ἦν ἄκριτος καὶ παρὰ τούτοις καὶ παρὰ τοῖς ἄλλοις ἅπασιν ἔρις καὶ ταραχή. ταῦτα δ' ὀρών ὁ Φίλιππος (οὐ γὰρ ἦν ἀφανῆ) τοῖς παρ' ἐκάστοις προδόταις χρήματα ἀναλίσκων πάντας συνέκρουε καὶ πρὸς αὐτοὺς ἐτάραττεν· εἴτ' ἐν οἷς ἡμάρτανον ἄλλοι καὶ κακῶς ἐφρόνουν, αὐτὸς παρεσκευάζετο καὶ κατὰ πάντων ἐφύετο. ὡς δὲ ταλαιπωρούμενοι τῷ μήκει τοῦ πολέμου οἱ τότε μὲν βαρεῖς νῦν δ' ἀτυχεῖς Θηβαῖοι φανεροὶ πᾶσιν ἦσαν ἀναγκασθιγόμενοι καταφεύγειν ἐφ' ὑμᾶς, ὁ Φίλιππος, ἵνα μὴ τοῦτο γένοιτο μηδὲ συνέλθοιεν αἱ πόλεις, ὑμῖν μὲν εἰρήνην ἐκείνοις δὲ βοήθειαν ἐπηγγείλατο.

(b) λιπὼν δὲ βούσταθμ' Ἰδαῖος Πάρις

Σπάρτην ἀφίκεθ' ὡς ἐμὸν σχήσων λέχος.

Ἦρα δὲ μεμψθεῖσ' οὐνεκ' οὐ νικᾷ θεάς,

ἐξηνέμωσε τᾶμ' Ἀλεξάνδρῳ λέχῃ,

δίδωσι δ' οὐκ ἔμ', ἀλλ' ὁμοιώσας· ἐμοὶ

εἰδῶλον ἔμπνουν οὐρανοῦ ξυνθεῖσ' ἄπο,

Πριάμου τυράννου παιδί· καὶ δοκεῖ μ' ἔχειν

κενὴν δόκησιν, οὐκ ἔχων. τὰ δ' αὖ Διὸς

βουλευμάτων ἄλλα τοῖσδε συμβαίνει κακοῖς

πόλεμον γὰρ εἰσήνεγκεν Ἑλλήνων χθονὶ

καὶ Φρυγί δυστήνοισιν, ὡς ὄχλου βροτῶν

πλήθους τε κουφίσειε μητέρα χθόνα

γνωτὸν τε θεῇ τὸν κράτιστον Ἑλλάδος.

Φρυγῶν δ' ἐς ἀλκὴν προυτέθην ἐγὼ μὲν οὔ,

τὸ δ' ὄνομα τοῦμόν, ἄθλον Ἑλλῆσιν δορός.

λαβὼν δέ μ' Ἑρμῆς ἐν πτυχαῖσιν αἰθέρος

νεφέλῃ καλύψας, οὐ γὰρ ἡμέλησέ μου

Ζεὺς, τόνδ' ἐς οἶκον Πρωτέως ἰδρύσατο,

πάντων προκρίνας σωφρονέστατον βροτῶν,

ἀκέραιον ὡς σώσειε Μενέλεω λέχος.

κἀγὼ μὲν ἐνθάδ' εἰμ', ὁ δ' ἄθλιος πόσις

στράτευμ' ἀθροίσας τὰς ἐμὰς ἀναρπαγὰς

θηρὰ πορευθεῖς Ἰλίου πυργώματα.

ψυχαὶ δὲ πολλαὶ δι' ἐμ' ἐπὶ Σκαμανδρίοις

ροαῖσιν ἔθανον· ἡ δὲ πάντα τλαῖσ' ἐγὼ

κατάρατός εἰμι καὶ δοκῶ προδοῦσ' ἐμὸν

πόσιν συνάψαι πόλεμον Ἑλλῆσιν μέγαν.

## GREEK—JUNIOR CLASS.

(FIRST YEAR HONOURS AND SECOND YEAR PASS.)

## AUTHORS.

1. Translate into English, extracts from Thucydides, Book IV.

2. Give notes upon the following, without translating—

οὕτω δὴ τοὺς τε Λακεδαιμονίους μᾶλλον κατιδὼν πλείους ὄντας,  
 ὑπονοῶν πρότερον ἐλάσσοσι τὸν σίτον αὐτοῦ ἐσπέμπειν,  
 τὴν τε νῆσον εὐαποβατωτέραν οὔσαν, τότε ὥς ἐπ' ἀξιοχρεῖων  
 τοὺς Ἀθηναίους μᾶλλον σπουδὴν ποιεῖσθαι τὴν ἐπιχειρήσιν  
 παρεσκευάζετο, στρατιάν τε μεταπέμπων ἐκ τῶν ἐγγύς συμμα-  
 χων καὶ τὰ ἄλλα ἐτοιμάζων.

3. Translate into English, extracts from Aristophanes, Equites.

4. Give notes upon the following, without translating—

εἴτα Κρατίνου μεμνημένος, ὅς πολλῶ ρεύσας ποτ' ἐπαίνῳ  
 διὰ τῶν ἀφελῶν πεδίῳ ἐρρει, καὶ τῆς στάσεως παρασύρων  
 ἐφόρει τὰς δρῦς καὶ τὰς πλατάνους καὶ τοὺς ἐχθροὺς προθελίν-  
 μνους·  
 ἄσαι δ' οὐκ ἦν ἐν ξυμποσίῳ πλήν, Διωροῖ συκοπέδιλε,  
 καί, τέκτονες εὐπαλάμων ὕμνων· οὕτως ἦνθησεν ἐκείνος.  
 νυνὶ δ' ὑμεῖς αὐτὸν ὀρώντες παραληροῦντ' οὐκ ἐλεεῖτε,  
 ἐκπιπτουσῶν τῶν ἡλέκτρων, καὶ τοῦ τόνου οὐκ ἔτ' ἐνόητος,  
 τῶν θ' ἁρμονιῶν διαχασκουσῶν· ἀλλὰ γέρων ὦν περιέρρει,  
 ὥσπερ Κουνῆς, στέφανον μὲν ἔχων αὖον, δίψῃ δ' ἀπολωλώς,  
 ὃν χρῆν διὰ τὰς προτέρας νίκας πίνειν ἐν τῷ πρυτανείῳ,  
 καὶ μὴ ληρεῖν, ἀλλὰ θεῖσθαι λιπαρὸν παρὰ τῷ Διονύσῳ.

5. Translate into English, extracts from Æschylus, Prometheus Vincetus.

6. Give notes, without translating, upon the following—

(a) ΙΩ. τί δῆτα μέλλεις μὴ οὐ γεγωνίσκειν τὸ πᾶν;

ΠΡ. φθόνος μὲν οὐδεῖς, σὰς δ' ὀκνῶ θραῖξαι φρένας.

ΙΩ. μή μου προκήδου μᾶsson ὦν ἐμοὶ γλυκῦ.

(b) ΠΡ. ὅταν περάσης ρεῖθρον ἡπεύρων ὄρον,

πρὸς ἀντολὰς φλογώπας ἡλιοστιβεῖς

\* \* \* \*

πόντου περῶσα φλοῖσβον, ἔστ' ἂν ἐξίκη

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\* For Second Year Honours see "Greek—Senior Class," under Third Year.

πρὸς Γοργόνεια πεδία Κισθήνης, ἵνα  
αἱ Φορκίδες ναίουσι δηναῖαι κόραι  
τρέϊς κυκνόμορφοι, κοινὸν ὄμμ' ἔκτημέναι,  
μονόδοντες, ἃς οὐθ' ἥλιος προσδέρεται  
ἀκτίσιν οὐθ' ἡ νύκτερος μῆνη ποτέ.

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### GREEK HISTORY.

ONE HOUR AND A HALF.

#### PASS.

*Not more than FOUR questions to be answered.*

1. Give a clear but short account of the legislation of Solon.
2. Discuss the wisdom of the Athenian interference in Sicilian affairs.
3. State briefly what you know of the following:—Delium; Eetionea; the Peace of Nicias; Ostracism; Pheidon; Eurymedon; Potidaea.
4. "The key to the Peloponnesian War is the fundamental fact that it was waged between a power which was mainly continental and a power which was mainly maritime?"  
Explain this, and shew its bearings upon the nature of the operations of the first ten years of the war.
5. Exhibit clearly the different regions to which Greek colonising activity was directed in the seventh century B.C., indicating also the chief colonising States.
6. What is meant by the Age of the Tyrants? What States furnish the most conspicuous examples of "tyranny"?
7. Clearly but briefly describe the preliminary movements and the actual course of any *one* of the three following battles—Marathon, Salamis, Plataea. Illustrate your answer by means of a map.
8. What were the main features of the policy of Pericles at home and abroad?
9. Discuss the character of Cleon as a politician.

LOGARITHMS AND TRIGONOMETRY.

TWO HOURS AND A HALF.

PASS.

(A) LOGARITHMS.

1. Prove that  $\log N^p = p \log N$ .

Calculate the values of

(i.)  $\sqrt[3]{0.000735}$ .

(ii.)  $\frac{1098 \times 0.287 \times 453}{\sqrt[3]{(746)^3}}$ .

2. In a right-angled triangle, C being the right angle,  $A = 38^\circ 14'$  and  $a = 714.5$  feet. Find the value of  $c$ .
3. Prove the formula for  $\tan \frac{A}{2}$ , assuming that for  $\cos A$ , and find the size of the smallest angle in the triangle whose sides are 123.1, 346.7, and 432.5 feet.
4. Find the value of the third side of the triangle in which the angle  $47^\circ 15'$  is contained by sides of length 32.567 and 47.851 yards.

(B) TRIGONOMETRY.

1. Shew that

(i.)  $\cos 3a = 2^2 \sin \left( a + \frac{\pi}{6} \right) \sin \left( a + \frac{\pi}{2} \right) \sin \left( a + \frac{5\pi}{6} \right)$

(ii.)  $\cos^2 \frac{A}{2} + \cos^2 \frac{B}{2} + \cos^2 \frac{C}{2} = 2 \left( 1 + \sin \frac{A}{2} \sin \frac{B}{2} \sin \frac{C}{2} \right)$ , where  $A + B + C = 180^\circ$ .

2. Find the values of the in-radius and ex-radii of a triangle. Prove that in any triangle

(i.)  $(r_1 - r)(r_2 - r)(r_3 - r) = 4r^2 R$ .

(ii.)  $a = \left( \frac{r}{r_2} + \frac{r}{r_3} \right) \sqrt{\frac{r r_1}{r_2 r_3}}$ .

3. If in a triangle  $(a^2 + b^2) \cos 2A = b^2 - a^2$ , it is either right-angled or two of its angles differ by a right angle.
4. ABCD are four points not in one plane. The angles CAB, CBA, DAB, DBA, CAD are respectively  $130^\circ$ ,  $20^\circ$ ,  $50^\circ$ ,  $90^\circ$  and  $90^\circ$ , and  $AB = 500$  yards. Find the distance CD.

## STATICS.

TWO HOURS AND A HALF.

1. State and prove the Triangle of Forces.

P, Q, R are three forces acting on a particle, and keeping it in equilibrium. If  $P:Q$  as  $\sqrt{2}:1$ , and the angle between the directions of P and R is  $150^\circ$ , shew that there are two values of R, and find them.

2. Find the resultant of two unequal parallel unlike forces.

Shew that a single force and a couple cannot neutralise each other.

3. AB is a rod 6 foot long, which is not uniform. If a weight of 4 lbs. be hung at A, 5 at B, and 7 at C, the middle point of AB, the rod is found to balance about a point distant  $2\frac{3}{4}$  ft. from B. When the weights at A and B are interchanged, the weight at C remaining the same, the rod is found to balance about a point  $2\frac{1}{2}$  ft. from B. Find the weight of the rod.

4. ABCD is a square; along AB, BC, CD, DA act forces 3 lbs., 4 lbs., 5 lbs., 6 lbs. respectively. Find the position, magnitude and direction of the single force which is necessary to keep the square in equilibrium.

5. Find the centre of gravity of a plane triangular lamina.

Such a lamina is bound round with heavy wire of negligible cross section, and the position of the c.g. is the same as before. Shew that the shape of the lamina is an equilateral triangle.

6. In the first system of pulleys, where all the strings are attached to the beam, find the ratio between the power and the weight, neglecting the weights of the pulleys.

If there are four movable pulleys weighing 2, 1, 1, 1 lbs. respectively, the heaviest being lowest, shew that a weight of 150 lbs. will be supported by a weight of  $10\frac{2}{3}$  lbs.

7. Describe the common balance.

A balance with unequal arms rests, when unloaded, with its beam horizontal. A pound weight appears to weigh 14 oz. when placed in one scalepan. What will it appear to weigh when placed in the other?

8. A string 10 ft. long, carrying a weight of 50 lbs., is hung from A. The weight is drawn 1 foot from the vertical through A by a horizontal force X. Find X, and the tension of the string.
9. What are the laws of statical friction? A body of weight 10 lbs. just rests of itself on a rough inclined plane of angle  $30^\circ$ . When the inclination of the plane is increased to  $60^\circ$ , what force, acting horizontally, will be required to (1) just keep it from slipping down, and (2) just make it be on the point of slipping up?

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### ANALYTICAL GEOMETRY.

TWO HOURS AND A HALF.

PASS.

1. Find the coordinates of the point dividing the straight line joining two given points  $(x_1, y_1)$   $(x_2, y_2)$  in a given ratio.  
Find the coordinates of the intersection of the medians of the triangle whose sides are  $8y - 3x + 1 = 0$ ,  $5x - 3y = 12$ ,  $2x + 5y + 20 = 0$ .
2. If  $(2, 3)$   $(4, 7)$  are two opposite angular points of a parallelogram, and  $(5, 1)$  is a third angular point, find the equations of the sides, and the area of the parallelogram.
3. Find the perpendicular distance from the point  $(x', y')$  to the straight line  $x \cos a + y \sin a = p$ .  
AB, CD are two straight lines given in magnitude and position. Shew that the locus of a point P, moving so that the sum of the areas PAB, PCD is constant, is a straight line.
4. Find an expression for the tangent of the angle between two given straight lines.  
Obtain analytically the locus of the vertex of a triangle, of which the base and vertical angle are given.
5. Find the equation to the circle which passes through the origin, and cuts off lengths of 3 and 5 units respectively from Ox and Oy.
6. Define a conic; and, from your definition, find the equation to the conic which has the point  $(3, 2)$  for focus, the line  $4x - 3y = 8$  for directrix, and its eccentricity  $= 2$ .



7. Find the equation of the tangent at any point of  $y^2=4ax$ .  
 Draw a rough diagram of the curves  $y^2=x$  and  $x^2=8y$ .  
 Find the equations of, and draw on your diagram the tangents and normals to both curves at their common point other than the origin.
8. Find the equation of an ellipse which has one end of its major axis at the vertex of the parabola  $y^2=4ax$ , which has the same focus as the parabola, and which has its major axis of length  $8a$ .
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## SENIOR FRENCH I.

## PROSE COMPOSITION, TRANSLATION AT SIGHT, ETC.

## PASS.

## 1. Translate—

## THE GREAT DUKE.

Arthur Wellesley was now within a few days of completing his fortieth year. He was a slight but wiry man of middle stature, with a long face, an aquiline nose, and a keen but cold grey eye. Owning an iron constitution, on which no climate or season seemed to make the least impression, he was physically fit for all the work which lay before him—work more fatiguing than that which falls to most generals. For in the Peninsula he was required, as it soon appeared, to be almost as much of a statesman as of a general; while at the same time, owing to the inexperience of the British officers of that day in warfare on a large scale, he was obliged for some time to discharge for himself many of the duties which properly fall to the lot of the chief of the staff, the commissary-general, the paymaster-general, and the quartermaster-general in a well-organised army. . . . Autumn rains, summer heat, the cold of winter, had no power over him. He could put up with a very small allowance of sleep, and when necessary could snatch useful moments of repose, at any moment of the twenty-four hours when no pressing duty chanced to be at hand. His manner of life was simple and austere in the extreme; no commander-in-chief ever travelled with less baggage, or could be content with more Spartan fare.

## 2. Translate (at sight)—

## EDUCATION DE MME. ROLAND.

On pourra remarquer dans mon éducation plus d'un contraste. Cette petite personne, qui paraissait le dimanche à l'église et à la promenade dans un costume qu'on aurait pu croire sorti d'un équipage, et dont l'apparence était fort bien soutenue par son maintien et son langage, allait fort bien aussi dans la semaine en petit fourreau de toile au marché avec sa mère. Elle descendait même seule pour acheter, à quelques pas de la maison, du persil ou de la salade que la ménagère avait oubliés. Il faut convenir que cela ne me plaisait pas beaucoup; mais je n'en témoignais rien, et j'avais l'art de m'acquitter de ma commission de manière à y trouver de l'agrément. J'y mettais une si grande politesse, avec quelque dignité, que la fruitière, ou un autre personnage de cette espèce, se faisait un plaisir de me servir d'abord, et que les premiers arrivés le trouvaient bon; je remboursais toujours quelque compliment sur mon passage, et je n'en étais que plus honnête. Cette enfant, qui lisait des ouvrages sérieux, expliquait fort bien les cercles de la sphère céleste, maniait le crayon et le burin, et se trouvait, à huit ans la meilleure danseuse d'une assemblée de jeunes personnes au-dessus de son âge réunies pour une petite fête de famille; cette enfant était souvent appelée à la cuisine pour y faire une omelette, éplucher des herbes ou écumer le pot. Ce mélange d'études graves, d'exercices agréables et de soins domestiques ordonnés, assaisonnés par la sagesse de ma mère, qui m'a rendue propre à tout, semblait prédire les vicissitudes de ma fortune et m'a aidée à les supporter. Je ne suis déplacée nulle part: je saurais faire ma soupe aussi lestement que Philopœmen coupait du bois; mais personne n'imaginerait en me voyant que ce fût un soin dont il convint de me charger.

## 3. French Literature in the 18th Century.

- (i.) Explain the dearth of Lyric poetry in France during the 18th century before Chénier.
- (ii.) What was Rousseau's attitude towards the Philosophic movement? Enumerate his chief works, and point out the connection between them.

- (iii.) Characterise Diderot as a dramatist. Show in what way he influenced the Drama of the succeeding century.
  - (iv.) Give a short account of the chief writers of fiction of the 18th century, and their principal works.
  - (v.) In what respects was literature indebted to Bernardin de St. Pierre?
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## SENIOR FRENCH II.

## AUTHORS.

## PASS.

Translate into English, with comments where necessary, extracts from *Pages choisies de Diderot*; *Pages choisies de Beaumarchais*; *Saint-Beuve, Causeries du lundi Vol. VII.*; *Voltaire, Zaire*; *Piron. La Métromanie*.

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## SENIOR GERMAN I.

## PROSE COMPOSITION, UNSEEN TRANSLATION, Etc.

## PASS.

## 1. Translate into German—

It is now more than a century since George Crabbe, then a young man of five-and-twenty, put three pounds in his pocket, and started from his native town of Aldborough with a box of clothes and a case of surgical instruments, to make his fortune in London. Few men have attempted the adventure with less promising prospects. Any sensible adviser would have told him to prefer starvation in his native village to starvation in the back lanes of London. The adviser would, perhaps, have been vexed, but would not have been confuted, by Crabbe's good fortune. We should all recommend a youth not to jump into a river, though, of a thousand who try the experiment, one may happen to be rescued by a benevolent millionaire, and be put on the road to fortune. The chances against Crabbe were enormous. Literature, considered as a trade, is a good deal better at the present day than it was at the end of the 18th century; and yet anyone who has an oppor-

tunity of comparing the failures with the successes would be more apt to quote Chatterton than Crabbe as a precedent for youthful aspirants. Crabbe, indeed, might say for himself that literature was the only path open to him. His father was poor, though he had managed to give his son a smattering of "scholarship" in the sense in which the word is used by the less educated lower classes. To the slender store of learning acquired in a cheap country school, the lad contrived to add such medical training as could be picked up during an apprenticeship in an apothecary's shop. But with this provision of knowledge he had failed to obtain practice in his native town, and was now quite at the end of his resources.

2. Translate into English—

Der Dreimaster, der eben von Westindien zurückkam, gehörte zu des Commerzienraths Flotte. Man hatte gewußt, daß er heute einlaufen würde, und dem Commerzienrath war es keineswegs unlieb, seine Gäste auf der Fahrt nach seinen Musterbänken an dem stolzeſten seiner Schiffe vorüberführen zu können. Er stand auf dem Radkasten, das Sprachrohr am Munde, aus Leibeskräften etwas schreiend, was in dem allgemeinen Hurrah hinüber und herüber und dem Krachen der Böllerschüsse unmöglich von dem bronzefarbenen Kapitain drüben verstanden werden konnte, der denn auch zum Zeichen, daß er nichts verstanden habe, die breiten Achseln zuckte. Aber was kam darauf an! Es war doch ein glorioses Schauspiel, und der Commerzienrath mit dem Sprachrohr auf dem Radkasten die Hauptperson in demselben. Das war ihm genug, und als er jetzt, nachdem der „Albatros“ auf breiten Schwingen vorübergerauscht war und die plumpen Beine des „Pinguin“ wieder zu schaukeln begannen, von seinem Piedestal herunterstieg, die Glückwünsche der Gesellschaft in Empfang zu nehmen, glitzerten seine Augen so hell, zuckten die Flügel seiner langen Nase so vergnüglich, strich er sich so behaglich das spitze Bäuchelchen und sein lautes Lachen klang wie das Krähen eines Hahns, der sich in dem angenehmen Bewußtsein bläht, der Erste auf dem Düngerhof zu sein.

3. (a) What were the advantages and disadvantages of the theme which Klopstock chose for his epic?
- (b) What phases may be noted in the literary development of Wieland?

- (c) What does Lessing understand by the "purification of pity and terror and such like passions" in the tragedy?
- (d) Point out the parallels and contrasts between Schiller's *Räuber*, and Goethe's *Götz*.
- (e) Compare the conception of Faust in the popular legend, and in Lessing's fragment, with that of Goethe; and trace the changes which Goethe's conception underwent.

## SENIOR GERMAN II.

## AUTHORS.

## PASS.

Translate into English, extracts from Voss, Luise; Kotzebue, Menschenhass und Reue; Goethe, Gedichte; Lessing, Laokoon; Herder, Legenden.

## LOGIC AND MENTAL PHILOSOPHY.

## PASS.

*You are requested to attempt not more than six questions.*

1. What do you understand by a concept as distinguished from a mental image? Sketch the process by which we pass from images to concepts.
2. Define and divide logically *judgment*, *inference*.
3. Test the following formal inferences in any way you please—  
No A is B; No C is not—B; therefore, all C is not—A.  
All A is B; All C is not—B; therefore, no C is A.
4. "Many syllogisms apparently accurate in form are not really so, since one of the propositions is merely a verbal definition." Explain and illustrate this criticism.
5. Upon what does the force of an analogy depend? Examine each of the following—
  - (a) The analogy drawn from ancient to modern democracies, that democracy ends in despotism.
  - (b) That the exclusion of the six haters from Australia was unobjectionable, since restrictions were at least as stringent in the United States.—(*Mr. Deakin*).

6. Analyse the grounds of inductive or deductive reasoning upon which you are led to believe or disbelieve in,—The Flood; Bacon's authorship of "Shakespeare's Plays"; that the sun will rise to-morrow morning.
7. Illustrate the working of the Method of Concomitant Variations and the Method of Difference, by reference to any two of the following:—The relation between poverty and crime; the relation between protection and prices; any experiment in physics or chemistry.
8. Why does a science become more deductive as it progresses towards perfection? Illustrate by reference to different sciences.
9. Write a criticism upon the following extract from a student's exercise:—"In forming the law of gravitation, Newton noticed a particular example, viz., an apple falling to the ground, and from this single case he made the induction that all bodies attract each other."
10. On what lessons would you mostly rely in trying to cultivate the reasoning powers of children? Give a detailed and reasoned illustration.

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## LOGIC AND MENTAL PHILOSÓPHY.

### HONOURS I.

1. What is meant by calling the logical laws of thought *a priori*? Show how they are involved in sense perception, or in simple arithmetical operations.
2. Formulate in general terms the criterion of truth adopted in scientific theory and practice. Illustrate and discuss its value.
3. "It is a peculiarity of the physical sciences that they are independent in proportion as they are imperfect."—(*Huxley*.) Illustrate from the history of scientific progress.
4. What is meant by *mechanism* and *organism* as categories, or principles of explanation?
5. Explain and illustrate the relation of philosophy to the sciences.

## HISTORY I.

## PASS.

*You are recommended to answer SEVEN questions, and no more.*

1. Compare the nature of the Teutonic conquest of Britain with that of Teutonic conquests of other European countries.
2. Explain shortly the parts taken in the story of the conversion of the English to Christianity by the following persons:—Ethelbert, Edwin, Penda, Oswi, Wilfred.
3. "The history of the Danish invasions of England falls into three periods, characterised respectively by piracy, settlement, and conquest." Explain.
4. Describe the character of William I. What were the main ideas of his policy in secular matters?
5. Explain the nature of the quarrel between Henry II. and Becket.
6. Explain shortly the interest of (a) Grossteste's letter to the Pope, (b) the song of the battle of Lewes.
7. "At the opening of the fourteenth century the Kingdom of the Scots was composed of four districts, each of which had originally its different people, its different speech, or at least dialect, and its different history." Explain.
8. Edward I. has been called "the Greatest of the Plantagenets." Explain his claim to this title.
9. What were the most important consequences of the wars of Edward III.?

## HISTORY II.

## PASS.

*You are recommended to answer SEVEN questions, and no more.*

1. Describe the political ideas and aims of Richard II., and explain the constitutional importance of his ultimate failure.
2. Explain and illustrate the importance in the fifteenth century of "the over-mighty subject."
3. Describe the conditions of the agricultural classes during the period which followed the Peasants' Revolt.

4. What important changes took place in the political condition of Europe during the later half of the fifteenth century?
5. What do you understand by "the Christian Renaissance"?
6. "Their tenants, I mean, whom they poll and shave to the quick by raising their rents."  
Give some account of the nature of the agricultural troubles to which More refers.
7. What limits are set to the principle of Toleration in Utopia?
8. How did Henry VIII. regard the Protestant Reformation?
9. Account for Mary's success in restoring Roman Catholicism in England.
10. Discuss the state of religious opinion in England at the accession of Elizabeth, and show how it affected her policy.

## HISTORY I.

### HONOURS.

*You are recommended to answer not less than FIVE questions, and not more than SEVEN.*

1. "The early English constitution was, in its origin and character, essentially Germanic."  
Explain and discuss this statement.
2. What were the chief causes of the growth of "the Feudal system" in England? Sketch its development up to 1066.
3. Discuss the relations of the English Church to Rome from the coming of Augustine to the Norman Conquest.
4. In what way did constitutional progress in the reign of Henry II. prepare the way for the growth of Parliament in the following century?
5. "The thirteenth century turns the Feudal Council into an assembly of estates, and draws the constitution of the third estate from the ancient local courts."  
Explain.
6. "Universitas predestinatorum." Explain the significance of Wycliffe's definition of the Church.



7. What were the chief defects in the Parliamentary system of the Lancastrians?
  8. Show shortly how Italian art may be used to illustrate the progress of Ideas during the Renaissance period.
  9. "The Protestant Reformation, Hebraising child of the Renaissance."  
Discuss.
  10. Illustrate the limitations of the sovereign's power during the Tudor period.
  11. Discuss the importance of the reign of Elizabeth in economic history.
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## PHYSICS AND GEOLOGY.

The same papers as those set in the Second Year of Science.

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## BOTANY I.

The same paper as that set in the First Year of Science.

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## BOTANY.—SECOND PAPER.

1. Give an account of any instances known to you of localisation of irritability, and discuss the experimental evidence.
  2. Give an account of the functions (*a*) of the tracheal tissue of the xylem; (*b*) of the Phloem elements.
  3. Describe (*a*) Knight's experiment, and show what conclusions may be drawn therefrom; (*b*) Stahl's method of demonstrating transpiration.
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## THIRD YEAR EXAMINATION.

## ENGLISH I.

## PASS.

Not more than FIVE questions to be attempted in Section A, and not more than FOUR in Section B.

## A.

1. "Shakespeare often presents his heroines in masculine disguise; and in making them act the part of men, he might easily have blurred their individuality; but in point of fact, even so, no two of them are alike."

Examine and illustrate this statement.

2. "Best men are moulded out of faults.—This is Shakespeare's maxim in regard to the leading figures of many of his comedies."

Discuss this statement.

3. Explain the place of the mechanics in the economy of *Midsummer Night's Dream*.

4. In *All's Well*, how does Shakespeare mitigate the impression of boldness that Helena's suit might produce?

5. Discuss the connection of the *Merry Wives* with the historical plays.

6. "A comparison of *Much Ado* with the novel on which it is mainly based shows how Shakespeare brings his stories nearer to our feelings even while accentuating their difficulties."

Comment on this statement.

7. Discuss *As You Like It* as a sylvan pastoral.

8. What are some of the peculiarities in Shakespeare's latest plays that offend critics of the correct school.

## B.

1. "The *Prometheus Unbound* is a tangle of philosophical incongruities in a rarely beautiful poetic symbolism."

Discuss this in reference to the symbols of Jupiter, Asia and Demogorgon.

2. "A disjointed edifice with exquisitely carved chambers and echoing corridors that lead to nothing."

Examine this description of *In Memoriam*.

3. "Constance (*In a Balcony*) is a typical woman in her unstraight-forward, timorous way of seeking her heart's desire and in the rapid rising to an occasion wherein she utterly abnegates herself." Explain this statement.

4. "We doubt the propriety of offering to the public a treatise on Things in General under the name and in the form of an Essay on Dress."—*North American Review*, 1835, on *Sartor Resartus*.

How does Carlyle make Dress equivalent to Things in General?

5. Discuss the following passages—

(a) With never a whisper in the sea,  
Off darts the spectre-ship;  
While clombe above the eastern bar  
The horned moon, with one bright star  
Almost atween the tips.

(b) There's something in a flying horse,  
And something in a huge balloon,  
But through the clouds I'll never float  
Until I have a little boat  
Whose shape is like the crescent-moon.

(c) How every pause is filled with undernotes,  
Clear, silver, icy, keen awakening tones,  
Which pierce the sense and live within the soul.

(d) It seemed as if all things in the heaven above and the earth beneath would hurt me: as if the Heaven and the Earth were but boundless jaws of a devouring monster, wherein I, palpitating, waited to be devoured.

(e) One God, one law, one element,  
And one far-off Divine event  
To which the whole creation moves.

- (f) Heaven opened to a soul while yet on earth,  
 Earth forced on a soul's use while seeing heaven,—  
 The man is witless of the size, the sum,  
 The value in proportion of all things,  
 Or whether it be little or be much.

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 ENGLISH II.

## PASS.

*Only EIGHT questions to be attempted.*

1. Characterise the mysticism of Blake.
2. Discuss the historical importance of Crabbe and Cowper.
3. Estimate the advantages and disadvantages, from a literary point of view, of the circumstances of Burns's life.
4. Discuss Wordsworth's relation to the French Revolution.
5. Compare Coleridge's three chief poems in their scope and methods.
6. Contrast Miss Burney and Miss Austen as delineators of character.
7. What does Carlyle mean when he says that "Scott has no message?" Examine his verdict on Scott.
8. Discuss the significance and character of the Byronic Hero.
9. Characterise Shelley as a lyric poet.
10. "Keats is above all the poet of Beauty." Can any change be traced in his conception of it?

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 LATIN—MARTIAL AND UNSEEN TRANSLATION.

## PASS.

1. Translate, with brief comments, extracts from Martial, Epigrams, Books I. to IX.
2. Translate—  
 (a) At enim apparet quidem *violari omnia* nec ullis piaculis expiari posse, sed res ipsa cogit vastam incendiis ruinisque relinquere urbem et ad integra omnia Veios migrare nec hic aedificando inopem plebem vexare. Hanc autem

iactari magis causam quam veram esse, ut ego non dicam, apparere vobis, Quirites, puto, qui meministis ante Gallorum adventum, salvis tectis publicis privatisque, stante incolumi urbe, hanc eandem rem actam esse, ut Veios transmigraremus. Et videte, quantum inter meam sententiam vestramque intersit, tribuni. Vos, etiamsi tunc faciendum non fuerit, nunc utique faciendum putatis; ego contra—nec id mirati sitis, priusquam quale sit audieritis—, etiamsi tum migrandum fuisset incolumi tota urbe, nunc has ruinas relinquendas non censerem. Quippe tum causa nobis in urbem captam migrandi victoria esset, gloriosa nobis ac posteris nostris; nunc haec migratio nobis misera ac turpis, Gallis gloriosa est.

(b) Vel quum decorum mitibus pomis caput

Autumnus agris extulit,  
 Ut gaudet insitiva decerpens pyra,  
 Certantem et uvam purpuræ,  
 Qua muneretur te, Priape, et te, pater  
 Silvane, tutor finium!  
 Libet jacere modo sub antiqua ilice,  
 Modo in tenaci gramine.  
 Labuntur altis interim ripis aquae,  
 Queruntur in silvis aves,  
 Fontesque lymphis obstrepunt manantibus,  
 Somnos quod invitet leves.  
 At cum tonantis annus hibernus Jovis  
 Imbres nivesque comparat,  
 Aut trudit acres hinc et hinc multa cane  
 Apros in obstantes plagas,  
 Aut amite levi rara tendit retia,  
 Turdis edacibus dolos,  
 Pavidumque leporem et advenam laqueo gruem  
 Jucunda captat praemia.  
 Quis non malarum, quas amor curas habet,  
 Haec inter obliviscitur?

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LATIN AUTHORS—(TACITUS AND PLINY).

PASS.

1. Translate into English, extracts from Tacitus, Histories III. and IV.

## 2. Translate, with brief comments—

- (a) Praelio quo apud Ianiculum adversus Cinnam pugnatum est, Pompeianus miles fratrem suum, dein cognito facinore se ipsum interfecit, ut Sisenna memorat.
- (b) Foedera sociis, Latium externis dilargiri.
- (c) Praetores aerarii (nam tum a praetoribus tractabatur aerarium) publicam paupertatem questi modum impensis postulaverunt.
- (d) Quantum in Italia reliquum? Provinciarum sanguine provincias vinci.
- (e) Varus praetorianis praepositus vim atque arma retinebat: eum Mucianus pulsum loco, ne sine solatio ageret, annonae praefecit.

## 3. Translate into English, extracts from Pliny, Selected Letters.

## 4. Translate, with brief comments—

- (a) Plurimum refert, quid esse tribunatum putes, inanem umbram et sine honore nomen, an potestatem sacrosanctam et quam in ordinem cogi ut a nullo ita ne a se quidem deceat.
- (b) Interfui principis optimi cognitioni in consilium adsumptus.
- (c) Post hoc ille cum ceteris subscripsit centumvirale iudicium, non subscripsit mecum.
- (d) Hic situs est Rufus, pulso qui Vindice quondam Imperium adseruit non sibi sed patriae.

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LATIN GENERAL PAPER.

## PASS.

- 1. Explain the significance of the remark that the rule of Augustus was a "veiled despotism."
- 2. Compare the position of the Senate under Augustus and under Hadrian.
- 3. "It is in the field of law that the chief importance and credit of the principate of Antoninus lie." Comment on this statement.

4. What were the chief factors in the Romanising of the western half of the Empire?
5. "The creation of an Emperor [*i.e.*, Galba] in the provinces was a new departure, and it served to give men a glimpse into the real conditions on which the Empire depended." Comment on this.
6. Describe the political organisation and mode of administration of an imperial province in the first century after Christ.
7. Give a brief account of Seneca, the philosopher.
8. "From a literary point of view, the Augustan age ranks among the most brilliant in the history of the world." Discuss this statement.

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GREEK—SENIOR CLASS.

(SECOND YEAR HONOURS AND THIRD YEAR PASS.)

TRANSLATION AT SIGHT.

Translate into English—

- (1) καὶ ἐνταῦθα ἤδη ἐν πολλῇ ταραχῇ καὶ ἀπορίᾳ ἐγίγνοντο οἱ Ἀθηναῖοι, ἣν οὐδὲ πυθέσθαι ῥάδιον ἦν οὐδ' ἀφ' ἐτέρων ὅτῳ τρόπῳ ἕκαστα ξυνηνέχθη. ἐν μὲν γὰρ ἡμέρα σαφέστερα μὲν, ὅμως δὲ οὐδὲ ταῦτα οἱ παραγενομένοι πάντα πλὴν τὸ καθ' ἑαυτὸν ἕκαστος μολὶς οἶδεν· ἐν δὲ νυκτομαχίᾳ, ἣ μόνῃ δὴ στρυτοπέδων μεγάλων ἐν γῆ τῷδε τῷ πολέμῳ ἐγένετο, πῶς ἂν τις σαφῶς τι ἦδει; ἦν μὲν γὰρ σελήνῃ λαμπρά, ἑώρων δὲ οὕτως ἀλλήλους ὥς ἐν σελήνῃ εἰκὸς τὴν μὲν ὄψιν τοῦ σώματος προοραῖν, τὴν δὲ γνῶσιν τοῦ οἰκείου ἀπιστεῖσθαι. ὁπλῖται δὲ ἀμφοτέρων οὐκ ὀλίγοι ἐν στενοχωρίᾳ ἀνεστρέφοντο. καὶ τῷ Ἀθηναίων οἱ μὲν ἤδη ἐνικῶντο, οἱ δ' ἐτι τῇ πρώτῃ ἐφόδῳ ἀήσθητοι ἐχώρουν. πολλοὶ δὲ καὶ τοῦ ἄλλου στρατεύματος αὐτοῖς τὸ μὲν ἄρτι ἀναβεβήκει, τὸ δ' ἐτι προσανῆι, ὥστ' οὐκ ἠπίσταντο πρὸς ὃ τι χρὴ χωρήσαι. ἤδη γὰρ τὰ πρόσθεν, τῆς τροπῆς γεγενημένης, ἐτεταράκτο πάντα καὶ χαλεπὰ ἦν ὑπὸ τῆς βοῆς διαγινῶναι. οἳ τε γὰρ Συρακόσιοι καὶ οἱ ξύμμαχοι κρατοῦντες παρεκελεύοντό τε, κραυγῇ οὐκ ὀλίγῃ χρώμενοι, ἀδύνατόν ὄν ἐν νυκτὶ ἄλλῃ τῇ σημῇναι, καὶ ἅμα τοὺς προσφερομένους ἐδέχοντο· οἳ τε Ἀθηναῖοι ἐξήτουν τε σφᾶς αὐτοὺς καὶ πᾶν τὸ ἐξ ἐναντίας, καὶ εἰ φίλιον εἴη τῶν ἤδη πάλιν φευγόντων, πολέμιον ἐνόμιζον, καὶ τοῖς ἔρω-

τήμασι τοῦ ξυνθήματος πυκνοῖς χριόμενοι, διὰ τὸ μὴ εἶναι ἄλλω τῇ γνωρίσει, σφίσι τε αὐτοῖς θόρυβον πολὺν παρεῖχον, ἅμα πάντες ἐρωτῶντες, καὶ τοῖς πολεμίοις σαφὲς αὐτὸ κατέστησαν.

- (2) **ΙΠ.** οἴμοι, τί δράσεις; οὐδὲ μηνυτὴν χρόνον  
δέξει καθ' ἡμῶν, ἀλλὰ μ' ἐξελάς χθονός;  
**ΘΗ.** πέραν γε πόντου καὶ τόπων Ἀτλαντικῶν,  
εἰ πως δυναίμην, ὡς σὸν ἐχθαίρω κάρα.  
**ΙΠ.** οὐδ' ὄρκον οὐδὲ πίστιν οὐδὲ μάντειον  
φήμας ἐλέγξας ἄκριτον ἐκβαλεῖς με γῆς;  
**ΘΗ.** ἡ δέλτος ἦδε κλῆρον οὐ δεδεγμένη  
κατηγορεῖ σου πιστά· τοὺς δ' ὑπὲρ κάρα  
φοιτῶντας ὄρνεις πόλλ' ἐγὼ χαίρειν λέγω.  
**ΙΠ.** ὦ θεοί, τί δῆτα τοῦμὸν οὐ λύω στόμα,  
ὅστις γ' ὑφ' ὑμῶν, οὓς σέβω, διόλλυμαι;  
οὐ δῆτα· πάντως οὐ πίθοιμ' ἂν οὓς με δεῖ,  
μάτην δ' ἂν ὄρκους συγχέαιμ' οὓς ὤμοσα.  
**ΘΗ.** οἴμοι· τὸ σεμνὸν ὥς μ' ἀποκτείνει τὸ σόν.  
οὐκ εἰ πατρίδας ἐκτός ὡς τάχιστα γῆς;  
**ΙΠ.** ποῖ δῆθ' ὁ τλήμων τρέψομαι; τίνας ξένων  
δόμους ἔσειμι τῇδ' ἐπ' αἰτία φυγῶν;  
**ΘΗ.** ὅστις γυναικῶν λυμεῶνας ἦδεται  
ξένους κομίζων καὶ συνοικουροὺς κακῶν.  
**ΙΠ.** αἰαί· πρὸς ἡπαρ δακρύων τ' ἐγγὺς τόδε,  
εἰ δὴ κακός γε φαίνομαι δοκῶ τέ σοι.  
**ΘΗ.** τότε στενάζειν καὶ προσιγνώσκειν σ' ἐχρήν,  
ὅτ' εἰς πατρίαν ὕλοχον ὑβρίζειν ἔτλης.

- (3) Ὡς δὲ εὐφρόνη ἐγεγόνεε, ἣν μὲν τῆς ὥρης μέσον θέρος, ἐγίνετο δὲ ὕδωρ τε ἄπλετον διὰ πάσης τῆς νυκτὸς καὶ σκληραὶ βρονταὶ ἀπὸ τοῦ Πηλίου· οἱ δὲ νεκροὶ καὶ τὰ ναυήγια ἐξεφορέοντο ἐς τὰς Ἀφέτας, καὶ περὶ τε τὰς πρῶρας τῶν νεῶν εἰλέοντο καὶ ἐτάρασσον τοὺς ταρσοὺς τῶν κωπῶν. οἱ δὲ στρατιῶται οἱ ταύτην ἀκούοντες ταῦτα ἐς φόβον κατιστέατο, ἐλπίζοντες πᾶγχυ ἀπολέεσθαι, ἐς οἷα κακὰ ἦκον· πρὶν γάρ ἢ καὶ ἀναπνεῦσαι σφεας ἐκ τε τῆς ναυηγίης καὶ τοῦ χειμῶνος τοῦ γενομένου κατὰ Πήλιον, ὑπέλαβε ναυμαχίᾳ κρατερῇ, ἐκ δὲ τῆς ναυμαχίης ὄμβρος τε λάβρος καὶ ρεύματα ἰσχυρὰ ἐς θάλασσαν ὠρμημένα βρονταὶ τε σκληραί. καὶ τοῦτοισι μὲν τοιαύτη νύξ ἐγίνετο.



## GREEK—SENIOR CLASS.

(THIRD YEAR PASS AND SENIOR HONOURS.)

AUTHORS—(HOMER AND ÆSCHYLUS).

1 and 2. Translate into English, extracts from Homer, *Odyssey*, Books I.-IV.; Æschylus, *Prometheus Vinctus*.

3. Give notes, without translating, upon the following—

(a) ΙΩ. τί ἔγητα μέλλεις μὴ οὐ γεγωνίσκειν τὸ πᾶν;

ΠΡ. φθόνος μὲν οὐδεὶς, σὰς δ' ὀκνῶ θραῦσαι φρένας.

ΙΩ. μή μου προκίχδον μάσσον ὦν ἐμοὶ γλυκύ.

(b) ΠΡ. ὅταν περάσῃς ρεῖθρον ἡπείρων ὄρον,  
πρὸς ἀντολάς φλογῶπας ἡλιοστιβεῖς  
\* \* \* \*

πόντου περῶσα φλοῖσβον, ἔστ' ἂν ἐξίκη

πρὸς Γοργόνεια πεδία Κισθίνης, ἵνα

αἱ Φορκίδες ναίουσι δηρναῖαι κόραι

τρεις κυκνόμορφοι, κοινὸν ὄμμ' ἐκτημέναι,

μονόδοτες, ἃς οὐθ' ἥλιος προσδέρεται

ἀκτίσιν οὐθ' ἡ νύκτερος μήνη ποτέ.

## GREEK—SENIOR CLASS.

(THIRD YEAR PASS AND SENIOR HONOURS.)

ARISTOTLE AND ATHENIAN CONSTITUTIONAL HISTORY.

(Not more than FIVE questions to be answered. The Greek passages are not required to be translated.)

1. μέγισται δὲ καὶ πρῶται τῶν ἀρχῶν ἦσαν βασιλεὺς τε καὶ πολέμαρχος καὶ ἄρχων· τούτων δὲ πρῶτη μὲν ἡ τοῦ βασιλείως, αὕτη γὰρ ἐν ἀρχῇ ἐγένετο, δευτέρα δὲ ἐπικυτέστη πολεμαρχία.

"The early history of Attica consists mainly in the change from monarchy to aristocracy . . . the tradition of which would show an historically possible and not unnatural development."

Give what appears to you the most reasonable account of the above change.

2. κύριος δὲ γενόμενος τῶν πραγμάτων Σόλων τὸν τε δῆμον ἡλευθέρωσε καὶ ἐν τῷ παρόντι καὶ εἰς τὸ μέλλον, κωλύσας δανεῖζενε ἐπὶ τοῖς σώμασιν, καὶ νόμους ἔθηκε καὶ χρεῶν ἀποκοπὰς ἐποίησε καὶ τῶν ἰδίων καὶ τῶν δημοσίων.

Give a clear but short account of Solon's legislation. What does Aristotle regard as the most democratic features in his reforms?

3. αἰαὶ Λειψύδριον προδωσέταιρον  
οἶους ἀνδρας ἀπωλέσας μάχεσθαι  
ἀγματοὺς τε καὶ εὐπατρίδας.

To what does this *scolium* refer? What other *scolium* does Aristotle quote with the same reference?

4. ὁ δὲ Ἰσαγόρας . . . πάλιν ἐπικαλεσάμενος τὸν Κλεομένην,  
συνέπεισεν ἐλαύνειν τὸ ἄγος.

To what do the words τὸ ἄγος refer; and to what event in Athenian history does the above passage refer?

5. Κλεοφῶν ὁ λυρόποιος, ὃς καὶ τὴν διωβολίαν ἐπόρισε πρῶτος.

What was the διωβολία (διωβελία), and what do we gather from Aristotle about it?

6. What is Aristotle's judgment on Theramenes, and how far is it justified?
7. What are the main additions to our knowledge of Athenian history made by Aristotle's treatise?
8. Criticise Aristotle's *Constitution of Athens*, from the point of view of historical credibility, style, or matter, illustrating and justifying your verdict.
9. Show clearly what Kleisthenes did by way of reorganising Attica, and exhibit the importance of his work from the point of view of constitutional development.
10. What does Aristotle tell us in this treatise about the meaning and employment of Ostracism? Discuss the value of the institution.
11. "If democracy be taken to imply the levelling of individual eminence, that of Athens was a failure."  
Discuss this.
12. μετὰ δὲ τὰ Μηδικὰ πάλιν ἴσχυσεν ἡ ἐν Ἀρείῳ πάγῳ βουλή.  
To what does Aristotle ascribe this revival of the Areopagus; and to whom its final fall?
13. What is Aristotle's verdict upon the Athenian tyrants?

## DYNAMICS.

TWO HOURS.

PASS.

[Take  $g = 32$ ,  $\pi = \frac{22}{7}$  in working examples.]

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1. Enunciate and prove the parallelogram of velocities.

A man bicycling along a straight road, in an easterly direction, at the rate of 10 miles per hour, observes a motor car, which is being driven at a uniform rate along another straight road in the direction  $N 30^\circ W$ , to be at a point 110 yards distant from him in a direction  $N 30^\circ E$ . Three seconds later the motor car is due north of him. Find its velocity, and also its distance at the time of the second observation.

2. Describe Atwood's Machine, finding expressions for the acceleration, and for the tension of the string.

In such a machine, the heavier mass (1 lb.) is resting on the ground and the lighter ( $\frac{1}{2}$  lb.) is pushed up with a velocity which raises it 4 feet, and allowed to fall. Shew that the system will move through 1 ft. 4 in. before it next comes to instantaneous rest, and that the heavier weight again reaches the ground 2 seconds after the lighter body was first moved, and that the system comes to complete rest at the end of 3 seconds.

3. Prove that the velocity acquired in sliding down an inclined plane under gravity is the same as would be acquired in falling freely through the height of the plane.

A house is 32 feet wide, and has a smooth symmetrical gable roof, whose pitch is  $45^\circ$ . A pebble starting from rest at the ridge of the roof, slides down it and hits the ground 20 feet from one of the walls. Shew that the walls are 32 ft. 6 in. high.

4. State the two laws used in problems relating to the collision of smooth particles.

A smooth circular ring of mass  $2m$  and radius  $a$  rests on a smooth horizontal table; a small smooth spherical particle of mass  $m$  is projected from the centre with velocity  $v$ . If the coefficient of restitution is  $\frac{1}{2}$ , find the velocities of the

particle and ring after collision, and shew that the time from the first projection of the particle to a second collision

$$= \frac{5a}{v}.$$

5. A particle is describing a circle with uniform speed. Find its acceleration towards the centre.

The string of a conical pendulum is 10 inches long, and its breaking tension is 5 oz. weight. The mass of the bob of the pendulum is 3 oz. Shew that the greatest speed with which it can be rotated is 14 revolutions in 11 seconds.

6. Find the time of a small oscillation of a simple pendulum.

A clock pendulum, which normally beats seconds, has been lengthened by  $\frac{1}{16}$  part of its original length. Find how much the clock will lose per diem.

*For Engineering Students Only.*

7. Find the time of a small oscillation under gravity of a rigid body about a horizontal axis.

A pendulum consists of a metal cube, each edge measuring one inch, suspended by a rod of the same metal two feet long, whose cross section is a square  $\frac{1}{4} \times \frac{1}{4}$  inch, fixed perpendicularly to a face of the cube. Find the length of the simple equivalent pendulum.

8. A cylinder of mass  $M$  and radius  $a$  rolls down a perfectly rough inclined plane of angle  $\alpha$ , and raises a mass  $m$  hanging freely with which it is connected by a weightless string, which is attached to the ends of a smooth axle of negligible thickness passing through the centre of the cylinder, and thence is carried parallel to the plane over a small smooth peg above the summit of the plane, and thence vertically to the mass  $m$ . Find the acceleration of the system, and the tension of the string.

## DIFFERENTIAL CALCULUS.

TWO HOURS.

PASS.

1. In Simple Harmonic Motion in a straight line the position of a particle is given by  $x = a \cos(\sqrt{\mu} t)$ . What are the velocity and acceleration at the time  $t$ ?  $d$

1.

## THIRD YEAR IN ARTS.

2. Find from the definition of the differential coefficient, those of  $e^{2x}$  and  $\tan 2x$ .

3. Differentiate the following :—

$$(i.) \log \left( \frac{1+x}{1-x} \right)$$

$$(ii.) \frac{x-1}{(x-2)(x-3)}$$

$$(iii.) \sin^{-1} x \log(x + \sqrt{1-x^2}).$$

4. Prove Leibnitz's Theorem for the  $n$ th differential coefficient of the product of two functions.

If  $y = x^2 \cos 2x$ , prove that  $x^2 \frac{d^2 y}{dx^2} - 4x \frac{dy}{dx} + 2y(3 + 2x^2) = 0$ .

5. Write down the equations of the tangent and normal at the points  $x = \pm 4$ ,  $y = 2$  to the curve  $y^2 + 3y + 6 = x^2$ , and show from these equations that the two tangents meet on the axis of  $y$ , as also do the two normals.

6. Give a rough diagram of the curve

$$r(1 + \cos \theta) = 2$$

and prove that the tangent at the point  $(r, \theta)$  makes an angle  $\frac{\pi}{2} - \frac{\theta}{2}$  with the radius vector.

7. Investigate a rule for finding the maxima and the minima values of a function of one variable.

Show that in the curve

$$y = 2x^3 - 9x^2 + 12x - 3$$

there is a maximum ordinate at  $x = 1$  and a minimum ordinate at  $x = 2$ , and sketch briefly the form of the curve.

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 SPHERICAL TRIGONOMETRY.

TWO HOURS AND A HALF.

PASS.

1. State and prove the reciprocal property of polar triangles.

2. Prove that in a spherical triangle

$$(i.) \frac{\sin A}{\sin a} = \frac{\sin B}{\sin b} = \frac{\sin C}{\sin c}.$$

$$(ii.) \sin b \sin c + \cos b \cos c \cos A = \sin B \sin C - \cos B \cos C \cos a.$$

3. Prove that in a right-angled spherical triangle, having its right angle at C,  $\cos c = \cos a \cos b$ ,  $\tan b = \tan c \cos A$ .
4. Solve the spherical triangle in which  $C = 90^\circ$ ,  $c = 36^\circ$ ,  $b = 21^\circ$ .
5. Prove that in an equilateral triangle  $\sec A = 1 + \sec a$ .
6. Investigate what formula in plane trigonometry corresponds to  $\cos a = \cos b \cos c + \sin b \sin c \cos A$ .

*Write down the formula in spherical trigonometry corresponding to*

$$\tan \frac{B-C}{2} = \frac{b-c}{b+c} \cot \frac{A}{2}.$$

7. Find formulæ giving the in-radius and ex-radii of a spherical triangle.

If  $\tan r_1, \tan r_2, \tan r_3$  are in G.P., prove that  $\tan \frac{A}{2}, \tan \frac{B}{2}, \tan \frac{C}{2}$  are in G.P., and so also are  $\sin(s-a), \sin(s-b)$  and  $\sin(s-c)$ .

8. Define the spherical excess of a triangle, and shew how it is connected with the area of the triangle.

Prove that in an isosceles right-angled triangle, in which each side containing the right angle  $= \cos^{-1}(2 - \sqrt{3})$ , the spherical excess  $= 60^\circ$ .

## DIFFERENTIAL EQUATIONS.

TWO HOURS.

1. Find the differential equation of the system of circles which touch the axis of  $y$  at the origin.
2. Find the complete primitive of the equations—

$$(i.) p = \frac{2xy}{x^2 - y^2}.$$

(ii.)  $xp(x^2 + 2y) + 2y^2 = 0$ .

(Substitute  $vx^2$  for  $y$ .)

(iii.)  $yp^2 + 2xp - y = 0$ .

3. Solve the equation  $\frac{dy}{dx} + Py = 0$  where  $P$  is a function of  $x$  or a constant.

Shew how the solution of  $\frac{dy}{dx} + Py = f(x)$  may be deduced from it.

Solve the equation

$$\frac{dy}{dx} \sqrt{1-x^2} \sin^{-1} x + y = 2x.$$

4. What is Clairaut's Equation? How may its complete primitive be found? What do you know about the solution obtained by using the alternative which is not taken into account in finding the complete primitive?

Solve the equation

$$y - px = a(1 - p^2)^{\frac{1}{2}},$$

and shew that the equation  $ayp^2 + (2x - b)p - y = 0$  may be transformed into Clairaut's form by substituting  $u$  for  $y^2$ . Hence find its solution.

5. Define the terms "complementary function," "particular integral," "complete integral," "auxiliary equation."

Write each of these down in the solution of the equation—

$$\frac{d^2y}{dx^2} - (a+b)\frac{dy}{dx} + aby = x^2.$$

6. When the auxiliary equation has a pair of equal roots, shew how the complete integral may be obtained.

Solve the equations—

(i.)  $\frac{d^3y}{dx^3} - \frac{3d^2y}{dx^2} + 4y = 0$ ,

(ii.)  $\frac{d^3y}{dx^3} - \frac{3d^2y}{dx^2} + 4y = e^x + \cos x$ .

7. Find an equation of the curves in which the area enclosed by the axis of  $y$ , the curve, any ordinate and the axis of  $x$  is equal to the cube of the ordinate divided by the abscissa.

INTEGRAL CALCULUS.

TWO HOURS.

PASS.

1. Prove that

$$(i.) \int (u+v)dx = \int udx + \int vdx.$$

$$(ii.) \int u \frac{dv}{dx} dx = uv - \int v \frac{du}{dx} dx.$$

2. Find the values of the following integrals :—

$$(i.) \int \sqrt{x^2 - a^2} dx.$$

$$(ii.) \int \frac{x+1}{x^2+1} dx.$$

$$(iii.) \int \frac{2x-5}{(x+3)(x+1)^2} dx.$$

3. Prove that

$$(i.) \int x^3 a^x dx = \frac{a^x}{\log a} \left( x^3 - \frac{3x^2}{\log a} + \frac{3 \cdot 2x}{(\log a)^2} - \frac{3 \cdot 2 \cdot 1}{(\log a)^3} \right)$$

$$(ii.) \int_0^\pi x^5 \sin x dx = \pi^5 - 20\pi^3 + 120\pi.$$

4. Give a rough diagram of the curve  $r = a(1 - \cos \theta)$  and prove that its area is  $\frac{3\pi}{2}a^2$ .

5. Find an expression for the length of the arc of the curve  $y = f(x)$  cut off by the lines  $x = x_0$ ,  $x = x_1$ .

In the curve  $ay^2 = x^3$ , prove that the length of the arc from the origin to the point  $(x, y)$  is given by

$$s = \frac{8a}{27} \left[ \left( 1 + \frac{9x}{4a} \right)^{3/2} - 1 \right]$$

6. Find an expression for the volume of that part of the solid of revolution formed by the rotation of  $y = f(x)$  about  $Ox$ , which is cut off by the planes  $x = x_0$  and  $x = x_1$ .

Apply your result to the case of the right circular cone.



## THIRD YEAR IN ARTS.

## SENIOR FRENCH I. AND II.

The same papers as those set in the Second Year, with additional passages for translation from Rousseau, *Extraits en Prose*.

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## SENIOR GERMAN I. AND II.

The same papers as those set in the Second Year, with additional passages of translation from Eckermann, *Gespräche mit Goethe*.

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## LOGIC AND MENTAL PHILOSOPHY.

## PASS.

*You are requested to attempt not more than SIX questions.*

1. Discuss the value as a practical moral principle of either (a) the Aristotelian doctrine of the "mean," or (b) Mr. Alexander's doctrine of "equilibrium."
2. "The specific character of Ethics lies in the admission of an ideal element." Compare Ethics as a science with Jurisprudence and Sociology.
3. How do national ideals manifest themselves? Illustrate by reference to one ancient and one modern nation.
4. "A right is a legal or quasi-legal term, correlative to an obligation." Distinguish the legal and ethical sense of the term "rights."
5. "So long as the motive is right, the act is virtuous." How would Kant have interpreted this statement? Critically discuss his position.
6. *Asceticism, Casuistry, Pantheism*. State clearly what you understand by any two of these terms, and add historical references.
7. Illustrate some of the main differences between human and organic evolution.
8. "This above all, to thine own self be true, etc." How do you interpret "self" in this quotation? What did "self" mean to Socrates, Epicurus, Bentham?
9. Describe some of the "half truths" which may be corrected by a scientific study of ethics.

LOGIC AND MENTAL PHILOSOPHY.

HONOURS I.

1. Examine from the point of view of the science of ethics the principles underlying  
 (a) The French Revolution,  
 or (b) The Protestant Reformation.
2. "The moral code does not embrace the whole of conduct. Life and its ideals are broader than morality." Discuss this statement.
3. Comte set up Humanity as the end of rational action. Kant identified rational nature with Humanity. Point out any ambiguities or difficulties in the conception of Humanity as ethical end.
4. Discuss Sidgwick's argument that we can construct a theory of ethics without reference to the idea of free will.
5. "You know, my brethren, we in our turn have no duties towards the brute creation; there is no relation of Justice between them and us."—(*Cardinal Newman*.) Critically discuss this remark, and the principles which seem to underlie it.

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HISTORY I.

PASS.

*You are recommended to answer SEVEN questions, and no more.*

1. Discuss the reasons of Wentworth's change of side in 1628.
2. In what main respects did the religious ideas of Milton differ from those of Laud?
3. Describe shortly the events that led to the summoning of the Long Parliament, and sketch its work up to the summer of 1641.
4. Explain the importance in the history of the Civil War of  
 (a) the siege of Gloucester, (b) the battle of Marston Moor.
5. Discuss Cromwell's policy in regard to the King from the battle of Naseby to the King's death.
6. Explain shortly Cromwell's dealings with (a) Holland, (b) France, (c) Spain.

7. In what way do the life and writings of Bunyan illustrate the history of Puritanism after 1660?
8. Write a short account of the life and opinions of the Earl of Clarendon.
9. Describe the constitutional crisis connected with the Exclusion Bill.
10. Show how the foreign policy of William III. affected his relations with the English Parliament.

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## HISTORY II.

### PASS.

*You are recommended to answer SEVEN questions, and no more.*

1. In what way is the War of the Spanish Succession connected with the competition of European nations for supremacy in the New World?
2. Explain the historical importance and interest of Bolingbroke's "Patriot King."
3. "In most respects Pitt and Wesley were, it is true, extremely unlike. But there was a real analogy and an intimate relation between the work of these two men."

Discuss.

4. On what grounds did Burke attack the policy of the government in regard to the Middlesex election?
5. What were Grenville's reasons for proposing the Stamp Act?
6. Describe briefly the views of Burke with reference to the quarrel with America.
7. Sketch the events that led to the Union of Great Britain and Ireland.
8. What are the chief dangers that beset British rule in India? Illustrate your answer by reference to events in the reign of Queen Victoria.
9. Discuss the causes of the movement for political reform which led to the Act of 1832. Why was this Act not accepted as final?

## 10. "Book Second. The Ancient Monk."

What was Carlyle's purpose in writing the second book of "Past and Present"?

11. What is Carlyle's criticism of *Laissez-faire*?

## HISTORY I.

## HONOURS.

You are recommended to answer not less than FIVE questions, and not more than SEVEN.

1. "I would not have you meddle with such ancient rights of mine as I have received from my predecessors, possessing them *more majorum*."

Explain James's argument.

2. "The King's power is double, ordinary and absolute. . . . The absolute power . . . is only that which is applied to the general benefit of the people, and is *salus populi*."

Explain and illustrate the importance of this argument.

3. "The Instrument of Government was the first example of a long line of written constitutions."

Explain this statement, and show why this form of constitution was chosen.

4. What were Milton's views on the subject of Democracy?

5. Are there any respects in which the policy of Charles II. was similar to that of Cromwell?

6. "By a very rare concurrence of circumstances . . . a form of Government was established and maintained in England for which the mass of the people were intellectually wholly unprepared."—(*Lecky*.)

Explain this view of the Revolution of 1688.

7. "Walpole's work in shaping the constitution may be described as fixing it on the very foundations which the fourth and sixth sections of the Act of Settlement would have made impossible."—(*Morley*.)

Discuss.

8. Compare very shortly the political teaching of Milton and of Burke.

9. Discuss the meaning of the word "unconstitutional."
  10. "The distinction between the so-called 'rights' that are simply strong inclinations, and the genuine rights that admit of proof."—(*MacCunn.*)  
Discuss.
  11. Why was "Political Economy" so much disliked by "working men" about the middle of the nineteenth century?
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## GEOLOGY AND MINERALOGY.

The same papers as those set in the Third Year of Science.

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# FACULTY OF LAW.

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## DOCTOR OF LAWS EXAMINATION.

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### LEGAL HISTORY.

- I. "The convenient doctrine of modern writers, that the administration of justice, as we understand it, was always a special function of the King or State, is quite unwarranted by the facts of Teutonic history." (Jenks, *Law and Politics*, p. 100.) Discuss this statement, explaining incidentally the different *stages* in the development of State justice. By what *methods* did the Crown, in England, succeed in acquiring full control over the administration of justice?
- II. Sketch briefly the origin and development, under the Teutonic systems of law, of the conceptions of "property" and "possession."
- III. "There are two theories of the common law liability for unintentional harm." (Holmes, *The Common Law*, p. 81.) Discuss these theories from the point of view of principle and authority.
- IV. "Whenever we trace a leading doctrine of substantive law far enough back, we are likely enough to find some circumstance of procedure at its source." (Holmes, p. 253.) How far is this statement true, as applied to the origin of the doctrine of consideration in English law?
- V. Trace the rise and development of the "Canon Law," down to the close of the Middle Ages. To what extent has it either entered into—or influenced—the English Law?
- VI. Give either—(1) A brief account of the course and methods of pleading in vogue in the 13th century; or (2) a short history of the English Writs of Action.

- VII. What proposals were made by the Criminal Code Commission (1878-9) with respect to the reform of the English system of appeals in criminal cases? How far would you consider these proposals applicable in this State?
- VIII. Give a brief summary of the history of the English legislation on the subject of "conspiracies in restraint of trade." To what extent has the effect of this legislation been limited by the expansion of the Common law?

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### ROMAN LAW.

#### I. Write a short explanatory note on each of the following passages:—

- (1) *Legis autem Aquiliae actio ero competit* (11, 6).
- (2) *Item causae corpori cohaerentes aestimantur* (22, 1).
- (3) *Proinde si occisus quidem non sit, mortuus autem sit, magis est, ut non teneatur in mortuo, licet fassus sit* (25 pr.).
- (4) *Si quis alienum vinum vel frumentum consumpserit, non videtur damnum injuria dare ideoque utilis dando est actio* (30, 2).
- (5) *Cum stramenta ardentia transilirent duo, concurrerunt amboque ceciderunt et alter flamma consumptus est; nihil eo nomine potest agi, si non intellegitur, uter ab utro eversus sit* (45, 3).

#### II. Discuss the questions raised in each of the following cases:—

- (1) *Proponitur autem apud eum species talis: sutor, inquit, puero discenti ingenuo filio familias, parum bene facienti quod demonstrauerit, forma calcei cervicem percussit, ut oculus puero perfunderetur* (5, 3).
- (2) *Si servus communis, id est meus et tuus, servum meum occiderit* (27, 1).
- (3) *Si quis aquae ductum meum diruerit, licet cementa mea sunt quae diruta sunt* . . . . (27, 32).
- (4) *Igitur si quis servo mortiferum vulnus infligerit, eundemque alius ex intervallo ita percusserit ut maturius interficeretur quam ex priore vulnere moriturus fuerat* . . . . (51 pr.).
- (5) *Equum tibi commodavi; in eo tu cum equitares et una complures equitarent, unus ex his irruit in equum teque deiecit et eo casu crura equi fracta sunt* (57).

III. Write a short opinion on each of the following cases given in your text:—

- (1) *In clivo capitolino duo plostra onusta mulae ducebant; prioris plostri muliones conversum plostrum sublevabant, quo facile mulae ducerent; inter superius plostrum cessim ire coepit et cum muliones, qui inter duo plostra fuerunt, e medio exisissent, posterius plostrum a priore percussum retro redierat et puerum cuiusdam obtriverat; dominus pueri consulebat, cum quo se agere oporteret* (52, 2).
- (2) *Stichum aut Pamphilum promisi Titio, cum Stichus esset decem milium, Pamphilus viginti; stipulator Stichum ante moram occidit; quaesitum est de actione legis Aquiliae* (55).

IV. Compare the Roman and English law on each of the following points:—

- (1) *Sed et si quemcumque alium ferro se potentem quis occiderit, non videbitur iniuria occidisse* (5 pr.).
- (2) *Et ideo quaerimus, si furiosus damnum dederit, an legis Aquiliae actio sit* (5, 2).
- (3) *Haec tamen actio ex causa dauda est, id est si neque denuntiatum est neque scierit aut providere potuerit; et multa huiusmodi deprehenduntur, quibus summovetur petitor, si evitare periculum poterit* (28, 1).
- (4) *Qui incendii arcendi gratia vicinas aedes intercidit* (49, 1).
- (5) *Mulier si in rem viri damnum dederit* (56).

COMMON LAW I.

- I. Examine the origin and various applications, in English Law, of the doctrine of "reputed ownership."
- II. What tests would you apply in determining the question whether a particular contract is illegal?

Discuss the following cases:—

- (1) A sues B on a covenant to pay rent contained in a lease of premises which B took for the purpose of carrying on a noxious trade.
- (2) A and B enter into partnership as "commission agents and bookmakers." On A's determining the partnership B sues A for certain moneys alleged to be due to him under the partnership agreement.



- III. To what extent is a person answerable in tort for acts done on his information or suggestion by an officer of the law? Illustrate your answer by reference to actions for malicious prosecution and false imprisonment.
- IV. "Even in England the process of turning private wrongs into public ones is not yet complete, but goes forward year by year, whenever any class of private wrongs or even of acts that have never yet been treated as wrongs, come to inspire the community with new apprehension."  
Illustrate this process by reference to legislation in England and New South Wales respectively.
- V. Examine, fully, the conception of malice, in the English criminal law.
- VI. Write a short but exact note on each of the following points:—
- (1) The rule by which "negotiability" is determined.
  - (2) What articles are liable to contribute to general average?
  - (3) The effect of the exercise by a vendor of his right of stoppage in transitu, upon the original contract.
  - (4) The circumstances under which delay or deviation will *not* discharge the insurer under a policy of marine insurance.
  - (5) The rule in *Merryweather v. Nixan*, and its qualifications.
  - (6) The effect of payment of money by mistake of law or of fact.
- VII. State the doctrine or rule established in each of the following cases, noting its subsequent history or development:—
- (1) *Mitchell v. Reynolds*; (2) *Waugh v. Carver*; (3) *Bickerdike v. Bollman*; (4) *Manby v. Scott*; and (5) *Godsall v. Boldero*.
- VIII. Write a short opinion on each of the following cases:—
- (1) A enters into a contract of apprenticeship with B, a manufacturer. C, D, and E, who are workmen in the employ of B, averring that B's contract with A is contrary to a prior agreement entered into between B and themselves, procure B to break his contract with A. A desires to sue C, D, and E.

- (2) A makes a contract in his own name with B, intending in fact but not to the knowledge of B to contract as agent for C. A had in fact no authority at the time; but subsequently C agrees to ratify A's action. B, however, on learning of these facts refuses to perform the contract.
- (3) A verbally agrees, on Monday, the 1st December, 1902, to enter B's service on a year's engagement, as from Tuesday, the 2nd December. At the end of the month B wrongfully dismisses A. A desires to sue B.

## COMMON LAW II.

- I. "The practice and procedure of the English superior courts of Common Law, Equity, Probate, Divorce and Admiralty, as those courts existed before the 1st November, 1875, were affected by the Judicature Acts of 1873 and 1875, mainly in three ways" . . . .

Sketch, *generally*, the changes here referred to, noting the chief points of contrast between the system so established and the system in vogue in this State. To what extent, if at all, would you advocate the adoption in New South Wales of any similar change of system?

- II. In what cases is it necessary for a plaintiff in pleading—(1) to aver his own readiness to perform a contract; (2) to negative a possible defence open to a defendant upon the wording of an instrument; and (3) to allege special damage?

- III. Discuss the admissibility of the evidence tendered in the following cases:—

- (1) Oral evidence is tendered, at a criminal trial, of statements made by the accused or his witnesses before the committing magistrate.
- (2) The recitals in a deed are tendered in rebuttal of evidence given by a party thereto.
- (3) A receipt for rent payable on a certain day is tendered to rebut a claim for arrears of rent previously accrued.
- (4) A journal kept by a clerk since deceased is tendered in evidence of a sale of goods by his employer.

- IV. What will amount to sufficient *prima facie* evidence by the plaintiff in (1) an action of trespass; (2) an action of ejectment; (3) an action for mesne profits; and (4) an action for use and occupation?
- V. Under what circumstances can a previous conviction or acquittal be set up in answer to a criminal charge?
- Discuss the following case:—A prisoner, after conviction for murder, receives a pardon from the Crown, but is afterwards put on his trial for perjury, the perjury alleged consisting in a denial of his guilt whilst giving evidence on his own behalf in the course of the former trial.
- VI. A, a stockbroker, receives certain moneys from B, with instructions to purchase therewith certain shares in a Company on B's behalf. A afterwards informs B that he has purchased the shares, and also pays B certain dividends in respect thereof; but fails either to deliver the shares or return the money when so required by B. What remedies, civil or criminal, are open to B? In the event of B's proceeding by way of civil action, what counts would you insert in the declaration?
- VII. "There is a strong and marked difference between the effect of evidence in civil and criminal proceedings."
- Explain the nature of the difference here referred to, and the grounds upon which it rests.
- VIII. Draw an indictment for larceny, explaining also the essential averments.

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INTERNATIONAL LAW—PUBLIC AND PRIVATE.

- I. What progress has been made, in International Law, towards the formation of a *written* law of war?
- II. Discuss the various questions of International Law that arose in the course of the South African War.
- III. What rules are applied by English Courts with respect to (1) the effect of an English adjudication in the bankruptcy, on property situated abroad, and (2) the effect of a foreign adjudication in bankruptcy on property situated in England?

- IV. Draw up a brief digest of the rules of Private International Law, as administered by the English Courts, on the subject of "succession *ab intestato*."
- V. By what law will an English Court determine the intrinsic validity and effect of a contract made in a foreign country?
- VI. A, a domiciled Englishwoman, having real and personal estate in England, marries B, a domiciled Frenchman, and goes to reside with him in France. What effect will the marriage have on A's property, assuming that there is no marriage settlement? If there had been a marriage settlement, by what principles would it have been governed?
- VII. "The operation of the contract of affreightment depends on the law of the flag." Explain and illustrate this statement.
- VIII. Discuss the following cases, stating the principles involved :—
- (1) A and B are Portuguese subjects, but domiciled in England. Being first cousins, they are by the law of Portugal incapable of contracting a valid marriage with each other. They are duly married in England according to the forms allowed by English law.
  - (2) A, who is domiciled in New South Wales, marries B, the sister of his deceased wife. There is one child of the marriage, C. Subsequently X, an English testator, dies, leaving a will in which he devises and bequeaths all his real and personal property in England—"to the child or children of my friend A."
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# FACULTY OF MEDICINE.

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## FIRST YEAR EXAMINATION.

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INORGANIC CHEMISTRY AND PRACTICAL CHEMISTRY;  
PHYSICS, BIOLOGY AND PRACTICAL BIOLOGY, as in  
the First Year of Science.

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PRACTICAL HISTOLOGY.—A PRACTICAL EXAMINATION.

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### ANATOMY—(INTRODUCTORY).

1. Briefly explain the mode of origin of the following parts and organs—
    - (a) The sternum; (b) the muscles of an intercostal space; (c) the trunk of the pulmonary artery; (d) the tongue; (e) the tympanic cavity; (f) the pancreas; (g) the gall-bladder; (h) the kidney; (i) the uterus; (k) the crystalline lens.
  2. Define very briefly the following terms—
    - (a) Hensen's knot; (b) chorion; (c) decidua reflexa; (d) mesodermal somite; (e) Rathke's pouch; (f) processus globularis; (g) mesonephros; (h) sinus venosus; (i) ductus arteriosus; (k) septum transversum.
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## SECOND YEAR EXAMINATION.

## ANATOMY.

- Briefly explain the mode of origin of the following parts and organs—
- (a) The sternum; (b) the muscles of an intercostal space; (c) the trunk of the pulmonary artery; (d) the tongue; (e) the tympanic cavity; (f) the pancreas; (g) the gall-bladder; (h) the kidney; (i) the uterus; (k) the crystalline lens.
2. Define very briefly the following terms—
- (a) Hensen's knot; (b) chorion; (c) decidua reflexa; (d) mesodermal somite; (e) Rathke's pouch; (f) processus globularis; (g) mesonephros; (h) sinus venosus; (i) ductus arteriosus; (k) septum transversum.
3. (a) Define a synchondrosis, and name an example.  
(b) Give a description of either the shoulder- or the hip-joint.
4. Describe fully the arterial arrangements of either the hand or the foot.
5. Describe the anatomy of the exterior of the mesencephalon.

## PHYSIOLOGY.

*Candidates to attempt FIVE questions only.*

1. State briefly what results you would expect to follow—
- (a) Section of both vagi in the neck.  
(b) Stimulation of the peripheral end of one vagus.  
(c) Stimulation of the central end of one vagus, the other being intact.  
(d) Stimulation of the peripheral end of the cut splanchnic.

- (e) Stimulation of the peripheral end of the cut splanchnic *after* section of the renal nerves.

Explain how the stated results have been brought about.

2. Describe the structure of unstriated muscle. Compare its physiological properties with those of
    - (a) Skeletal muscle, and
    - (b) Cardiac muscle.
  3. Describe the microscopic structure of a liver lobule, a liver cell, and of a portal canal.

How may the histological appearances of the liver cells vary from time to time, and what is the significance of these variations?

What are the functions of the liver in relation to nitrogenous metabolism?
  4. Describe—
    - (a) The changes undergone by fats in the intestine.
    - (b) The mode of their absorption from the intestine.
    - (c) The destiny of absorbed fat in the body.
  5. What evidence may be derived from a study of the submaxillary gland with regard to the phenomena of secretion and their causation?
  6. Write an account of the nature of the phenomenon known as tendon reflex. Upon what conditions does its manifestation depend?
-

## THIRD YEAR EXAMINATION.

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ANATOMY.

1. Describe fully the shoulder-joint.
2. The superficial and deep palmar arches; State the position, composition and relations of each. Enumerate the branches arising from each arch.
3. The pancreas: Describe its position, naked-eye appearance and relations to surrounding structures, and mention its blood- and nerve-supply.
4. Describe the position, constitution and branches of the lumbar plexus; and give a brief account of the obturator nerve.
5. Draw a diagram of a transverse section of the spinal cord in the thoracic region. Indicate the position of the various recognised nerve-fibre-tracts and of the chief groups of neurones.

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PHYSIOLOGY.

*Candidates to attempt FIVE questions only.*

## 1. HUMAN MILK.

Write an account of this fluid in respect to—

- (a) Its average composition.
  - (b) Its value as a food.
  - (c) The changes it undergoes in the stomach.
  - (d) The mode of its secretion, comparing this with the mode of secretion of saliva and of sebum.
  - (e) The influence of diet on the secretion.
2. Describe, with the aid of diagrams—
    - (a) The microscopical structure of a matured tooth.
    - (b) Its chemical composition.
    - (c) The development of a tooth.
  3. (a) What do you know concerning the functions of the ductless glands as a class?



- (b) In particular state what can be said of the function of any one of these glands, giving the evidence on which your statements are based.
4. Write an account of the part played by the vagus in the regulation of the activities of the respiratory centre, giving the evidence on which your statements are based.
  5. (a) Describe the origin, course and central connections of the fibres of the optic nerve.  
 (b) In the light of such an arrangement, what can you say concerning the development of visual sensations and visual perceptions within the central nervous system?  
 (c) What is the effect on the visual apparatus of ablation, and of stimulation, of certain parts of the occipital lobes, and what conclusions do you draw from the stated results?
  6. Discuss the nature of the nervous mechanisms by which the movements of the iris are influenced. Draw a diagram showing the origin and course of the nerve fibres which are implicated in this function.
- 

#### MATERIA MEDICA AND THERAPEUTICS.

1. Formic aldehyde: How does this occur in commerce? What impurity may commonly be met with in it? How does this affect its utility? How would you seek to overcome the effects of this impurity?
2. What various local effects may be produced by ether, chloroform, turpentine and veratrine respectively when applied to the skin?
3. Henbane: What is the source of this? State the part or parts used, the active principles and the official (B.P.) preparations, with the doses of these two latter.  
 Prescribe any preparation of the above in combination with an adjuvant, in the form of a pill; giving directions to the chemist in full in Latin, and to the patient in full in English.
4. Contrast the actions of Ferrous and Ferric Salts, taken by mouth, and similarly also the actions of Potassium Bicarbonate and Sodium Bicarbonate.
5. Contrast the different effects of Adrenalin, Tannic Acid, Antipyrin and Ferric Chloride applied locally in arresting hæmorrhage.

FOURTH YEAR EXAMINATION.

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PATHOLOGY.

1. Discuss the ætiology, and describe the phenomena of dropsy.
  2. Describe the morphological and biological characters of the pneumococcus, and give a short account of the morbid conditions with which it is associated.
  3. Discuss the ætiology of aneurism. Describe the sites, characters and results of aneurism of the intrathoracic aorta.
  4. What forms of newgrowth occur primarily in the intestine? In what positions are they found, and what effects do they produce?
- 

OPERATIVE SURGERY AND SURGICAL ANATOMY.

1. Give the relations of the Cervical portion of the Œsophagus. Describe the operation of Œsophagotomy for the removal of a foreign body impacted in that portion of the tube.
  2. Describe the course, relations, and anastomoses of the deep Epigastric Artery. What are its chief points of surgical interest?
  3. Enumerate the functions of the superior and recurrent laryngeal nerves, and describe the course of the latter on the left side.
  4. Give the boundaries of Schrapnell's membrane and its relation to the ossicles.  
State by what other name it is known.
-

## MEDICINE.

*Any THREE questions to be answered.*

1. Describe fully the symptoms, course and complications of Scarlet Fever. Discuss the diagnosis and prophylaxis.
  2. Describe the symptoms and discuss fully the diagnosis of Tuberculous Meningitis.
  3. Give a full account of Pernicious Anæmia.
  4. Discuss the causation of Bronchiectasis in its various forms, and give an account of the symptoms and physical signs of this condition.
- 

## SURGERY.

1. Describe the swellings which occur in the neighbourhood of the Saphenous opening, and give their differential diagnosis.
  2. What is a Ranula? For what affections may it be mistaken? How would you treat it?
  3. How do you recognise the presence of a foreign body in the windpipe? Give the treatment.
  4. Describe the normal Membrana Tympani as viewed through the aural speculum, and state how this appearance is modified by commencing acute otitis media.
  5. Give the treatment of a severe attack of Epistaxis, and define the spot from which the hæmorrhage usually proceeds.
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## MIDWIFERY.

TWO HOURS.

1. Describe the structure, development and functions of the Amnion.
2. Give an account of albuminuria in the pregnant patient (*a*) in regard to its causes, (*b*) symptoms, (*c*) results, and (*d*) treatment.

3. Describe the mechanism of the transverse presentation, and describe the treatment—
- (a) When the Os Uteri is the size of a crown piece ; membranes unruptured.
  - (b) When " Os " is fully dilated ; membranes ruptured.
  - (c) When Uterus is in a state of tonic contraction.
- 

## GYNÆCOLOGY.

TWO HOURS.

*THREE questions only to be answered.*

1. A woman, aged 30, has a tumour in the hypogastrium, reaching to within an inch of the umbilicus. State what the tumour may be, and how you would arrive at a diagnosis.
  2. Give the causes, stages, symptoms and treatment of Prolapsus uteri.
  3. Give the causes, symptoms and changes that take place in the pelvis in a case of sub-involution of the uterus, and the treatment.
  4. Give the anatomy of the Fallopian tubes, the pathological conditions met with ; giving fully their causes, symptoms and treatment.
- 

## MEDICAL JURISPRUDENCE AND PUBLIC HEALTH.

TWO HOURS.

1. Enumerate and discuss the various signs of death.
2. Discuss the points of importance in relation to identification as to age, sex and occupation in both the living and the dead.
3. Describe the changes that take place in the body after death, and the conditions affecting their onset and duration.
4. Describe the procedure necessary under the Public Health Act to enforce the closure of a dwelling which is unfit for human habitation. To what parts of the State do these provisions of the Act apply ?

5. Discuss the question of the quantity of cubic space required in dwelling-rooms relatively to the number of occupants. What is Angus Smith's test for the estimation of  $\text{CO}_2$  in air?
6. How would you disinfect a bedroom and its several contents after a case of scarlet fever? Mention the strength of every chemical solution you would employ in the process.

## OPHTHALMIC MEDICINE AND SURGERY.

TWO HOURS.

1. What are the causes, signs, symptoms, prognosis and treatment of Acute Iritis?
2. Give the causes, signs, symptoms, prognosis and treatment of Optic Atrophy. Also describe the ophthalmoscopic appearances, and contrast them with those met with in Chronic Glaucoma.
3. Give the leading symptoms and signs; also the etiology, prognosis and treatment of the different varieties of Keratitis.
4. What are Entropion and Ectropion? What are their causes, varieties and consequences? Describe an operation for the relief of each condition.

## PSYCHOLOGICAL MEDICINE.

TWO HOURS.

1. Describe an attack of Petit Mal. Point out the dangers—physical, moral and mental—to which patients suffering from all forms of epilepsy are subject. Give the treatment of Epilepsy generally, and that of Status Epilepticus.
2. Give the differential diagnosis and causation of General Paralysis of the Insane. Mention the varieties of the disease.
3. What is Delirium, and how may it be distinguished from insanity. State briefly the management of Delirium.
4. Mention the chief causes of Insanity, and state under what circumstances they are likely to become specially operative.

# DEPARTMENT OF DENTISTRY.

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## FIRST YEAR EXAMINATION.

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### ANATOMY.

1. Enumerate the bones of the carpus in their order from without inwards.
  2. Name one of the diarthrodial joints which occur in a part you have dissected, and give a short account of its anatomy.
  3. Give a full account of the naked-eye anatomy of the first upper molar tooth, and compare the typical characters of this tooth with those of its opponent in the lower jaw.
  4. How and when does the dental lamina arise in the embryo, and how are the rudiments of the milk-teeth formed from this lamina?
  5. Define the following terms—(a) Alveolo-dental membrane, (b) Tuberculus anomalus, (c) Cingulum, (d) Anterior palatine canal, (e) Hamular process.
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INORGANIC CHEMISTRY AND PHYSICS, as in the First Year of Science.

PRACTICAL CHEMISTRY AND METALLURGY, a three hours' examination.

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## SECOND YEAR EXAMINATION.

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PHYSIOLOGY.

*Candidates to attempt FIVE questions only.*

1. State briefly what results you would expect to follow—
  - (a) Section of both vagi in the neck.
  - (b) Stimulation of the peripheral end of one vagus.
  - (c) Stimulation of the central end of one vagus, the other being intact.
  - (d) Stimulation of the peripheral end of the cut splanchnic.
  - (e) Stimulation of the peripheral end of the cut splanchnic after section of the renal nerves.
2. Describe the structure of unstriated muscle. Compare its physiological properties with those of
  - (a) Skeletal muscle, and
  - (b) Cardiac muscle.
3. Describe the microscopic structure of a liver lobule, a liver cell, and of a portal canal.

How may the histological appearances of the liver cells vary from time to time, and what is the significance of these variations?

What are the functions of the liver in relation to nitrogenous metabolism?
4. Describe—
  - (a) The changes undergone by fats in the intestine.
  - (b) The mode of their absorption from the intestine.
  - (c) The destiny of absorbed fat in the body.
5. What evidence may be derived from a study of the sub-maxillary gland with regard to the phenomena of secretion and their causation?
6. Write an account of the nature of the phenomenon known as tendon reflex. Upon what conditions does its manifestation depend?

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ANATOMY AND DISSECTIONS.—A PRACTICAL EXAMINATION.

## THIRD YEAR EXAMINATION.

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PHYSIOLOGY.

The same paper as that set in the Second Year of Medicine.

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## PATHOLOGY.

1. What is meant by the term, "dental caries"? Give an account of the relation of bacteria to this condition.
  2. What are the chief microscopical and cultural characters of the bacillus diphtheriæ? Describe fully the lesions that may be produced by it in the mouth and throat. In what manner is a fatal result commonly brought about?
  3. What do you understand by "thrombosis"? What conditions may induce, and what results may follow thrombosis of a large vein in a limb?
  4. Describe the various forms of newgrowth that may take origin from the periosteum of the lower jaw.
- 

## DENTAL SURGERY.

1. What are the symptoms of an acute Abscess?
  2. Describe the different forms of Fracture of the Lower Jaw. Give the deformities present in each variety, with their appropriate treatment.
  3. Describe an upper and a lower molar tooth, and explain how the jaws of the extracting forceps are shaped to fit upper and lower molars respectively.
  4. Give the treatment for an alveolar abscess pointing beneath the chin.
- 

## MATERIA MEDICA.

1. Compare Creosote, Oil of Cloves, Silver Nitrate and Carbolic Acid respectively as regards their action on Albumen? What relation have the foregoing facts to the application of these substances to cavities in teeth?



2. How is Oxide of Magnesia prepared? What results when it is mixed with water? What application is made of this fact in Dental practice? Compare its action with that of Boracic Acid, Prepared Chalk and (wood) Charcoal employed similarly.
3. Cocaine: What do you know of the local and general action of this drug? Mention any one substitute for it, and contrast its action with that of Cocaine.
4. What symptoms in the mouth may result from the use of Arsenic and Mercury respectively in treating teeth? How would you try to suppress these?
5. What are Mastic, Myrrh, Collodium and Menthol respectively? Mention how these react to water and alcohol respectively.

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#### IRREGULARITIES OF THE TEETH.

1. Describe briefly the various methods of treating Superior Protrusion.
2. Give the etiology of—
  - (a) The pointed or V-shaped arch.
  - (b) The constricted or saddle-shaped arch.
  - (c) Prominent cuspids and depressed laterals.
3. What physiological changes take place in surrounding tissues when teeth are moved?
4. What irregularities would be caused by the early loss of—
  - (a) The first permanent molars.
  - (b) The lateral incisors (permanent).
  - (c) The cuspids (permanent)?
5. In tooth regulating, what are the advantages and disadvantages of—
  - (a) A plate.
  - (b) A fixed appliance.
6. What qualities should a regulating appliance possess?
7. Give the causes of, and correct the following cases—
  - (a) Lack of anterior occlusion.
  - (b) Lack of posterior occlusion.
8. To what causes may Prognathism be due? Describe some method of correction.

## MECHANICAL DENTISTRY.

1. How would you take a correct full upper and lower bite?
  2. What means would you employ to prevent the contraction that would take place in the cooling of the vulcanite plate?
  3. Describe Dr. Cryer's method of replacing a tooth upon a celluloid plate.
  4. What mechanical device would you use in an edentulous mouth, where there was cleft of hard and soft palate?
  5. What are the essential requirements for successful soldering? Give reasons for each.
  6. Describe in detail the manner of obtaining a metallic die.
  7. As a die, what are the advantages and disadvantages of—
    - (a) Zinc,
    - (b) Babbitt-metal.
  8. Describe in detail the process of making a partial lower gold plate.
- 

## SURGICAL DENTISTRY.

## SECTION A.

1. Give some general rules for the formation of cavities.
2. How is non-cohesive gold introduced and condensed?

## SECTION B.

1. The attachment of a bridge being a Richmond crown on cuspid, and a hollow metal crown on first molar, describe the preparation of the abutments.
2. Enumerate the difficulties encountered in soldering, and explain how each may be avoided.

## SECTION C.

1. What are the causes, symptoms and treatment of Acute Pulpitis.
2. What complications may occur during or after extraction of a tooth? Give your treatment in each case.

# FACULTY OF SCIENCE.

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## FIRST YEAR EXAMINATION.

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### CHEMISTRY—(INTRODUCTORY).

1. Give an account of carbon monoxide and carbon dioxide.  
What are the principles of ventilation?
  2. How would you prove the composition of water by volume?  
What is meant by "hard" water?
  3. How does chlorine occur in nature? How is it converted into hydrochloric acid?
  4. What are the principal properties of the substance represented by the formula  $\text{NH}_3$ ? What does  $\text{N}_3\text{H}$  represent?
  5. What do you know about the element boron and of its principal compounds?
  6. Why are carbon and silicon classed together?
  7. How many grammes of  $\text{KClO}_3$  would be required to yield 10 litres of oxygen at  $13^\circ\text{C}$  and 720 mm. pressure?  
 $\text{K}=39.$   $\text{Cl}=35.5$  and  $\text{O}=16.$
  8. Enunciate and explain the laws of chemical combination.
- 

### CHEMISTRY—(METALS).

1. What are the principal distinguishing properties between the non-metals and the metals?
2. What are alloys and amalgams? How do they differ from chemical compounds?
3. Give an account of the hexagonal system of crystals, and mention some common substances crystallizing in that system.

4. What are the principles of spectrum analysis? Describe the spectra of Na, K, Li and Tl.
5. What is meant by ionization? What are the differences in constitution of acids, bases and salts?
6. Give a brief account of the chemistry of earthenware, porcelain and glass.
7. How does iron occur in nature, and how is it extracted and purified?
8. (a) 95.5 grams of the bromide of a tetrad element give 16.6 grams of the dioxide; find its atomic weight.  
( $O=16$ .  $Br=80$ )  
(b) Explain carefully the statement that vapour density = half the molecular weight of any gas. Use  $CO_2$  as an example.

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PRACTICAL CHEMISTRY—FOUR HOURS.

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PHYSICS.

(PASS, HONOURS AND SCHOLARSHIPS.)

1. Explain fully any method which is in practical use for the measurement of small lengths.
2. Describe and explain the phenomenon which occurs when a vessel, permeable only to water molecules, containing an aqueous solution of sugar, is placed in water.
3. Show how a method is elaborated, from an experimental basis, for the measurement of heat.
4. Describe the construction and explain the action of a direct vision spectroscope. Explain how the presence of a substance in solution may be inferred from observations made with the instrument.
5. Explain the colour effects observed when a biquartz is used in connection with a polarimeter.
6. Explain how the electrical resistance of a wire may be determined. How does the resistance depend on the length and the area of cross section of the wire?

7. Give an account of Faraday's experiments in electro-magnetic induction, and explain some simple case in terms of the statement which resumes the experiences.

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### BOTANY.

*Illustrate your answers with drawings.*

1. Give a general account of the *Phaeophyceæ*, with a more particular description of the Fucoids (*Fucaceæ*).
2. In what respects does the nutrition (i.) of humus plants, (ii.) of the Dodders, (iii.) of the Mistletoes, (iv.) of the Pea and Bean family, differ from that of normal plants?
3. Describe the sexual reproductive process in (i.) *Mucor*, (ii.) *Spirogyra*, (iii.) *Cedogonium*, (iv.) a Red Sea-weed.
4. Describe the structure and development of the oophyte (gametophyte) stage of *Pteris*; compare with the corresponding stage in *Selaginella*.
5. Give a general account of *Heliotropism* in plants.
6. Describe the process of *Transpiration*, and the conditions by which it is affected.
7. Describe the history of the microspore (i.) in *Marsilea*, (ii.) in *Pinus*, (iii.) in a *Cycad*, (iv.) in an *Angiosperm*.

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### PRACTICAL BOTANY—THREE HOURS.

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### ZOOLOGY.

*Illustrate your answers with drawings.*

1. Give an account of the *Tentaculifera*.
2. Describe the ambulacral system of vessels in the Star-fish, and compare with the corresponding system in the other classes of Echinoderms.
3. Give a short account of the *Insecta* as regards (1) general external features; (2) vascular system; (3) respiratory system; (4) development.
4. Describe the blood-vascular and excretory systems of *Helix*. Compare the corresponding parts in one of the *Pelecypoda*.

- 5 What are the chief peculiar features distinguishing *Amphioxus* from the rest of the Chordata?
6. Describe the main modifications of the spinal column characteristic of (i.) Fishes; (ii.) Birds; (iii) Mammals.
7. Give an outline of the development and metamorphosis of the Frog.

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PRACTICAL ZOOLOGY—THREE HOURS.

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PHYSIOGRAPHY.

1. Account for the existence of the high pressure atmospheric belts known as the anticyclone belts. Explain the effect of the land surface of Australia upon the circulation of the atmosphere near the southern anticyclone belt.
2. What is known as to the pressure, temperature and light of the deep ocean, and as to the nature of the deposits forming on its floor?
3. Describe the chief evidences respectively of (a) elevation and (b) depression of the earth's crust along a coastline.

Illustrate your answer with sketches.

4. Explain the modes of origin of lakes of various types. Illustrate your answer with sketches, and quote examples from Australia or elsewhere.
5. Describe any important changes which have taken place in the physical geography of the earth since the time of Palæolithic man. To what causes may they be attributed?
6. Explain briefly the following—Engrafted rivers, betrunked rivers, revived rivers, peneplains. Describe the characteristics of a river system respectively in (a) youth, (b) maturity, and (c) old age.

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LOGARITHMS AND DYNAMICS.

(A) LOGARITHMS.

1. Prove that  $\log N^p = p \log N$ .

Calculate the values of

(i.)  $\sqrt[4]{0.00735}$ .

$$(ii.) \frac{1098 \times .0287 \times .453}{\sqrt[3]{(746)^3}}$$

2. In a right-angled triangle, C being the right angle,  $A = 38^\circ 14'$  and  $a = 714.5$  feet. Find the value of  $c$ .
3. Prove the formula for  $\tan \frac{A}{2}$ , assuming that for  $\cos A$ , and find the size of the smallest angle in the triangle whose sides are 123.1, 346.7, and 432.5 feet.
4. Find the value of the third side of the triangle in which the angle  $47^\circ 15'$  is contained by sides of length 32.567 and 47.851 yards.

## (B) DYNAMICS.

1. What is meant by the Relative Velocity of two moving bodies? A railway train is moving at the rate of 25 miles per hour, and is struck by a stone travelling with a velocity of 30 feet per second in a direction inclined to that of the train at  $60^\circ$ . Find the magnitude of the velocity with which it appears to meet the train.
2. A point moves in a straight line, starting with velocity  $u$ , and moving with constant acceleration  $f$ .

Prove the formulæ—

$$s = ut + \frac{1}{2}ft^2$$

$$v^2 = u^2 + 2fs.$$

- A lift is moving upwards with a constant acceleration, and after it has been in motion from rest for 10 sec., a heavy body is dropped from it, and reaches the starting point in another 10 sec. Find the acceleration of the lift, and find the velocity with which the body reaches the ground.
3. A body of mass  $M$  slides down a plane inclined at an angle  $\alpha$  to the horizontal, being attached by a string, which passes over a smooth pulley, to a body of mass  $m$  hanging vertically.
- Find the time taken for  $M$  to fall down the plane from rest a distance  $l$ , measured along the plane—
- (i.) when the plane is smooth;
  - (ii.) when the plane is rough, and its coefficient of friction is  $\mu$ .

4. What is meant by the term Horse Power ?

What is the horse power of an engine which keeps a train of 40 tons mass moving on the level at the uniform rate of 30 miles per hour, the resistance of air, friction, &c., being 40 lb. weight perton ?

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ANALYTICAL GEOMETRY AND STATICS.

The same papers as those set in the Second Year of Arts.

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## SECOND YEAR EXAMINATION.

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PHYSICS I.

## PASS.

1. Explain how the couple necessary to twist a wire through a given angle is found practically. Describe any experiment in which a knowledge of the magnitude of such a couple is required.
2. Describe the methods which are used for the determination of the specific heats of gases at constant pressure and at constant volume.
3. Give an account of the recent determinations of the specific heat of water.
4. Give the arguments which suggest the forms of statement of the second law of thermodynamics given by Clausius and Lord Kelvin.
5. Give an account of some method which may be used to determine the resistance of a conductor in absolute measure.

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PHYSICS II.

## PASS.

1. Find the capacity of two concentric spheres, and show how the result is to be reduced in order to obtain the value in micro-farads.
2. Describe fully how you would test a piece of iron with respect to its magnetic quality.
3. Give a statement which may be taken as giving a fundamental relation between electricity and magnetism, and from it deduce the magnetic force in some particular case.
4. Find an expression for the couple acting on a plane circuit placed in a uniform magnetic field.
5. Describe fully the work which has been done in determining the electromotive force of a Clark cell.

## GEOLOGY.

1. What are the chief fossils which are characteristic of the Devonian System in Australia, and in what parts of Australia are Devonian rocks chiefly developed? Illustrate your answer with sketches.
2. Describe briefly the nature of the following, mentioning the areas where they are typically developed, and giving their geological age as determined by fossils contained either in them or in rocks associated with them:—Greta Series, Cave limestones, Ardrossan limestones, Rolling Downs Formation, *Cellepora* limestones, Diabase Tiers.
3. Review briefly the chief changes in the past physical geography of that portion of the interior of Australia which lies between Lake Eyre and the Gulf of Carpentaria from south to north and between the MacDonnell Ranges and the Eastern Cordillera of Australia from west to east.
4. By what optical methods can the felspars be distinguished from one another? Explain the principle of, at any rate, one of the methods. Illustrate your answer with sketches.
5. In the process of consolidation of an eruptive magma rich in soda and potash, but poor in lime, magnesia and iron, and containing between 50% and 60% of silica, what minerals would you expect to separate out (*a*) in a plutonic type of the rock, and (*b*) in a volcanic type? What names would you give to the plutonic and volcanic types, respectively, of the above rock? What difference would it make in the mineral constitution of the rock if the silica percentage were not less than 70 %?
6. What evidence would you look for in order to prove the existence of a peneplain? Give examples from New South Wales, and illustrate your answer with sketches.

In the case of the Blue Mountain and New England Peneplains, what evidence is there to show that the present elevated position of the peneplains is due to a local upheaval of the land rather than to a general fall of sea-level?
7. What are the chief natural compounds of aluminium? What is beauzite, and how is it formed? What is the "Kunkar" of Southern India, and what is its possible relation to beauzite?

What rock analogous to "Kunkar" is found in Australia, and where and under what conditions is it developed?

8. Mark on a scrap of paper a unit of measurement of about 1 inch (roughly approximate), then using this as a scale draw a square with sides of about 3 inches each. Assuming its surface to be a plane show in plan all along its W. side the outcrop of a coal seam dipping E. at  $45^{\circ}$ . Then from a point about 2 inches E. from the S.W. corner of the plan, draw a fault running from S. to N. across the plan. Show next a seam of coal (identical with that shown already on the W. boundary) outcropping all along the E. boundary of the plan, and dipping W. at  $45^{\circ}$ . Show by arrows that all the strata on the E. side of the fault dip at  $45^{\circ}$  to the W., and that all on the W. side of the fault dip at  $45^{\circ}$  to the E. Next draw a section, on any E. and W. line across the plan, and assuming that the fault is vertical, and that it has sheared clean through the strata without bending them, show where the coal seam, if its dips are produced, will meet the fault plane. Show the direction of throw of the fault, estimate its amount of throw, and also the amount by which the horizontal distance between the E. and W. outcrops of the coal seam has been reduced as the result of the faulting, on the assumption that the original surface of the ground before faulting was a plane, and on the assumption that your unit of measurement is equal to 2000 feet.

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#### MINERALOGY—(DESCRIPTIVE).

1. On what various geological horizons has alluvial gold been found in Australia or elsewhere? Illustrate your answer with sketches.
2. What are the chief minerals in which mercury or tellurium are important constituents, and what is their usual mode of occurrence?
3. In the case of a typical silver-lead mine, in which the minerals usually associated with silver-lead ores are present, describe briefly the minerals that would be met with (a) on the surface and in the zone of oxidised ore, and (b) at a depth sufficient to be below the above zone.

4. Messrs. Mawson and Taylor have recently shown that the iron ore deposits of Mittagong are probably derived from original iron-bearing minerals in the so-called "trachyte" of the Gib Rock. From what minerals in the trachyte may the iron have been derived, in what form is it carried from the Gib Rock to the points of outflow of the Chalybeate Springs at Mittagong, and what iron minerals may form at Mittagong as the result of the action of the atmosphere and of vegetation on the chalybeate water in the shallow basins around the springs? What bearing has this upon the mode of origin of clay ironstones in coal-measures?
5. What are the chief physical characteristics, chemical composition and mode of occurrence of the following minerals, and with what metallic ores are they likely to be associated — Topaz, Olivine, Tourmaline, Rhodonite, Diopside, Gahnite?
6. What is "Tasmanite," and on what geological horizon does it occur? Compare "Tasmanite" as regards its mode of origin and geological age with (a) Kerosene-shale, and (b) with Coorongite.
7. What are the characteristics of the tin ores, and with what minerals are they generally associated?  
What uranium minerals or minerals of the rare earths are sometimes associated with tinstone, and what scientific or commercial interest have they now or are they likely to have in the near future?
8. Teall has stated that Cordierite (Iolite, or Dichroite) bears the same relation to spinel that spinel does to corundum. Explain this, and discuss the general conditions under which the chief varieties of aluminium minerals may be naturally formed.

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CHEMISTRY—(ORGANIC).

1. How is the percentage of nitrogen in a carbon compound ascertained?
2. Give an account of the ethers of the aliphatic or fatty series.
3. Draw up a scheme for the classification of the various series of acids belonging to the aliphatic group.

4. Give an account of the Acetylene series of hydrocarbons.
5. What do you know about (a) the occurrence, (b) preparation, (c) properties, (d) constitution and derivatives of glycerol?
6. Give a brief account of the following, viz.:—Toluene, xylene, cumene, cymene, benzaldehyde, salicylaldehyde, quinone, aniline and toluidine.
7. What are the differences between rosaniline and pararosaniline?
8. Describe the method of determining molecular weights by the depression of the freezing point of solutions.  
Calculate the molecular weight of a substance from the following data—  
Weight of acetic acid used, 20.5 grams.  
Freezing point of acetic acid,  $16.435^{\circ}\text{C}$ .  
Weight of substance dissolved, .1535 grams.  
Freezing point of solution,  $16.305^{\circ}\text{C}$ .  
Molecular depression for 100 grams of solvent =  $39^{\circ}$ .
9. Identify the accompanying eight specimens.

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### BIOLOGY I.

*Illustrate your answers with drawings.*

1. Describe the development of some non-calcareous Sponge.
2. Describe the structure of *Pleurobrachia*.
3. What is "Artificial Parthenogenesis"? What theoretical significance is to be attached to the results?
4. Give an account of the *Rotifera* as regards (1) general external features; (2) digestive system; (3) excretory system.
5. Describe the structure and development of *Phoronis*.
6. Describe the development of the Dibranchiate Cephalopoda.
7. Describe the reproductive system of the Hirudinea.

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### BIOLOGY II.

1. Give an account of any instances known to you of the localisation of irritability in plants, and discuss the experimental evidence.

2. Give an account of the functions (*a*) of the tracheal tissue of the xylem; (*b*) of the phlœm elements.
  3. Describe (*a*) Knight's experiment, and show what conclusions may be drawn therefrom; (*b*) Stahl's method of demonstrating transpiration.
  4. Describe the development of *Asterina*.
  5. Give a general account of the organisation of the Sipunculoides ("Gephyrea Inermia").
  6. Describe the development of the Polychæta.
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## THIRD YEAR EXAMINATION.

## ZOOLOGY I.—(VERTEBRATA.)

*Illustrate your answers with drawings.*

1. Give an account of the structure of *Balanoglossus*.
2. Give an outline of the structure and life-history of *Doliolum*.
3. Describe the early stages in the development of an Elasmobranch up to the stage when the medullary canal becomes closed.
4. Describe the visceral arches and their connections in a Teleost.
5. Give an account of the digestive and respiratory systems of the Cyclostomata.
6. Describe the development of the digestive system, the lungs and the heart in the Frog.

## ZOOLOGY II.

*Illustrate your answers with drawings.*

1. State and discuss Lamarck's theory of evolution.
2. What are the most characteristic features of the spinal column in the *Ophidia* and in the *Chelonia*?
3. Describe the skull in the *Lacertilia*.
4. Give a general account of the *Sirenia*.
5. Describe the early development of a Mammal up to the time of the appearance of the primitive streak.
6. Describe the characteristic features of the skeleton in the *Chiroptera*.

## CHEMISTRY I.—(INORGANIC).

1. How are the atomic weights of the elements ascertained? Describe three methods by which they are controlled.
  2. What do you understand by the terms dissociation and ionization?
  3. Briefly explain the terms chemical equilibrium and mass action.
  4. Are there any objections to the periodic system of classification?
  5. Give a general account of the element carbon and its compounds with oxygen.
  6. Briefly describe the Vanadium oxides and acids.
  7. Why are tin and titanium classed together?
  8. How does copper occur in nature? How is it extracted, and what are its principal alloys?
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## CHEMISTRY—(CARBON COMPOUNDS).

1. How are carbon compounds purified prior to analysis?
  2. Give a general account of the hydrocarbons of the paraffin series, including their isomerism.
  3. Give some general processes for the synthesis of the ketones and fatty acids.
  4. What do you know about the constitution of the common carbohydrates?
  5. What are the chief differences between the fatty and aromatic series of carbon compounds?
  6. How are vanillin, alizarin, and indigo prepared artificially?
  7. What are the different forms of isomerism met with? What is meant by an asymmetric carbon atom?
  8. What are the principal properties of the organic bases, and how are certain of the alkaloids related to them?
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## CHEMISTRY—(HISTORY AND PHILOSOPHY).

1. Give a brief outline of the writings of Geber, Albertus Magnus, Roger Bacon and Paracelsus.



2. Mention the principal discoveries made by Scheele.
  3. Briefly trace the changes in the nomenclature and notation of chemical compounds from the time of Dalton to the present.
  4. Give a summary of the more important work of Davy and Williamson.
  5. Prepare a brief outline of Hofmann's contributions to chemistry.
  6. What theories have been offered to explain the process of fermentation?
  7. Trace the development of our knowledge of the constitution of the organic bases and alkaloids.
  8. What are the principal advances made in physical chemistry during the past 50 years?
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## GEOLOGY—(BOTH SECTIONS).

1. Explain how movements of the earth's crust may be accounted for on the following hypotheses, respectively—(a) "Contraction," (b) "Isostasy," (c) "Rise of Isotherms." Adduce arguments for and against each of the above hypotheses.
2. Describe and illustrate with sketches the geological structure of (a) The Mount Lofty Ranges, (b) The Blue Mountains of New South Wales, and (c) The Tiers of Tasmania.
3. It has been asserted that the Pleistocene Ice Age of the Northern Hemisphere was chiefly due to the land in Europe and North America standing much higher than now. What evidence is there in support of this view? Give reasons for or against the application of this theory, respectively, to the Pleistocene, the Permo-Carboniferous and the Cambrian (?) Ice Ages of Australia and Tasmania. Suggest other causes for Ice Ages.
4. Draw a sketch map of Victoria, not less than about five inches wide, showing the areas occupied by the chief geological formations. Also draw two geological sections across Victoria, one on any east and west line, and the other on any north and south line. Indicate and explain the trend of the chief troughs and folds, mentioning the geological ages during which they were formed.

5. Explain the exact meaning of the term "peneplain," and show the significance and use of peneplains to the field geologist in interpreting the physical geography of the past. Illustrate your answer with sketches, and give examples from Australia or elsewhere.
6. How may coasts be classed as regards structure and age, and what are the characteristics of, respectively, (a) young, (b) mature, and (c) old coasts? To what types should the coasts, respectively, of Victoria and of New South Wales be referred? Give reasons for and against referring the coast of New South Wales to the "Pacific type."
7. The fall of the eastern rivers of New South Wales being steeper than that of the western, show (a) that the principal axis of upheaval in Cainozoic time lay to the east of the present Main Divide; and (b) that the present tendency is for the Main Divide to be pushed westwards, so that the eastern rivers will in time behead the western rivers. What evidence is there that the Main Divide of New South Wales was considerably west of its present position in Palæozoic time?

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#### GEOLOGY—(PALÆONTOLOGY.)

SEVEN questions to be attempted, but questions 8 and 9 must be included.

*Illustrate answers with sketches.*

1. Give a general description of the Radiolaria, their suborders, and typical Australian occurrences.  
Illustrate with sketches of three of the more common genera.
2. Describe in detail the differences between the Rugosa and the Hexacoralla, giving descriptions of two typical forms of each. What evidence is there of the occurrence of Palæozoic Hexacoralla?
3. Give a general account of the Graptolitoidea, describing in detail, and giving the range of four genera.  
Give a short summary of Australian graptolite horizons.
4. What are the main subdivisions of the Echinodermata. Give a detailed account of (a) a Palæozoic Crinoid; (b) a Palechi-noid; and (c) a Euechinoid.

5. Describe the structure of the Gasteropod shell.

Illustrate your answer with sketches showing the various salient points.

6. Give a brief general account of the classification of the Brachiopoda, and the principles upon which it is based.

Describe two forms belonging to each order.

7. What are the main subdivisions of the Trilobita. Give the distinguishing characters of each order, describing briefly one representative of each.

Give a terse account of the Australian trilobite faunas.

8. What is meant by the following terms, and in what cases are they used :—

Monothalamous; pali; dicyclic; hydrospires; pectinated rhombs; apical system; monticules; deltidial plates; jugum; teleodont; resilium; aptychus; phragmacone; hypostome; and cranidium.

9. What are the following fossils, what particular point of structure does each show, and in what formations is each found :—

*Lovenia Forbesi*; *Receptaculites australis*; *Phialocrinus*; *Palæaster*; *Eunicites*; *Cellepora*; *Stenopora*; *Heliolites*; *Keeneia*; *Stutchburia*; *Endoceras*; *Conularia*; *Crioceras*; *Ceratiocaris*; *Leaia*; *Beyrichia*.

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#### GEOLOGY—(PETROLOGY).

- Describe the theory and practice of a method of determining the strength of double refraction of a mineral in one or more thin sections of a rock, giving full particulars of special precautions required, and of means of overcoming special difficulties in all cases likely to arise.
- Define in words and illustrate with sketches the *panidiomorphic-granular*, *poikilitic*, and *pliotaxitic* textures. Discuss the conditions requisite for the formation of each of these textures, and name rocks in which they commonly occur.
- Briefly describe and state the mode of origin of the various forms assumed by intrusive masses of igneous rocks. Illustrate your answer by reference to examples of which detailed descriptions have been published.

4. Give a full generalised description of *any two* of the following families of igneous rocks and their subdivisions—*Diorites*, *Alkali-syenites*, *Basalts*.

Refer to an example of a plutonic intrusion belonging to one of the families you have described in order to show the field relations which the rocks of a family may bear to one another, and to rocks belonging to closely related families.

5. Describe the following rocks—(a) Granite-aplite, (b) Gabbro-aplite (Beerbachite), (c) Laurdalite (Pyrbi-midalkalite), (d) Vosgesite.
6. Explain your conception of the nature of an igneous rock magma, and compare its behaviour with that of (a) solutions and mixtures of liquids at ordinary temperatures, (b) mixtures of molten metals.

## THEORY OF THE MICROSCOPE AND OPTICAL MINERALOGY.

Only SIX questions to be attempted, of which at least ONE must belong to Section A.

### SECTION A.

1. Why is the definition of a microscopic objective influenced by the thickness of the cover-glass?

Explain the theory and practice of the different methods in vogue for adjusting the microscope so as to correct for the thickness of the cover-glass.

2. Give a brief explanation of the diffraction theory of microscopic vision. Define *numerical aperture*, and show by theoretical considerations that the higher it is the greater will be the resolution of the objective.

### SECTION B.

3. Show that any two plates of doubly refracting minerals superposed, with their axes of elasticity making any angle between  $0^\circ$  and  $90^\circ$  with one another, are never extinguished if turned together between crossed nicols.

Determine the positions of maximum darkness and maximum illumination for a given angle between the axes of elasticity of the two plates.

4. State the nature and properties of the *indicatrix* of a *biaxial* mineral.
5. Make a number of sketches to show the appearance of *uniaxial* and *biaxial* interference figures in thick and thin sections of different obliquity and in different positions of rotation. Show clearly how uniaxial and biaxial figures may be distinguished from one another in very oblique sections.
6. Describe a method of determining the *optic sign* of a *biaxial* mineral with the help of the *quartz wedge* from a section cut at right angles to the acute bisectrix. Give a full explanation of the phenomena observed.
7. Enumerate the different kinds of optic orientation possible in minerals of the *rhombic* and *monoclinic* systems, giving the usual symbolic notation and practical methods of determination in each case.
8. Let a thick section of quartz, cut at right angles to the optic axis, and a mica quarter-wave plate be successively examined on the polariscope in parallel polarised light. The mica-plate must have its axes of elasticity at  $45^\circ$  with the principal section of the polariser. Describe the effect which would be observed in each case on rotating the analyser, both in monochromatic and polychromatic light. Indicate hypotheses which explain the phenomena observed.

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#### CRYSTALLOGRAPHY.

1. Define the following terms:—*Plane of symmetry*, *merohedral*, *enantiomorphous*, *metastrophic*, *linear projection*, *vicinal faces*.
2. Discuss the principles of stereographic projection, and its application to the problems of crystallography.  
Explain concisely the method of making a complete stereographic projection involving zones at right angles to and oblique with the primitive.
3. Prove that in any crystal (*a*) a plane of symmetry is a possible face, and (*b*) that it is perpendicular to a possible zone axis.
4. State the names and elements of symmetry of the classes belonging to the *rhombic* and *cubic* systems. Describe the general form of each class, and mention, with a very brief description of its habit, a mineral exemplifying each class.

5. Show how the general and all possible special forms belonging to *one* of the following classes may be derived from its elements of symmetry :—

(a) Trapezohedral Tetragonal class.

(b) Rhombohedral-hemimorphic (acleistous ditrigonal) class.

Illustrate your answer freely with stereographic projections, and give the Millerian index of at least one face of each form.

6. Mention the characters usually regarded as tests of twinning, and briefly discuss their validity.

Describe the twins of *rutile*, *gypsum*, and *quartz*.

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# DEPARTMENT OF ENGINEERING.

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## FIRST YEAR EXAMINATION.

(CIVIL, MINING AND METALLURGY, MECHANICAL AND ELECTRICAL.)

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### APPLIED MECHANICS I.

1. (a) A cable 700 feet long (and weighing 15 lb. per foot) hangs vertically down a shaft, having a metal ball (weight 250 lb.) attached to its lower end. If 450 feet of the cable are wound in in 4 minutes (thus leaving 250 feet still hanging in the shaft), at what rate, in Horse-Power is the work done?
  - (b) Express a *Horse-Power* in terms of *foot tons per hour* and *heat units per minute*.
  - (c) A body has its velocity diminished by one third. By how much are its kinetic energy and momentum diminished? If this diminution was brought about by a certain constant force acting on the body through a distance of 5 feet, through what further distance would this force have to act in order to bring the body to rest? If, on the other hand, the diminution of velocity had taken place in 5 seconds, what additional time would be required to bring the body to rest, the same constant force still acting?
  - (d) A cage weighing one ton is being raised from a mine with an acceleration of 10 feet per second. Find the tension in the rope. If a miner (weight 12 stone) is raised with the cage, find the pressure between him and the cage.

2. Explain what is meant by the "instantaneous or virtual centre of a link," and show that

$$\frac{\text{angular velocity of connecting rod}}{\text{angular velocity of crank}} = \frac{KT}{KD}$$

KD being the connecting rod of an engine in any position, K the crank pin and T the point where the line of the rod cuts a line drawn through the centre of the crank shaft at right angles to the line of stroke.

3. "For any train of spur-wheels, whatever wheels it may actually consist of, there may always be supposed substituted, for kinematic or mechanical purposes, one pair of wheels of known radii and centres, these wheels corresponding to the *centrodes* of the *first* and *last* wheels of the train."

Explain and discuss this statement, illustrating your remarks by neat sketches.

4. Make diagram sketches of the accompanying mechanisms, find all the virtual centres, and briefly discuss the characteristics of each mechanism.
5. Explain clearly the following terms—*Centrode, pair of elements, inversion* of a kinematic chain, *epicyclic gearing, reverted wheel train, cam, eccentric.*

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#### APPLIED MECHANICS II.

1. Explain the following terms—Bending Moment, Moment of Resistance, Modulus of a Section, Moment of Inertia, Coefficient of Elasticity, Coefficient of Rigidity, Elastic Limit, Yield Point, Vibrating, Primitive, and Statical Strength, Working Stress, Factor of Safety.
2. Prepare a tabulated statement, giving the following particulars—
- (a) Tensile strength of cast-iron, wrought-iron, structural steel, iron-bark and Oregon pine timber.
  - (b) Shearing strength of rivet steel, Oregon pine and iron-bark timber.
  - (c) Compressive strength of cast-iron, iron-bark and Oregon pine timber, concrete and sandstone.



- (d) Modulus of rupture of cast-iron, structural steel, iron-bark and Oregon pine timber.
  - (e) The limit of elasticity, yield point, general, local and total extension of structural steel.
3. Investigate the equations and sketch the diagrams showing the distribution of bending moments and shearing stresses in the following cases:—
- (a) A beam 20 feet span, loaded with a uniformly distributed load of 2 tons per foot run over the whole span.
  - (b) The same beam and load per foot run as in (a), but distributed over the right half of the span.
  - (c) A beam 20 feet long supported at one end, and at a point 5 feet from the other, and loaded between the supports with a uniformly distributed load of 2 tons per foot run, and at the extremity of the overhanging portion with a load of 10 tons.
4. Prove that the intensities of shearing stress on two planes at right angles to each other are equal. Investigate the intensity of shearing stress in a beam of rectangular section, and prove the equation—
- $$Y = \frac{S}{2I} (Y_1^2 - Y_2^2).$$
5. Show how to design a plate web girder of 30 feet span to carry a live load of one ton per foot run, and a dead load of one quarter of a ton per foot run.
- Illustrate your remarks by sketches, showing cross section of girder, sizes of plates and angles, also the diameter and pitch of the rivets.
6. Write an Essay on the method of determining the safe working stresses on steel structures; or,  
Write an Essay on the design of timber viaducts.

### DESCRIPTIVE GEOMETRY.

*No written description is required, but the various projections should be appropriately lettered.)*

#### 1. (Plane Geometry)—

- (a) Given a straight line AB and two points P and Q outside it, find a point C in AB such that CP, CQ make equal angles with AB.

- (b) Draw a circle to pass through a given point A to touch two given lines CD, CE between which A lies.
- (c) Show how to construct (i.) an ellipse, (ii.) a parabola, assuming any data you desire.
- (d) Draw the *hypocycloid* when the director or fixed circle is 3 inches in diameter and the generator or rolling circle is 4 inches in diameter.
2. (a) Given the plans and elevations of two lines AB and AC, find the corresponding projections of the line AD which bisects the angle BAC.
- (b) Given the traces of two intersecting planes, find the angle between them.
3. Assume a series of 5-foot contours to represent the surface of a hill whose summit is, say, 50 feet above the surrounding level plain, and obtain the plan and true shape of the section of the hill made by (a) any vertical plane passing through the summit, and (b) a plane inclined at  $60^\circ$  to the horizontal and also passing through the summit.
4. Draw the plan of a pyramid with a square base, lying on one of its sides, and obtain an elevation on each of three *vertical* planes which are mutually inclined at angles of  $60^\circ$ .
5. A prism (with hexagonal base) stands on the horizontal plane with its axis vertical. Determine the shadow cast by parallel rays, so arranged that the shadow is projected partly on the vertical and partly on the horizontal plane.
6. Draw diagrammatically the elevation of a bicycle showing the outlines (only) of the two wheels and the frame, and obtain its perspective projection when the frame of the bicycle (standing vertically) is inclined to the picture or perspective plane. Assume the necessary data.

(Students are advised to draw this perspective projection to a reasonably large scale.)

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## CHEMISTRY, PHYSICS, MATHEMATICS AND PHYSIOGRAPHY.

The same papers as those set in the First Year of Science.

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## SECOND YEAR EXAMINATION.

## APPLIED MECHANICS I.

1. Describe carefully Carnot's Cycle, using steam as the working substance, and contrast it with the so-called Clausius Cycle.

In the Carnot Cycle given that the upper and lower limits of pressure are 90 and 20 pounds per square inch respectively, find in foot pounds the amount of work done per pound of steam used.

2. (a) Steam enters at a pressure of 180 lb. per square inch (absolute); is cut-off at one-third stroke, and expands according to the law " $p. v.$  constant." Find the average pressure (absolute) during the forward stroke, neglecting clearance. If the back pressure is 17 lb. (absolute) per square inch, and the area of the piston is 112 square inches and the stroke 24 inches, what is the indicated horse-power for that side of the piston when the engine makes 100 revolutions per minute?  
(b) Find an expression for the work done during the adiabatic expansion of a gas.
3. Describe an apparatus for drawing an oval valve diagram for a simple slide valve. How would you construct such a diagram for any particular engine? Show clearly the relationship between the oval diagram and the indicator card.
4. "When steam expands adiabatically it becomes wetter unless it is very wet to commence with." Explain what is meant by this statement, and discuss it with the aid of an entropy-temperature diagram.  
If steam at a pressure of 80 lb. per square inch and quality 90 per cent. expands adiabatically till its pressure is 40 lb. per square inch, what will its quality be?
5. Make neat sketches of any form of boiler with which you are acquainted, showing clearly the various details.

6. An experimental plant consisting of a compound engine and boiler is fitted with a surface condenser, and a complete test of the performance of the plant is required.

Make a *list* of the apparatus and instruments required, indicating their position and general arrangement by means of a diagrammatic plan of the plant.

Draw up *tabular forms* showing the quantities to be observed by each assistant, and also those quantities to be deduced from the observations.

(NOTE.—*Nothing in the nature of an essay on engine testing is required, but a precise statement of the kind indicated in the question.*)

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## APPLIED MECHANICS II.

*Students in Mechanical and Electrical Engineering are required to take Sections A and B; Students in Civil or Mining Engineering are required to take Sections A and C.*

### A.

1. (a) A cable 700 feet long (and weighing 15 lb. per foot) hangs vertically down a shaft having a metal ball (weight 250 lb.) attached to its lower end. If 450 feet of the cable are wound in in 4 minutes (thus leaving 250 feet still hanging in the shaft) at what rate in Horse-Power is the work done?
- (b) A train weighing 100 tons is driven up an incline of 1 in 100, the frictional resistance being 10 lb. per ton. For the first mile the tractive force is 5000 lb., for the second mile it is 2360 lb., and for the last half-mile it is 4560 lb. Assuming that the train starts from rest, determine the whole time taken to cover the  $2\frac{1}{2}$  miles.
- (c) A heavy wheel has a cord 10 feet long coiled round the axle. This cord is pulled with a constant force of 25 lb. till it is all unwound and comes off. The wheel is then found to be rotating five times a second. Find its moment of inertia.
- (d) A flywheel weighs  $2\frac{1}{2}$  tons, and its "mean rim" has a velocity of 40 feet per second. If the wheel gives out 10,000 foot lb. of energy, by how much is its velocity diminished?

2. Describe the advantages and disadvantages of the hydraulic system of working lifts, cranes and similar machinery from a central power station.

Illustrate your remarks with reference to the Sydney Hydraulic Power Company, giving particulars of their power plant.

3. Explain fully, and illustrate by sketches where necessary, how you would design a modern undershot water-wheel, giving full particulars of the speed of the wheel, form of buckets, and probable efficiency.

Show how to determine the form of the guides and wheel vanes in an impulse turbine, assuming all necessary data.

### B.

4. Contrast the functions of the flywheel and the governor in an engine.

Explain precisely how you would determine the dimensions of a steam engine flywheel for a given fluctuation of speed. Would you adopt the same method for a gas engine flywheel?

5. Make neat sketches (plan and sections) of an ordinary slide valve and valve seat.

Explain clearly, with the aid of a diagram, why, with such a valve, it is not possible to obtain a symmetrical distribution of steam between the two ends of the cylinder.

The travel of a slide valve is 6 inches, outside lap 1 inch.

Find in feet per second the velocity with which the port commences to open when the revolutions are 70 per minute.

6. Describe *one* of the following tests, giving a description of the apparatus used, formulæ, and approximate results—

(a) Determination of efficiency of a Pelton wheel.

(b) Determination of Young's modulus for cast-iron by bending; also work out  $E$  for a Monier beam 14 in. x 14 in., which deflected  $\frac{1}{8}$  inch under a central load of 10 tons, the supports being 5 ft. 6 in. apart.

### C.

7. The last ten miles of a mineral railway connecting a mining centre to the main trunk line would pass through a hilly

district having a formation which chiefly consists of rock. What considerations would influence you in deciding the ruling grade, curve of minimum radius, distribution of rise and fall, type of locomotive and rolling-stock, permanent way, embankments, cuttings, bridges and culverts?

8. Describe, by means of sketches, the method of setting out a tunnel, and the process of sinking the shafts and driving the headings in heavy ground. Show all necessary timbering, and write on the dimensions.
  9. How would you calculate the probable area required for a culvert under a railway embankment? What data would you require? How would you determine the total quantity of water that might reasonably be expected for a water supply from a given catchment area, assuming all necessary data?
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### APPLIED MECHANICS III.

*(The drawings to be made on cartridge paper. All necessary dimensions are to be shewn, and parts in section hatched.)*

*Only ONE question to be attempted.*

*Students taking Honours MUST attempt question No. 1.*

1. Design a piston valve and liner having given the following conditions and data—

Steam to be taken on the inside.

Exhaust steam to pass through the body of the valve, and *not* taken through a passage outside the valve chest.

The exhaust pipe to be attached to side of valve chest, above the valve.

The necessary valve and piston diagram is to be drawn. (Zeuner diagram.)

Sufficient views to shew all dimensions of ports, pipes, passages, etc., are to be given.

The drawing to be to a scale of  $\frac{1}{2}$  full size.

Data—

Steam press, 185 lb. square inch.

Diameter of cylinder, 8 inches.

Stroke, 9 inches.

Revolutions per minute, 500.

Cut off (mean), .65.

Lead—Top,  $\frac{3}{16}$  inch; bottom,  $\frac{1}{4}$  inch.

Valve travel, 2 inches.

2. Design a 4-inch gunmetal right angle stop valve, suitable for a steam pressure of 160 lb. per square inch.

The drawing to be to a scale of  $\frac{1}{2}$  full size.

3. Design the piston rod crosshead, shoe and guides to suit the following engine, shewing all necessary fixings to columns, dimensions, etc.

The drawing to be to a scale of  $\frac{1}{2}$  full size.

Data—

Engine of vertical type, fitted with reversing gear, the cylinder being carried by 4 steel columns  $1\frac{1}{2}$  inch diameter.

Steam pressure, 185 lb. per square inch.

Back pressure, 30 lb. per square inch.

Diameter of cylinder, 8 inches.

Stroke, 9 inches.

Revolutions per minute, 500.

Cut off (mean), .65.

Connecting rod centres, 1 foot  $8\frac{1}{4}$  inches.

Centre to centre of columns in a line parallel to axis of crank shaft, 1 foot 3 inches.

Diameter of gudgeon,  $2\frac{1}{4}$  inches.

Diameter of piston rod,  $1\frac{3}{4}$  inch.

NOTE.—The strength of steel studs and bolts may be taken as follows—

Diameter of Stud or Bolt.	Effective Strength of 1 Stud or Bolt in lb.	Diameter of Stud or Bolt.	Effective Strength of 1 Stud or Bolt in lb.
$\frac{1}{8}$ inch	250	$1\frac{1}{8}$ inch	3,000
$\frac{1}{4}$ inch	500	$1\frac{1}{4}$ inch	4,200
$\frac{3}{8}$ inch	900	$1\frac{3}{8}$ inch	5,400
$\frac{1}{2}$ inch	1,450	$1\frac{1}{2}$ inch	7,100
1 inch	2,150		

## AREAS OF CIRCLES.

FOR DIAMETERS IN INCHES AND $\frac{1}{8}$ THS.								
Dia. in ins.	0 in.	$\frac{1}{8}$ in.	$\frac{1}{4}$ in.	$\frac{3}{8}$ in.	$\frac{1}{2}$ in.	$\frac{5}{8}$ in.	$\frac{3}{4}$ in.	$\frac{7}{8}$ in.
0	0	0122	0490	1104	1963	3068	4417	6013
1	7854	9940	1227	1484	1767	2073	2405	2761
2	3141	3546	3976	4430	4908	5441	5939	6491
3	7068	7669	8295	8946	9621	1032	1104	1179
4	1256	1336	1418	1503	1590	1680	1772	1866
5	1963	2062	2164	2269	2375	2485	2596	2710
6	2827	2946	3067	3191	3318	3447	3578	3712
7	3848	3987	4128	4271	4417	4566	4717	4870
8	5026	5184	5345	5508	5674	5842	6013	6186
9	6361	6539	6720	6902	7088	7275	7466	7658
10	7854	8051	8251	8454	8659	8866	9076	9288

## CIRCUMFERENCES OF CIRCLES.

FOR DIAMETERS IN INCHES AND $\frac{1}{8}$ THS.								
Dia. in ins.	0 in.	$\frac{1}{8}$ in.	$\frac{1}{4}$ in.	$\frac{3}{8}$ in.	$\frac{1}{2}$ in.	$\frac{5}{8}$ in.	$\frac{3}{4}$ in.	$\frac{7}{8}$ in.
0	0	3927	7854	1178	1570	1963	2355	2748
1	3141	3534	3927	4319	4712	5105	5497	5890
2	6283	6675	7068	7461	7854	8246	8639	9032
3	9424	9817	1021	1060	1099	1138	1178	1217
4	1256	1295	1335	1374	1413	1452	1492	1531
5	1570	1610	1649	1688	1727	1767	1806	1845
6	1884	1924	1963	2002	2042	2081	2120	2159
7	2199	2238	2277	2316	2356	2395	2434	2474
8	2513	2552	2591	2631	2670	2709	2748	2788
9	2827	2866	2905	2945	2984	3023	3063	3102
10	3141	3180	3220	3259	3298	3337	3377	3416

## RAILWAY ENGINEERING—(CIVIL).

1. Explain the meaning of the terms—Curve Resistance, Grade Resistance, Train Resistance, and show how to calculate the amount in each case. Explain also how the amount of rise and fall affects the cost of working a railway. What do you understand by the term Virtual Profile?



2. A train consisting of one engine and tender, 20 trucks fully loaded, and one van, weighing in all 300 tons; 60 per cent. of this is braked. If the train is moving at 40 miles an hour when the brakes are applied on a down grade of 1 in 40, and the efficiency of the brakes is 15 per cent., how far will the train travel before coming to rest?

Describe briefly the Westinghouse Brake.

3. Compare the cost of working two lines of railway, each 20 miles long, one on a level throughout, the other rising and falling 1000 feet, having given the following data—

Total weight of engine and train, 400 tons.

Mean speed over the 20 miles, 18 miles an hour.

Min. speed on the up grade, 12 miles per hour.

Coal consumption, 4 lb. per effective horse-power.

Cost of coal, 12s. per ton.

Cost of water, 10 per cent. that of the coal.

Train resistance on a level, 9 lb. per ton.

4. Write an Essay on the area of Railway Culverts and Bridges to discharge flood water. Write down the various formulæ which have been proposed, and explain fully their limitations and the manner in which you would employ them in a few typical cases.
5. Explain the terms—Boiler Power, Cylinder Power, and Tractive Force, as applied to the locomotive. What are the chief sources of loss of efficiency in the locomotive?
- A Locomotive Engine has two cylinders 18 inches in diameter and 24 inches stroke and driving wheels 4 feet in diameter. What is the maximum load it will haul up an incline of 1 in 40 at a speed of 10 miles an hour, if the mean steam pressure in the cylinders is 100 lb. per square inch? What should be the total load on the driving wheels of such an engine?
6. Write an Essay on one of the following subjects—
- (a) The Balancing of Locomotive Engines.
  - (b) The Advantages and Disadvantages of the Compound Locomotive Engine compared with the ordinary simple Engine, giving particulars of the most important types of Compound Locomotives at present in use.

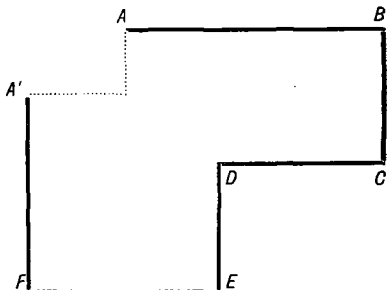
- (c) The Block System and the Interlocking of Points and Signals, also the Precautions necessary in connection with Facing Points at Terminal Stations.

SURVEYING—(CIVIL, ELECTRICAL AND MINING).

Six questions to be attempted. Mining Students must include TWO questions in Section II.

I.

1. In order to get accurate results, what precautions should be taken (a) in linear measurement, (b) in angular measurement, (c) in telemetric measurements. Use diagrams to explain replies.
2. Shew by diagrams, and formulæ based thereon, how to find the cross-sectional area in a road-cutting (or embankment) (a) with 3-level cross-sections; (b) with 5-level cross-sections, the intermediate heights being taken over the sides of road; and (c) with 5-level cross-sections when the intermediate cannot be taken over the sides of roads. (d) What assumptions are made as to the character of the natural surface? (e) How would the prismoidal formula be applied?
3. (a) Explain geometrically the closure of survey in the case represented in the diagram. Why has the correction to be made in the ratio of any side to the total perimeter? (b) Write a brief essay on the closure of surveys.



4. A, B and C are three stations with known coordinates forming the vertices of a triangle approximately equilateral. (a) Give a geometrical construction for fixing the point D, at which the angles subtended by AB and BC are respectively  $\alpha$  and  $\gamma$ ; (b) discuss the case where D is nearly in the line AC, and where it is nearly the centre of the triangle; and (c) shew where D should be situate so as to fix it with the greatest accuracy.

5. Shew how to close a series of four triangles, the vertices of which are a common point C, the angles only being measured, and the initial side being taken as unity. Why is this closure necessary? Give a geometrical illustration.
6. How could a stream be gauged by (a) means of an orifice, (b) an overfall, (c) a float, (d) a current meter? (e) Explain how to ascertain the relation of the *velocity* to the registrations of the meter. Give formulæ.
7. Discuss the evaluation of velocity of discharge taking place through a pipe line supplied from a reservoir, taking account of—(a) head in reservoir, (b) the circumstances that may affect velocity along the course of the pipe, (c) the effect of relation of hydraulic gradient to actual line of pipe, (d) the length of pipe-line in regard to losses at entrance.
8. (a) How are latitude, time, and meridian determined by astronomical observation with a theodolite, the sun being the celestial object observed? (b) Shew clearly what is the effect of the finite distance of the sun; and (c) explain the nature of the quantities found in the "Nautical Almanac," viz., right ascension, declination, equation of time, and semi-diameter.
9. Assuming the earth to be an ellipsoid of revolution, draw a diagram shewing how to compute the convergency of meridians for two different latitudes; and the value of an arc of the meridian, or an arc along a parallel of latitude.
10. Write an essay on the application of the theory of probability to the theory and practice of surveying.

## II.

1. Write an essay on underground surveying, (a) dealing with the transfer of azimuth from the surface to the underground workings, (b) the accurate use of the magnetic compass, or of the hanging dial, (c) the survey of a tunnel, and the ascertainment of quantities of material removed.
2. Describe any special instruments used in mining survey, and indicate their adjustment, including (a) particular forms of theodolite, and (b) instruments for determining inclination of bores. (c) Shew also how to investigate the strike and dip of veins.

3. (a) If an extremely accurate underground survey were required, say for a very long tunnel, how could it be executed? (b) If it passed through an unsymmetrically shaped hill, what might be expected in regard to the "levels" taken over the hill and through the tunnel? (c) Why can there be no unequivocal definition of a level surface?
- 

### CHEMISTRY.

#### *Mining.*

1. What do you understand by the term spontaneous combustion? In what materials, and under what circumstances would you expect it to take place?
2. Give an account of the explosives used in mining operations.
3. What volume of water gas containing 40 % of CO and 50 % of H by volume is required to reduce 1 kilo of  $\text{Fe}_2\text{O}_3$ ? What volume of gases would be produced at  $819^\circ\text{C}$  and 720 mm. pressure?

$\text{C}=12, \text{Fe}=56, \text{O}=16.$

4. Draw up a scheme for the quantitative analysis of a fireclay.
  5. What are the common adulterants in lead pigments? State how you would detect their presence.
  6. How would you proceed with the quantitative analysis of an alloy containing Pb, Sn, Cd, Bi and Hg?
  7. How is water purified on the large scale? What impurities would you expect to find in mine waters?
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### MATHEMATICS, PHYSICS, GEOLOGY AND MINERALOGY.

The same papers as those set in the Second Year of Science.

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## THIRD YEAR EXAMINATION.

## MATERIALS AND STRUCTURES.

1. Make an outline sketch of a Pratt truss of seven panels and show how to find the stresses in one panel for a dead load of 5 tons and a live load of 10 tons applied at the panel points. Show also how you would calculate and design the counter braces.
2. Design a group riveted joint for four steel plates, each 24 inches wide by  $\frac{1}{2}$  inch thick, using four rows of steel rivets  $\frac{7}{8}$  of an inch in diameter and 3 inches pitch. Investigate the resistance of the plates and rivets to tensile and shearing stress, and the pressure on the bearing area.
3. Make an outline sketch of a steel truss, having the upper chord arranged in the form of a polygon. Show how to calculate the stresses in one panel for a dead load of 5 tons and a live load of 15 tons at the panel points.
4. A reservoir dam 100 feet high is built upon a solid rock foundation. Make all necessary calculations showing how you would determine the thicknesses of the dam at various heights, and investigate the intensity of pressures at the inner and outer edges. State the conditions which must be complied with in regard to the stability of such a structure, and the limiting intensities of pressure.
5. Write a specification to govern the supply of the following materials—
  - (a) Medium Steel for Bridges, Rivet Steel, and Mild Steel.
  - (b) Portland Cement for Concrete Dams.
  - (c) Timber for Pile Foundations.
  - (d) Write a specification for preparing the stone, the mixing, and building of a concrete dam.

## SURVEYING—(CIVIL).

1. Write an essay on geodetic survey, referring to (a) base lines, (b) observation of angles of triangulation, (c) adjustment of survey.
  2. Discuss the relative merits and demerits of various methods of triangulation, *i.e.*, simple chain, quadrilateral, hexagonal, etc., etc.
  3. (a) Indicate the theory of the mercurial barometer in the determination of height. (b) Under what general conditions can the barometer be used hypsometrically?
  4. (a) How may a survey be made of an estuary? (b) Shew how the tidal phenomena of any port may be simply investigated.
  3. Outline the tidal theory in relation to the general course of tidal phenomena when it is desired to make the investigation thorough.
  6. (a) What is the effect of deflection of the plummet in the measurement of latitude, of longitude, and of meridian? (b) Under what conditions do large plummet deflections occur?
  7. All astronomical observation is subject to error consequent upon imperfect knowledge of refraction. (a) Discuss this, and the elimination of refraction error. (b) What connection has this fact with geodetical operations.
  8. Explain the theory of aberration, and the theory of precession and nutation. What effect have these upon the apparent places of stars?
  9. How may meridian and latitude be ascertained by astronomical observation without the use of the "Nautical Almanac" or other ephemeris?
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## TRANSMISSION OF POWER—(MECHANICAL AND ELECTRICAL).

1. Compare the advantages and disadvantages of Hydraulic, Pneumatic and Electrical transmission and distribution of power, when the distances of transmission are one mile and ten miles in each case.

2. A waterfall 50 feet high, with a minimum flow of 100 cubic feet per sec., is available for power; how would you utilise this power to drive machinery five miles away, adopting what you would consider the most economical method? What proportion of the power would you expect to obtain?
  3. Enumerate as many types of continuous current dynamos as you can, and state under what circumstances each should be used.
  4. Make a neat sketch of a modern form of three-phase alternator, and show how a three-phase transmission saves 25 per cent. of copper as compared with a continuous current circuit, or any alternating current circuit using two wires per phase.
  5. Describe and sketch a modern induction motor, using poly-phase currents, and explain the principles upon which such motors work. Explain the difference between the constant speed and variable speed motors.
  6. Write an Essay on one of the following subjects—
    - (a) The generation, transmission, and distribution of electricity for the Sydney Tramways, neglecting the engines and boilers.
    - (b) The transmission of power by compressed air, describing the most modern forms of compressors and motors, with the precautions necessary to obtain high efficiency.
    - (c) Any long distance power transmission, describing briefly the turbines, electrical machinery, and apparatus used.
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MECHANICAL ENGINEERING—(MECHANICAL AND ELECTRICAL).

1. The shaft of a screw steamer conveys 5000 horse-power at 60 revolutions a minute. Compute its size and make neat dimensioned sketches of the coupling and thrust block needed for it.
2. Discuss the relative advantages of Cycloidal and Involute wheel teeth, and show how you would design a tooth for a spur-wheel 6 feet in diameter, transmitting 100 horse-power at 40 revolutions per minute.

3. Show how you would proceed to determine the following points in connection with the balancing of a four Cylinder Engine—

(i.) The crank angles.

(ii.) The mass of reciprocating parts in the 4th cylinder, so that the reciprocating masses may balance among themselves.

Given the cylinder centre lines measured from the 4th cylinder 3·3, 8·9, and 11·5 respectively, and the masses 7·025, 6·49, and 5·1 respectively

(a) when the motion is simple harmonic,

(b) when the length of the connecting rod is five times that of the crank.

4. Write an essay on the conditions affecting economy in the power generated by steam engines and boilers in a central power station, giving steam and coal consumptions for different load factors.

Compare the advantages of Parson's steam turbine with reciprocating engines driving alternators.

5. Show by graphical construction or otherwise how you would determine the straining actions in crank shafts—

(a) In a simple crank shaft supported on the bearings with a known pressure on the crank pin.

(b) In an engine crank shaft carrying a spur flywheel of known weight, and subjected to a given crank pin pressure. Write a specification of the tests which you would adopt for the material of the crank shaft.

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#### METALLURGY I.

1. Give the composition of Producer Gas, its method of manufacture, application, and its advantages.

2. Give dimensions and sketches of blast furnaces for—

(a) Smelting Lead Ores ;

(b) Smelting Copper Ores ;

(c) Smelting Iron Ores ;

and enumerate the characteristics of these three types of furnace.



3. What gold-bearing materials would you treat by—

- (a) Amalgamation ;
- (b) Cyaniding ;
- (c) Chlorination ;
- (d) Smelting ?

Give your reasons, and compare costs and recoveries by these processes.

4. Describe the Gutzkow process of Parting and Refining bullion, and compare it with other processes you know of.
5. On what reactions does the Patera process of silver extraction depend ? Discuss the process and its limitations.
- 

## METALLURGY II.

1. Define and describe pyritic smelting.

Compare this form of smelting with ordinary matte smelting of copper ores.

2. Give chemical reactions of importance in the roasting of lead sulphide ores, and in their subsequent reduction in the blast furnace.

Describe shortly the roasting and reduction processes wherein the reactions referred to take place.

3. Describe the method adopted for utilising the waste gases from iron blast furnaces, and illustrate your answer with sketches showing relative positions of furnaces, stoves hot and cold blast, and waste gas mains.

4. Define shortly the Bessemer and Siemens steel making processes.

Discuss the advantages and disadvantages of these two processes.

5. Outline the process for the extraction of Nickel from a sulphide ore containing about 3 per cent. of Nickel.

Point out resemblances and differences between the Metallurgy of Nickel and that of Copper.

## ASSAYING.

TWO HOURS.

1. How do you prepare the absorbents required in determining the composition of a mixture of carbon monoxide, nitrogen, oxygen and carbon dioxide?
2. What method would you adopt in determining the gold and silver present in a copper matte assaying 30 % Cu? Give your reasons for each step taken.
3. Describe what takes place in the bichromate assay of iron ores as practised with stannous chloride reduction.
4. How would you proceed to determine the percentage of carbon present in a sample of steel?
5. What charge would you make up for the assay of a gold ore containing approximately 20 % pyrites and 80 % quartz? Give your reasons for the quantities taken.
6. Describe briefly the method you would employ to assay accurately a copper ore containing bismuth and arsenic. Give your reasons for the treatment used.

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MINING I.

1. Name the characteristics of an ore bed that serve to distinguish it from a flat lode.
2. Before deciding on the method of extracting ore from a deposit, what are the main points to be considered?
3. Show by sketch how you would close timber a three-compartment shaft with planks 9 in. by 3 in.; draw the joints distinctly. How would you join the guides and fasten them in position? What distance apart would you place the ladder sollars, and how would you arrange and fix the ladders?
4. Draw and describe the construction of a wooden dam for a level.
5. What are the usual methods of testing the velocity and pressure of air currents in workings? Why is the direction of a natural air current sometimes reversed according to the season? What means are adopted to divert air currents in any particular direction?

MINING II.

1. What is the difference between a gravity plane, an engine plane, the tail rope and endless rope systems of haulage, and under what circumstances would each be employed?
2. Describe briefly precautions that should be taken to prevent men and materials from falling down shafts.
3. From a mineowner's point of view, what do you consider the conditions most favourable for employing labour on wages, contract and tribute?
4. Draw up a list of the special points you would attend to when reporting on a mining property.
5. When drawing up a scheme for dressing, say, lead or copper ores, what relations do the following bear to one another—buddles, elevators, grizzlies, hydraulic classifiers, jaw crushers, jigs, picking belts, rolls, trommels and vanners?

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PHYSICS—(MECHANICAL AND ELECTRICAL).

1. Given the graph of a complex single valued periodic function, explain fully how its equation may be found theoretically and practically.
2. A condenser is in series with an inductive circuit to which is applied a periodic electromotive force: indicate the nature of the phenomena which are to be observed in such a circuit, and the modifications which take place as the frequency is increased.
3. The line from a single phase alternator consists for portion of the circuit of an inductive branch in parallel with a non-inductive one. Indicate the nature, and discuss as far as possible the solution of the problem, and explain how it may be experimentally verified.
4. Describe, with full theoretical and practical detail, the three voltmeter method for the measurement of power in a single phase alternating current circuit.
5. Describe, with full theoretical and practical detail, a method of measuring the insulation resistance of an electric installation under practical conditions.

## FOURTH YEAR EXAMINATION.

## ELECTRICAL ENGINEERING.

*Third Year Students to answer FIVE out of the first seven questions. Fourth Year Students to answer the last FOUR questions and FOUR out of the first seven.*

1. Describe the "Nernst" lamp. What are the advantages and the disadvantages attending its use?
2. What are the chief features of the "enclosed" and "flame" types of arc lamp? Describe briefly with sketches in rough any form of arc lamp with which you are acquainted.
3. Describe any system of underground mains with which you are familiar. How would you locate faults in an underground system of mains?
4. What is "Kelvin's law," and how is it applied to determining the most economical size of feeder to use in a particular case?
5. What are (a) "boosters" and (b) "balancers," and how are they used?
6. How are the losses from eddy-currents minimised in the construction of a dynamo?
7. What is meant by "lead" and "lag" of brushes? Why do dynamo brushes lead and motor brushes lag?
8. What are the principal points to be considered in the location of a generating station for general electric supply purposes?
9. What method of winding motors is used for traction purposes, and why?
10. State briefly the methods adopted in setting out and erecting the overhead wiring system of an electric tramway, describing with rough sketches the fittings used and their purpose.

11. Describe briefly the principle of an "induction" motor, stating some of the methods used for starting and for speed variation.
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## RAILWAY ENGINEERING.

The same paper as that set in the Second Year.

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## DEPARTMENT OF PHARMACY.

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PHARMACY STUDENTS TAKE THE FOLLOWING PAPERS:—

CHEMISTRY, INTRODUCTORY AND METALS, as in the First Year of Science.

CHEMISTRY, CARBON COMPOUNDS, as in the Second Year of Science.

PRACTICAL CHEMISTRY, four hours.

BOTANY, as in the First Year of Science.

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### MATERIA MEDICA.

1. Volatile Oils: What do you know of the nature and constitution of the various substances included under this name? Illustrate your answer by, say, four examples.
  2. To what changes are watery solutions of Gum Acacia, Tannic Acid, Milk Sugar, and Morphine Sulphate respectively liable? How might you endeavour to prevent these occurring?
  3. What is the source and part or parts officially recognised under the names Musk, Sumbul, Cascara Sagrada and Thyroideum Siccum respectively? State in each case the active principles.
  4. State from what countries are obtained and describe the methods employed in procuring and preparing Ginger, Nutmeg, Red Gum and Cotton respectively.
  5. What is the nature and constitution of Calamine, Kaolin, Burnt Alum and Tartarated Iron respectively?
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# \* EXAMINATION PAPERS.

MARCH, 1904.

## FACULTY OF ARTS.

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### FIRST YEAR EXAMINATION.

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LATIN PROSE COMPOSITION AND UNSEEN TRANSLATION.

#### HONOURS.

1. Translate into Latin—

Athena is the patroness of the arts and handicrafts which rescue mankind from savagery, and surround it with comeliness and comfort; she taught the husbandman to plant the olive, and the weaver to ply the shuttle. As the protector of city life, she fosters the arts of eloquence and good counsel. Apollo represents another side of idealised human nature—the moral and emotional, as opposed to the intellectual. He is the patron of music and poetry, the arts which raise and inspire the soul; he has the gift of prophecy, the intuitive vision into the future which comes to the inspired mind. His votaries are not guided by keen intellectual insight, as are the favourites of Athena, but by a divine afflatus which carries them out of themselves, and fills them with super-human knowledge. Above all, he is the god of purification; he has the power of healing body and mind. Not only can he ward off disease, but he can cleanse the conscience-stricken suppliant from pollution and blood-guiltiness, and send him home purified. He represents those aspects of perfected humanity which are omitted in the purely intellectual excellence of Athena.

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\* NOTE.—The time allowed for each paper is three hours, except where otherwise stated.

## 2. Translate into English—

(a)

Nec tamen ipsi

ignoscas populo; populi frons durior huius,  
 qui sedet et spectat triscurria patriciorum,  
 planipedes audit Fabios, ridere potest qui  
 Mamercorum alapas. quanti sua funera vendant,  
 quid refert? vendunt nullo cogente Nerone,  
 nec dubitant celsi praetoris vendere ludis.  
 finge tamen gladios inde atque hinc pulpita poni,  
 quid satius? mortem sic quisquam exhorruit, ut sit  
 zelotypus Thymeles, stupidi collega Corinthi?  
 res haud mira tamen citharoedo principe mimus  
 nobilis. haec ultra quid erit, nisi ludus? et illic  
 dedecus urbis habes, nec mürmillonis in armis  
 nec clipeo Gracchum pugnans aut falce supina —  
 damnat enim tales habitus — movet ecce tridentem,  
 postquam vibrata pendentia retia dextra  
 nequiquam effudit, nudum ad spectacula vultum  
 erigit, et tota fugit agnoscendus harena.  
 credamus, tunicae de faucibus aurea cum se  
 porrigat et longo iactetur spira galero.

- (b) Saepe ego mecum, patres conscripti, tacitus agitavi,  
 qualem quantumque esse oporteret cuius dicione nutuque  
 maria terrae pax bella regerentur, cum interea fingenti  
 formantique mihi principem, quem aequata dis immortalibus  
 potestas deceret, numquam voto saltem concipere succurrit  
 similem huic quem videmus. enituit aliquis in bello, sed  
 obsolevit in pace: alium toga, sed non et arma honesta-  
 runt: reverentiam ille terrore, alius amorem humilitate  
 captavit: ille quaesitam domi gloriam in publico, hic in  
 publico partam domi perdidit: postremo adhuc nemo  
 extitit cuius virtutes nullo vitiorum confinio laederentur.  
 at principi nostro quanta concordia quantusque concentus  
 omnium laudum omnisque gloriae contigit! ut nihil  
 severitati eius hilaritate, nihil gravitati simplicitate, nihil  
 maiestati humanitate detrahitur! iam firmitas, iam pro-  
 ceritas corporis, iam honor capitis et dignitas oris, ad hoc  
 aetatis inflexa maturitas nec sine quodam munere deum  
 festinatis senectutis insignibus ad augendam maiestatem  
 ornata caesaries, nonne longe lateque principem ostentant?  
 talem esse oportuit quem non bella civilia nec armis  
 oppressa res publica, sed pax et adoptio et tandem exorata  
 terris numina dedissent.



## LATIN AUTHORS.

## HONOURS.

1. Translate into English, extracts from Quintilian, Book X.
2. Translate and comment on—
  - (a) Ennium sicut sacros vetustate lucos adoremus, in quibus grandia et antiqua robora iam non tantam habent speciem quantam religionem.
  - (b) At non historia cesserit Graecis. nec opponere Thucydidi Sallustium verear, nec indignetur sibi Herodotus aequari T. Livium.
  - (c) Quid erat futurum, si nemo plus effecisset eo, quem sequebatur? nihil in poetis supra Livium Andronicum, nihil in historiis supra pontificum annales haberemus.
  - (d) Vergilium quoque paucissimos die composuisse versus auctor est Varius.
3. Translate into English, extracts from Virgil, *Æneid* VII. to X.
4. Translate and comment on—
  - (a) Quare age, et armari pubem portisque moveri  
Laetus in arma para.
  - (b) Ne fugite hospitium, neve ignorete Latinos  
Saturni gentem, haud vinclo nec legibus aequam,  
Sponte sua veterisque dei se more tenentem.
  - (c) At Caesar, triplici invectus Romana triumpho  
Moenia, dis Italis votum immortale sacrabat,  
Maxuma ter centum totam delubra per Urbem.
  - (d) Vos, O Calliope, precor, adspirate canenti,  
Et mecum ingentes oras evolvite belli.
  - (e) Quae cuique est fortuna hodie, quam quisque secat spem,  
Tros Rutulusne fuat, nullo discrimine habebō.
5. Scan the following lines, with any comments you think called for—
  - (a) Ardea Crustumerique et turrigeræ Antemnae.
  - (b) Una eademque via sanguis animusque sequuntur.
  - (c) Expugnare Itali summaque evertere opum vi.
  - (d) Graius homo, infectos linquens profugus hymenaeos.

## ROMAN HISTORY.

## HONOURS.

1. "The plebeians must not be confused with the clients; only a portion of the plebeians were clients of the patricians."

Discuss this statement.

2. "The Tribunes, the plebeian magistrates, had risen with their order; henceforth [from 287 B.C.] they cease, to be merely magistrates of the Plebs—they become state magistrates."

Comment on this.

3. "Though the old Latin league was allowed still to exist formally as a religious association [after 340 B.C.], its political importance disappeared."

Comment on this.

4. Describe the effects upon Rome of its system of provincial government.
5. Describe and account for the position of the Senate in the Roman state during the century before the Gracchi.
6. Describe the change in the Constitution of the *Comitia Centuriata* [circa 240 B.C.], and explain its significance.
7. Briefly describe the career and discuss the character of *Cato Major*.
8. "In 168 B.C., all *freedmen* were compelled to vote in only one of the city tribes chosen by lot."

What was the political status of the freedmen before this date?

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GREEK COMPOSITION.

## HONOURS.

The mutineers again and again made a rush at the low mud wall. Again and again they were beaten off, but swarms of them were firing all day, and many of the defenders fell under their bullets. The poor women and children had to crouch for shelter under the wall, with no roof over their heads to guard them from the scorching rays of the sun. There was but one well from which water could be drawn, and those who went to draw water there did it

at the peril of their lives. The mutineers took care to direct their bullets upon it, and many a man dropped slain or wounded as he strove to fetch a little water to cool the parched mouths of wife or child. At last Nana Sahib, finding that he could not get in by force, offered to let the garrison go safely away if the building were surrendered. The offer was accepted, and all who still lived were taken down to the river and placed on board large boats, to float down the stream.

### GREEK—SPECIAL SUBJECT—(THE ATHENIAN EMPIRE).

#### HONOURS.

*Not more than SIX questions to be attempted.*

1. Ἀθηναίοισι δὲ οὐκ ἔδόκεε ἀρχὴν Ἰωνίην γενέσθαι ἀνάστατον . . . καὶ οὕτω δὴ Σαμίους τε καὶ Χίους καὶ Λεσβίους καὶ τοὺς ἄλλους νησιώτας, οἳ ἔτυχον συστρατευόμενοι τοῖσι Ἕλλησι, ἐς τὸ συμμαχικὸν ἐποιήσαντο.

What is known of the extent and character of the Hellenic Alliance before the formation of the Confederacy of Delos?

2. Discuss the strategical idea of the operations of the Hellenic Alliance in 478 B.C.
3. ἐπὶ δὲ τὴν ἀπόστασιν τὴν τῶν Ἰώνων ἀπὸ τῆς τῶν Λακεδαιμονίων συμμαχίας Ἀριστείδης ἦν ὁ προτρέψας, τηρήσας τοὺς Λάκωνας διαβεβλημένους διὰ Πανσανίαν. Translate this passage, and discuss its bearing upon the formation of the Confederacy of Delos.
4. To what causes would you assign the loss of maritime hegemony by the Spartans in 478 B.C.
5. τοὺς ὄρκους ὥμοσε τοῖς Ἴωσιν ὁ Ἀριστείδης ὥστε τὸν αὐτὸν ἐχθρὸν εἶναι καὶ φίλον, ἐφ' οἷς καὶ μύθους ἐν τῷ πελάγει καθείσαν.

Translate and discuss.

6. What can be gathered with respect to the composition and competence of the General Synod of the Delian Confederacy? Indicate the elements of weakness and danger, and indicate the results to which they contributed.

7. αἰτίαι δὲ ἄλλαι τε ἦσαν τῶν ἀποστάσεων καὶ μέγιστα αἱ τῶν φόρων καὶ νεῶν ἔκδειαι καὶ λειποστράτιον εἴ τῳ ἐγένετο.

Translate this passage, and discuss its bearing upon the question of the nature of the contributions of the members of the Delian Confederacy.

8. What do you know of the Assessment of Aristides as regards (i.) its basis, (ii.) its total amount?

Briefly discuss the various views held on these two points.

9. What is Kirchhoff's theory of the organisation and growth of the Delian Confederacy? Examine its validity.

10. Trace, in outline, the steps by which Athenian ἡγεμονία passed into ἀρχή, clearly distinguishing the real character of the several incidents which illustrate the transition.

11. μετὰ δὲ ταῦτα θαρρούσης ἤδη τῆς πόλεως καὶ χρημάτων ἡθροισμένων πολλῶν, συνεβούλευεν ὁ Ἀριστείδης ἀντιλαμβάνεσθαι τῆς ἡγεμονίας . . . πεισθέντες δὲ ταῦτα καὶ λαβόντες τὴν ἀρχὴν τοῖς τε συμμάχοις δεσποτικωτέρως ἐχρῶντο.

Translate and discuss.

12. What do you know of the later history and decay of the Delian Synod?

13. What various designations are applied in our authorities to the members of the Athenian Empire?

Clearly distinguish their connotation.

14. Briefly describe the nature of the extant records of the Athenian Empire.

15. αἱ τάξεις τοῦ φόρου· τοῦτο δὲ γίγνεται ὡς τὰ πολλὰ δι' ἔτους πέμπτου.

Explain the method of reassessing the Empire.

16. διαχειροτονῆσαι τὸν δῆμον αὐτίκα πρὸς Μεθωναίους εἴτε φόρον δοκεῖ τάττειν τὸν δῆμον αὐτίκα μάλα ἢ ἐξαρκεῖν αὐτοῖς τελεῖν ὅσα τῇ θεῇ ἀπὸ τοῦ φόρου ἐγίγνετο.

Translate and discuss with reference to the question of the competence of the Athenian Assembly in the assessment of the Empire.

17. Under what various heads are certain cities of the Empire classified in the records?

Examine the significance of the headings.

18. "If we regard the bare fact of her empire as a political crime, we must remember that a crime of this sort is to be judged by the political conscience of the age in which it is committed."—(Greenidge.)

What judgment would you pass upon the Athenian Empire?

### JUNIOR FRENCH I.

#### HONOURS.

1. Translate into French—

And now my heart caught new sensations of pleasure the nearer I approached that peaceful mansion. As a bird that had been frightened from its nest, my affections outwent my haste, and hovered round my little fireside with all the rapture of expectation. I called up the many fond things I had to say, and anticipated the welcome I was to receive. I already felt my wife's tender embrace, and smiled at the joy of my little ones. As I walked but slowly, the night waned apace. The labourers of the day were all retired to rest; the lights were out in every cottage; no sounds were heard but of the shrilling cock, and the deep-mouthed watch-dog, at hollow distance. I approached my little abode of pleasure, and, before I was within a furlong of the place, our honest mastiff came running to welcome me. It was now near midnight that I came to knock at my door: all was still and silent. My heart dilated with unutterable happiness, when, to my amazement, I saw the house bursting out in a blaze of fire, and every aperture red with conflagration. I gave a loud convulsive outcry, and fell upon the pavement insensible. This alarmed my son, who had, till this, been asleep; and he, perceiving the flames, instantly waked my wife and daughter; and all running out naked, and wild with apprehension, recalled me to life with their anguish. But it was only to objects of new terror; for the flames had by this time caught the roof of our dwelling, part after part continuing to fall in, while the family stood, with silent agony, looking on as if they enjoyed the blaze.

2. Translate (at sight)—

C'était le temps des hannetons. Ils m'avaient bien diverti autrefois, mais je commençais à n'y prendre plus de plaisir

Comme on vieillit! Toutefois, pendant que, seul dans ma chambre, je faisais mes devoirs avec un mortel ennui, je ne dédaignais pas la compagnie de quelqu'un de ces animaux. J'en tenais un sous un verre renversé. L'animal grimpait péniblement le parois pour retomber bientôt, et recommencer sans cesse et sans fin. Quelquefois il retombait sur le dos; c'est, vous le savez, pour un hanneton un très-grand malheur. Avant de lui porter secours je contemplais sa longanimité à promener lentement ses six bras par l'espace, dans l'espoir toujours déçu de s'accrocher à un corps qui n'y est pas. "C'est vrai que les hannetons sont bêtes!" me disais-je. Le plus souvent, je le tirais d'affaire en lui présentant le bout de ma plume, et c'est ce qui me conduisit à la plus grande, à la plus heureuse découverte. Mon hanneton s'était accroché aux barbes de la plume, et je l'y laissai reprendre ses sens pendant que j'écrivais une ligne, plus attentif à ses faits et gestes qu'à ceux de Jules-César, qu'en ce moment je traduais. S'envolerait-il ou descendrait-il le long de la plume? A quoi tiennent pourtant les choses! S'il avait pris le premier parti, c'en était fait de ma découverte, je ne l'entrevois même pas. Bien heureusement il se mit à descendre. Quand je le vis qui approchait de l'encre, j'eus des avant-coureurs, j'eus des pressentiments qu'il allait se passer de grandes choses. Ainsi Colomb, sans voir la côte, pressentait son Amérique. Voici en effet le hanneton qui, parvenu à l'extrémité du bec, trempe sa tarière dans l'encre. Vite un feuillet blanc . . . c'est l'instant de la plus grande attente! La tarière arrive sur le papier, dépose l'encre sur sa trace, et voici d'admirables dessins. Quelquefois le hanneton, soit génie, soit que le vitriol inquiète ses organes, relève sa tarière et l'abaisse tout en cheminant: il en résulte une série de points, un travail d'une délicatesse merveilleuse. D'autres fois, changeant d'idée, il se détourne; puis, changeant d'idée encore, il revient: c'est une S!

### 3. Historical Grammar—

- (a) State and exemplify the different changes which took place in popular Latin, and are common to the Romance languages.
- (b) Illustrate the difference in the development of the accented and the unaccented vowels.

- (c) What is meant by the expression "Action of the Palatal"? Explain and illustrate.
- (d) Traces of Teutonic (Germanic) influence on the French vocabulary. Explain with instances.
- (e) Explain the origin of the 2nd "Regular" Conjugation in *-ir*. Wherein lies the difference between "regular" and "irregular" verbs?
- (f) Point out irregularities in the spelling of the words—*Femme, cueille, bœuf, poids, malheur*, and explain them.

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### JUNIOR FRENCH II.—AUTHORS.

#### HONOURS.

Translate, with explanations where necessary, extracts from Pages choisies de Diderot, Hugo, Les Voix Intérieures, and Les Rayons et les Ombres.

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### GEOMETRY AND GEOMETRIC CONICS.

#### HONOURS.

#### TWO HOURS.

1. ABC is a triangle; D is the middle point of BC; any straight line through C cuts AD in X and AB in Y. Shew that  $AX \cdot BY = 2AY \cdot XD$ .
2. Two fixed circles are touched by a third variable circle; shew that the tangent to this variable circle from the centre of similitude of the fixed circles through which the chord of contact passes is of constant length.
3. Shew that the inverse of a circle with respect to any point not in its circumference is a circle.  
Shew that the theorem, "A, B, C, D being four collinear points, then  $AC \cdot BD = AB \cdot CD + BC \cdot AD$ ," inverts into Ptolemy's Theorem, "ABCD being a cyclic quadrilateral  $AC \cdot BD = AB \cdot CD + BC \cdot AD$ ."
4. A, C, B, D are four points forming a harmonic range; shew that, if O is the middle point of AB, then  $OB^2 = OC \cdot OD$ .

5. The four circles circumscribing the four triangles formed by four straight lines meet in a point, and the feet of the perpendiculars drawn from this point on the four straight lines are collinear.
6. The tangent at P to the parabola  $PN^2 = 4AS$ . AN meets the axis in T, and SY is drawn perpendicular to PT; shew that

$$\begin{aligned} AN &= AT \\ SY^2 &= SA \cdot SP \end{aligned}$$

If  $\tan STP = \frac{1}{2}$ , prove that the normal at P meets the curve again in Q, whose distance from the axis is three times the semilatus rectum.

7. Prove that  $PN^2 : AN \cdot NA' = CB^2 : CA^2$  on a central conic. CP and CD are two semi-conjugate diameters of a hyperbola. PM and DR are the perpendiculars to the axis.

$$\text{Prove that } \frac{PM \cdot DR}{CM \cdot CR} = \frac{CB^2}{CA^2}$$

8. The tangent and the ordinate at the point P on an ellipse cut the axis major in N and T; shew that  $CN \cdot CT = CA^2$ . Also shew that any circle drawn through N and T will cut the auxiliary circle at right angles.
9. In a hyperbola a straight line is drawn through A perpendicular to one asymptote meeting the other in P and the curve in Q; shew that the difference between the abscissæ of P and Q is equal to the semilatus-rectum  $\times \frac{CA^2}{AB^2}$ .

ALGEBRA.

HONOURS.

TWO HOURS.

1. Prove that the necessary and sufficient condition that  $f(x)$ , a rational integral function of  $x$ , should be divisible by  $(x-a)$  is  $f(a) = 0$ .

The remainder when  $f(x)$  is divided by  $(x-a)(x-b)$  is

$$\frac{\{f(a) - f(b)\}x + \{af(b) - bf(a)\}}{a - b}$$

2. Solve the equations

$$(i.) \sqrt{a+x} + \sqrt{b+x} = \sqrt{a+b+2x}.$$



$$(ii.) \begin{cases} x^2 + 2yz = 128, \\ y^2 + 2zx = 228, \\ z^2 + 2xy = 128. \end{cases}$$

3. Prove that the three equations

$$\begin{aligned} x^2 &= ax + by, \\ xy &= cx + dy, \\ y^2 &= \frac{cd}{b}x + \left( c - \frac{d(a-d)}{b} \right)y, \end{aligned}$$

are consistent, and find the solutions.

4. To save trouble in writing on a blackboard different questions in addition, a schoolmaster has a frame constructed into which ten pieces of wood are inserted horizontally, on the back and front of each of which different sets of figures are written. How many different addition sums may be set, each consisting of ten lines of figures, with the aid of this apparatus?

5. Discuss the convergency of the following series

$$(i.) a_1 - a_2 + a_3 - a_4 + \dots$$

where  $a_1, a_2, \dots$  are positive and decreasing, and  $\lim_{n \rightarrow \infty} a_n = 0$ .

$$(ii.) \frac{x}{(1-x)(1-x^4)} + \frac{x^4}{(1-x^4)(1-x^7)} + \frac{x^7}{(1-x^7)(1-x^{10})} + \dots$$

6. Prove that, if  $x$  be numerically less than unity, the sum of  $n$  terms of the series

$$1 + mx + \frac{m(m-1)x^2}{2!} + \dots$$

tends to a definite limit when  $n$  is indefinitely increased, and that the value of this limit is the real positive value of  $(1+x)^m$ .

Use the first three terms of the Binomial Expansion to obtain the cube root of 66, and estimate the magnitude of the possible error, stating whether it is in excess or defect.

7. Prove that the series whose  $n^{\text{th}}$  term is

$$\phi_r(n) \frac{x^n}{n!},$$

where  $\phi_r(n)$  is any integral function of  $n$  of the  $r^{\text{th}}$  degree, can be summed to infinity.

Show that

$$1 + \frac{2^4}{2!} + \frac{3^4}{3!} + \dots = 15e.$$

8. If  $p$  be a prime number, and

$$(x+1)(x+2) \dots (x+p-1) = x^{p-1} + A_1 x^{p-2} + \dots + A_{p-1},$$

then  $A_1, A_2, \dots, A_{p-2}$  are all divisible by  $p$ .

Deduce Fermat's and Wilson's Theorems.

9. Prove the rule for the multiplication of two determinants of the third order, and assuming the corresponding rule for two determinants of the same order, show how we may multiply together two determinants of different orders.

Prove the identity

$$\begin{vmatrix} 2bc - a^2 & c^2 & b^2 \\ c^2 & 2ac - b^2 & a^2 \\ b^2 & a^2 & 2ab - c^2 \end{vmatrix} = (a^3 + b^3 + c^3 - 3abc)^2.$$

## TRIGONOMETRY.

### HONOURS.

TWO HOURS.

1. If  $P, Q, R$  are three points in a straight line, and  $O$  any point outside the line, and  $OP, OQ, OR$  make angles  $\theta, \phi, \psi$  respectively with  $PQR$ , such angles being measured in the same direction, prove that, with the usual convention as to signs,

$$QR \cot \theta + RP \cot \phi + PQ \cot \psi = 0.$$

$L, M, N$  are three points in a horizontal plane, the angles  $MLN$  and  $MNL$  are  $\alpha$  and  $\beta$  respectively. A motor car driven with uniform velocity along a straight road, running east and west, takes  $a$  seconds to pass from a point due south of  $L$  to a point due south of  $M$ , and  $b$  seconds to pass thence to a point due south of  $N$ . Find the direction of  $LN$ .

2. Find formulae for the radii of the inscribed and escribed circles of a triangle.

If  $I, I_1, I_2, I_3$  are the incentre and excentres of a triangle, and  $I_1K, I_2K$  be drawn respectively parallel to  $\Pi_2, \Pi_1$ , show that  $I_3K = 4R$ .

3. In any triangle

$$(i.) a^3 \cos A + b^3 \cos B + c^3 \cos C = abc [1 + 4 \cos A \cos B \cos C].$$

$$(ii.) \cos^2 \frac{A}{2} + \cos^2 \frac{B}{2} + \cos^2 \frac{C}{2} = 2 + \frac{r}{2R}.$$

4. Prove that  $\cos^{-1} \frac{8}{\sqrt{65}} + 2 \cot^{-1} 3 + \tan^{-1} \frac{1}{57}$  has  $\frac{\pi}{4}$  for one of its values.

5. Enunciate and prove De Moivre's Theorem.

Find all the roots of the equation

$$x^8 + 2x^4 \cos \frac{\pi}{3} + 1 = 0.$$

6. Expand  $\cos n\theta$  in a series involving products of powers of  $\sin \theta$  and  $\cos \theta$ . Hence (or otherwise) expand  $\cos \theta$  in a series of ascending powers of  $\theta$ .

7. Prove that

$$128 \sin^7 \theta \cos \theta = 14 \sin 2\theta - 14 \sin 4\theta + 6 \sin 6\theta - \sin 8\theta.$$

8. Sum the series

$$(i.) \sin \theta \sin 2\theta + \sin 2\theta \sin 3\theta + \dots \text{ to } n \text{ terms.}$$

$$(ii.) 1 - 3c \cos \theta + 6c^2 \cos^2 \theta \dots + (-1)^n \frac{(n+1)(n+2)}{2} c^n \cos n\theta \\ + \dots \text{ to } \infty, c \text{ being positive and less than unity.}$$

9. Prove that the expression

$$\frac{3 \sin 2\phi}{2(2 + \cos 2\phi)}$$

differs from  $\phi$  by  $\frac{4}{45}\phi^5$  nearly, when  $\phi$  is a small angle.

## STATICS AND DYNAMICS.

### HONOURS.

#### TWO HOURS.

1. Enunciate the theorem, called the parallelogram of forces.

P, Q are two forces acting at a point O, and R is their resultant; a transversal cuts the lines of action of these forces in L, M, and N; shew that

$$\frac{P}{OL} + \frac{Q}{OM} = \frac{R}{ON}.$$

Hence shew that, if forces  $m \cdot OP$  and  $n \cdot OQ$  act at  $O$ , their resultant is  $(m+n)OG$ , where  $G$  lies in  $PQ$  such that  $m \cdot GQ = n \cdot GP$ .

2. Find the centre of gravity of a triangle.

Three uniform rods of lengths  $a, b, c$  are placed in the form of a triangle, and each carries a weight  $w$  at a fixed point in its length. If these weights are moved along the sides of the triangle the same way round through distances  $ka, kb, kc$ , shew that the position of the centre of gravity is unaltered.

3. A uniform bar is placed in a sloping position leaning against a smooth peg, the lower end being on a rough horizontal plane, and its upper end in the air. Shew that it is just on the point of slipping when it makes an angle  $a$  with the plane given by the equation

$$l \sin 2a \sin(a+\epsilon) = 2h \sin \epsilon$$

where  $2l$  is the length of the bar,  $h$  the height of the peg, and  $\epsilon$  the angle of friction.

4. At what angular distance from the highest point can a particle rest on a rough sphere?  
 5. A revolving wheel is throwing off mud; from what point on the wheel will the mud thrown off reach the highest point?  
 6. State and discuss the second law of motion.

$M$  and  $m$  are in equilibrium when suspended from a wheel and axle. If  $M$  and  $m$  are interchanged find the accelerations with which they move, the mass of the wheel and axle being ignored.

7. A particle slips down a smooth inclined plane of angle  $a$  in the same time as it slips down a rough inclined plane of equal length and angle  $\beta$ . Shew that the coefficient of friction is  $\frac{\sin \beta - \sin a}{\cos \beta}$ , and that the velocities at the bottom are the same.  
 8. A particle is moving with uniform velocity  $v$  in a circle of radius  $r$ ; shew that it has an acceleration  $\frac{v^2}{r}$  towards the centre of the circle.

A wet ring of diameter one yard does not throw off drops of water until it is made to revolve three times a second. What is the force of adhesion between the ring and the drops?

9. A body of mass  $m$  at the top of a smooth vertical circular tube slips down, and strikes a mass  $3m$  lying at rest at the lowest point. Find the height to which each body will rise after the impact.

### ANALYTICAL GEOMETRY.

#### HONOURS.

TWO HOURS.

1. Find the condition that two straight lines whose equations are given may be at right angles to one another.

Given the base of a triangle in magnitude and position, and the altitude in magnitude, shew that the locus of the orthocentre is a parabola.

2. Prove that a homogeneous equation of the  $n^{\text{th}}$  degree in  $x$  and  $y$  represents  $n$  straight lines through the origin.

Find the equation to the straight lines joining the points of intersection of  $ax^2+by^2+2gx+2fy+c=0$  and  $lx+my=1$  to the origin, and shew that they will be at right angles if  $a+b+2(fm+gl)+c(l^2+m^2)=0$ .

3. Find the polar equation of a straight line.

Prove that the equation of the normal to the circle  $r=2a \cos \theta$  at the point where  $\theta=a$  is  $a \sin 2a=r \sin (2a-\theta)$ .

4. Define the polar of a point with regard to a given circle  $x^2+y^2+2gx+2fy+c=0$ , and find its equation.

Prove that each of the straight lines  $y-x-1=0$ ,  $y+2x-7=0$ ,  $2y+x-5=0$  is the polar of the intersection of the other two with respect to the circle  $9(y^2+x^2)-42y-30x+78=0$ .

5. Draw a diagram representing the straight lines of question 4.

6. Find the equation to the normal at any point of the parabola  $y^2=4ax$ .

Find the locus of the intersection of normals at the extremities of a focal chord of a parabola.

7. Determine the locus of the middle points of a system of parallel chords of an ellipse.

Find also the locus of the middle points of a system of chords passing through a given point.

8. Trace the following ellipses—

(i.)  $x^2 + 4y^2 = 1$ .

(ii.)  $x^2 + 4y^2 - 8y = 0$ .

In each of the above curves find

- (i.) The eccentricity;  
 (ii.) The coordinates of the ends of the major and minor axes;  
 (iii.) The coordinates of the foci.

### ELEMENTARY INFINITESIMAL CALCULUS.

#### HONOURS.

TWO HOURS.

1. Find from the definition of the differential coefficient those of

(i.)  $\tan 2x$ ,

(ii.)  $\log(ax+b)$ .

2. Differentiate the following functions—

(i.)  $\sqrt{\frac{1+x}{1-x}}$

(ii.)  $\log(a - b \cos \theta)$

(iii.)  $\frac{x}{2} \sqrt{x^2 + a^2} + \frac{a^2}{2} \log \frac{(x + \sqrt{x^2 + a^2})}{a}$ .

3. Break up the expression

$$\frac{x^3}{(x-1)(x-2)(x-3)}$$

into its Partial Fractions and thus obtain its  $n^{\text{th}}$  differential coefficient.

4. With the aid of the tables and the squared paper provided, plot the curve  $y = \log_{10} x$ .

Write down the values of  $\frac{dy}{dx}$  and  $\frac{d^2y}{dx^2}$ , and state what they tell us about the shape of this curve.

5. The tangent at the point P ( $x, y$ ) to the curve  $y = \log_e x$  meets the ordinate at a neighbouring point Q ( $x+h, y+k$ ) in T. Prove that, if  $x$  is great, the length of QT approximately is  $\frac{h^2}{2x^2}$ .

6. Show, without quoting a general theorem, that the curve  

$$y = x^3 - 2x^2 + 1$$
 is a continuous curve. Discuss its shape, and show that there is a minimum ordinate at  $x = \frac{2}{3}$  and a maximum one at  $x = 0$ .

7. Obtain the values of the Indefinite Integrals of the functions

(i.)  $\frac{1}{7-3x},$

(ii.)  $\frac{2x-3}{\sqrt{(x^2-3x+2)}},$

(iii.)  $\cos^2(ax+b).$

8. Starting from the definition of the Definite Integral as the limit of a sum, obtain the value of

(i.)  $\int_0^a x^2 dx.$

and interpret your result geometrically in the case of the parabola  $x^2 = 2ay$ .

9. Obtain an expression as a Definite Integral for the volume of that portion of the Solid of Revolution, obtained by making the curve  $y=f(x)$  revolve about the axis of  $x$ , cut off by two planes perpendicular to this axis.

Hence prove that the volume of a slice of the right cone cut off by planes perpendicular to the axis is

$$\frac{\pi}{3}(a^2 + ab + b^2)h$$

where  $a, b$  are the radii of the ends, and  $h$  is the distance between the planes.

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## SECOND YEAR EXAMINATION.

## LATIN PROSE COMPOSITION AND TRANSLATION AT SIGHT.

## HONOURS.

The same papers as those set in the Third Year Examination.

## LATIN AUTHORS.

## HONOURS.

1. Translate, with brief comments, extracts from Sallust, Jugurtha; Cicero de Provinciis Consularibus; Plautus, Captivi and Trinummus.
2. Scan the following lines, with such comments as you think called for:—
  - (a) Quod male feci, crucior: modo si infectum fieri possiet.  
Sed eccum incedit huc ornatus haud ex suis virtutibus.
  - (b) Iovi disque ago gratias merito magnas,  
Quom te reducem tuo patri reddiderunt.
  - (c) Illic est abductus recta in phylacam, ut dignus est.  
Ego illis captivis aliis documentum dabo.
  - (d) Ex bonis pessumi et fraudulentissimi  
Fiunt. Nunc ut mihi te volo esse autumo.
  - (e) Si ante lucem ire (hercle) occipias a meo primo nomine,  
Concubium sit noctis, prius quam ad postremum perveneris.

## ROMAN HISTORY.

## HONOURS.

ONE HOUR AND A-HALF.

1. "It would have been fatal to allow appeals from the Tribunes to come before a court dominated by the Consuls. To



meet the needs of the case a new assembly was created which was in its origin *entirely judicial*; this was the Comitia Tributa (presided over by Tribunes).”—(Taylor.)

Discuss this statement.

2. Give an account of the different measures dealing with the *judicia* from 123 B.C. to the dictatorship of Cæsar.
3. “Marius interea milites scribere non more majorum neque ex classibus sed uti cujusque libido erat, capite censos plerosque.”  
Comment on this, and state the political results of the action of Marius.
4. “The legislation of C. Gracchus seems full of contradictions.”  
Discuss this.
5. Describe Cæsar’s aims and his chief measures in his dictatorship.

#### GREEK—SPECIAL SUBJECT.

The same paper as that set in the Third Year Examination.

#### ENGLISH I.

#### HONOURS.

1. Translate, extracts from Cook, First Book of Old English.
2. Translate the following passage, and rewrite it in West Saxon, noting the dialectical variations—  
 Nū scylun hergan hefænricæs uārd,  
 metudæs mæcti end his mōdgidanc,  
 uerc uuldurfadur; suē hē uundra gihuæs,  
 ēci dryctin, ōr āstelidæ.  
 Hē ærist scōp ælda bārnum  
 heben til hrōfe, hāleg scepen.  
 Thā middungeard moncynnæs uārd,  
 ēci dryctin, æfter tiadæ,  
 firum foldu, frēa āllmectig.
3. (a) Give the comparatives of *hard*, *old*, *young*, *high*, *easy*, *bad*.  
 (b) Give the principal parts of *faran*, *biddan*, *nīman*, *cnawan*, *brucan*, *teon*.

- (c) Decline in Anglo-Saxon—*Your dear friend; a bright star; this great stone.*

4. Translate (at sight)—

(7=&.)

Raþe æfter þæm com Darius mid firde to Alexandre. He hæfde III c [þusenda] feþena 7 an hund þusenda gehorse-dra. Alexander wæs þa him swiþe ondrædende for þære miclan menige 7 for þære lytlan þe he self hæfde, þeþ þe he ær mid þære ilcan Darius maran ofercome. þæt gefeoht wæs gedon mid micelre geornfullnesse of þæm folcum bæm, 7 þær wæron þa cýningas begen gewundod. þær wæs Persa x m ofslægen gehorsedra, 7 eahtatig m feþena, 7 eahtatig m gefangenra. 7 þær wæs úngemetlic[e] micel licgende feoh funden on þæm wicstowun. þær wæs Darius modor gefangen, 7 his wif, sio wæs his swiostor, 7 his II dohtor. þa bead Darius healf his rice Alexandre wiþ þæm wifmonnum, ah him nolde Alexander þæs getyghian. Darius þa giet þridan siþe gegaderade fird of Persum 7 eac [of] oþrum londum þone fultum þe he him to aspanan mehte, 7 wiþ Alexandres fôr.

5. Translate into Anglo-Saxon—

In the beginning God made the heavens and the earth. God saw that it was good. He completed on the seventh day the works which He wrought. Great shame it is to a man not to wish to be what he is and what he ought to be. Truly the Son of Man shall come in His majesty, and all angels with Him, to the great judgment. When saw we thee hungry and fed thee?

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ENGLISH II.

HONOURS.

1. Translate, extracts from Early Scottish Poetry, with comments literary and grammatical.
2. Compare and contrast Barbour and Henry the Minstrel.
3. Paraphrase so as to bring out the full meaning from Spenser's *Shepherds' Calendar*.
4. (a) Comment on the following words—*Nousell, heydeguyes, tawdrie lace, crumenall, derring doe, mister.*

- (b) Whom do the following personages represent? —  
*Hobbinol, Algrind, Rosalynd, Tityrus, Pan.*
- (c) Discuss the theory that E. K. was Spenser himself.
5. How was the *Shepherd's Calendar* indebted to previous pastorals, and how does it differ from them?

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FRENCH I.—SENIOR.

PROSE COMPOSITION AND TRANSLATION AT SIGHT.

HONOURS.

1. Translate into French—

Napoleon brought France to earth. We may call him the first of the Romantics for his love of Ossian, and his haunting dreams of Oriental enterprise, or else the last of the Classics, remembering the lapidary style of his correspondence, his passion for Corneille, the studied and unstudied Caesarism of his politics. But the thing which made the Consulate great was Napoleon's realism, his close and comprehensive grasp of facts. He saw men as they were, gauged their characters, flattered their vanities, and in his political calculus allowed for vulgar foibles as well as for science and good sense. He had the strong dash of cynicism which the enthusiasts lacked, and this, though often repulsive in its excess, was valuable in an age of hyperbolic expectations. There has been no greater master in the art of using, driving, and inspiring men. He found great disorder and demoralisation; he created a bureaucracy more competent, active and enlightened than any which Europe had seen. But as the Consulate passed into the Empire, and as the growing palsy of despotism spread over France, the quality of the work declined. The best men hated the never-ending wars, and saw insanity written in large tokens over their master's schemes. The blockade, the conscription, the arrangements for the cantonment and provisioning of troops, the supervision of the press, consumed their most valuable energies, and the Emperor, growing ever more impatient of contradiction, cared for little else. All criticism, all independent thought, expired. The men who spoke the truth and thought justly were dismissed or

scolded, and as compliance came to be rated more highly than ability, the most precious qualities were excised from public life.

2. Translate (at sight)—

(a)

SAINT-VALÉRY-SUR-SOMME.

Suivons la digue, pendant que la mer, qui a déjà couvert les bancs de Cayeux et du Hourdel, entre dans la baie par de rapides courants et ramène la flotille des pêcheurs de crevettes. Nous avons à notre gauche les remparts, que la Somme et la mer baignaient naguère, et donc les vieux grès ont été couverts par l'embrun d'une rouille dorée. L'église élève sur ces remparts ses cinq pignons aigus, percés, au XVe siècle, de grandes baies à ogives, son toit d'ardoises en forme de carène renversée, et le coq de son clocher. Au XIe siècle, il y avait là une autre église qui avait aussi sa girouette. Au mois de septembre 1066, Guillaume le Bâtard venait ici chaque matin consulter avec inquiétude le coq du clocher. Son host, composé de soixante-sept mille combattants, sans compter les valets, les ouvriers et les pourvoyeurs, attendait proche la ville ; sa flotte, échappée à un premier naufrage, mouillait dans la baie. Quinze jours durant, le vent, soufflant du Nord, retint au port cette multitude d'hommes et de barques. Le Bâtard, impatient de conquérir l'Angleterre sur Harold et les Saxons, s'affligeait d'un retard pendant lequel ses navires pouvaient s'avarier et son armée se disperser. Pour obtenir un vent favorable, il ordonna des prières publiques et fit promener dans le camp la chasse de saint Valéry. Ce bienheureux, sans doute, n'aimait pas les Saxons, car aussitôt le vent tourna et la flotte put appareiller.

Quatre cents navires à grandes voiles et plus d'un millier de bateaux de transport s'éloignèrent de la rive au même signal. Le vaisseau du duc marchait en tête, portant en haut de son mât la bannière envoyée par le pape et une croix sur son pavillon.

Ses voiles étaient de diverses couleurs, et l'on y avait peint en plusieurs endroits trois lions, enseigne de Normandie. A la proue était sculptée une tête d'enfant tenant un arc tendu avec la flèche prête à partir.

Ce départ eut lieu le 29 septembre. Huit jours après, Guillaume avait conquis l'Angleterre.

(b) RENE DE VAUDEMONT'S WAR SONG.

Gentil duc de Lorainne, prince de grant renom,  
 Tu as la renommee jusques dela les mons,  
 Et toy et tes gens d'armes et tous tes compaignons  
 Du premier coup qu'il frappe abatit les danjons;  
 Tirez, tirez, bombardes, serpentines, canons.  
 "Nous suymes gentilzhommes : prenez nous a rançon."  
 "Vous mentés par la gorge, vous n'estes que larons,  
 Et violeurs de femmes, et bruleurs de maisons :  
 Vous en aurez la corde par dessoubz le manton,  
 Et sy orrez matines au chant des oysoillons,  
 Et sy orrez la messe que les corbins diront."

3. (a) What traces are to be found in the Old French literature of a Merovingian "epopea" ?
- (b) Describe the building up of the geste of Garin de Monglane (Guillaume d'Orange).
- (c) Give a short account of Villehardouin's career, and characterise his prose work.
- (d) Trace the influence of the British romances on the subsequent literature of Europe.
- (e) Say what you know of Rutebeuf and his work.

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FRENCH II.—AUTHORS.—SENIOR.

HONOURS.

- 1 and 2. Translate, and write short notes on the grammar, derivation, syntax, etc., of the underlined words; extracts from *Roman de la Rose*; *Extracts des chroniqueurs*.
3. Translate into Modern French—  
 Char orent assez et poissons  
 A cel mengier a grant plenté :  
 "Biaus amis, or avez esté,"  
 Fet il, "maintes foiz miex serviz :  
 "Mout mengissiez or a enviz  
 "Ceste viande a vavassor  
 "En la meson l'empereor.  
 —Sire, "dit-il," "ce n'est pas doute ;  
 "Mès venoison qui flere toute,  
 "De senglers, de cers sanz seson,  
 "De ce avons a grant foison,

“ Et de pasteز viez et moussiz :  
“ Quant il ne sont preuz as souriz,  
“ Lors sont il bon as escuiers.  
—Dex ! “ fet il a ses chevaliers,  
“ Or cuidoe que chacissons  
“ Et que nos nos sejourissons  
“ viii. jors toz plains sanz remouvoir ;  
“ Or me restuet par estovoir  
“ Tot maintenant aharneschier  
“ Si com por demain chevauchier,  
“ Ou avoir male volenté,  
“ A court.

4. Show in what points the story of Guillaume de Dole resembles that of Shakespeare's Cymbeline.

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GERMAN I.—SENIOR.

PROSE COMPOSITION AND TRANSLATION AT SIGHT.

HONOURS.

1. Translate into German—

NOODLE'S ORATION.

What would our ancestors say to this, Sir? How does this measure tally with their institutions? How does it agree with their experience? Are we to put the wisdom of yesterday in competition with the wisdom of centuries? Is beardless youth to show no respect for the decisions of mature age? If this measure is right, would it have escaped the wisdom of those Saxon progenitors to whom we are indebted for so many of our best political institutions? Would the Dane have passed it over? Would the Norman have rejected it? Would such a notable discovery have been reserved for these modern and degenerate times? Besides, Sir, if the measure itself is good, I ask the honourable gentleman if this is the time for carrying it into execution—whether, in fact, a more unfortunate period could have been selected than that which he has chosen? If this were an ordinary measure, I should not oppose it with so much vehemence; but, Sir, it calls in question the wisdom of an irrevocable law—of a law passed at the memorable period of the Revolution.

What right have we, Sir, to break down this firm column, on which the great men of that day stamped a character of eternity? Are not all authorities against this measure—Pitt, Fox, Cicero, and the Attorney and Solicitor General? The proposition is new, Sir; it is the first time it was ever heard in this House. I am not prepared, Sir—this House is not prepared, to receive it.

2. Translate (at sight)—

In der Dorotheenstraße, mitten im lateinischen Viertel Berlin's, dessen bescheiden studentischer Anstrich nachgerade auch von weltstädtischer Cultur mehr und mehr verwischt zu werden droht, stand noch vor wenigen Jahren ein kleines zweistöckiges Haus, engbrüstig, unansehnlich und gleichsam eingeschüchtern zwischen seinen breitschultrigen Nachbarn, obwohl es alljährlich mit einer zartröthlichen Fleischfarbe frisch übertüncht wurde und erst kürzlich einen neuen Blitzableiter auf seinen altersmüden Giebel bekommen hatte. Aber der Besitzer, ein ehrfamer Schuhmachermeister, der freilich im Laufe der Zeit so viel vor sich gebracht hatte, um sich's in einem neuen, eleganteren Hause bequem machen zu können, hatte Alles, was ihm das Leben freundliches beschert, unter diesem schiefgesummen Dache erlebt, und wenn er auch sonst ein Mann der Aufklärung und sentimentalen Vorurtheilen abhold war, wäre es ihm doch wie ein schöder Undank erschienen, dem alten Zeugen und Beschirmer seines Glücks ohne zwingenden Grund den Rücken zu kehren. Hier hatte er fast in jedem Winkel einmal sein Haupt niedergelegt, von dem Dachkämmerchen an, wo er als ein armer Tropf von einem Lehrlingen manche Nacht vor dem Geprassel der Traufe kein Auge zugehan, bis in die Yagstube des ersten Stocks vorn heraus, wo das Brautbett aufgeschlagen wurde, als er nach wacker bestandener Lehrzeit in seiner Eigenschaft als Obergeselle die Tochter des plötzlich verstorbenen Meisters heimgeführt hatte. Er war aber zu hausälterisch, um sich diese vornehme Wohnung länger als ein halbes Jahr zu gönnen, und hatte seitdem mit den Räumlichkeiten des zweiten Stocks vorlieb genommen, anspruchslos genug, da ihm zwei Kinder inzwischen herangewachsen waren und das Häuschen nur drei Fenster Front hatte. Die Zimmer der Beletage waren an ein altes kinderloses Ehepaar vermietet worden, dem der Hausherr um keinen Preis gekündigt haben würde. Denn in dem weißhaarigen alten Manne verehrte er einen ehemals berühmten

Tenor, den er noch in seiner Blüte gehört und bewundert hatte, und in dem kleinen, verwitterten alten Weibchen, seiner Frau, eine zu derselben Zeit nicht minder gefeierte Schauspielerin.

3. (a) What mythological material may be detected in the language and literature of Christian Germany?
- (b) Describe the old metrical versions of the Gospel history, and discuss their significance.
- (c) Compare the *Nibelungenlied* and the *Gudrun* in stanza, sources, and treatment.
- (d) Characterise and compare the chief representatives of the chivalrous romance.
- (e) Compare the German Minnesingers with the Troubadours of Provence.

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GERMAN II.—AUTHORS.—SENIOR.

HONOURS.

Translate—

- (a) Dar nâch sluoc er schiere einen wisent und einen elch,  
starker ûre viere und einen grimmen schelch:  
sîn ros truoc in sô balde, da; ir im niht entran.  
hirze oder hinden kunde im wênic engân.

Einen eber grôzen den vant der spûrehunt.  
als er begunde vliehen, dô kom an der stunt  
des selben gejegedes meister bestuont in ûf der slâ.  
da; swin vil zorneclichen lief an den kûenen helet sâ.

Explain the construction of *hirze oder hinden* and *meister*.

- (b) ‚Jâ nâme ich ê die suone,‘ sprach aber Hagene,  
‚ê ich sô lesterliche û; einem gademe  
flûhe, meister Hildebrant, als ir hie hapt getân.  
ich wânt ûf min triuwe, ir kundet ba; gein vinden stân.‘

Des antwurte Hildebrant: ‚zwiu verwi;et ir mir da;?  
nu wer was, der ûfem schilde vor dem Wasgensteine sa;,  
dô im von Spanje Walther sô vil der mâge sluoc?  
ouch hapt ir noch ze zeigen an iu selben genuoc.‘

Explain the reference to Walter.

- (c) Dô wolten e; niht lâzen des kûenen Hagenen man.  
der grunt begunde ergli;en: striten wart getân.  
erzogen sach man wâfen und och mit speren schie;en.



si wurfen in diu ruoder : man sach die kochen von dem stade vliezen.

Vil schiere het er gewonnen ein vil michel her.  
dô kunde ern niht gevolgen uf dem wilden mer :  
diu schif diu wâren dürkel und vil unbereite,  
diu dâ gâhen solten. dem wilden Hagenen man den schaden dô seite.

What two meanings may be given to the word "dürkel."

(d) Schanteclêr ûf den dorn vlouc,  
Reinhart in her abe trouc.  
Pinte schiere vlihende wart;  
under den dorn lief Reinhart.  
Schanteclêr im ze hôhe sa;  
Reinhart begunde üeben ba;  
sine liste, die er hât.  
er sprach : ,wer ist der dâ ûf stât ?  
bist dû da, Sengelîn ?"

Explain the formation of the name *Sengelîn*.

(e) Ich sprach : ,bist übel ode guot ?"  
er sprach : ,swer mir niene tuot,  
der sol ouch mich ze vriunde hân.  
,mahtû mich danne wißen lân,  
wa; créatiure bistû ?"  
,ein man, als dû gesihest nû.  
,nû sage mir, wa; dîn ambet si.  
,da stên ich disen tieren bi.  
,nû sage mir, tuont si dir iht ?"  
,si lobten; ,tæt ich in niht.  
,entriuwen vürhtent si dich ?"  
,ich pflige ir, und si vürhtent mich  
als ir meister unde ir herren."

Briefly narrate the episode to which this refers.

(f) Der knappe alsus verborgen wart  
zer waste in Soltâne erzogen,  
an küeneclîcher fuore betrogen,  
e; enmôht an eime site sîn :  
bogen unde bölzeln  
die sneit er mit sîn selbes hant  
und schô; vil vogeles, die er vant.

Explain the word *Soltâne*.

- (g) Viere truogen kerzen grô; :  
 die andern viere niht verdrô;  
 sine trüegen einen tiuren stein,  
 dâ tages di sunne licht durch schein.  
 dâ für was sîn name erkant :  
 e; was ein grânât jâchant,  
 beide lanc unde breit.  
 durch die lihte in dünne sneit,  
 swer in zeime tische ma;.  
 dâ obe der wirt durch rîchheit â;.

Give the derivation of *jâchant*.

- (h) Der phaffe sînen esel nam ;  
 dem hie; er machen einen stal,  
 dâ er die kunst wol verhal,  
 wie er in lêren wolde.  
 ein böese buoch er holde ;  
 da; leit er rehte vür in  
 und schutte im haberen dar in  
 zwischen iesliche; blat  
 und lie; in nie werden sat.  
 diz tet der phaffe umbe da;,  
 da; er die bleter desten ba;  
 gelernde werfen umbe.

Describe the *Schwank* from which this is taken.

- (i) Nû wol dan, welt ir die wârheit schouwen,  
 gën wir zuo des meien hôchgezîte!  
 der ist mit aller sîner krefte komen.  
 Seht an in und seht an werde frouwen,  
 weder; dâ da; ander überstrite;  
 da; be;er spil, ob ich da; hân genomen.  
 Owê der mich dâ welen hie;e,  
 deich da; eine durch da; ander lie;e,  
 wie rehte schiere ich danne kûr!  
 her Meie, ir müeset merze sîn, ê ich mîn frouwen dâ  
 verlûr.

Why is there a *d* and not a *t* in the form *werde*?

- (j) Der werlde drô unde ir zorn  
 ist hin ze gote gar verlorn,  
 man muo; im flêhen unde biten ;  
 er fürhtet niemens unsiten.  
 Diu aller kleinste gotes geschäft .

vertriffet aller werlde kraft.  
 got geschuof nie halm sô swachen,  
 den ieman müge gemachen :  
 der engel, tiuvel noch der man,  
 ir kein, ein flôch gemachen kan.

Got hât allen dingen gegeben  
 die mâze, wie si sulen leben.

What is the case of *der engel*, and why ?

(k) Die dirre welte volger sint  
 unde ir dienstlichiu kint,  
 die gelîche icht einem man,  
 der nôt von einem tiere gewan :  
 da; was ein einhürne grô;  
 sin lûejen alsô lûte dô;  
 da; e; den man brâhte in nôt.  
 er vorht im unde vlôch den tât.  
 e; jaget in âne milte zuht.  
 dô er was in sorgen vluht  
 und vor dem einhürnen lief,  
 in ein abgründe tief  
 viel er über eine want.

Go on with the story and explain the allegory.

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## DIFFERENTIAL CALCULUS.

### HONOURS.

1. With the aid of the tables and the squared paper provided, plot the curve  $y = \log_{10} x$ .

What do we learn about this curve from the values of  $y'$  and  $y''$  ?

The tangent at the point P ( $x, y$ ) to the curve  $y = \log_e x$  meets the ordinate at a neighbouring point Q ( $x+h, y+k$ ) in T. Show that when  $x$  is large, the length of QT is approximately  $\frac{h^2}{2x^2}$ .

2. Discuss the theory of Partial Fractions when there are no repeated factors, and obtain your results in a form suitable for imaginary factors.

Break up the expression

$$\frac{x^3}{(x-1)(x-2)(x-3)(x^2+1)}$$

into its Partial Fractions.

3. State and prove Leibnitz's Theorem on the differentiation of the product of two functions.

Find the first and the  $n^{\text{th}}$  differential coefficients of the following expressions

(i.)  $x^2 \cos^2(ax+b),$

(ii.)  $\frac{x^2}{(x-1)(x-2)}.$

4. Write down the equations of the tangents at  $(x', y')$  to the curves

(i.)  $xy=1,$

(ii.)  $xy=\sin x,$

and show that these curves touch at the point  $(\frac{\pi}{2}, \frac{2}{\pi})$ , but

that their concavities are turned in opposite directions.

If  $\rho_1, \rho_2$  are the radii of curvature at that point to the first curve and to the second, prove that

$$\pi^2 \rho_2 = 8(\rho_2 - \rho_1).$$

5. Prove that the rational integral algebraic function of  $x$ ,

$$a_0 x^n + a_1 x^{n-1} + \dots + a_n,$$

is a continuous function.

Discuss the turning points and shape of the curve

$$y = x^3 - 2x^2 + 1.$$

6. Explain the terms "complete differential coefficient" and "partial differential coefficient," and illustrate your answer by the function

$$ax^2 + 2hxy + by^2.$$

If  $u$  is a function of  $x$  and  $t$  satisfying the equation

$$\frac{\delta^2 u}{\delta t^2} = a^2 \frac{\delta^2 u}{\delta x^2},$$

and the variables are changed to  $\xi$  and  $\eta$  where

$$\xi = x + at$$

$$\eta = x - at,$$

prove that

$$\frac{\delta^2 u}{\delta \xi \delta \eta} = 0.$$

7. If  $z = f(x, y)$ , and we put

$$u = y + z,$$

$$v = z + x,$$

$$w = x + y,$$

prove that

$$\frac{\delta z}{\delta x} = \frac{1 - \frac{\delta w}{\delta v}}{\frac{\delta w}{\delta u} + \frac{\delta w}{\delta v}}$$

$$\frac{\delta z}{\delta y} = \frac{1 - \frac{\delta w}{\delta u}}{\frac{\delta w}{\delta u} + \frac{\delta w}{\delta v}}$$

8. Obtain the conditions for the existence of points of inflexion on the curve

$$y = f(x).$$

Discuss the case of the curve

$$y = x + \cos x + \sin x,$$

examining particularly the shape of the curve at

$$x = \frac{3\pi}{4} \text{ and } \frac{7\pi}{4}.$$

9. Explain shortly the methods of finding the shape of an algebraical curve at the origin and infinity.

Discuss the curve

$$y = x^3 \left( \frac{x+a}{x-a} \right).$$

10. State and prove Taylor's Theorem, pointing out in your proof the conditions under which you have shown that the expansion is possible.

Prove that

$$\sec x = 1 + \frac{x^2}{2!} + \frac{5x^4}{4!} + \frac{61x^6}{6!} + \dots$$

## MECHANICS.

## HONOURS.

1. Investigate the conditions of equilibrium of a system of forces acting on a particle in one plane.

A particle of weight  $W$  is supported on a smooth inclined plane of angle  $\alpha$  by two equal forces  $\frac{W}{n}$ , one of which acts parallel to the base of the plane. Shew that  $\frac{1}{n}$  must not be less than  $\tan \frac{\alpha}{2}$ . If  $\frac{1}{n}$  is greater than  $\tan \frac{\alpha}{2}$ , find the reaction between the plane and the particle.

2. Find the centre of gravity of a plane triangular lamina; and also of a rod  $AB$  in which the density at any point varies as its distance from the end  $A$ .

Four unequal weights  $W_1, W_2, W_3, W_4$  are placed at the four corners of a tetrahedron and the c.g. of the loaded tetrahedron is  $G_1$ . These weights are placed at the corners in all possible ways and  $G_2, G_3$ , &c., are the corresponding positions of the c.g. Shew that the c.g. of equal weights at  $G_1, G_2$ , &c., coincides with the c.g. of the unloaded tetrahedron.

3. Two weights with unequal coefficients of friction  $\mu$  and  $\mu'$  are tied together with light string and placed on an inclined plane along a line of greatest slope. The plane is gradually tilted till the weights begin to slide. Find the greatest inclination of the plane for which the weights will rest, and the relative position of the weights.
4. The velocity  $u$  of a moving particle is changed to  $v$ , making an angle  $\alpha$  with the direction of the former velocity, under a constant acceleration  $f$ . How long is the time occupied in producing this change, and what would the velocity be at the end of half the time?
5. Two particles  $X, Y$  move in two axes  $Ox, Oy$  inclined at an angle  $\alpha$ , so that the distance  $XY$  remains the same. If  $u$  is the velocity of  $X$  in the direction  $Ox$ , shew that the velocity of  $Y$  in the direction  $yO$  is  $\frac{a-b \cos \alpha}{b-a \cos \alpha} u$ , where  $a, b$  are the distances of  $X$  and  $Y$  from  $O$ .

If the position of XY makes an angle  $\theta$  with Oy, prove that the relative velocity of Y to X is  $u \sin \alpha / \cos \theta$ .

6. Two masses M and  $M - m$  are hung over a smooth pulley; as  $M - m$  ascends it picks up a ring of mass  $2m$  and as it descends deposits the ring in its original place. Shew that the intervals between picking up and depositing the ring form a G.P. whose common ratio is  $\frac{2M - m}{2M + m}$ .
7. A carriage is moving with velocity  $v$  in a curve of radius  $r$  on a level plain. The distance between the wheels is  $d$ , and  $h$  is the height of the centre of mass of the carriage above the track. Shew that if  $v^2 > \frac{dgr}{2h}$  the inner wheels of the carriage will leave the ground.
8. Prove that the path of a projectile is a parabola. Particles are projected from the same point with equal velocities. Shew that the vertices of their paths all lie on an ellipse whose eccentricity is  $\frac{\sqrt{3}}{2}$ .
9. A smooth isosceles wedge of mass M, the equal base angles being  $\alpha$ , is placed on a smooth horizontal table with its edges parallel to the edge of the table. A string is tied to the edge nearest to the edge of the table and leading over the table carries a smooth mass  $m$ . On the nearer slope of the wedge is placed a mass  $x$  so that  $x$  and the string lie in a vertical plane. The system being free to move it is found that the mass  $x$  does not slip down the wedge. Shew that  $x = m \cot \alpha - (M + m)$ .
10. A particle projected from a point in an inclined plane at the second impact is moving perpendicularly to the plane, and at the fifth impact is again at the point of projection. Shew that  $e^5 + 1 = 2e^2$ .

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### ANALYTICAL CONICS.

#### HONOURS.

1. Obtain the polar equation to a conic section, the focus being the pole. Two chords QP, PR of a conic subtend equal angles at the focus; prove that the chord QR and the tangent at P intersect on the directrix.

2. Find the coordinates of the centre of a conic whose equation is given in general terms.

A conic is drawn to touch two given straight lines at given points. Shew that its centre lies in one or other of two fixed straight lines.

3. Find the axis and latus rectum of the parabola whose equation is  $x^2 + 6xy + 9y^2 + 15x - 5y + 125 = 0$ .

4. In general two parabolas can be drawn through the points of intersection of the conics  $ax^2 + 2hxy + by^2 + 2fy + 2gx + c = 0$ ,  $a'x^2 + 2h'xy + b'y^2 + 2f'y + 2g'x + c' = 0$ , and their axes will be at right angles, if  $\frac{h}{a-b} = \frac{h'}{a'-b'}$ .

5. Prove that the normals at three points of an ellipse whose eccentric angles are  $\alpha, \beta, \gamma$  will meet in a point provided that

$$\sin(\alpha + \beta) + \sin(\beta + \gamma) + \sin(\gamma + \alpha) = 0.$$

The normals to the ellipse  $\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1$ , where it is met by

$$\frac{lx}{a} + \frac{my}{b} = 1, \quad \frac{x}{al} + \frac{y}{bm} = -1, \text{ meet in a point.}$$

6. One vertex of a parallelogram circumscribing an ellipse moves along a directrix, prove that the opposite vertex moves along the other directrix, and that the two remaining vertices lie on the circle described on the major axis as diameter.

7. Obtain the equation to the hyperbola which is confocal with the ellipse  $\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1$  and has its asymptotes lying along the equiconjugate diameters of the ellipse.

Prove that the straight lines joining the extremities of the axes of the ellipse cut the hyperbola at right angles.

8. If  $S=0$  is a conic, and  $a=0$  a straight line, shew that  $S - \lambda a^2 = 0$  is a conic having double contact with  $S=0$  where  $a=0$  meets it.

Hence (or otherwise) prove Brianchon's Theorem, viz., the three opposite diagonals of every hexagon circumscribing a conic intersect in a point.



9. Find the equation in a real coordinate of a conic circumscribing the triangle of reference.

Identify the conics

(i.)  $\frac{1}{x} + \frac{1}{y} + \frac{1}{z} = 0.$

(ii.)  $\frac{a^2}{x} + \frac{b^2}{y} + \frac{c^2}{z} = 0.$

10. Find the polar reciprocal of one circle with respect to another circle.

“Tangents at the extremities of any diameter of a circle are parallel to one another.”

Reciprocate this theorem, taking as centre of the circle of reciprocation a point on the circumference of the given circle.

#### INTEGRAL CALCULUS AND DIFFERENTIAL EQUATIONS.

The same paper as that set in the Third Year, with the alterations indicated in that paper.

#### LOGIC AND MENTAL PHILOSOPHY II.

##### HONOURS.

*You are requested to attempt not more than six questions.*

1. “Ultimately the condition of inference is always a system.” Show how inference cannot take place except through the medium of an identity or universal, and illustrate by reference to different kinds of systems.
2. It is said that the judgment is at once analytic and synthetic, both universal and necessary. Explain and illustrate these characteristics.
3. How would you classify different forms of judgment? Show how the different types of judgment correspond to different orders of knowledge.
4. Show how the existential import of propositions affects the validity of logical operations. Illustrate by reference to contrary opposition.
5. How would you define a disjunctive syllogism? Discuss the statement that the disjunctive syllogism is governed by totally different rules from the ordinary categorical syllogism.

6. State and illustrate the difficulties involved in applying obversion or contraposition to complex propositions.
7. How far has the recent development of scientific conceptions affected logical doctrines of causation?
8. What is the relation of the causal judgment to the axiom of the uniformity of nature?
9. Illustrate from Botany, Chemistry, or Physics the principles of scientific classification.
10. How far can the method of difference be used to determine the causes of social and political conditions? Give a worked-out illustration.
11. Briefly explain each of the following—Compound effect; heteropathic effect; progressive effect; inverse deductive method.

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## HISTORY II.

### HONOURS.

*You are recommended to answer SEVEN questions, and no more.*

1. "The coronation of Charles the Great is the central event of the Middle Ages."  
Explain its significance.
2. "Imperium Romanum virtute sua ad Francos Orientales reduxit" (Otto I.)  
Explain this statement, and show the importance of the event referred to.
3. Sketch the relations between France and Normandy to 1066.
4. Illustrate, by reference to the controversies between Gregory VII. and Henry IV., (*a*) the strength, and (*b*) the weakness of the Papal position.
5. Sketch the relations of the Papacy to the Crusades.
6. "Frederick I. is the noblest type of the mediæval character."  
Explain and illustrate this statement.
7. What was the distinctive teaching of St. Francis of Assisi?

8. "The German Kingdom broke down beneath the weight of Roman Empire."  
Explain this statement.
  9. What were the grounds of St. Bernard's hostility to Abelard?
  10. Examine the relations between the Crusaders and the Eastern Empire.
  11. Examine the effects on the character of the Papacy of its struggle with Frederick II.
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## THIRD YEAR EXAMINATION.

## LATIN PROSE COMPOSITION.

## HONOURS.

Translate into Latin—

To judge by this rule, ancient eloquence, that is, the sublime and passionate, is of a much juster taste than the modern, or the argumentative and rational; and, if properly executed, will always have more command and authority over mankind. We are satisfied with our mediocrity, because we have had no experience of anything better: but the ancients had experience of both; and upon comparison, gave the preference to that kind of which they have left us such applauded models. For, if I mistake not, our modern eloquence is of the same style or species with that which ancient critics denominated Attic eloquence, that is, calm, elegant, and subtile, which instructed the reason more than affected the passions, and never raised its tone above argument or common discourse. Such was the eloquence of Lysias among the Athenians, and of Calvus among the Romans. These were esteemed in their time; but, when compared with Demosthenes and Cicero, were eclipsed like a taper when set in the rays of a meridian sun. Those latter orators possessed the same elegance, and subtility, and force of argument with the former; but, what rendered them chiefly admirable, was that pathetic and sublime, which, on proper occasions, they threw into their discourse, and by which they commanded the resolution of their audience. Of this species of eloquence we have scarcely had any instance in England, at least in our public speakers. In our writers, we have had some instances which have met with great applause, and might assure our ambitious youth of equal or superior glory in attempts for the revival of ancient eloquence.

## LATIN UNSEEN TRANSLATION.

## HONOURS.

Translate into English—

(a) At tribus exactis ubi quarta accesserit aestas,  
 Carpere mox gyrum incipiat gradibusque sonare  
 Conpositis sinuetque alterna volumina crurum  
 Sitque laboranti similis; tum cursibus auras,  
 Tum vocet ac per aperta volans ceu liber habenis  
 Aequora vix summa vestigia ponat harena;  
 Qualis Hyperboreis Aquilo cum densus ab oris  
 Incubuit Scythiaeque hiemes atque arida differt  
 Nubila: tum segetes altae campique natantes  
 Lenibus horrescunt flabris summaeque sonorem  
 Dant silvae longique urgunt ad litora fluctus;  
 Ille volat simul arva fuga, simul aequora verrens.  
 Hic vel ad Elei metas et maxuma campi  
 Sudabit spatia et spumas aget ore cruentas,  
 Belgica vel molli melius feret esseda collo.  
 Tum demum crassa magnum farragine corpus  
 Crescere iam domitis sinito: namque ante domandum  
 Ingentes tollent animos prœnsique negabunt  
 Verbera lenta pati et duris parere lupatis.

(b) Vos ego, pupilli, moneo, quibus amplior est res,  
 Custodite animas et nulli credite mensae,  
 Livida materno fervent adipata veneno.  
 Mordeat ante aliquis, quidquid porrexerit illa,  
 Quae peperit; timidus praegustet pocula papas.  
 Fingimus haec altum satura sumente cothurnum  
 Scilicet, et finem egressi legemque priorum  
 Grande Sophocleo carmen bacchamur hiatu,  
 Montibus ignotum Rutulis caeloque Latino?  
 Nos utinam vani. Sed clamat Pontia "feci,  
 Confiteor, puerisque meis aconita paravi,  
 Quae deprensa patent; facinus tamen ipsa peregi."  
 Tune duos una, saevissima vipera, cena?  
 Tune duos? "septem, si septem forte fuissent."  
 Credamus tragicis, quidquid de Colchide torva  
 Dicitur et Progne; nil contra conor. Et illae  
 Grandia monstra suis audebant temporibus, sed  
 Non propter nummos; minor admiratio summis  
 Debetur monstris. Quotiens facit ira nocentes

Hunc sexum, rabie iecur incendente feruntur  
Praecipites ut saxa iugis abrupta, quibus mons  
Subtrahitur clivoque latus pendente recedit.

(c) Sententiam ueteres, quod animo sensissent, uocauerunt. Id cum est apud oratores frequentissimum, tum etiam in usu cotidiano quasdam reliquias habet: nam et iuraturi ex animi nostri sententia et gratulantes ex sententia dicimus. Non raro tamen et sic locuti sunt, ut sensa sua dicerent: nam sensus corporis uidebantur. Sed consuetudo iam tenuit, ut mente concepta sensus uocaremus, lumina autem praecipueque in clausulis posita sententias, quae minus crebrae apud antiquos nostris temporibus modo carent. Ideoque mihi et de generibus earum et de usu arbitror pauca dicenda. Antiquissimae sunt, quae proprie, quamuis omnibus idem nomen sit, sententiae uocantur, quas Graeci *γνώμαι* appellant: utrumque autem nomen ex eo acceperunt, quod similes sunt consiliis aut decretis. Est autem haec uox uniuersalis, quae etiam citra complexum causae possit esse laudabilis, interim ad rem tantum relata, ut "nihil est tam popolare quam bonitas;" interim ad personam, quale est Afri Domiti; "princeps, qui uult omnia scire, necesse habet multa ignoscere." Hanc quidam partem enthymematis, quidam initium aut clausulam epichirematis esse dixerunt, et est aliquando, non tamen semper. Illud uerius, esse eam aliquando simplicem, ut ea; quae supra dixi, aliquando ratione subiecta: "nam in omni certamine, qui opulentior est, etiamsi accipit iniuriam, tamen, quia plus potest, facere uidetur;" nonnumquam duplicem: "obsequium amicos, ueritas odium parit."

(d) Interim vulgato Agrippinae periculo quasi casu evenisset, ut quisque acceperat, decurrere ad litus. Hi molium obiectus, hi proximas scaphas scandere; alii, quantum corpus sinebat, vadere in mare; quidam manus protendere; questibus, votis, clamore diversa rogitantium aut incerta respondentium omnis ora compleri; adfluere ingens multitudo cum luminibus, atque ubi incolumem esse pernotuit, ut ad gratandum sese expedire, donec aspectu armati et minitantis agminis disiecti sunt. Anicetus villam statione circumdat refractaque ianua obuios servorum abripit, donec ad fores cubiculi veniret; cui pauci adstabant, ceteris terrore inrumpentium exter-

ritis. Cubiculo modicum lumen inerat et ancillarum una, magis ac magis anxia Agrippina, quod nemo a filio ac ne Agerinus quidem: aliam fore laetae rei faciem; nunc solitudinem ac repentinos strepitus extremi mali indicia. Abeunte dehinc ancilla "tu quoque me deseris" prolocuta respicit Anicetum, trierarcho Herculeio et Obarito centurione classiaro comitatum: ac, si ad visendum venisset, refotam nuntiaret, sin facinus patraturus, nihil se de filio credere; non imperatum parricidium. Circumsistunt lectum percussores et prior trierarchus fusti caput eius adfixit.

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### LATIN AUTHORS.

#### HONOURS.

Translate, with brief comments, extracts from Tacitus, Histories I., II., V.; Lucretius, Lucan.

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### LATIN GENERAL PAPER.

#### HONOURS.

1. "The *Odyssey* of Livius was the first, and, *with one notable exception*, almost the last sustained attempt to use the native forms of Italian rhythm towards any large achievement."

Comment on this statement.

2. "There can be no doubt that Plautus and Terence fully represent the strength and weakness of the Latin *palliata*."

Discuss this.

3. "If you take from Virgil his diction and his metre, what do you leave him?"—(Coleridge.)

Discuss this.

4. Discuss Heitland's statement that when we pass from the literature of the Augustan epoch to that of the Neronian we are surrounded by writers whose tone, motives, ideas, and canons of composition differ fundamentally from those current in the company we have just left.

5. Compare the treatment of the Jews in the Western and Eastern divisions of the Empire.
6. Give a brief account of the intellectual culture of Spain and Gaul under the Early Empire.
7. Describe the attempt made in 70 A.D. to set up an *Imperium Galliarum*; and state the measures taken by Vespasian to prevent similar rebellions.
8. "The Roman Government, far from being opposed to Greek influence in the East, acted in steady alliance with it."—(Ramsay.)  
Comment on this statement.

## GREEK— SPECIAL SUBJECT (ÆSCHINES AND DEMOSTHENES).

## HONOURS.

Questions 1 and 2 must be answered by all candidates.

## 1. Translate—

ἐγὼ μὲν μεθ' ὑμῶν λογιούμαι, ἃ δεῖ ὑπάρξαι ἐν τῇ φύσει τῷ δημο-  
τικῷ ἀνδρὶ καὶ σώφρονι, καὶ πάλιν ἀντιθήσω, ποῖόν τινα εἰκός  
ἐστὶν εἶναι τὸν ὀλιγαρχικὸν ἄνθρωπον καὶ φαῦλον· ὑμεῖς δ'  
ἀντιθέντες ἑκάτερα τούτων θωρήσατ' αὐτὸν, μὴ ὁποτέρου τοῦ  
λόγου, ἀλλ' ὁποτέρου τοῦ βίου ἐστίν. οἶμαι τοίνυν ἅπαν-  
τας ἂν ὁμολογήσειν ὑμᾶς τὰδε δεῖν ὑπάρξαι τῷ δημοτικῷ,  
πρῶτον μὲν ἐλεύθερον αὐτὸν εἶναι καὶ πρὸς πατρός  
καὶ πρὸς μητρός, ἵνα μὴ διὰ τὴν περὶ τὸ γένος ἀτυχίαν  
εὐσμενὴς ᾗ τοῖς νόμοις, οἳ σώζουσι τὴν δημοκρατίαν, δεύτε-  
ρον δ' ἀπὸ τῶν προσόνων εὐεργεσίαν τινὰ αὐτῷ πρὸς τὸν δῆμον  
ὑπάρχειν, ἢ τὸ γ' ἀναγκαιότατον μηδεμίαν ἔχθραν, ἵνα μὴ  
βοηθῶν τοῖς τῶν προσόνων ἀτυχήμασι κακῶς ἐπιχειρῇ ποιεῖν  
τὴν πόλιν. τρίτον σώφρονα καὶ μέτριον χρή πεφυκέναι αὐτὸν  
πρὸς τὴν καθ' ἡμέραν εἵσιταν, ὅπως μὴ διὰ τὴν ἡσέλγειαν τῆς  
δαπάνης δωροδοκῇ κατὰ τοῦ δήμου, τέταρτον εὐγνώμονα καὶ  
ἐνυατὸν εἶπεῖν· καλὸν γάρ τὴν μὲν διάνοιαν προαιρεῖσθαι τὰ  
βέλτιστα, τὴν δὲ παιδείαν τὴν τοῦ ῥήτορος καὶ τὸν λόγον  
πεῖθειν τοὺς ἀκούοντας· εἰ δὲ μὴ, τὴν γ' εὐγνωμοσύνην αἰεὶ  
προτακτέον τοῦ λόγου. πέμπτον ἀνδρείον εἶναι τὴν ψυχὴν,  
ἵνα μὴ παρὰ τὰ δεινὰ καὶ τοὺς πολέμους ἐγκαταλείπη τὸν  
δῆμον. τὸν δ' ὀλιγαρχικὸν πάντα δεῖ τάναντία τούτων ἔχειν.



## 2. Translate—

πονηρὸν, ἄνδρες Ἀθηναῖοι, πονηρὸν ὁ συκοφάντης ἀεὶ καὶ πανταχόθεν βάσκανον καὶ φιλαίτιον· τοῦτο δὲ καὶ φύσει κίναδος τάνθρωπίον ἔστιν, οὐδὲν ἐξ ἀρχῆς ὑγιὲς πεποιηκὸς οὐδ' ἑλεύθερον, αὐτοτραγικὸς πίθηκος, ἀρουραῖος Οἰνόμαος, παράσημος ῥήτωρ. τί γὰρ ἢ σὴ δεινότης εἰς ὄνησιν ἔχει τῇ πατρίδι; νῦν ἡμῖν λέγεις περὶ τῶν παρεληλυθότων; ὥσπερ ἂν εἴ τις ἰατρὸς ἀσθενοῦσι μὲν τοῖς κάμνουσιν εἰσὼν μὴ λέγοι μηδὲ δείκνυσι δι' ὧν ἀποφεύξονται τὴν νόσον, ἐπειδὴ δὲ τελευτήσκει τις αὐτῶν καὶ τὰ νομιζόμεν' αὐτῇ φέροιτο, ἀκολουθῶν ἐπὶ τὴν μνήμα διεξίει εἰ τὸ καὶ τὸ ἐποίησεν ἄνθρωπος οὗτοσί, οὐκ ἂν ἀπέθανεν. ἐμβρόντητε, εἴτα νῦν λέγεις;

## 3. Translate and comment on—

(a) στεφανωσάντων τοίνυν ὑμῶν ἔμ' ἐπὶ τούτοις τότε, καὶ γράψαντος Ἀριστονίκου τὰς αὐτὰς συλλαβὰς ὥσπερ οὕτως Ἰκτινῶν νῦν γέγραφεν, καὶ ἀναρρηθέντος ἐν τῇ θεάτρῳ τοῦ στεφάνου,—καὶ δευτέρου κηρύγματος ἤδη μοι τοῦτον γιγνομένου,—οὗτ' ἀντείπεν Αἰσχίνης παρὼν οὔτε τὸν εἰπόντ' ἐγράψατο.

(b) ἀλλ' ὁ μὲν πρῶτος εἰπὼν καὶ μνησθεὶς ὑπὲρ τῆς εἰρήνης Ἀριστόδημος ἦν ὁ ὑποκριτής, ὁ δ' ἐκδεξάμενος καὶ γράψας καὶ ἑαυτὸν μετὰ τοῦτου μισθώσας ἐπὶ ταῦτα Φιλοκράτης ὁ Ἀγνούσιος, ὁ σὸς, Αἰσχίνης, κοινωνὸς, οὐχ ὁ ἐμὸς, οὐδ' ἂν σὺ διαρραγῆς ψευδόμενος, οἱ δὲ συνειπόντες ὅτου δῆποτε ἔνεκα (ἐὼ γὰρ τοῦτό γ' ἐν τῇ παρόντι) Εὐβουλος καὶ Κηφισοφῶν ἐγὼ δ' οὐδὲν οὐδαμοῦ.

## 4. Contrast the general position and resources of Athens and Macedonia during the period succeeding the Peace of Philocrates; distinguish clearly the various regions in which the interests of the two powers were in conflict.

5. τὸν γὰρ ἐν Ἀμφίσση πόλεμον, εἰ ὅν εἰς Ἑλάτειαν ἦλθε Φίλιππος, καὶ εἰ ὅν ἡρέθη τῶν Ἀμφικτυόνων ἡγεμῶν ὡς ἅπαντ' ἀνέτρεψε τὰ τῶν Ἑλλήνων, οὗτός ἐστιν ὁ συγκατασκευάσας καὶ πάντων εἰς ἀνὴρ μεγίστων αἵτιος κακῶν.

Criticise the above statement.

## 6. "Philip is the great individual, who stands in the gap between two stages of human progress, and is himself the link."—(Hogarth.) Discuss this.

7. τὰ μὲν ἄλλα καθάπερ τῇ βουλῇ ἐὰν δέ τις Ἀρύββαν βιάιῃ θανάτῳ ἀποκτείνῃ ἢ τῶν παίδων τινὰ τῶν Ἀρύββου, εἶναι

τὰς αὐτὰς τιμωρίας αἵπερ καὶ ὑπὲρ τῶν ἄλλων εἰσὶν Ἀθηναίων ἐπιμελείσθαι δὲ καὶ τοὺς στρατηγούς οἱ ἂν στρατηγῶσι ὅπως Ἀρύββας καὶ οἱ παῖδες αὐτοῦ κομίσωνται τὴν ἀρχὴν τὴν πατρίαν.

Translate the foregoing extract from an Athenian decree, and explain the reference.

8. τῷ τὴν Ἀμφίπολιν φάσκειν ἀποδώσειν καὶ τὸ θρυλούμενον ποτ' ἀπόρρητον ἐκείνο κατασκευάσαι (Ol. ii., 6).

Explain and discuss the allusion.

9. "Tried by any standard, Chaeroneia ranks as a great battle."  
—(Hogarth.) Discuss.
10. Briefly review Athenian politics during the period 354-346 B.C., giving some account of the leaders of parties, and some estimate of the rival policies.
11. "While he ignored Sparta, and courteously left Athens alone, the founder of the Macedonian supremacy paid Thebes the rude compliment of garrisoning the Cadmeia with Macedonian men-at-arms."—(Hogarth.)  
Discuss the position of Thebes in the politics of this period.
12. Ἀλόννησον ἐδίδου· ὁ δ' ἀπηγόρευε μὴ λαμβάνειν εἰ δίδωσιν ἀλλὰ μὴ ἀποδίδωσι, περὶ συλλαβῶν διαφερόμενος.  
Explain the allusion.
13. "There is this still to be said against the policy of Demosthenes. It virtually amounted to the continuation of the old exploitation of Greece by Persia."—(Holm.) Discuss this statement.

#### GREEK AUTHORS.

Translate into English, extracts from Homer, *Odyssey*, Books V. to XII.

#### ENGLISH I.

#### HONOURS.

1. Translate, with brief explanatory notes, passages from *Beowulf*.
2. Compare (a) the reading of the MS. with (b) the critical text in the following extracts, and note your own view of the passages—

## A. (a)

ð · sceal ·                      ð  
urū ; sweord 7 helm byrne 7 byrdu scrud bā  
gemæne

(b)                      Sceal ūrum þæt sweord and helm  
byrne and byrdu-scrūd              bām gemæne.

## B. (a)

Swa he ne for  
wyrnde worold rædenne þonne him  
hun lafing hilde leoman billa selest  
on bearm dyde þæs wæron mid eotenū  
ecge cuðe.

(b)              Swā hē ne forwyrnde              worold-rædenne  
þonne him Hūnlāfing              hilde-leóman,  
billa selest,              on bearm dyde:  
þæs wæron mid Eotenum              ecge cuðe.

3. (a) Discuss the extent and significance of the mythical element in the Beowulf poem.

(b) Comment on—Wælses eafera ; [Heorot] heaðo-wylma bād, | lāðan līges ; ūs wæs ā syððan | Merewioinga milts ungyfeðe.

4.              Cwædon þæt he wære              woruld-cyning  
                 mannum mildust              and monþwærust  
                 leóðum liðost              and lof-geornost.

Estimate Beowulf as "the Teutonic Ideal."

5. Translate (at sight)—

Ealle þa hwile þe þæt lic bið inne, þær sceal beon gedrync  
and plega oð ðone dæg þe hi hine forbærnað. þonne þy  
ylcan dæge þe hi hine to þæm áde beran wyllað, þonne  
todælað hi his feoh, þæt þær to lafe bið æfter þæm  
gedrynce ond þæm plegan, on fif oððe syx, hwylum on  
ma, swa swa þæs feos andefn bið. Alecgað hit ðonne,  
forhwega on anre mile þone mæstan dæl fram þæm tune,  
þonne oðerne, ðonne þone þridðan, oþþe hyt eall aled bið  
on þære anre mile; ond sceall beon se læsta dæl nyhst  
þæm tune ðe se deada man on lið. ðonne sceolon beon  
gesamnode ealle ða menn ðe swyftoste hors habbað on  
þæm lande forhwega on fif milum oððe on syx milum  
fram þæm feo. þonne ærnað hy ealle toweard þæm feo;  
ðonne cymeð se man se þæt swyftoste hors hafað to þæm

ærestan dæle ond to þæm mæstan, ond swa ælc æfter oðrum, oþ hit bið eall genumen; ond se nimð þone læstan dæl se nyhst þæm tune þæt feoh gæarneð. Ond þonne rideð ælc hys weges mid ðan feo, ond hyt motan habban eall; ond forðy þær beoð þa swiftan hors ungefoge dyre.

6. Render into Old English—

When the warrior had overcome the monster, great was the joy of all the men of that land. They came in troops to look upon the blood-stained hand and arm, the victor's trophy, and to acclaim the might and valour whereby they had been delivered from the terror of that evil thing. In token of joy some raced their tawny steeds over the country-side, while others chanted lays of the heroic deeds of old, and glorified their champion, saying that his fame should live for ever and ever.

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ENGLISH II.

HONOURS.

1. Translate, with notes on the poetical form, passages from Maclean's Old and Middle English Reader.
2. Translate and explain, passages from the Old and Middle English Reader.
3. Rewrite in Early West Saxon, adding notes on archaic and dialectal peculiarities—
  - (a) Fore there neidfaerae naenig ni uurthit thonsnottura, than him tharf sie to ymbhycgannae aer his hiniongæ, huaet his gastæ godaes ælthra yflaes aafter deothdaege doemid uneorthae.
  - (b) þay are lyke till a fowle, þat es callede strucyo or storke, þat has wenges, and it may noghte flye for charge of body: swa þay hafe vndirstandyge and fastes and wakes and semes haly to mens syghte, bot thay may noghte flye to lufe and contemplacyone of god.
4. Translate, with literary-historical comment, passages from the Old and Middle English Reader.

5. Upon the lines of your own reading, compare and contrast the Old and the Middle English literature in regard both to spirit and to form.
6. Translate (at sight)—

Hwílum of þam werode wlance þegnas  
 mæton mīlpapas meara bōgum.  
 Him þær sigecyning wiþ þone segn foran  
 manna þengel mearcpreatê rād ;  
 gūþweard gumena grimhelm gespeon  
 cining cinberge (cumbol lixton)  
 wīges on wēnum, wæhlencan sceôc,  
 hēht his hereciste healdan georne  
 fæst fyrdgetrum. Feónd onsēgon  
 lâþum eágum landmanna cyme.

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### FRENCH AND GERMAN.

#### HONOURS.

The same papers as those set in the Second Year Examination.

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### SOLID GEOMETRY.

#### HONOURS.

1. Prove that the equation  $Ax + By + Cz + D = 0$  represents a plane, and determine the length of the perpendicular on it from a given point.  
 If P is a given point and M, N are the feet of perpendiculars from P on the planes,  $ax$ ,  $xy$  and OP makes angles  $\theta$ ,  $\alpha$ ,  $\beta$ ,  $\gamma$  with the plane OMN and the coordinate planes respectively, prove that  

$$\operatorname{cosec}^2 \theta = \operatorname{cosec}^2 \alpha + \operatorname{cosec}^2 \beta + \operatorname{cosec}^2 \gamma.$$
2. Find the angle between two given straight lines in terms of their direction cosines.  
 The two straight lines  $x + y + z = 0$ ,  $lyz + mzx + nxy = 0$  will be at right angles if  $l + m + n = 0$ .
3. Find the shortest distance between two straight lines whose equations are given.

Determine the surface generated by a straight line which makes a given angle with, and is at a given distance from, a given straight line.

4. Discuss briefly the nature of the surfaces represented by the equation  $ax^2 + by^2 + cz^2 + d = 0$ , illustrating by means of rough diagrams.

Prove that the equation

$$x^2 + y^2 + z^2 - 3xy - 3yz - 3zx = 1$$

represents a hyperboloid of revolution whose principal axis is  $x=y=z$ .

5. Find the area and axes of a central plane section of an ellipsoid.

An ellipsoid and a hyperboloid are concentric and confocal; prove that a tangent plane to the asymptotic cone of the hyperboloid will cut the ellipsoid in a section of constant area.

6. Prove that there are two systems of generating lines in a hyperboloid of one sheet, which are such that every line of the one system cuts every line of the other system, but does not cut any line of its own system.

Two generators of  $\frac{x^2}{a^2} + \frac{y^2}{b^2} - \frac{z^2}{c^2} = 1$ , drawn through 0 meet the

principal elliptic section in points P, P' at the ends of conjugate diameters: prove that  $OP^2 + OP'^2 = a^2 + b^2 + 2c^2$ .

7. Shew that the envelope of a system of surfaces whose equation involves two parameters is a surface which, as a rule, touches each surface at only one point.

Find the envelope of

$$\frac{x}{\sin \theta \cos \phi} + \frac{y}{\sin \theta \sin \phi} + \frac{z}{\cos \theta} = 1,$$

where  $\theta, \phi$  are parameters.

8. Find the equations of the tangent, and of the osculating plane at any point in a given curve.

A curve is defined by the equations

$$x = a(3t - t^3), y = 3at^2, z = a(3t + t^3).$$

Prove that the tangent makes a constant angle with the axis of  $z$ , and find the radius of absolute curvature.

9. Establish the theorems of Euler and Meunier, viz.—

$$\frac{1}{\rho} = \frac{\cos^2 \theta}{\rho_1} + \frac{\sin^2 \theta}{\rho_2}, \quad \rho' = \rho \cos \theta.$$

In the case of a paraboloid of revolution, the principal radii of curvature are connected by the equation  $\rho_2^3 = 4a^2 \rho_1$  where  $4a$  is the latus rectum of the generating parabola.

### ANALYTICAL STATICS AND DYNAMICS.

#### HONOURS.

1. Find the resultant of any number of forces which act on a body in one plane, and deduce the conditions of equilibrium.  
A heavy uniform rod rests with one end against a smooth vertical wall, and the other on a rough horizontal plane, the coefficient of friction being  $\tan \epsilon$ . Find the limiting positions of equilibrium.

2. Explain how the principle of virtual work may be used to find the positions of equilibrium of a system of rigid bodies, and prove that if a system of bodies be under the influence of no forces but their weights, together with such mutual reactions as do not appear in the equation of virtual work, and if it be supported by forces which do not appear in the equation of virtual work, the possible positions of equilibrium may be found by making the height of the centre of gravity of the system above any fixed horizontal plane a maximum, a minimum, or stationary.

Distinguish the cases of stable and unstable equilibrium.

3. Prove that if a light string rest on a rough curve in a state bordering upon motion the ratio of the tensions at any two points is equal to  $e$  to the power of  $\mu$  times the angle between the tangents at these points.

A circle of weight  $W$  has its plane vertical and is pressed against a perfectly rough vertical wall by a string fixed to a point in the wall below the circle and passing through a hole in the wall above it. The other end of this string hangs vertically and supports a weight  $W'$ , and the coefficient of friction between the string and the circle is  $\mu$ .

Obtain the relation between the values of  $W$ ,  $W'$  and the inclinations of the two parts of the string to the vertical in the limiting position of equilibrium.

4. Establish expressions for the velocity and acceleration of a point along and perpendicular to the radius vector to the point, the motion being in a plane curve.

A plane is moving about an axis perpendicular to it and a particle is moving in a given curve traced on the plane; in any position  $\omega$  is the angular velocity of the plane,  $v$  the velocity of the particle relative to the plane,  $r$  its distance from the axis,  $p$  the distance of the tangent from the axis, and  $s$  the arc described along the plane. Prove that the acceleration along the tangent is

$$v\left(\frac{dv}{ds} + p\frac{d\omega}{ds}\right) - \omega^2 r \frac{dr}{ds}.$$

5. A particle starts from rest at a distance  $a$  from a centre of attractive force whose acceleration at a distance  $x$  is  $\mu x$ . Integrate completely the equation of motion, and find the time taken to reach the centre of force.

If the particle be fastened to a weightless string of modulus  $\lambda$ , the other end of which is fastened to the particle's initial position, show that in the subsequent motion the velocity of the particle vanishes when it reaches the centre of force provided that

$$(a-l)^2\lambda = m\mu a^2l,$$

where  $m$  is the mass of the particle, and  $l$ , the natural length of the string is less than  $a$ .

6. If a particle of mass  $m$  move under an attractive force  $mP$  to a fixed centre,  $P$  being a function of  $r$ , show that the differential equation of the orbit is

$$\frac{d^2u}{d\theta^2} + u = \frac{P}{h^2u^2}$$

and interpret the constant  $h$ .

Integrate the equation when  $P = \frac{\mu}{r^2}$ , and establish the initial condition necessary for elliptic motion in this case.

7. A particle moves under gravity on a smooth curve in a vertical plane. Obtain the equations of motion.



A particle oscillates in a complete cycloid from cusp to cusp, the vertex A being downwards and the tangent there horizontal. If the time taken to pass from A to any point P is  $t$ , prove that

$$\phi = \sqrt{\frac{g}{4a}} t,$$

$\phi$  being the slope of the tangent at P.

8. Obtain the equation of motion of a sphere rolling down a perfectly rough inclined plane inclined to the horizontal at an angle  $\alpha$ .

If the plane is not perfectly rough, and the coefficient of friction  $\mu$  is less than  $\frac{2}{3} \tan \alpha$ , show that pure rolling will not take place; and from the integration of the equation of motion show that the gain in the kinetic energy is not in this case equal to the work done by gravity. How do you explain this?

9. Prove the general principle of the conservation of linear momentum.

A circular disc of thickness  $\delta$  and radius  $a$ , and volume density  $\rho$ , has two other discs of the same material but of half the thickness and radius fastened down to it, one on either side so that the three have a common tangent plane. This body is then placed upon a smooth horizontal plane, erect in a vertical plane, with the additional weight uppermost, and is slightly disturbed in this plane. Find the angular velocity when the system has turned through a right angle.

10. Prove that for a rigid body in two dimensions the kinetic energy is

$$\frac{1}{2}mv^2 + \frac{1}{2}Mk^2\omega^2$$

where  $v$  is the velocity of the centre of gravity, and  $\omega$  is the angular velocity of a marked line in the body.

Write down the energy equation in the case in which a sphere rolls on a perfectly rough fixed sphere, the motion starting from rest with the free sphere at the highest point of the fixed sphere.

SPHERICAL TRIGONOMETRY AND ASTRONOMY.

HONOURS.

1. Find a formula expressing the cosine of an angle of a spherical triangle in terms of the sides.

A spherical triangle ABC is equal and similar to its polar triangle, prove that

$$\sec^2 A + \sec^2 B + \sec^2 C + 2 \sec A \sec B \sec C = 1.$$

2. Write down Delambre's analogies, and prove any one of them.

Shew that in any spherical triangle.

$$1 + \cos a + \cos b + \cos c = 4 \cos \frac{a}{2} \cos \frac{b}{2} \cos \frac{c}{2} \sin S.$$

3. If R be the angular radius of the small circle circumscribing a triangle, prove that

$$\tan R = \frac{1}{2n} \left[ \sin(s-a) + \sin(s-b) + \sin(s-c) - \sin s \right]$$

ABC is an equilateral spherical triangle, O is the pole of its circumcircle, and Q is any point on the sphere; prove that

$$\cos QA + \cos QB + \cos QC = 3 \cos R \cdot \cos OQ.$$

4. If O be the pole of the small circle circumscribing a spherical triangle ABC, prove that

$$2 \sin \frac{b}{2} \sin \frac{c}{2} \cos \frac{BOC}{2} = \sin^2 \frac{b}{2} + \sin^2 \frac{c}{2} - \sin^2 \frac{a}{2}.$$

5. Prove that

$$\tan \frac{E}{4} = \sqrt{\left( \tan \frac{s}{2} \tan \frac{s-a}{2} \tan \frac{s-b}{2} \tan \frac{s-c}{2} \right)}.$$

Given the sum of the sides of a spherical triangle, shew that its area is greatest when it is equilateral.

6. If  $m$  is the number of sides of each face of a regular polyhedron, and  $n$  the number of plane angles forming each solid angle, express the inclination of two adjacent faces, and the ratio of the radii of the inscribed and circumscribed spheres, in terms of  $m$  and  $n$ .

A regular tetrahedron and a cube are circumscribed about the same cube; compare the radii of the spheres which can be circumscribed about them.

7. Explain how the rotation of the earth about its axis, and its revolution round the sun, give rise to the phenomena of night and day, and the seasons.

What direct evidence is there of the rotation of the earth?

8. Shew how to determine the obliquity of the ecliptic ( $\omega$ ) by observations of the meridian zenith distances of the sun at two solstices, describing clearly how the difficulty that at the instant the sun is at the solstice it may be below the horizon is got over.
9. Describe how the position of the ecliptic, relative to the observer's sky, varies from time to time. Draw a rough map to shew the appearance of the earth, marking the parallels of latitude, meridians, equator, ecliptic, as it would appear to an observer on the sun at 6 p.m. Greenwich mean time, 24th May.
10. How long, in latitude  $l$ , does a star of declination  $d$  take to pass from due east to setting? If  $l=45^\circ$ , shew that this time is the same for all non-circumpolar stars.
11. What is meant by the "Parallax of the Sun," "Parallax of Sirius"? Taking the earth's radius as 4000 miles, the sun's parallax as  $9''$ , and Sirius' parallax as  $0.15''$ , find the distance of Sirius approximately.
12. Prove the formulæ connecting the latitude and longitude, and the right ascension and declination of a fixed star.

$$\text{Prove that } l - \alpha = \tan^2 \frac{\omega}{2} \sin 2l - \frac{1}{2} \tan^4 \frac{\omega}{2} \sin 4l + \dots$$

where  $l$  and  $\alpha$  are the sun's longitude and right ascension at any instant, and  $\omega$  is the obliquity of the ecliptic.

## INTEGRAL CALCULUS AND ELEMENTARY DIFFERENTIAL EQUATIONS.

### HONOURS.

1. Establish the proposition connecting the Definite and the Indefinite Integral.
- Prove, from the definition of the Definite Integral as the limit of a sum, that

$$\int_0^{\frac{\pi}{2m}} \cos mx \, dx = \frac{1}{m}.$$

2. Show how to integrate expressions of the type

$$\frac{Ax^2 + 2Bx + C}{\sqrt{(ax^2 + 2bx + c)}}.$$

Prove that

$$\int \frac{(x^3 + 1)}{(x + 1)\sqrt{(x^2 - 3x + 2)}} dx = \frac{11\sqrt{2} + 15 \log(1 + \sqrt{2})}{4}$$

3. Assuming that

$$\int \frac{1}{(x^3 - 1)^2} dx = \frac{ax^2 + bx + c}{x^3 - 1} + \int \frac{dx^2 + ex + f}{x^3 - 1}, \text{ or otherwise,}$$

prove that

$$\int \frac{1}{(x^3 - 1)^2} dx = -\frac{x}{3(x^3 - 1)} + \frac{2\sqrt{3}}{9} \tan^{-1}\left(\frac{2x + 1}{\sqrt{3}}\right) + \frac{1}{9} \log\left(\frac{x^2 + x + 1}{(x - 1)^2}\right).$$

4. Prove, without differentiation, that

$$\int \frac{dx}{(1 + x)\sqrt{(x^2 - x - 2)}} = \frac{2}{3} \sqrt{\frac{(x - 2)}{(x + 1)}}$$

5. Prove that

$$(i.) \int_0^\infty x^n e^{-x} dx = n!, \quad (n \text{ being a positive integer}),$$

$$(ii.) \int_0^a \frac{x^n}{\sqrt{(ax - x^2)}} dx = \frac{\pi(2n!)}{2^{2n}(n!)^2} \quad (n \text{ being a positive integer}).$$

6. Find the equation in suitable polar coordinates of the curve described by a point which travels along a straight line with constant velocity, while the line rotates with constant angular velocity about a fixed point in it.

Find the length of the arc, and the area swept out by the radius vector in the first complete revolution of the moving line.

7. A family of curves is such that the perpendicular from the origin on the tangent at any point is equal to  $m$  times the length of the normal between that point and the axis of  $x$ . Prove that their differential equation is

$$y - px = my(1 + p^2).$$

Solve this equation in the cases  $m = 1$  and  $2m = 1$ , and if there is a singular solution obtain it: also interpret your results.

8. In the case of the Linear Differential Equation with constant coefficients, discuss the formation of the Complementary Function when the auxiliary equation has repeated roots.

Integrate the equations

(i.)  $L \frac{dx}{dt} + Rx = E \cos(pt - a).$

(ii.)  $\frac{d^4y}{dx^4} - 2\frac{d^3y}{dx^3} + 3\frac{d^2y}{dx^2} - 4\frac{dy}{dx} + 2y = x(e^x + e^{-x}).$

(iii.)  $x^2 \frac{d^2y}{dx^2} - 2y = x + \log x.$

9. Integrate the equation

$$(1+x^2) \frac{d^2y}{dx^2} + 2x \frac{dy}{dx} = 6x^2 + 2,$$

and shew that the curve of the family represented by this equation, which touches the axis of  $x$  at  $x = -1$ , is

$$y = x^2 + 4 \tan^{-1}x + \pi - 1.$$

10. Describe the method of finding the solution of a linear differential equation as a convergent series.

Illustrate the method by means of the equation

$$(1-x^2) \frac{d^2y}{dx^2} - x \frac{dy}{dx} + u^2y = 0.$$

11. Discuss the different classes of solutions of a partial differential equation with two independent variables.

Solve the equation

$$2y(1-2xp) = q.$$

*Students of the Second Year will omit questions (10) and (11) and add the following—*

1. (ii.) Prove from the definition of the Definite Integral as the limit of a sum that

$$\int_a^b x^2 dx = \frac{1}{3}(b^3 - a^3).$$

3. (i.) Discuss the theory of Partial Fractions when there are no repeated factors, and obtain your results in a form suitable for the case of imaginary factors. Hence integrate  $\frac{1}{x^3-1}.$

4. (ii.) Prove that

$$\int \frac{dx}{(1+x^2) \sqrt{(1-x^2)}} = \frac{1}{\sqrt{2}} \tan^{-1} \frac{x\sqrt{2}}{\sqrt{(1-x^2)}},$$

## LOGIC AND MENTAL PHILOSOPHY II.

## HONOURS.

*You are requested to attempt not more than FIVE questions.*

1. Different values are assigned to different virtues in different times and places.

Explain this fact, and illustrate by reference to the dominant moral characteristics in a community which is in the main (a) military, (b) industrial, or (c) scientific.

2. Discuss the meaning of the phrase "duties to ourselves." How would it be interpreted by different schools of ethics?
3. What limits would you assign to patriotism as a moral virtue? On what grounds (from the point of view of a scientific theory of ethics) would you justify those limits?
4. Examine the theory that the notion of duty is evolved from the operation of sanctions.
5. Analyse the notion of Justice, and consider its relation to the other virtues.
6. Discuss the logic of Green's argument for the existence of a universal self-consciousness
7. How far can moral theory help in the solution of particular difficulties?
8. State the nature of the distinction made by Spencer between Absolute and Relative Ethics, and consider its relation to his general theory.
9. To what extent is it possible to reconcile Evolutionary and Idealistic Ethics?

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HISTORY II.

## HONOURS.

*You are recommended to answer SEVEN questions, and no more.*

1. What were the most important social and economic grievances at the time of the French Revolution? Describe shortly how these grievances were dealt with.
2. Sketch the career of Robespierre, and discuss his character.
3. Sketch the relations of France with Foreign Governments from the beginning of the Revolution to the outbreak of war with England.

4. Was the success of Napoleon I. due mainly to extraordinary personal ability, or to the character of the times in which he lived?
  5. Describe very shortly the European situation at the time of (a) the Treaty of Amiens, (b) the Treaty of Tilsit.
  6. To what extent has the growth of union in Germany been due (a) to racial instincts, and (b) to the statesmanship of its rulers?
  7. Examine the policy of Metternich in Germany.
  8. Discuss the character and the statesmanship of Napoleon III.
  9. "The Russians shall not have Constantinople."  
Show the importance of this idea in the British foreign policy of the nineteenth century.
  10. Describe the condition of the Austrian Empire at the present time.
  11. What was the distinctive teaching of Mazzini?
  12. Describe the constitution of the modern German Empire.
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# \* FACULTY OF LAW.

## INTERMEDIATE EXAMINATION FOR THE DEGREE OF LL.B

### ROMAN LAW.

*Candidates are not to attempt more than SEVEN questions, but these should include Nos.  
I., IX. and X.*

I. Translate, and comment BRIEFLY on, each of the following passages from your text:—

- (1) *Si cui nullus omnino tutor fuerat, ei dabatur in urbe quidem Roma a praetore urbano et maiore parte tribunorum plebis tutor ex lege Atilia, in provinciis vero a praesidibus provinciarum ex lege Julia et Titia (I, 20, pr.).*
- (2) *Igitur liberi vestri utriusque sexus, quos in potestate habetis, olim quidem, quidquid ad eos pervenerat (exceptis videlicet castrensibus pecuniis), hoc parentibus suis acquirebant sine ulla distinctione (II, 9, 1).*
- (3) *Etenim in singulis heredibus ratio legis Falcidia ponenda est (II, 22, 1).*
- (4) *Item is cui res aliqua utenda datur, id est commodatur, re obligatur et tenetur commodati actione. Sed is ab eo qui mutuum accepit, longe distat (III, 14, 2).*
- (5) *Qua ratione creditum est poenalem esse huius legis actionem, quia non solum tanti quisque obligatur, quantum damni dederit, sed aliquando longe pluris (IV, 3, 9).*

II. Give a brief sketch of the proceedings, in an ordinary action, under the formulary system, down to the close of the proceedings in iudicio.

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\* The time allowed for each paper is three hours, except where otherwise stated



Draw the formula in the following case:—Aulus, who has contracted with Numerius to sell him a slave for ten aurei, sues him for the purchase money. Numerius pleads fraud on the part of Aulus.

III. State the principal sources of Roman law during the first two centuries of the Empire, showing how and to what extent the sources of the law under the Republic were affected by the rise of the imperial power.

IV. Give a concise account of the different forms of Dominion recognised by Roman law. Explain and criticise the theory that Possession is equivalent to Equitable or Gentile Ownership.

V. Sketch the history of the institution of Dos. What various forms did it assume, and what rights had the husband over it (1) during the continuance, and (2) on the termination of the marriage?

VI. "In the pure Roman jurisprudence the principle that a man lives on in his heir . . . is too obviously for mistake the centre round which the whole law of Testamentary and Intestate succession is circling." Explain the principle referred to, and show to what extent its legal consequences were modified during the later Roman law.

VII. State and criticise Justinian's fourfold division of Obligations; showing in what respects it may be regarded as (1) unscientific, (2) inexhaustive. What more logical arrangement would you suggest?

VIII. "*Furtum est contructatio rei fraudulosa vel ipsius rei vel etiam usus ejus possessionisve* (IV, 1, 1).

Explain and criticize this definition. Point out the main distinctions between the constituent elements of theft under the Roman law and the English common law.

IX. Discuss the rights and liabilities of the parties in the following cases, stating the remedies available:—

- (1) A gives his clothes to B, a tailor, to mend, the remuneration not being fixed at the time, but left to subsequent agreement. B mends the clothes and returns them to A; who refuses to pay B anything.

- (2) A buys from B, a wine merchant, two jars of wine, which he (A) believed to be Falernian. When they are opened, one jar is found to contain vinegar, and the other Sabine wine.
- (3) A, a lodger in B's house, carelessly leaves a pole hanging out of a window over the footpath. C, a *filiusfamilias* of D, whilst walking past in the dark, has his eye put out by it.
- (4) A, B, and C are the members of a banking partnership. A, without the authority of his co-partners, contracts with D for the building of a house to be used (as he in fact informs D) for partnership purposes. After its completion, and before payment to D, A becomes insolvent.
- (5) A solicits B, the slave of C, to steal C's property and convey it to him. B informs C, who, wishing to detect A in the act, allows the slave to convey the property to A.

X. Write a VERY SHORT explanatory note on each of the following:—

- (1) *agnati*; (2) *confusio*; (3) *in jure cessio*; (4) *sequestratum*;
- (5) *actio quasi-Serviana*; (6) *legatum per vindicationem*; (7)
- substitutio pupillaris*; (8) *spatium deliberandi*; (9) *syngrapha*;
- (10) *formula Rutiliana*; (11) *culpa levis in abstracto*; (12)
- actio de pauperie*.

### CONSTITUTIONAL LAW.

Candidates are not to attempt more than EIGHT questions, but these should include Nos.

IV., V., IX. and XI.

#### SECTION I.

- I. What do you understand by the "Prerogative of the Crown"?  
Indicate briefly the sources of the prerogative.
- Describe, generally, the part played by the prerogative in the domain of colonial government.
- II. Explain the methods by which, under the English Constitution, the Armed Forces of the Crown are kept subject to Parliamentary control. How far will the courts interfere with the action of military tribunals or afford redress for the abuse of military authority?
- III. Trace briefly the origin and development of the equitable jurisdiction of the Court of Chancery. How would you classify the subjects of equitable jurisdiction?

IV. Write a short note on each of the following points discussed in your text-book :—

- (1) The nature of the conventions of the Constitution and their sanction; (2) The different meanings of the term “ministerial responsibility”; (3) How far English law recognises a right of public meeting; and (4) The relation between Parliamentary sovereignty and the Rule of Law.

#### SECTION II.

V. What provision is made by the Commonwealth of Australia Constitution Act with respect to—(1) The qualification of Senators and Members of the House of Representatives; (2) The method of overcoming disagreements between the two Houses; (3) The method of distributing the surplus revenue of the Commonwealth after the imposition of uniform duties; and (4) The assumption by the Commonwealth of the public debts of the States.

VI. Describe briefly the constitution of the High Court of Australia, and the different kinds of jurisdiction with which it is invested.

VII. Write a short note on each of the following points :—(1) The principal grounds upon which a person is liable to be treated as a “prohibited immigrant”; (2) The method of computing time and distance under the laws of the Commonwealth; (3) The procedure to be adopted for procuring the extradition of offenders as between the States of the Commonwealth; and (4) The case of the Attorney-General of N.S.W. *v.* the Collector of Customs the State of N.S.W. (3 S.R. 115).

#### SECTION III.

VIII. Give a brief account of the disputes which arose in connection with the western boundary of N.S.W., pointing out how the territory in question was dealt with, and how the western boundary came to assume its present limits.

IX. Discuss, briefly, the following points in relation to Parliamentary procedure :—

- (1) The methods of formulating amendments to a motion already before the House, together with the mode in

which such amendments are dealt with; (2) The nature and form of a dilatory motion; (3) The special rules governing the procedure with respect to money bills; and (4) The disciplinary powers possessed by the Legislative Assembly over its own members.

X. Give a brief summary of the rules which at present obtain on the subject of the "reservation," by the Governor, of Bills passed by the State Legislature.

XI. Give a brief account of—(1) The nature of the Vice-Admiralty jurisdiction in New South Wales, and how it is exercised; (2) The method of striking a jury for the trial of civil issues; (3) The limitations attaching to the jurisdiction of the District Courts; and (4) The origin and present functions of the office of Coroner.

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## FINAL EXAMINATION.

## THE LAW OF CONTRACT AND MERCANTILE LAW.

*Candidates are not to attempt more than EIGHT questions, but those should include Nos. VII., IX., and XI.*

- I. Give a brief summary of the more important rules governing the formation of a contract. State also the facts and decision in *Carlill v. The Carbolic Smoke Ball Co.* (1893 1 Q.B. 256), explaining the difficulties incident to this case, and pointing out how they may be reconciled with fundamental legal principles.
- II. "Consideration may be executory or executed; it must not be past." (Anson, p. 107.)  
Explain and illustrate fully both the *distinctions* and the *principle* here referred to, noting any established exceptions to the general rule.
- III. How far, if at all, can a person incur *liabilities* in relation to a contract to which he is not a party? Cite authority for your answer.
- IV. What is a contract in restraint of trade? Within what limits, and subject to what conditions, will such contracts be upheld?
- V. Examine the nature of the authority with which (1) An auctioneer; (2) A factor; (3) A broker; and (4) A commission agent—is deemed to be invested in the ordinary course of his employment.
- VI. What conditions will the law imply upon a sale of goods, as regards the quality and character of the goods sold? What are the remedies of a buyer in the case where a vendor makes default in this respect?
- VII. Discuss the following cases, stating the principles involved:—
  - (1) A requests B to lend C a horse. B does so on A's verbal undertaking that the horse will be returned. The horse is not returned, and B sues A.

- (2) A orders a particular bicycle from B, the price being verbally agreed at £20. A subsequently signs and sends to B a postcard referring to the order, but not mentioning the price. B sends the bicycle to A's house. A unpacks it, and says: "This is not the bicycle I ordered," and thereupon returns it to B. B sues A for the price of the bicycle.
- (3) A duly agrees to purchase a parcel of oats from B. A thinks that B is promising him old oats, and B knows that A thinks so. B supplies new oats, which A refuses to accept. B sues A for the price.
- (4) A draws a B/X on B in favour of C for £100, which B duly accepts. C fraudulently changes 100 into 1000 (the alteration not being apparent on the face of the instrument), and endorses the bill to D, who takes *bonâ fide* and for value. Advise D as to his position.
- (5) A, purporting to act as agent for B, and believing himself to be so authorized, enters into a contract with C. B repudiates the contract. What are C's rights in the matter?

VIII. A and B guarantee the payment of a debt owing by C to D. A is compelled to pay the whole debt. What are A's rights against C, D, and B respectively?

IX. Write a short note on each of the following points in relation to negotiable instruments:—

- (1) The requisites of a valid endorsement of a B/X; (2) The nature and effect of a restrictive endorsement; (3) The measure of damages which the holder of a B/X is entitled to recover in the event of the bill being dishonoured; and (4) The different ways in which the duty and authority of a Bank to pay a cheque duly drawn by a customer in favour of a third party may be determined.

X. (1) What is the effect of (a) the words "lost" or "not lost,"—and (b) "the F.P.A. (free from particular average) clause,"—in a policy of marine insurance?

- (2) (a) In what case can freight *pro ratâ itineris* be claimed?  
(b) What conditions must exist in order to give rise to a general average contribution under a contract of affreightment?

XI. Discuss the following cases, citing authority for your conclusions:—

- (1) A, a warehouseman, receives from B the bills of lading of a consignment of tea to arrive in Sydney. The tea arrives, and is received by A into his warehouse. A pledges the bills of lading with a Bank in return for an advance which he appropriates to his own use. Advise B as to his rights.
- (2) A, a timber merchant, empowers B, a dock owner, to act on delivery orders signed by his clerk, C. C subsequently transfers some timber into a fictitious name in B's books, and in that name sells it to D, who takes *bonâ fide* and for value. On the discovery of the fraud, A sues D for the value of the timber. Advise D as to his position.

## LAW OF TORTS AND CRIMES.

### SECTION I.—TORTS.

*Candidates are not to attempt more than FOUR questions, but these should include Nos. I. and V.*

- I. (1) What are the respective functions of the judge and jury in an action for negligence? (2) In what cases is the general rule that the burden of proof is on him who complains of negligence modified?

Discuss the following case:—

A is the owner of a dock in which B's ship is lying. B contracts with C, a ship painter, to paint the outside of the vessel; the staging being supplied and erected by A. D, a workman employed by C, in the course of his employment uses the staging, and one of the ropes by which the staging was slung being defective, D falls and is injured.

- II. Give a brief summary of the "Compensation to Relatives Act, 1897."
- III. Under what circumstances and within what limits will (1) The doing of "acts of quasi judicial discretion;" (2) The exercise of authority by necessity; (3) The doing of works of necessity; (4) Inevitable accident; and (5) The fact that the plaintiff himself was a wrongdoer;—constitute a defence to an action for tort?
- IV. Write a short explanatory note on each of the following points:—

- 1) The occasions on which defamatory statements will be privileged; (2) What must be proved in order to maintain an action for slander of title; (3) The conditions attaching to the abating of a nuisance; (4) The distinction between false imprisonment and malicious prosecution; and (5) The capacity of a corporation for suing or being sued in cases of tort.

V. Discuss the following cases, stating the principle involved:—

- (1) A is the owner of a steam traction engine, which he uses in his business as a common carrier. Owing to a violent wind, the sparks escaping from the funnel set fire to a cottage belonging to B, adjoining the highway.
- (2) A sells to B a gun, which, while it is being used by C, a friend of B, explodes and injures C.
- (3) A enters into an agreement of apprenticeship with B. C and D, averring this to be contrary to a prior agreement between themselves and B, procure B, by threatening to discontinue work, to break his contract with A.
- (4) A telegraphs an order to B. By mistake of the telegraph C<sup>o</sup>. the message is delivered to C. C, reasonably supposing that the message was intended for him, acts upon it and incurs a loss.
- (5) A corporation acting under statutory powers, employs B, a contractor, to construct a sewer. Owing to B's negligence a gas main adjoining the sewer is broken, and, the gas escaping, causes an explosion, by which C's house is injured. C sues the corporation.

#### SECTION II.—CRIMES.

*Candidates are not to attempt more than FIVE questions, but these should include Nos. I., IV., and VI.*

- I. What facts must be proved in order to support a conviction upon a charge of—(1) Burglary; (2) Embezzlement; (3) Perjury?
- II. What provision is made by the Crimes Act, 1900, with respect to:—
  - (1) The compensation of persons sustaining injury or loss through or by reason of a crime; (2) The trial of accessories; (3) The treatment of juvenile offenders; and (4) The jurisdiction of Courts of Quarter Sessions?



III. (1) Under what circumstances is the absence of a husband or wife a defence to a prosecution of the other party to the marriage on a charge of bigamy?

(2) Under what circumstances is a jury justified, upon an indictment for murder, in finding a verdict of manslaughter?

A, who had been drinking heavily, turned his wife out of the house, and threatened to "brain her with a poker," if she attempted to re-enter. Thinking that she was about to re-enter, A ran hurriedly into a bedroom to get a poker. In his hurry he overturned a cradle, and so caused the death of a baby sleeping in it. Discuss.

IV. Discuss the following cases, stating the principles involved:—

(1) A, at a football match, gets up a sweep of 30 members at 1s. a member, the drawer of the name of the player first scoring a try to receive 25s. After the sweep is drawn, and when the game is just beginning, A goes off with the money.

(2) A sends a clerk to B's house with some jewellery on approval. C, a visitor in B's house, on learning the clerk's business, says that he is B, obtains the jewellery, and sells it.

(3) A sends B, a tradesman, a signed blank cheque to fill up for the amount of A's debt to him. The amount of A's debt was 30s., but B fills up the cheque for £50, and keeps the proceeds.

(4) A is handed by his employer, B, a cheque for £20, marked not negotiable, to post to C. A buys a horse from D with the cheque. D afterwards suspects that A stole the cheque. He then goes to E's shop and offers to buy a bicycle for £20, tendering the cheque in payment. E's salesman, X, asks D to write his name and address on the back of the cheque. D writes a fictitious name and address. X takes the cheque to E in an adjoining room, where B also happens to be, and explains to E and B what has taken place between D and himself. B says that the transaction is a swindle, but suggests that E shall keep the cheque, hand over the bicycle to D, and have him forthwith arrested. E does as B suggests.

V. What are the rules regulating the power of (1) a constable, and (2) other persons to make arrests without a warrant?

VI. Under what circumstances are the following admissible on the hearing of a criminal charge :—

- (1) The evidence of a child of tender years;
- (2) A deposition by a person dangerously ill at the time of taking such deposition; and
- (3) A confession by an accused person?

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### THE LAW OF PROPERTY.

*Candidates are not to attempt more than EIGHT questions, but these should include Nos. I., III., IV. and VIII.*

- I. What provision is made by—(1) The Conveyancing and Law of Property Act, 1898, with respect to (a) the effect of acknowledged deeds, (b) the operation of executory or contingent uses, and (c) the due execution of powers of appointment; (2) The Wills, Probate and Administration Act, 1898, with respect to (a) the vesting of the real estate of a deceased intestate, and (b) the exoneration executors from liability on continuing covenants; and (3) the Infants Custody and Settlements Act, 1899, with respect to dispositions of property by infants?
- II. (1) How far, and by what means, can a gift of property be confined to the period of a donee's personal enjoyment?  
(2) What is the position of a tenant in fee in land in N.S.W., in default of express provision contained in the original grant, with respect to (a) the right to minerals, and (b) the liability to the exercise of mining rights on the parts of others?
- III. Discuss the effect of the following limitations or transactions, stating the principles involved :—
  - (1) Gift of land by deed—"To A to the use of B and his heirs."
  - (2) Gift of land by deed—"To trustees and their heirs, to the use of such trustees and their heirs during the life of A, a married woman, upon trust for her separate use, and after her death to the use of her husband for life, with remainder to the use of the heirs of A."
  - (3) A lets land held under a common law title to B for 5 years. During the currency of the lease A purports to

sell and convey the land to C for an estate in fee in possession. C registers his conveyance before B registers his lease.

- (4) Gift of money—"To trustees, on trust for A, a bachelor, for life, and after A's death on trust for A's eldest son on his attaining the age of 21 years. A dies, leaving a son whose age is only 19.

IV. Discuss each of the following points in relation to land registered under the Real Property Act:—(1) The procedure by which land can be made available in satisfaction of a judgment debt; (2) The operation of a devise of land; (3) The effect on the rights and liabilities of the parties of an assignment of an equity of redemption by a mortgagor to a third party; and (4) The remedy of a proprietor whose application to register has been refused by the Registrar-General.

V. What conditions are requisite in order to establish a possessory title to land? What is the position of a rightful owner (1) when the land has been abandoned by an intruder, but no actual entry made by the owner; and (2) where the land has been occupied by succession of intruders not in privity with each other? Cite authority for your answer.

VI. Explain the nature and modern applications of the rule against a double possibility. Explain and illustrate also, the distinction between this rule and the rule against perpetuities.

VII. Under what circumstances (if at all), and by virtue of what enactments, can relief against the forfeiture of a leasehold interest be obtained where the forfeiture takes place under a proviso for re-entry (1) for breach of covenant to pay rent; (2) for breach of covenant to insure; (3) for breach of covenant to repair; and (4) for breach of covenant not to assign?

VIII. Discuss the following cases:—

- (1) A duly agrees to sell a parcel of freehold land to B under an open contract. A is only able to make a title to a part of the land sold. Advise B as to his rights against A.
- (2) A, after entering into a binding contract for the purchase of land from B, dies, leaving a will by which he appoints

his sons C and D his executors, and by which he also devises and bequeaths all his real estate to C and all his personal estate to D. Advise B, C, and D as to their rights in the matter.

- (3) A, a woman, marries B in 1890; the marriage settlement containing a covenant to settle any after acquired property of A, on the usual trusts. In 1894 A becomes entitled to a sum of £1000 under the will of her mother. Advise the parties as to their position.
- (4) A, a bachelor, dies intestate, leaving real and personal property in this State of the net value of £1000. He leaves him surviving a paternal uncle, a maternal aunt, and a nephew and niece, the children of a deceased brother, but no other relatives. How will A's estate be distributed?

IX. Explain the nature and origin of the principle of "hotch-pot"; mentioning its more important applications.

X. Consider the following cases:—

- (1) A paints a picture, which he subsequently sells to B, who again sells the same to C. In neither case is there any express stipulation as to the copyright.
- (2) A allows B, at the latter's request, to take a photograph of him. A subsequently claims to prevent B from selling copies of the photograph.
- (3) A, a resident in Germany, publishes an original engraving. B, without authority from A, reproduces this in New South Wales.

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### EQUITY AND COMPANY LAW.

*Candidates are not to attempt more than SIX questions, but these should include II., III., IV., V., VII., VIII. and IX.*

I. Explain, and illustrate by reference to decided cases, the application of the following maxims:—

- (1) Where there are equal equities the first in time prevails; and (2) Equity acts *in personam*.

II. Land is conveyed to A in fee; the purchase money having, however, been supplied by B, who was the real purchaser. A sells and conveys the land to C, C having at the time no knowledge of any transaction between A and B.

Subsequently C, having become cognisant of this transaction, devises the land in question to D and dies. After C's death D sells and conveys the land back to A.

Discuss B's rights against A, C and D during the successive periods in which the land stood in their names.

III. In what order are the assets of a deceased person applied for the payment of his debts by a Court of Equity? How does the Court adjust the rights of the beneficiaries *inter se* where such assets or part of them have been applied out of their proper order?

IV. What conditions are necessary in order to enable a plaintiff to obtain specific performance of a contract? Can a suit for specific performance be maintained in any, and which of the following cases:—

- (1) An agreement to transfer stock in a company; (2) An agreement to advance money on mortgage security; (3) An agreement to build an house; and (4) An agreement by a trader to sell his goodwill and premises.

V. (1) Distinguish between an implied and constructive trust. (2) How far is a trustee liable for the default of his co-trustee?

A and B are the co-trustees of a will. In the course of administration they sell a portion of the trust funds, the proceeds of which are received by B and are appropriated by him, but without the knowledge or consent of A, to his own use. Proceedings are taken by the beneficiaries to compel A and B to replace the trust funds. Advise A as to his position.

VI. (1) How far can the estate of a retired partner be made liable for the debts of the firm? (2) Under what circumstances may a person who has ceased to be a member of a company be made liable as a contributory in the winding-up?

VII. What provision is made by the Equity Act, 1900, with respect to (1) Service of process outside the limits of the State; (2) The power of the Court to award damages; (3) The power of the Court to make a declaratory decree; and (4) The power of the Court to decide legal titles or rights.

- VIII. (1) A, by his will, devised certain lands to his wife for life, with remainder to his children in equal shares, as tenants in common. A died in 1880, leaving a widow and four children, B, C, D, and E, of whom B and E were daughters. B had married F in 1878; whilst in 1895 E married G, and in 1900 died intestate, no administration of her estate having been taken out. In 1903 A's widow died. C and D are desirous of selling the land. Advise them as to the proceedings which should be taken in order to obtain a sale, stating the necessary parties to such proceedings, and what orders will be necessary in order to give a purchaser a legal title to the lands.
- (2) A, the sole trustee of an estate consisting partly of lands and partly of money at current account in the Bank, cannot be found. B, C, and D are beneficiaries, C and D being infants. B desires that a new trustee should be appointed in lieu of A. Advise B as to what course he should adopt, and what evidence he must adduce in support of his application.
- IX. State in relation to Joint Stock Companies—(1) The difference between a special and an extraordinary resolution; (2) Under what circumstances a Company can be wound up by an extraordinary resolution; (3) How far the proceedings taken by a creditor of a Company to enforce his claims will be affected by a winding up; and (4) The power of a Company to alter its memorandum of association.
- X. Write a *short* explanatory note on each of the following:—  
(1) Equitable waste; (2) The doctrine of satisfaction; (3) Constructive notice; (4) Equitable lien; (5) Floating security; and (6) The rule of *Dearle v. Hall*.

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THE LAW OF PROCEDURE.

- I. (1) A has a cause of action, for breach of a contract made at Sydney, against B, a British subject, resident in New Zealand. B has assets in New Zealand and Victoria, but not in New South Wales.
- (2) A has a cause of action against C for a libel published in Sydney. C is resident in Victoria, but all his assets are in Queensland.

- Advise A generally, in (1) and (2) above, as to the courses open to him, and explain how far a judgment obtained in each of the ways suggested by you could be enforced.
- II. What proceedings may be taken by a defendant (1) where after joinder of issue the plaintiff neglects to bring an action on to be tried according to the practice of the Court, and (2) where the plaintiff dies, and the person entitled to proceed with the action in the room of the plaintiff has not gone on with the action?
- III. (1) Where A obtains judgment against B for £50, and C owes B £50, what proceedings can A take to compel C to pay him the money C owes to B?
- (2) Under what circumstances can a person be arrested on a writ of *capias ad satisfaciendum* issuing out of the Supreme Court?
- IV. What is the procedure on appeals from verdicts and decisions at *Nisi Prius*? How far may the Court, in granting a new trial, impose conditions or limitations? Under what circumstances may a defendant, against whom a verdict has been returned by a jury, move the Court to enter a non-suit or verdict in his favour?
- V. State, shortly, the procedure by which a claim against the Government of New South Wales may be enforced.
- VI (1) In what cases is (a) a successful plaintiff, and (b) a successful defendant in an action in the Supreme Court entitled to costs?
- (2) In what cases will a plaintiff in such an action be ordered to find security for costs?
- A brings an action of ejectment against B and is non-suited. A, without paying the costs of such non-suit, brings another action of ejectment against B in respect of the same land. What steps may B take?
- VII. What are the limits of the jurisdiction of the District Court (1) over the person, and (2) over the subject-matter? How far in each case may such jurisdiction be affected by the consent or conduct of the defendant?
- VIII. (1) What special procedure is provided by the District Courts Act for the recovery of liquidated demands?
- (2) What are the special defences to actions in the District Court? In what cases must such defences be verified?

- IX. To what Courts, under what circumstances, and in what ways may a person summarily convicted by Justices appeal against their decision (1) on a question of fact, (2) on a question of law, and (3) on a question of jurisdiction?
- X. An order for payment of a sum of money is made by Justices—
- (1) What provision is made by the Justices Act for enforcing payment?
  - (2) What order may be made by the Justices as to the time and manner of payment of the sum awarded?
- XI. (1) What are the rules determining the Small Debts Court in which (1) an action for debt, and (2) an action for damage should be brought?
- (2) In what cases may an infant sue in a Small Debts Court without a next friend?
- XII. (1) How far may an accused person be tried upon the same indictment for several distinct offences?
- (2) What are the rules regulating the right of challenge and the right of ordering jurors to stand by in a criminal trial?
  - (3) When may an accused person make an unsworn statement? Is such statement subject to cross-examination and contradiction?

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#### PLEADING AND EVIDENCE.

- I. Discuss shortly the exceptions to the rule that the parties must at each stage demur or plead by way of traverse or confession and avoidance.
- How far is a plea of payment into Court allowed with other pleas in an action (1) in the Supreme Court, and (2) in the District Court?
- II. Distinguish between a plea of set-off and a plea of cross-action. Are these pleas grounds of defence only, or may the defendant obtain judgment for any excess over the plaintiff's claim?
- A sues B to recover damages for breach of an agreement by which it was agreed that A should let to B, and B should



take from A a certain farm upon certain terms, amongst others that B would cultivate the farm in a certain way, and the breach alleged is that B failed to cultivate it in the way agreed. B applies for leave to plead by way of cross-action, that he was induced to enter into the agreement by certain false and fraudulent representations made to him by A in regard to the farm, whereby he suffered damage exceeding the amount of A's claim, and which he is willing to set off against A's claim. Should this plea be allowed to be pleaded or not?

III. What is the effect of—

- (1) A plea of not guilty in an action of negligence;
- (2) A plea of *non assumpsit* and not guilty, respectively, in an action where the declaration may be treated as being framed either for a breach of a contract or for a wrong;
- (3) A plea of not guilty by statute?

When is this last plea available, and what is the consequence of not stating in the margin of the plea the statute relied on?

IV. What is the usual form of a demurrer, and what is its nature and effect?

V. A sues B on a promissory note dated the 20th November, 1903, in which B promised to pay A £50 three months after date at 1001 George Street, Sydney.

Draw the declaration.

The instructions for pleas state (1) that the note was not presented for payment at 1001 George Street, Sydney; and (2) that at the time when B signed the note it was verbally arranged that B should be entitled to have a renewal of the note at maturity for a further period of three months. Advise as to the validity of the suggested defences, and draw pleas in accordance with your advice.

VI. In what cases is it necessary to have (1) more than one witness, and (2) corroboration, in order to prove a fact or establish a charge?

A sues B for breach of promise of marriage. B pleads *non assumpsit*. A gives B notice to produce a letter written by her to B, in which she stated that he had promised to marry her. At the trial A attempts to put in evidence a copy of this letter, and also to prove that B had given her his signet ring, which she produces. Discuss this.

VII. What are the rights, if any, of the opposite party in the following cases :—

- (1) A shows his own witness (*a*) a note-book for the purpose of refreshing his memory; (*b*) a letter for the purpose of getting him to identify the signature;
- (2) A shows a witness of the opposite party a letter written by him and cross-examines him upon it?

VIII. Advise on evidence in a case in which it is necessary to establish the following :—(1) A provision in a New Zealand statute; (2) A provision in a Queensland statute; (3) A decree of the Equity Court; and (4) The contents of a lost deed, which has been registered in the office of the Registrar General.

IX. Advise as to the admissibility of the evidence tendered in each of the following cases :—

- (1) A mistress, suspecting A, her maid-servant, of concealment of birth, says to her, "If you will tell me all about it, I shall do what I can to help you." A thereupon confesses her guilt, and is subsequently tried for the offence.
- (2) A is charged with having ravished B. Shortly after the alleged offence, B made a complaint to C. Before A's trial, B dies. C is called to prove (1) the fact that such complaint was made, and (2) the terms of the complaint.
- (3) In a suit in equity, the question is whether certain land, which A had conveyed to C, had been bought by A as a trustee for B. B seeks to prove a statement by A (deceased) after the conveyance by him to C, that he had received the purchase money from B.
- (4) A and B kill C. A afterwards tells his wife D in the presence of B the details of the crime. A and B are tried for the murder of C, and D is called to give evidence for the prosecution.

X. What are the general rules regulating the examination of witnesses—(1) in examination in chief, (2) in cross-examination, and (3) in re-examination? When may leading questions be asked of one's own witness? In what cases can evidence be called to contradict the answers given by a witness for the plaintiff on his cross-examination by counsel for the defendant?

# BANKRUPTCY, PROBATE AND DIVORCE.

## SECTION I.—BANKRUPTCY.

- I. What provision is made by the Bankruptcy Act, 1898, with respect to—(1) The compulsory sequestration of a debtor's estate; (2) The effect of a certificate of discharge; (3) The effect of the sequestration of the estate of an undischarged bankrupt; and (4) The sequestration of the estates of deceased persons and of married women.
- II. Under what circumstances is the property of a person other than the bankrupt, which is in the bankrupt's possession, order and disposition, made available for distribution amongst the bankrupt's creditors, and how is this liability affected by the Bills of Sale Act, 1898, and the Liens on Crops and Wool and Stock Mortgages Act, 1898?
- III. Discuss the following case—

A debtor having been pressed for payment of a debt of £60 due by him, wrote to his creditor the following letter :—  
“I am in receipt of your letter asking for payment of your account. I cannot pay you at present. If you summons me you will gain nothing, and will not realise 60 pence. If you let the matter stand over you will get your £60. You have no idea how hard it is for me to get money in.” The creditor thereupon presented a petition for the sequestration of the debtor's estate, alleging that the letter was notice by the debtor that he had suspended or was about to suspend payment of his debts.
- IV. What is the rule in bankruptcy with respect to (1) Proof by a wife against the estate of her husband; and (2) Proof against the joint and separate estates of partners, mentioning in the latter case exceptions to the general rule?

## SECTION II.—PROBATE.

- I. State shortly the provisions of the Wills Probate and Administration Act, 1898, or the Administration Validating Act, 1900, with respect to :—(1) The position in the will of the testator's signature; (2) The interest of a husband in his wife's intestate estate; (3) The authorisation of the carrying on of the business of a deceased person; and (4) The sale of the estate of a deceased person.

- II. What procedure should be followed for the purpose of procuring (1) Probate of a will, in a case where it is impossible to obtain the evidence of either of the attesting witnesses as to the due execution of the will; (2) Administration by a creditor of an intestate estate; and (3) Revocation of probate of a will.
- III. Discuss the following case—A, a testator, executed a will in 1900, revoking all former wills. In 1901 he destroyed this will, with an intention, which he expressed, of substituting for it a previous will, which he had made in 1899. On his death, probate of a copy of the will of 1900 is applied for.

## SECTION III.—DIVORCE.

- I. Upon what grounds and subject to what conditions may a wife present a petition for dissolution of marriage? Who are necessary parties to such petition, and what affidavit must be filed with the petition?
- II. What power has the Court (1) With respect to ante-nuptial and post-nuptial settlements after a final decree of nullity or dissolution of marriage; and (2) With respect to property of a wife where divorce is decreed on the ground of her adultery?
- III. What is meant by (1) Constructive Desertion; and (2) Condonation?
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# FACULTY OF SCIENCE.

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## SECOND YEAR EXAMINATION.

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### PHYSICS I.

#### HONOURS AND SCHOLARSHIP.

1. Give an account of the experimental work which has been done in the compression of liquids.
  2. Give a critical account of some of the methods which have been used to determine the value of the constant of gravitation.
  3. Explain how the ratio of the specific heats of gases is connected with the complexity of the molecule.
  4. Give a critical account of the present position of accurate thermometry.
  5. Give a full account of the determination of some electrical quantity in absolute measure.
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### PHYSICS II.

#### HONOURS AND SCHOLARSHIP.

1. A disc of a dielectric of uniform thickness is placed in the lower plate of an absolute electrometer. With a constant potential between the plates of the electrometer the pull in the upper plate is observed before and after the introduction of the slab of material. Find an expression for the specific inductive capacity of the material.
2. Find the energy which is dissipated when iron is subjected to a cyclic magnetic force.
3. Show that the magnetic force within a long solenoid is uniform, and find an expression for its amount.
4. Give a short account of thermo-electric phenomena.
5. Explain how a voltaic cell may be considered from a thermodynamical point of view, and discuss the question.

## DEPARTMENT OF ENGINEERING.

## FIRST YEAR EXAMINATION.

## APPLIED MECHANICS.

## HONOURS.

1. Determine fully the magnitude and distribution of bending moments and shear in a beam of 20 feet span—
  - (a) With 10 tons at the centre.
  - (b) With 10 tons uniformly distributed.
  - (c) With 1 ton per foot extending from one end to the centre.Calculate also the maximum intensity of horizontal shearing stress along the neutral axis.

2. Make an outline sketch of a Pratt truss of five panels, and show how to find the stresses in the various members when each bottom panel point is loaded with a dead load of 5 tons, and a live load of 15 tons.

Which of the panels need counterbracing, and why? Show how you would determine the maximum stresses in the counterbraces.

3. Make an outline sketch of a crescent-shaped roof truss of 100 feet span, and draw a reciprocal diagram for the stresses due to a horizontal wind pressure of 50 pounds per square foot, acting on the right side. The truss is fixed on the right and free to expand on the left. Check the stresses on any two diagonal members of the web-bracing by moments.
4. Describe the processes known as the *inversion of mechanisms*, and the modification of mechanisms by the *expansion of the elements*, and by the *reduction of the number of links*. Each case is to be illustrated by at least three examples, accompanied by neat and accurate sketches.
5. Make diagram sketches of the accompanying mechanisms, and find all the virtual centres.

Briefly discuss the characteristics of each mechanism.

## SECOND YEAR EXAMINATION.

## APPLIED MECHANICS IV.

## HONOURS.

1. Write an essay on modern developments in connection with pumping machinery for water supply and sewerage purposes, illustrating your remarks by some well-known examples.

Sketch an ordinary centrifugal pump, and show how to design the vanes, whirlpool chamber, suction and delivery pipes.

Describe also the reversed turbine, or turbine pump, and compare it with the ordinary centrifugal pump.

2. Write an essay on the transmission of power by means of compressed air, giving particulars of air compressor, motors, and pipes. State also the actual efficiency you would expect in the system.
3. Write an essay on *The Working Substance in Heat Engines*.

In addition to discussing the general question you should refer in the course of your remarks to the various forms of direct-acting heat engines, binary-vapour engines, and reversed heat engines or refrigerators.

## HISTORY OF ARCHITECTURE.

*Only six questions to be attempted.*

1. Describe the evidences of connection between Egyptian, Assyrian and Greek Architecture.
2. Sketch and describe a typical Greek temple.
3. Sketch and describe the Colosseum (Flavian Amphitheatre) at Rome.
4. How did the barrel vault and the dome, as developed by the Romans, affect succeeding styles of architecture?
5. Sketch the plan and section of a typical 13th century French cathedral, and describe the principal features.

6. Sketch and describe the features of a typical building of the early French Renaissance.
  7. Sketch and describe the typical features of a building of the early English Renaissance.
  8. Sketch and describe the typical features of a building of 18th century English Renaissance.
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## BUILDING CONSTRUCTION.

*Only SIX questions to be attempted.*

1. Sketch and describe the different modes of forming the foundations of a brick wall 1 ft. 6 in. thick on soft clay soil.
2. Sketch and describe—
  - (a) The different kinds of arches used in brickwork.
  - (b) Two methods of bonding a 14-inch wall.
3. Define in stonework—  
Through bond, Bed and joint, Dowel, Cramp, Joggle.
4. Sketch and describe a timber floor to cover a space 40 ft. by 20 ft., bearing on walls without supports between, to carry an ordinary dwelling-house load.
5. Sketch and describe—
  - (a) External doors and frame, 4 ft. 6 in. wide by 7 ft. 6 in. high, with semi-circular fanlight over.
  - (b) Dog-legged staircase to fit space 15 ft. by 6 ft., and to rise 11 ft.
6. Specify the method of covering roofs by—
  - (a) Galvanised corrugated iron,
  - (b) Tiles,
  - (c) Slates,

With the necessary plumbing work to each.
7. What are the essential points in laying drains and fixing sanitary waste pipes in dwellings?
8. Compare the merits and uses of lime and cement mortar for plasterer's work, and describe mixing and use.



## THIRD YEAR EXAMINATION.

## MECHANICAL ENGINEERING I.

## HONOURS.

1. Investigate the conditions of balance amongst the reciprocating parts of a four-crank engine—

(a) Neglecting the obliquity of the connecting rod.

(b) Considering the obliquity of the connecting rod.

Assume all the necessary data.

2. Describe Parsons' Steam Turbine and compare its advantages with a modern reciprocating engine driving alternators of about 1500 K.W. capacity. Give the steam consumptions which you would expect at  $\frac{1}{2}$ ,  $\frac{3}{4}$ , full load, and  $1\frac{1}{4}$  over load.

3. Write an Essay on the influence of mechanical efficiency on the economy of working engines with a variable load, and discuss the effect of back pressure in compound and triple expansion engines. Find an expression, by Prof. Cotterill's method or otherwise, for the weight of steam used per I.H.P. for any fraction of full load, assuming all necessary data, and compare the results obtained with Willans' Equations for similar engines.

4. Under what circumstances would you use reciprocating or centrifugal pumps? What efficiencies would you expect to obtain, and what precautions would be necessary to secure good results in economy of power and durability of mechanism. Explain the principle and give an example of the use of centrifugal pumps working against a head exceeding 200 feet.

5. Discuss fully, with illustrative sketches, the construction of the following machines—

(a) A modern steam driven alternator of 1500 K.W. capacity for electric tramway service.

(b) An induction motor for variable speed.

6. Write an Essay on the utilization of water-power by electric transmission to long distances, and give examples of two well-known plants.

## MECHANICAL ENGINEERING II.

## HONOURS.

1. Describe briefly the method of investigating the results of an engine test commonly known as *Hirn's Analysis*, and give full particulars, with diagrams, of any graphical method (using entropy and temperature as co-ordinates) which you would substitute for it. Point out clearly the limitations of such methods, and how far they inform us as to what actually takes place within the cylinder of a steam engine.
  2. Discuss briefly some of the problems arising in connection with the modern steam boiler, dealing in particular with the question of the merits and defects of the Water-Tube Boiler.
  3. Write a short essay on any subject connected with Thermodynamics or its applications to which you may have given special attention during the year.
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## \* MATRICULATION EXAMINATION.

### LATIN.

#### PASS.

1. Translate into English, extracts from Cicero pro Sestio.
2. Translate and comment on—
  - (a) Consule me cum esset designatus tribunus plebis [Cato], dixit eam sententiam cujus invidiam capitis periculo sibi praestandam videbat.
  - (b) Mihi autem hoc propositum est ostendere omnia consilia P. Sesti mentemque totius tribunatus hanc fuisse, ut adflictae et perditae rei publicae quantum posset mederetur.
  - (c) Nam quid ego de aedile ipso loquar, qui etiam diem dixit et accusarit de vi Milonem?

#### 3. Translate—

Dum haec in Italia geruntur, nihilo segnius in Hispania bellum erat, sed ad eam diem magis prosperum Romanis. P. et Cn. Scipionibus inter se partitis copias, ut Gnaeus terra, Publius navibus rem gereret, Hasdrubal Poenorum imperator, neutri parti virium satis fidens, procul ab hoste intervallo ac locis tutus tenebat se, quoad quattuor millia peditum et mille equites in supplementum missi ex Africa sunt. Tum castra propius hostem movit, classemque instrui pararique jubet ad insulas maritimamque oram tutandam. Subinde ab Carthagine adlatum est ut Hasdrubal primo quoque tempore in Italiam exercitum duceret; quae vulgata res per Hispaniam omnium ferme animos ad Romanos avertit.

#### 4. Translate into Latin—

- (a) Do not believe those who deny that Cicero truly loved his country.
- (b) If Sestius had been killed at that time, very many would have pitied him.

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\* The time allowed for each paper is three hours, except where otherwise stated.

- (c) Did you not fear lest it should be found out that you had not acted honestly?
- (d) The messengers of the senate found Cincinnatus, as before, in the field. He was astonished at the authority which was given him, and still more, when he saw the whole senate leaving the city to meet him. His love of simplicity and humble honesty still remained to him, and when called upon to select his master of horse, he fixed his choice upon a poor neighbour named Tarquitiuſ. On entering the city, he gave orders that all who were able to bear arms should assemble before sunset in the Campus Martius, with arms and provisions.

## GREEK.

## PASS.

1. Translate into English, extracts from Demosthenes, Olynthiacs I., II., III.

2. Translate and comment on—

(a) ὥχεται εἰς Θράκην· εἰτ' ἐκεῖ τοὺς μὲν ἐκβαλὼν τοὺς δὲ καταστήσας τῶν βασιλείων ἡσθένησεν· πάλιν ῥάσας οὐκ ἐπὶ τὸ ῥαθυμεῖν ἀπέκλινεν, ἀλλ' εὐθὺς Ὀλυνθίοις ἐπεχείρησεν. τὰς δ' ἐπ' Ἰλλυριοῦς καὶ Παίονας αὐτοῦ καὶ πρὸς Ἀρύββαν καὶ ὅποι τις ἂν εἴποι παραλείπω στρατείας.

(b) πρότερον μὲν γὰρ κατὰ συμμορίας εἰσεφέρετε, νυνὶ δὲ πολιτεύεσθε κατὰ συμμορίας. ῥήτωρ ἡγεμῶν ἐκατέρων καὶ στρατηγὸς ὑπὸ τούτῳ καὶ οἱ βοηθόμενοι τριακόσιοι.

(c) πρὶν δὲ ταῦτα πράττειν, μὴ σκοπεῖτε τίς εἰπὼν τὰ βέλτισθ' ὑπὲρ ὑμῶν ὑφ' ὑμῶν ἀπολέσθαι βουλήσεται.

3. Translate—

Ἐπειδὴ γὰρ αἱ νῆες αἱ ὑμέτεραι διεφθάρησαν καὶ τὰ πράγματα ἐν τῇ πόλει ἀσθενέστερα ἐγγεγένητο, οὐ πολλῷ χρόνῳ ὕστερον αἱ τε νῆες αἱ Λακεδαιμονίων ἐπὶ τὸν Πειραιᾶ ἀφικνοῦνται, καὶ ἅμα λόγοι πρὸς Λακεδαιμονίους περὶ τῆς εἰρήνης ἐγίγνοντο. ἐν δὲ τῷ χρόνῳ τούτῳ οἱ βουλόμενοι νεώτερα πράγματα ἐν τῇ πόλει γίγνεσθαι ἐπεβούλευον, νομίζοντες κάλλιστον καιρὸν εἰληφέναι καὶ μάλιστα ἂν ἐν τῷ τότε χρόνῳ τὰ πράγματα, ὥς αὐτοὶ ἡβούλουντο, καταστήσασθαι. ἡγοῦντο δὲ οὐδὲν ἄλλο σφίσιν ἐμποδὼν εἶναι ἢ τοὺς τοῦ δήμου προεστηκότας καὶ τοὺς στρατηγοῦντας καὶ ταξιαρχοῦντας.

## 4. Translate into Greek—

- (a) We happened to be present while the orator was speaking.
- (b) If they had not guarded the gates, the city would have been taken.
- (c) They accused us falsely, that they might obtain our money.
- (d) Thus the Athenian fleet won a victory, and the Lacedaemonians were so disheartened that they no longer tried to besiege Mytilene. But in the battle a great number of the Athenians had perished, and when the Lacedaemonians sailed away many were still seen clinging to the wrecks. The generals, therefore, determining themselves to pursue the enemy, left certain ships behind, and gave orders that these men should be saved.

## FRENCH.

## PASS.

[The answers are to be given up in two separate bundles, which are to be marked clearly A and B. Answers given up in the wrong bundle will receive no marks. Each sheet must be clearly marked with the letter A or B.]

## A.

1. Translate, extracts from *Coppée*, Contes choisis.
2. (a) Write down in full the Future Indicative, the Imperfect Subjunctive, and the Imperative of the underlined verbs in the above passages, viz., *a crevé*, *suivit*, *prendre*, *sortait*, *avait bu*, *s'arrêta*, *montrant*.
- (b) Write down the first two sentences of 1 (b) [Il suivit sa courageuse résolution, il y fut fidèle, et, trois mois après, c'était un autre homme. Le maître pour lequel il travaillait le citait comme son meilleur compagnon], changing throughout when possible from the masculine to the feminine and from the singular to the plural.
- (c) Form adverbs from the adjectives *franc*, *vrai*, *éloquent*, *gentil*, *avengle*, *naïf*.

## B.

## 3. Translate into French—

- (a) i. Five hundred soldiers and eighty soldiers were killed.

- ii. I do not know who has arrived.
- iii. Give me your book and his.
- iv. He was saved by the youngest of his sons.
- v. France is separated from Italy by the Alps.

(b) When the first Prince of Conde was imprisoned through the intrigues of the Duke of Guise, his consort gaining admission into his prison, dressed him in her clothes, and thus enabled him to escape while she remained in his stead. The prince on his release fled for refuge to the fortress of Montargis, belonging to the Duchess of Ferrara, daughter of Louis XII., who had greatly interested herself in his behalf. The Duke of Guise, unable to discover his retreat, released the Princess of Condé, not doubting but that she would hasten to the prince, and thus afford his emissaries the opportunity of discovering him.

4. Translate at sight—

Pendant l'hiver de 1783 à 1784, il tomba une si grande quantité de neige, que toutes les récréations extérieures furent interrompues. Buonaparte, forcé malgré lui de passer les heures qu'il donnait ordinairement à la culture de son jardin, au milieu des amusements bruyants et inaccoutumés de ses camarades, proposa de faire une sortie, et, à l'aide de pelles et de pioches, de tailler dans la neige les fortifications d'une ville, qui serait ensuite attaquée par les uns et défendue par les autres : la proposition était trop sympathique pour être refusée. L'auteur du projet fut naturellement choisi pour commander un des deux partis. La ville, assiégée par lui, fut prise après une héroïque résistance de la part de ses adversaires. Le lendemain la neige fondit ; mais cette récréation nouvelle laissa une trace profonde dans la mémoire des écoliers. Devenus hommes, ils se souvinrent de ce jeu d'enfant, et ils se rappelèrent les remparts de neige que battit en brèche Buonaparte, en voyant les murailles de tant de villes tomber devant Napoléon.

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GERMAN,

PASS.

1. Translate into English, extracts from Grillparzer, Sappho.

2. (a) Write down the principal parts of the underlined verbs in the above passages, viz., durchschiffet, spresset, frage, zieht, trägt, hilft.
  - (b) Give the gender, genitive singular, and nominative plural of Hut, Dichs, That, Voet, Wort, Professor.
  - (c) Express in German—*Two thirds, eleven twentieths, secondly, five-fold, eight times, two and a half, mostly.*

3. Translate into German—

- (a) i. How dare you do such a thing?
  - ii. He was writing a letter when I called.
  - iii. He will leave for Germany this day week.
  - iv. The summer has been very mild, but now the weather is becoming colder.
  - v. He is said to have been ill.
- (b) A boy having sold a cow, at the fair at Hereford, in the year 1766, he was way laid by a highwayman, who at a convenient place demanded the money; on this the boy took to his heels and ran away; but being overtaken by the highwayman, who dismounted, he pulled the money out of his pocket and strewed it about, and while the highwayman was picking it up, the boy jumped upon the horse and rode home. Upon searching the saddle bags, there were found twelve pounds in cash, and two loaded pistols.

4. Translate at sight—

Wenige Monde trug Friedrich II. die Krone, da starb Kaiser Karl VI. Jetzt trieb den jungen König Alles, ein großes Spiel zu wagen. Daß er solchen Entschluß faßte, war trotz der augenblicklichen Schwäche Oesterreichs doch an sich Zeichen eines festen Muths. Die Länder, welche er regierte, zählten etwa ein Siebentheil der Menschenmasse, welche in dem weiten Gebiet der Maria Theresia lebte. Es ist wahr, sein Heer war vorläufig dem österreichischen an Zahl und Kriegstüchtigkeit weit überlegen, und nach der Vorstellung der Zeit war die Masse des Volkes nicht in der Weise zur Ergänzung des Heeres geeignet, wie jetzt. Und wenig ahnte er die Größe Maria Theresia's. Aber schon in den Vorbereitungen zum Einmarsch bewies der König, daß er lange darauf gehofft, sich mit Oesterreich zu messen, in gehobener Stimmung begann er einen Kampf, der für sein Leben und das seines

Staates entscheidend werden sollte. Wenig kümmerte ihn im Grunde das Recht, welches er auf schlesische Herzogthümer etwa noch hatte und durch seine Federn vor Europa zu erweisen suchte. Die Politik der despotischen Staaten des siebenzehnten und achtzehnten Jahrhunderts sorgte darum überhaupt nicht.

## ARITHMETIC.

## PASS.

TWO HOURS AND A-HALF.

1. Divide the product of 82713 and 32612 by 7777777, and write down the remainder in words.
2. Find the G.C.M. of 116039, 122067 and 137137.
3. Which is the larger, the sum of  $117\frac{3}{11}$  and  $50\frac{7}{8}$  or the difference between  $273\frac{6}{8}$  and  $105\frac{6}{11}$ , and by how much?
4. ABCD is a four-sided field, of which the sides AB, DC are parallel, and the side AD perpendicular to them both.  $AB=5\cdot2015$  chains,  $CD=9\cdot37$  chains,  $DA=7\cdot00$  chains. Express the area in acres, etc.
5. Express each of the following fractions as a decimal, and arrange them in descending order of magnitude—

$$\frac{1}{4+\frac{1}{5+\frac{1}{6}}}, \quad \frac{1}{4+\frac{1}{6+\frac{1}{2}}}, \quad \frac{1}{4+\frac{1}{4+\frac{1}{2}}}.$$

6. A merchant discounts with his banker a bill for £275 11s., due 71 days hence (the days of grace being included). If the rate of discount is  $6\frac{1}{2}$  per cent. per annum, how much does the merchant receive?
7. One number is eleven times another; their product is 11547·36. Find the larger number.
8. A rectangular packing case without a lid is 4 ft. by 3 ft. 3 in. by 1 ft. 9 in. deep, external measurements; it is made of wood  $\frac{3}{4}$  in. thick. What is the weight of the case, if 1 cubic foot of the wood weighs 30 lbs.?
9. How many bushels will this case contain, if a bushel contains 2218 cubic inches?



10. Two watches are set right at noon 1st January, 1904. One gains 20 seconds a day; the other loses 10 seconds a day. How much do the watches differ at true noon 17th March, and what time does the losing watch indicate when the gaining watch indicates noon 17th March?
11. A cyclist has 13 miles to travel, and allows two hours for the trip. After cycling for 1 mile at the rate of 8 miles an hour, he walks 2 miles over bad roads up hill at the rate of 3 miles an hour. He rests for 5 minutes, and then finishes his journey, arriving 5 minutes earlier than he had anticipated before starting. At what average speed did he travel over the last part of his journey?

## ALGEBRA.

## PASS.

## TWO HOURS AND A-HALF.

1. If  $x = a - \frac{1}{a}$  and  $y = b - \frac{1}{b}$ , prove that

$$xy + \sqrt{\{(x^2 + 4)(y^2 + 4)\}} = 2 \left( ab + \frac{1}{ab} \right)$$

2. Divide  $x^8 + 2x^6 + 3x^4 + 14x^2 + 25$  by  $x^4 - 2x^3 + 3x^2 - 4x + 5$
3. Find the H.C.F. and L.C.M. of  
 $6y^3 - 17axy^2 + 4a^2x^2y + 12a^3x^3$ ,  
 $3ay^4 + 5a^2xy^3 - 16a^3x^2y^2 - 12a^4x^3y$ , and  
 $4xy^3 - 8ax^2y^2 - 9a^2x^3y + 18a^3x^4$ .

4. Simplify

$$(i.) \frac{1}{x-3 + \frac{1}{1 + \frac{x}{x-5}}}$$

$$(ii.) \frac{1}{(a-b)(a-c)(x+a)} - \frac{1}{(a-b)(b-c)(x+b)} + \frac{1}{(a-c)(b-c)(x+c)}$$

5. Resolve into simple factors

(i.)  $20x^2 + 13xy - 21y^2$ .

(ii.)  $(a-b)^2 - (b-c)^2 + (c-a)^2$ .

(iii.)  $x^4 - 3x^2 + 9$ .

6. Solve the equations

(i.)  $\frac{5x+3a}{x-a} + \frac{2x-3a}{2x-2a} = 9$ .

(ii.)  $\frac{1}{3a} + \frac{1}{3a+x} - \frac{2}{3a+2x} = 0$ .

(iii.)  $(x+5)(y+7) = (x+1)(y-9) + 112$  }  
 $2x+10=3y+1$  }

7. Find two consecutive numbers such that the sum of the half and the seventh part of the one exceeds by unity the sum of the third and fifth parts of the other.
8. A match vendor finds that he has to pay one penny per dozen boxes more than he formerly did, but his customers will not pay more than they used to, viz., one penny for two boxes. His profit on every seven shillings laid out in the purchase of matches has consequently been reduced by two shillings and eight pence. Find the price he now pays for matches.

## GEOMETRY.

### PASS.

TWO HOURS AND A-HALF.

1. Prove that the sum of the angles of a triangle is two right angles, and find the sum of the interior angles of a figure with eight sides
2. The opposite sides and angles of a parallelogram are equal.
3. If one angle of a parallelogram is a right angle, prove that all its angles are right angles. Prove also that if two adjacent sides of a parallelogram are equal, the diagonals are perpendicular.
4. Triangles on equal bases and between the same parallels are equal.  
 E is any point on the diagonal AC of a parallelogram ABCD. Prove that the triangles ABE and ADE are equal.

5. In any triangle the square on the side opposite to an acute angle is equal to the sum of the squares on the sides containing that angle minus twice the rectangle contained by one of these sides and the projection upon it of the other.
6. Given an arc of a circle, complete the circle.
7. Prove that the opposite angles of any quadrilateral inscribed in a circle are supplementary. Also state and prove the converse of this proposition.
8. ABCD is a parallelogram and E is any point in the side BC. The circle ABE cuts AD in F. Prove that the line joining the middle points of EC and FD is perpendicular to BC.
9. If a straight line touches a circle and from the point of contact a chord is drawn, the angles which this chord makes with the tangent are equal to the angles in the alternate segments.

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*[The two Honour papers which follow were set in November, 1903, in addition to those set conjointly for the Senior Public Examination and Matriculation Honours Examination.]*

## FRENCH II.

### HONOURS.

#### 1. Translate—

Men might live with very foolish furniture around them, with very ill-arranged dictionaries and worse grammars, with very ridiculous equipages, with absurdly ill-built houses, noisy and smoky, mostly of one pattern, and that a bad one; nay, even in an ill-ventilated town, where every form of disease is rising up and curling about them, which fortunately they do not see: in the midst of all this men might live happily, if all were well in their social relations and social intercourse; if they had found out the art of living in these important respects. But, as it is, how poor a thing is social intercourse. How often in society a man goes out from interested or vain motives, at most unreasonable hours, in very uncomfortable clothes, to sit or stand in a constrained position, inhaling tainted air, suffering from great heat, and his sole occupation or amusement being to talk—only to talk. I do not mean to

say that there are not delightful meetings in society, which all you were present at them remember afterwards, where the party has been well chosen, the host and hostess genial, where wit has been kind as well as playful, where ostentation has gone away to some more gilded rooms, and where a certain feeling of regard and confidence has spread throughout the company, so that each man has spoken out from his heart. But the main current of society is very dreary and dull, and not the less so for its restlessness.

2. Translate (at sight)—

LE SIEGE DE PARIS.

(a) La viande de bœuf était passée à l'état de mythe. De même celle du mouton. On ne mangeait plus que du cheval. Qu'étaient devenues les répugnances des premiers mois ? On ne songeait plus même à plaisanter sur cette nourriture, tant elle avait passé dans l'usage commun. Je ne crois pas qu'elle ait eu jamais droit de cité sur les cartes d'aucun restaurant ; mais c'est qu'en France la routine dans les formes survit longtemps encore après qu'une révolution s'est accomplie dans les faits. Un restaurateur qui eût affiché du cheval eût fait frémir ses clients ; tous savaient que son bœuf, qu'il fût bouilli ou rôti, avait porté la selle et ne l'en mangeaient pas moins de bon appétit. Par quel prodige même ces industriels arrivaient-ils à nourrir tous les soirs, et d'une façon très suffisante, et à des prix relativement modérés un nombre considérable de consommateurs ? ce sont là des abîmes où se perd la pensée. La vie parisienne a toujours été composée de mystères, dont les initiés seuls pourraient livrer le secret. Mais ils s'en gardent bien ! Un fait que je puis affirmer, parce que tout Paris l'a vu, c'est qu'une douzaine de restaurants, dont je ne veux citer aucun, pour ne pas avoir l'air de faire de la réclame, ont jusqu'à la fin été fournis de toutes les victuailles possibles, sauf, bien entendu, de poisson de mer et de légumes frais, et que, si l'on entraît chez eux à six heures du soir commander un dîner pour dix personnes, on l'avait, et très confortable.

(b) Quand je rêve sur la falaise,  
Ou dans les bois, les soirs d'été,  
Sachant que la vie est mauvaise,  
Je contemple l'éternité.

A travers mon sort mêlé d'ombres,  
 J'aperçois Dieu distinctement,  
 Comme à travers des branches sombres  
 On entrevoit le firmament.

Le firmament! où les faux sages  
 Cherchent comme nous des conseils!  
 Le firmament plein de nuages,  
 Le firmament plein de soleils!

Un souffle épure notre fange.  
 Le monde est à Dieu, je le sens.  
 Toute fleur est une louange,  
 Et tout parfum est un encens.

3. (a) Compare the tenses of the French and of the Latin verb with respect to the gains, losses, and new formations in the former.
- (b) Explain historically any peculiarities that are illustrated in the following pairs of words—*Gars* and *garçon*; *fond* and *fonds*; *tout* (singular) and *tous* (plural); *aise* and *malaise*.
- (c) What was the nature and influence of the *Encyclopédie*, and who were the chief contributors?
- (d) Compare the treatment of a Roman subject in tragedy by Corneille and by Shakespeare.
- (e) Tell briefly what you know of three of the following writers—Montaigne, Descartes, Montesquieu, A. Chénier, Hugo, Sainte-Beuve.

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## GERMAN II.

1. Translate into German—

Supporting manfully the hardships and fatigues of the long journey, Jeanne reached the court early in March, 1429, and on the fourth day after her arrival was admitted to the presence of Charles. By way of testing her, the monarch placed himself among a crowd of nobles, in a dress in no way distinguished from theirs; the young visionary advanced straight towards him, and, bending the knee, addressed him in terms befitting his rank, and with unaffected dignity announced her errand. Charles now took her apart; and in the conversation which followed,

Jeanne is said to have given him satisfactory proof of her commission, by mentioning to him a fact which he believed to be known to none but God and himself. The king no longer doubted; but in order to dispel all suspicion from the public mind, the personal character of Jeanne, both as to religious faith and moral purity, was subjected to strict investigation, and pronounced on all points unimpeachable. Her fame spread rapidly through the country, and she became the object of universal reverence, admiration and confidence, as an inspired messenger from above. It was resolved to despatch her, according to her urgent entreaties, to the relief of Orleans.

2. Translate (at sight)—

(a)

GESCHWINDIGKEIT.

Nichts ist gross, nichts ist klein für sich betrachtet; alles beruht auf Verhältnissen und auf dem Zweck, zu dem eine Sache bestimmt ist. Etwas kann sehr klein und doch zu gross, sehr gross und doch zu klein sein, nach den verschiedenen Absichten, zu denen es angewandt werden soll. Für den Wallfisch ist der Ocean ein nicht zu grosser Tummelplatz, und Millionen Thierchen finden in einem Wassertropfen Raum genug. Von dem grössten der Thiere bis zu dem Ei oder den Aederchen des kleinsten Insektes, welcher Abstand! Und wie verschwindet wieder alle Grösse und Herrlichkeit unserer Erde, ja unser Erdball selbst, gegen das Weltall! Diese Bemerkungen sind so oft gemacht, dass sie, unerachtet ihres erhabenen Sinnes, wenig Eindruck mehr machen, und doch muss man einen von Eigendünkel verblendeten oder einen sehr beschränkten Geist haben, um bei einem Blick auf die Natur nicht innig vom Gefühl der Demuth durchdrungen zu werden. Eben diese Betrachtungen lassen sich auch über das anstellen, was wir geschwind und langsam nennen. Hier findet nicht weniger Mannigfaltigkeit statt, und sie ist noch unbegreiflicher. Der Verstand schaudert, wenn er sich den ewigen Wirbel denkt, in dem sich die ganze Natur dreht: die unzähligen Bewegungen, die ununterbrochen fortdauern, vom Umlaufe der Säfte im Innern jedes Thieres und jedes Baumes, bis zum Umlaufe der Millionen Weltkörper, die das Firmament anfüllen, wie Tropfen das Weltmeer, und unter denen es vielleicht nicht zwei giebt, die einander gleich sind.

## (b) DICHTERSEGEN.

Als ich ging die Flur entlang,  
 Lauschend auf der Lerchen Sang,  
 Ward ich einen Mann gewahr,  
 Arbeitsam mit greisem Haar.  
 "Segen," rief ich, "diesem Feld,  
 Das so treuer Fleiss bestellt!  
 Segen dieser welken Hand,  
 Die noch Saaten wirft ins Land!"  
 Doch mir sprach sein ernst Gesicht:  
 "Dichtersegen frommt hier nicht;  
 Lastend wie des Himmels Zorn  
 Treibt er Blumen mir für Korn."  
 "Freund, mein schlichtes Liederspiel  
 Weckt der Blumen nicht zu viel,  
 Nur so viel die Aehren schmückt  
 Und dein kleiner Enkel pflückt."

3. (a) Compare *Meistergesang* and *Volklied*. At what period did the latter flourish most?
- (b) Give an account of Lessing's principal works, both creative and theoretical.
- (c) What is meant by German Romanticism? Compare with Romanticism in France.
- (d) Illustrate, by a genealogical tree, the relationship of German to English. Point out the chief phonetic differences between the two.
- (e) Explain the meaning and origin of *Ablaut*, and exemplify from nouns and verbs. Show how the prefix *ge-* came to be associated with the Past Participle.
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\*ENTRANCE EXAMINATION  
FOR THE  
FACULTIES OF LAW, MEDICINE & SCIENCE  
INCLUDING THE  
DEPARTMENT OF ENGINEERING.

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LATIN.

1. Translate into English, extracts from Cicero pro Sestio.
2. Translate, with brief comments—
  - (a) Res erat cum L. Saturnino, iterum tribuno pl., vigilante homine et in causa populari si non moderate, at certe populariter abstinenterque versato.
  - (b) Cur, cum de capite civis et de bonis proscriptio ferretur, cum et sacratis legibus et duodecim tabulis sanctum esset, ut ne cui privilegium inrogari liceret neve de capite nisi comitiis centuriatis rogari, nulla vox est audita consulum?
3. Translate into English, extracts from Virgil, *Æneid*, Book VI.
4. Translate, with brief comments—
  - (a) Non Simois tibi nec Xanthus nec Dorica castra  
Defuerint; alius Latio iam partus Achilles,  
Natus et ipse dea.
  - (b) Nec vero Alciden me sum laetatus euntem  
Accepisse lacu nec Thesea Pirithoumque.
  - (c) Quo fessum rapitis, Fabii? tu Maximus ille es,  
Unus qui nobis cunctando restituis rem.
5. Translate into English—

Porta ibi humilis et angusta erat, via infrequenti per desertam partem urbis: eam portam scalis prius transgressos, ad murum pergere et ex interiore parte vi claustra refringere iubet, et, tenentes partem urbis, cornu signum dare, ut ceterae copiae admoverentur: parata omnia atque instructa sese habiturum. Ea impigre facta: et, quod impedimentum agentibus fore videbatur, id maxime ad fallendum adiuvit. Imber, ab nocte media coortus,

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\*The time allowed for each paper is three hours, except where otherwise stated.



custodes vigilesque, dilapsos e stationibus, subfugere in tecta coegit: sonitusque primo largioris procellae strepitum molientium portam exaudiri prohibuit; lentior deinde equaliorque accidens auribus, magnam partem hominum sopivit.

6. Translate into Latin—

In the midst of the fight, when the day seemed going against the Romans, the dictator Aulus vowed a temple to Castor, which he afterwards began in the Forum, and which his son dedicated. In after times the tale was told that to Postumius and his staff two strange horsemen had appeared, exceeding beautiful, and tall above the stature of men, who rode in front of the Roman cavalry as they charged; and that the same day at evening two young men were seen in the Forum, alike in age and height and beauty, with all the marks upon them of having come fresh from the fight. And when men crowded round them to ask for news they told them how the day had gone and that the Romans were the victors. Then they departed from the Forum, and were seen of no man again.

GREEK.

1. Translate into English, 'extracts from Demosthenes, Olynthiacs I., II., III.

2. Translate and comment on—

(a) ἤχεται εἰς Θράκην· εἴτ' ἐκεῖ τοὺς μὲν ἐκβαλὼν τοὺς δὲ κατιστήσας τῶν βασιλέων ἡσθένησε· πάλιν ῥήσας οὐκ ἐπὶ τὸ ῥαθυμεῖν ἀπέκλινεν, ἀλλ' εὐθὺς Ὀλυνθίοις ἐπεχείρησεν, τὰς δ' ἐπ' Ἰλλυριοὺς καὶ Παίονας αὐτοῦ καὶ πρὸς Ἀρύββαν καὶ ὅποι τις αὖ εἴποι παραλείπω στρατείας.

(b) πρότερον μὲν γὰρ κατὰ συμμορίας εἰσέφερετε, νυνὶ δὲ πολιτεύεσθε κατὰ συμμορίας. ῥήτωρ ἡγεμῶν ἐκατέρων καὶ στρατηγὸς ὑπὸ τούτῳ καὶ οἱ βοησόμενοι τριακόσιοι.

(c) πρὶν δὲ ταῦτα πράξαι, μὴ σκοπεῖτε τίς εἰπὼν τὰ βέλτισθ' ὑπὲρ ὑμῶν ὑφ' ὑμῶν ἀπολέσθαι βουλήσεται.

3. Translate into English, extracts from Euripides, *Hecuba*.

4. Translate and comment on—

- (a) *δεινὸν γε, θνητοῖς ὡς ἅπαντα συμπίπτει,  
καὶ τὰς ἀνάγκας οἱ νόμοι διώρισαν,  
φίλους τιθέντες τοὺς γε πολεμιωτάτους,  
ἐχθροὺς τε τοὺς πρὶν εὖμενείς ποιοῦμενοι.*
- (b) *ἡμεῖς μὲν οὖν δοῦλοί τε κῦσθενεῖς ἴσως·  
ἀλλ' οἱ θεοὶ σθένουσι χῶ κείνων κρατῶν  
νόμος· νόμῳ γὰρ τοὺς θεοὺς ἡγούμεθα,  
καὶ ζῶμεν ἄδικα καὶ δίκαι' ὠρισμένοι·*

5. Translate—

*Ἐνθεν δὲ διὰ τῆς Γαδρωσῶν χώρας ἦει ὁδὸν χαλεπὴν καὶ ἄπορον  
τῶν ἐπιτηδείων, τῶν τε ἄλλων καὶ ὕδωρ πολλαχοῦ τῇ στρατιᾷ  
οὐκ ἦν· ἀλλὰ νύκτωρ ἠναγκάζοντο τὴν πολλὴν πορεύεσθαι καὶ  
προσωτέρῳ ἀπὸ θαλάσσης, ἐπεὶ αὐτῷ γε ἐν σπουδῇ ἦν ἐπελθεῖν  
τὰ παρὰ τὴν θάλασσαν τῆς χώρας καὶ λιμένας τε ἰδεῖν τοὺς  
ὄντας καὶ ὅσα γε ἐν παρόδῳ δυνάτ' ἐγένοιτο τῷ ναυτικῷ παρασ-  
κευάσαι, ἢ φρέατα ὀρύξαντας ἢ ἀγορὰς ποῦ ἢ ὕρμου ἐπιμελη-  
θέντας. ἀλλὰ ἦν γὰρ ἔρημα παντάπασι τὰ πρὸς τῇ θαλάσῃ  
τῆς Γαδρωσῶν γῆς, ὃ δὲ θόαντα τὸν Μανδροδώρου καταπέμπει  
ἐπὶ θάλασσαν ξὺν ὀλίγοις ἱππεῦσι, κατασκεψόμενον εἴ ποῦ τις  
ὕρμος ὦν τυγχάνει ταύτῃ ἢ ὕδωρ οὐ πόρρω ἀπὸ θαλάσσης ἢ τι  
ἄλλο τῶν ἐπιτηδείων. καὶ οὗτος ἐπανελθὼν ἀπήγγειλεν  
ἀλίεας τινὰς καταλαβεῖν ἐπὶ τοῦ αἰγιαλοῦ ἐν καλύβαις  
πνιγγραῖς.*

6. Translate into Greek—

At this juncture Alexander, having driven the Persian left wing off the field, fell suddenly and furiously on the left flank of the Greeks, who were already engaged with the phalanx in front, and threw them into utter confusion. Even then the resistance might have been stouter than it was had not Darius himself despaired of success, and with craven timidity set the example of flight. As soon as his left wing was broken and scattered, fearing that his own sacred person in the centre was no longer safe, he leaped on his chariot, just as he was, and fled away along the plain with a few of his suite.

## FRENCH.

[The answers are to be given up in two separate bundles, and marked clearly A and B. Answers given up in the wrong bundle will receive no marks. Each sheet must be clearly marked with the letters A and B.]

## A.

- 1 and 2. Translate into English, extracts from Coppée, Contes choisis, and Corneille, Cinna.

## B.

3. Translate—

When General Rusca was ordered by Bonaparte in his Italian campaign to summon the commander of Ceva to surrender the citadel, he threatened to put the whole garrison to the sword, if the place made the smallest resistance. The commander, who was an old soldier and a man of honour, returned this spirited answer: "The citadel which your general in chief summons me with so much arrogance to abandon, and that even before I have had the pleasure of seeing the army to which I am to deliver it up, was confided to my care by the favour of my sovereign. I have sworn to defend it to the last extremity. Ought I, then, to disgrace my old age by an infamous surrender before I have fired a gun? I will defend it as long as I am able; and I pledge my honour to blow it up into the air when I can defend it no longer. This is the answer which my honour dictates, and I will not make any other." After this Bonaparte made no attack on Ceva, but turned his attention against Mondoir.

4. Translate at sight—

APPEL AU CAMP (2 Sept., 1792), PAR VERGNIAUD.

Il paraît que le plan de l'ennemi est de marcher droit sur la capitale, en laissant les places fortes derrière lui. Eh bien, ce projet fera notre salut et sa perte. Nos armées, trop faibles pour lui résister, seront assez fortes pour le harceler sur ses derrières; et tandis qu'il arrivera, poursuivi par nos bataillons, il trouvera en sa présence l'armée parisienne, rangée en bataille sous les murs de la capitale; et, enveloppé là de toutes parts, il sera dévoré par cette terre qu'il avait profanée. Mais au milieu de ces espérances flatteuses, il est un danger qu'il ne faut pas dissimuler, c'est celui des terreurs paniques. Nos ennemis

y comptent, et sèment l'or pour les produire ; et, vous le savez, il est des hommes pétris d'un limon si fangeux, qu'ils se décomposent à l'idée du moindre danger. Je voudrais qu'on pût signaler cette espèce sans âme et à figure humaine, en réunir tous les individus dans une même ville, à Longwy par exemple, qu'on appellerait la ville des lâches, et là devenus l'objet de l'opprobre, ils ne sèmeraient plus l'épouvante chez leurs concitoyens, ils ne leur feraient plus prendre des nains pour des géants, et la poussière qui vole devant une compagnie de houlans pour des bataillons armés !

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GERMAN.

1 and 2. Translate into English, extracts from Grillparzer, Sappho; and Heine, Harzreise.

3. Translate—

In a certain principality of Germany, where the game laws are very severe, a dangerous poacher, who had long been pursued in vain, was at length taken. Before he was seized, he had contrived to hide his gun in a hollow tree. When interrogated, he confessed everything, except that he could not be brought to point out the place where he had concealed his gun; he was sentenced to several years' imprisonment and hard labour. The years of his confinement passed away, and the day of his release arrived. His wife and children expected him from the morning early, till late in the night, but in vain. At length he approached, armed as he had been when he parted from them before his arrest, threw a deer which he had killed at the feet of his terrified wife, and ordered her to dress it to celebrate his return. The first use he had made of his recovered liberty had been to go to a distant forest to look for his gun; and his first action, a repetition of the crime for which he had just endured a long and rigorous imprisonment.

4. Translate (at sight)—

Ein Mann von weicherem Stoff, als die drei großen Herrscher, die Preußen in einem Jahrhundert besaßen, bestieg nach Friedrichs des Großen Tode den Thron, Friedrich Wilhelm II. Der neue Herrscher wurde von dem leichtfertigen Geschlechte

mit um so größerem Jubel begrüßt, je mehr das drückende fiscalische System Friedrichs und seine durchgreifende eigenmächtige Art oft Unwille und Erbitterung erregt hatte. Die übermäßige Schmeichelei, die man dem „Bielgeliebten“ entgegenbrachte, artete dann freilich in eine ebenso maßlose Schmähung aus. Von der milden und gutmütigen, im Grunde edlen und wohlwollenden Natur des Königs durfte man sich ein leichteres Regiment versprechen. Es fehlte dem König nicht an guten Zügen des Geistes und Herzens, wohl aber an Willensstärke, Charakterfestigkeit und Schärfe des Urteils. So geriet er früh in die Hände von Günstlingen und Schmeichlern, die seine Schwäche mißbrauchten und seine Freigebigkeit in der schändlichsten Weise ausnützten. Eine gewisse Popularitätsucht, wie sie neuen Regierungen eigen zu sein pflegt, zeichnete auch die Anfänge Friedrich Wilhelms II. aus.

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### ARITHMETIC.

TWO HOURS AND A-HALF.

1. Express as a decimal, stopping at the 7th decimal place—

$$3 + \frac{1}{7 + \frac{1}{16 + \frac{1}{300}}}$$

2. One number is eleven times another; their product is 11547.36. Find the smaller number.
3. A sum of money amounts to £325 at the end of the first year, and to £338 at the end of the second year, interest being compound. What is the principal sum?
4. A cylindrical tank contains 1000 gallons; its height is 6 ft. 6 in. What is the perimeter of the circular base?  
1 gallon = 277.274 cbc. in.;  $\pi = 3.1416$ .
5. A train leaves Sydney at 7.15 p.m., and arrives at Albury, 386 miles distant, at 6.45 a.m. next morning. A train leaves Melbourne at 5.15 p.m., and arrives at Albury, 190½ miles distant, at 10.50 p.m. the same night. Which of these two trains has the greater average speed?

6. Express the average speeds of the two trains in kilometres per hour, being given that 1 kilometre = 39.371 inches.
7. A man leaves  $\frac{3}{4}$  of his property to his wife,  $\frac{1}{4}$  to his daughter, and the rest equally among his four sons. The wife gets £1000 more than all the four sons together. How much does each of the beneficiaries receive?
8. The circumference of a section passing through the centre of the earth considered a sphere is divided into 360 degrees, each degree containing 60 knots or nautical miles. If this circumference is 131,385,456 feet, express a knot in terms of statute miles. By how many feet does the knot differ from the Admiralty standard knot of 6080 feet?
9. A circular enclosure is  $\frac{1}{4}$  of a mile in circumference. The straight line joining two posts in the boundary fence is 150 yards long. How near to the centre of the enclosure does this line pass?

•      Take  $\frac{1}{\pi^2} = .101321$ .

10. Tin is 7 times as heavy as water, and copper 9 times as heavy. The surface of a cube of tin is  $1\frac{1}{2}$  times that of a spherical copper ball; compare the weights.
11. AB is a straight line 2 inches long; on AB a semicircle is described; C is the middle point of the arc of this semicircle; with C as centre and radius CA, an arc ADB of a circle is drawn on the side of AB remote from C. Find the area of the figure CADB in square inches.

### ALGEBRA.

TWO HOURS AND A-HALF.

1. Multiply  $3x-15 + \frac{x^2+3x+2}{3x-5}$  by  $\frac{x^2+40x-1}{7x-2} - 10x-2$ .
2. Simplify 
$$\frac{1+ax}{1-ax} + \frac{1-ax}{1+ax} - \frac{1-ax+a^2x^2}{1+a^2x^2} - \frac{1+ax+a^2x^2}{1-a^2x^2} + 2.$$
3. Solve the equations

(i.)  $\frac{x}{x-2} + \frac{x-9}{x-7} = \frac{x+1}{x-1} + \frac{x-8}{x-6}.$

$$(ii.) \sqrt{(x-1)(x-2)} + \sqrt{(x-3)(x-4)} = \sqrt{2}.$$

$$(iii.) \begin{cases} x^2 = 3x + 2y \\ y^2 = 2x + 3y \end{cases}.$$

4. State the meanings assigned to  $a^{\frac{2}{3}}$ ,  $b^{-\frac{1}{2}}$ , and explain why they are so assigned.

Solve the equation

$$3.4^{y-\frac{2}{3}} - 2^y = 5(2^{y-3} + 2^{y-2}) + 1.$$

5. Define harmonical progression, and shew that the reciprocals of quantities in H.P. are in A.P.

To each of three consecutive terms of a G.P. the middle term is added; prove that the three quantities thus obtained are in H.P.

6. A dealer bought a bicycle and sold it again for £5 12s., thus gaining half as many per cent. as the bicycle had cost him shillings. Find what the bicycle cost him.

7. If  $a:b=b:c=c:d$ , prove that  $a:d=a^3+b^3+c^3:b^3+c^3+d^3$ .

8. Four numbers are in arithmetical progression. Their sum is 40, and the product of the second and third exceeds the product of the first and second by 8. Find the numbers.

9. Prove the binomial theorem where the index is a positive integer. If the second, third and fourth terms of the expansion of  $(1+x)^n$  in ascending powers of  $x$  are respectively equal to  $a$ ,  $b$  and  $c$ , prove that  $\frac{4b}{a} - \frac{3c}{b} = a$ .

10. Define a logarithm and prove that the logarithm of the product of two numbers is equal to the sum of their logarithms.

$$\text{Find the value of } \frac{(\cdot 084)^{\frac{1}{2}} \times (\cdot 672)^{-5}}{(3 \cdot 721)^{-\frac{1}{2}}}.$$

$$\text{Given } \log 8 \cdot 4 = \cdot 9243, \log 6 \cdot 72 = \cdot 8274, \log 3 \cdot 721 = \cdot 5707, \\ \log 4 \cdot 39 = \cdot 6425, \log 4 \cdot 4 = \cdot 6435.$$

## GEOMETRY.

TWO HOURS AND A-HALF.

1. Prove that any exterior angle of a triangle is equal to the sum of the interior and opposite angles.

ABC is an isosceles triangle. The vertical angle A is  $10^\circ$ .

The internal bisectors of B and C meet at D; the external bisectors of the same angles meet at E. Find the size of the angles D and E; and generalise the result so as to make it applicable to all triangles.

2. If straight lines are drawn from a point parallel to the arms of an angle, the angle between those lines is equal or supplementary to the given angle.
3. Show how to describe a rectangle equal to a given rectilinear figure.
4. In any triangle the square on the side opposite to an acute angle is equal to the sum of the squares on the sides containing that angle minus twice the rectangle contained by one of these sides and the projection on it of the other.
5. The sides of a triangle are 2.5, 3.2 and 4 feet. Prove that all the angles are acute.
6. Can we always describe a circle
  - (i.) Through any three points;
  - (ii.) Through any four points?

Give reasons for your answer.

7. Prove that if two circles touch, the point of contact lies on the line joining the centres.

If required to draw a circle to touch a given circle at a given point, where would you look for its centre?

Find the locus of the centres of circles touching a given circle at a given point.

8. State and prove the converse of the theorem that angles in the same segment of a circle are equal.
9. Inscribe a circle in a given triangle.

AB and CD are two parallel lines. A third straight line cuts them at G and H. The circles which touch these three lines have E and F for their centres. Prove that EGFH is a rectangle.



TRIGONOMETRY.

TWO HOURS AND A-HALF.

1. Define the sine and cosine of an angle in such a way that your definitions apply to angles of any size.

Write down the values of

$$\sin 225^\circ, \cos 240^\circ, \tan 330^\circ.$$

2. Construct the two positive angles less than  $360^\circ$  whose tangents are 10. Obtain the other ratios of these angles, using the figures of your geometrical construction, or otherwise.

3. Prove geometrically that

$$\sin(90^\circ + A) = \cos A,$$

taking  $A$  as an angle in the first quadrant.

4. Prove geometrically that

$$\cos 2A = 2\cos^2 A - 1,$$

taking  $A$  as an acute angle, and not using the proof for  $\cos(A+B)$ .

5. Prove that  $\cos 75^\circ$  is a little greater than  $\frac{1}{4}$ .

6. Prove the following identities—

$$(i.) \frac{2}{1+\cos A} = 1 + \left( \frac{\sin A}{1+\cos A} \right)^2.$$

$$(ii.) \sin 7A \sin 3A = \sin 8A \sin 2A + \sin 5A \sin A.$$

$$(iii.) \sin 2A = 2\sin^2 B \cot B, \text{ when } A+B=90^\circ.$$

7. Find all the angles between  $0^\circ$  and  $360^\circ$  which satisfy the equations—

$$(i.) \tan^2 \theta = 3,$$

$$(ii.) \sin 3\theta = \sin \theta.$$

8. Obtain a formula giving the cosine of an angle in terms of the sides. Is this result suitable for logarithmic calculation? What form do we employ when logarithm tables are to be used?

9. The sides of a triangle are 2.5, 3.5 and 4.5 feet; prove that the tangent of the largest angle is  $-3\sqrt{11}$ .

In what quadrant does this angle lie?

EXAMINATION FOR THE  
Peter Nicol Russell Scholarship  
FOR  
Mechanical and Electrical Engineering.

*The papers are the same as those set in the Entrance Examination for Law, Medicine, Science and Engineering, with the addition of the following:—*

APPLIED MECHANICS.

1. (a) A cable 700 feet long (and weighing 15 lb. per foot) hangs vertically down a shaft having a metal ball (weight 250 lb.) attached to its lower end. If 450 feet of the cable are wound in in 4 minutes (thus leaving 250 feet still hanging in the shaft) at what rate in horse-power is the work done?  
(b) A train weighing 100 tons is driven up an incline of 1 in 100, the frictional resistance being 10 lb. per ton. For the first mile the tractive force is 5000 lb., for the second mile it is 2360 lb., and for the last half-mile it is 4560 lb. Assuming that the train starts from rest, determine the whole time taken to cover the  $2\frac{1}{2}$  miles.  
(c) A heavy wheel has a cord 10 feet long coiled round the axle. This cord is pulled with a constant force of 25 lb. till it is all unwound and comes off. The wheel is then found to be rotating five times a second. Find its moment of inertia.  
(d) A flywheel weighs  $2\frac{1}{2}$  tons, and its "mean rim" has a velocity of 40 feet per second. If the wheel gives out 10,000 foot lb. of energy, by how much is its velocity diminished?
2. Investigate the equation of bending moments and shearing stresses in the following cases—  
(a) A beam supported at each end, and loaded with an uniformly distributed load.  
(b) A beam supported at each end, and loaded with a concentrated load not in the centre.  
(c) A beam supported at two points, with equal overhanging portions, loaded over its entire length with a uniformly distributed load.

3. In an ordinary stationary engine the connecting rod is six times as long as the crank arm, the shaft revolves with uniform velocity; construct a diagram to represent the motion of the crosshead, or investigate the motion algebraically.

A point is required to have reciprocating motion of 3-inch stroke in a straight line, making the one stroke in half the time it takes to make the other, and making each at a uniform rate. Show how to draw a cam mechanism which will accomplish this.

4. Describe, by means of sketches, any form of friction brake you are acquainted with, and show how you would apply it to determine the brake horse-power of an engine; assume all necessary data for calculating the horse-power of the engine.

The diameter of the cylinder of an engine is 24 inches, the stroke of the piston is 36 inches, the number of revolutions is 50 per minute, and the average steam pressure 45 lb. per square inch. Find the indicated horse-power, and the number of pounds of water it would raise per minute from a depth of 100 feet if the mechanical efficiency of the engine and pump is 55 per cent.

5. A lever safety-valve is required to blow off at 70 lb. per square inch. Diameter of valve 3 inches, weight of valve 3 lb.; short arm of lever,  $2\frac{3}{4}$  inches; weight of lever, 11 lb.; distance of centre of gravity of lever from fulcrum, 15 inches. Find the distance at which a cast-iron ball 6 inches diameter must be placed from the fulcrum. The weight of the ball hook is 0.6 lb.

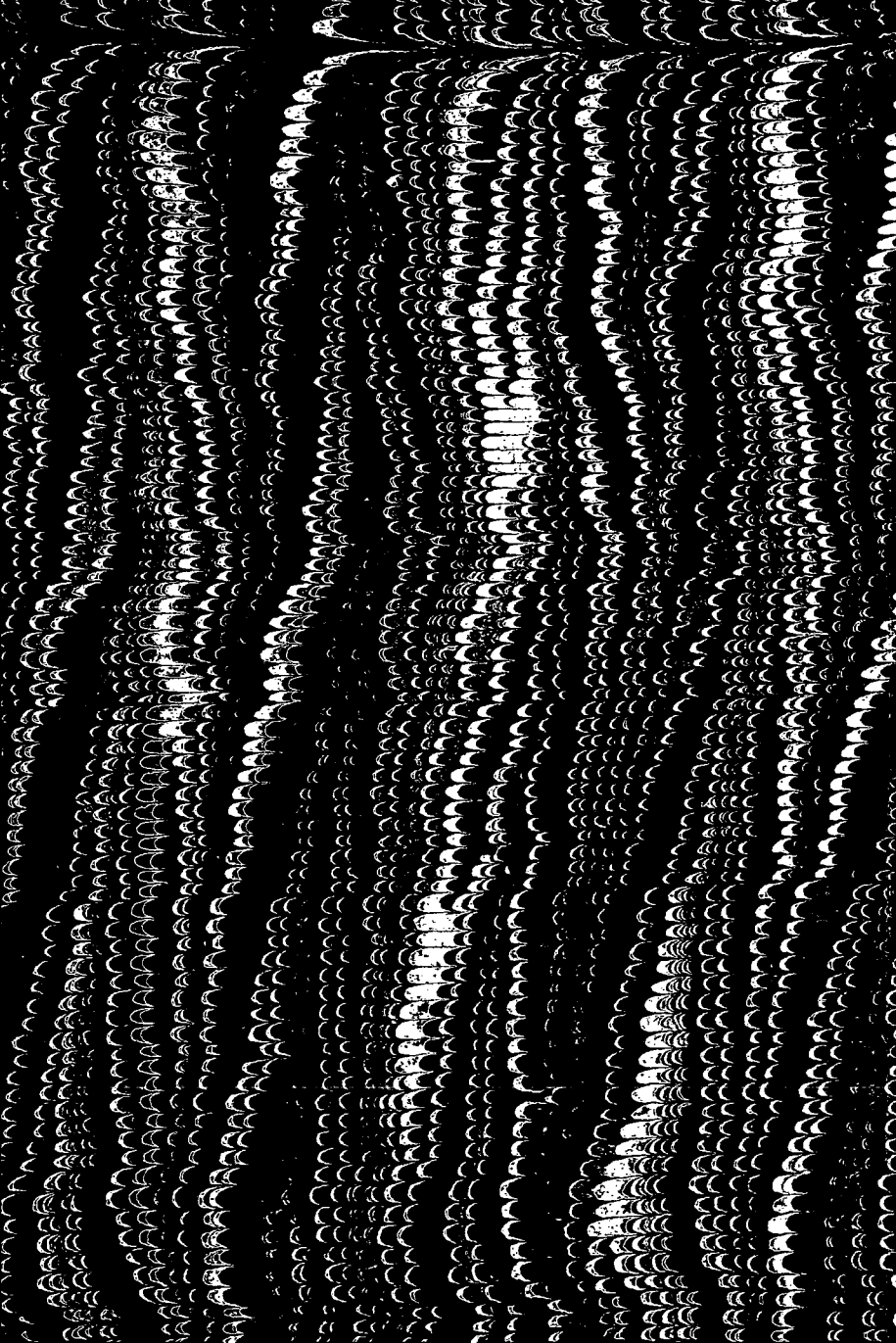
6. A cast-iron water pipe, 30 inches inside diameter and 32 inches outside diameter, is unsupported for a length of 12 feet. Find (a) the intensity of the stress in the metal due to bending, (b) the intensity of stress due to internal pressure if the head of water is 200 feet.

$$I = \frac{\pi}{64}(D^4 - d^4).$$

### MECHANICAL DRAWING.

THREE HOURS

The candidates are required to make pencil working drawings of a mechanical model.



- II. What protection is afforded by the Wills, Probate and Administration Act to an executor or administrator distributing assets (1) against liability to creditors, and (2) to rents, covenants or agreements under a lease entered into by the deceased?
- III. What is the nature of an administration bond? What steps should be taken (1) by a person interested in the estate and (2) by a surety to the bond where the estate is being wasted?
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## FACULTY OF SCIENCE.

## SECOND YEAR EXAMINATION.

## PHYSICS I.

## HONOURS.

*Six questions to be attempted.*

1. (a) If matter be supposed capable of successive subdivision into mechanical atoms, chemical molecules and atoms, etherergic molecules and atoms, and atomic molecules and atoms, why must such an equation as

$$\left(p + \frac{a}{V^2}\right)(V - b) = k\theta$$

necessarily fail to fully express the relations of pressure  $P$ , volume  $V$ , and temperature  $\theta$ ?

- (b) In what way may heat be conceived to exist in the solid, liquid, and gaseous forms of matter, and how is it supposed to be radiated, conducted, etc.?
2. (a) Give an account of the flow of heat from a point source; and (b) from a line source, in a thermally anisotropic medium, and state how the conductivity along different axes may be measured.
3. (a) Discuss the views of Cagniard de la Tour, Andrews, Cailletet and Colardeau, Ramsay, and others on the question of the disappearance of the meniscus at the surface of separation between liquid and gas. (b) What was Hinrich's view of the essential difference between the liquid and gaseous states? (c) What was Preston's view?
4. (a) How may the density of liquids at different temperatures be measured without introducing uncertainty through the want of exact knowledge as to the effect of heat on the dimensions of the containing vessels? (b) Give an account of the difficulties of exact thermometry, and compare platinum-wire and mercury-in-glass thermometry.

5. (a) Give an account of calorimetry of precision ; or (b) of the general theory of the flow of heat.
6. (a) What is known of the properties of solid æolotropic substances, and of their behaviour under various forms of stress producing only small strains? (b) Indicate how to determine the elastic constants.
7. Explain fully the theory of combustion of chemical substances, and the significance of mode of union in this theory.
8. (a) It was shewn by Damien that the fusion point of some organic substances was represented by

$$t = t_0 + a(p-1) - b(p-1)^2,$$

$t_0$  denoting the melting point at the pressure of one atmosphere. What may be inferred from this, and what is known of the behaviour of naphthylamine in relation thereto?

- (b) How is the equation

$$a = T(V - V') \frac{dp}{dT}$$

deduced,  $a$  denoting heat absorbed,  $V$  volume,  $p$  pressure, and  $T$  the absolute temperature?

9. (a) Give an account of some additive physical properties of chemical substances. (b) What is known of atomic refraction, and how does the structure of the chemical molecule enter into the question of physical property?
10. Outline the general theory of electrolytic dissociation, and distinguish between it and ordinary dissociation.

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## PHYSICS II.

### HONOURS.

1. Explain and criticise the present systems of electric units. Find the dimensions of resistance in electro-magnetic measure, and describe with full detail some experimental method of finding the absolute value of a resistance.
2. Find an expression for the force on each unit area of a charged conductor, and show how it leads to a practical method of measuring differences of potential.

3. Describe with full theoretical and practical detail some method of finding the specific heat of water. Critically discuss recent experiments on this subject by electrical methods.
  4. Show how a quantitative theory of electro-magnetism may be elaborated from the results of some one experiment.
  5. Describe some form of ballistic galvanometer, indicating for what sorts of measurements the instrument is suitable. Give the theory of the instrument and describe fully how the apparatus may be calibrated.
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## DEPARTMENT OF ENGINEERING.

### FIRST YEAR EXAMINATION.

#### APPLIED MECHANICS.

#### HONOURS.

1. (a) A train weighing 200 tons is brought from rest to a speed of 90 miles per hour in 5 minutes on up grade of 1 in 50.

Assuming the frictional resistance to be 10 lbs. per ton, find the force exerted by the engine and the total distance run.

- (b) A truck weighing 16 tons, travelling with a speed of 10 miles per hour, collides with another stationary one, weighing 12 tons. Find the resultant speed of the combination, and the energy lost in the impact.
  - (c) A cage of 2000 lbs. weight is lifted on an endless chain from rest with an acceleration of 8 feet per second. Find the pull exerted on the cage, and if the power is shut off at the end of 20 seconds, how much higher will the cage rise?
  - (d) A pompom fires 200  $\frac{1}{2}$ -lb. shells per minute with an initial velocity of 1800 feet per second. Find the steady force of the recoil and the horse-power being developed.
2. Make an outline sketch of a roof-truss suitable for a span of 40 feet; draw the reciprocal figures for dead load and wind pressure, and make sketches showing the most important joints and connections. Assume all necessary data.
  3. Show how to design a plate-web girder of 40 feet span to carry a live load of 2 tons and a dead load of  $\frac{1}{2}$  a ton per foot run. Make sketches showing the construction.
  4. Write a brief essay, illustrated by neat and accurate sketches, on *Parallel Motions*. Mention, wherever possible, the practical applications of the mechanisms you describe.

## SECOND YEAR EXAMINATION.

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APPLIED MECHANICS IV.

## HONOURS.

1. If on a piston of 120 square inches area, and weighing, with piston rod, 290 lb., there is at a certain instant a pressure of 130 lb. per square inch on one side more than what there is on the other, and if the piston acceleration at that instant is 420 feet per second in the direction in which the steam is urging the piston, what is the total force acting at the cross-head?

If this acceleration occurs when the piston is one-quarter of its stroke from one end, assuming an indefinitely long connecting rod, how many revolutions per minute is the engine making? The crank is 1 foot long.

2. Discuss Lord Kelvin's method of developing a scale of temperature from the Second Law of Thermodynamics, and show that the scale so developed agrees with that of a perfect gas thermometer.

Examine, in connection with this, Rankine's statement of the Second Law.

3. Show, by graphical construction or otherwise, how you would determine the straining actions in crank shafts (a) in a simple crank shaft supported on the bearings with a known pressure on the crank pin; (b) in an engine crank shaft, carrying a spur flywheel of known weight, and subjected to a given crank-pin pressure. Write a specification of the tests which you would adopt for the material of the crank shaft.
  4. It is required to utilise a river where the fall is 20 feet in 400 yards. The average dry weather flow is 30,000 cubic feet per minute; in flood time the flow is many times greater, but the fall is reduced 4 or 5 feet by back water. Describe and sketch a water motor which would give a good efficiency and not be much affected by the back water.
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## THIRD YEAR EXAMINATION.

## CIVIL ENGINEERING--MATERIALS AND STRUCTURES III.

## HONOURS.

1. Assuming all necessary data, explain the method of calculating the maxima stresses in the girders of a swing bridge; also the deflection at the ends, when the bridge is swinging under a dead load.
2. The Hawkesbury River at Richmond when in flood rises some 66 feet above summer level. The depth of water at summer level is 4 feet, and 16 feet of sand mixed with gravel overlies the rock. It is required to construct a low level bridge 20 feet roadway, with deck 26 feet above summer level; at this level the width from bank to bank is 650 feet.

Describe, design, and illustrate by sketches a suitable type of bridge, and especially the foundations. Calculate its stability against overturning during floods, assuming a flood velocity of 6 miles per hour= $\equiv$  to a water pressure of 140 lbs. per square foot.

3. Write an essay on reinforced steel concrete floors, and show how you would design the floors of a warehouse to carry 3 tons per square foot. State fully the various equations and assume all necessary data.
4. Investigate the stresses in a steel arched bridge, hinged at the springing and continuous at the centre, and make sketches showing a cross section of the arched rib, and the design of the rib at the abutments.
5. Investigate the equations of bending moments, shearing stresses, slope and deflection in a continuous girder of two spans of unequal length, loaded with two concentrated loads in each span.
6. Explain the method of determining the shearing stresses and bending moments at any panel of a Pratt-truss, carrying a double line of railway, by Cooper's concentrated load system. Show also how you would calculate the central deflection in the truss when loaded equally at each panel point. Assuming all necessary data.

## RAILWAY AND HYDRAULIC ENGINEERING.

## HONOURS.

1. Write an essay on the Electric Tramway system of Sydney, giving sketches of the permanent way.
2. It is proposed to construct a subaqueous tunnel for a double line of railway from Milson's Point to Fort Macquarie. Assuming a depth of water of 40 feet overlying the mud, also the shores vertical and consisting of sandstone rock; design, describe and illustrate by sketches a suitable tunnel, also the method you would employ for its construction.
3. What considerations would guide you in selecting a catchment area for the water supply of a large city. Describe and illustrate by sketches a suitable earthwork dam to impound water to a depth 80 feet, and write a specification governing its construction.
4. Write an essay on the "septic tank" treatment of sewage, and describe fully the changes the sewage undergoes. Make sketches of any plant you have seen or read about.
5. Write an essay on the "Reticulation of the Sewerage System of Sydney."
6. Write an essay on the Construction of Breakwaters, and make sketches illustrating the design and method of construction adopted in some well-known examples.
7. Write an essay on the Compound Locomotive Engine, and state the types in most common use in America and in Europe.  
Compare the compound with the simple locomotive, and state the conditions most favourable to develop the advantages of each type. Give the ratio of cylinder volumes used, and make sketches of the cylinder ports and valves found to be most suitable. Sketch also some form of automatic valve for using high pressure steam in the low pressure cylinder at starting.

## MECHANICAL ENGINEERING.

## HONOURS.

*Not more than THREE questions should be attempted.*

1. Discuss briefly the present state of our knowledge of the properties of superheated steam.

- Describe, with the aid of sketches, any modern type of superheater, and give some particulars of the performance of engines and turbines using superheated steam.
2. In connection with the phenomenon commonly known as *cylinder condensation*, discuss in detail the questions of *valve leakage* and of *cylinder drainage*.
  3. Summarise the desirable characteristics of a working substance for refrigerating machines, and discuss the properties of those most commonly used. Deal specifically, amongst other matters, with those of cost, bulk, pressures involved, and performance in actual operation.
  4. Write a brief essay on any question connected with thermodynamics, or its applications, to which you may have given special attention during the year.
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## \*MATRICULATION EXAMINATION.

## LATIN.

1. Translate into English, extracts from Livy, Book xxvi.
2. Translate, with brief comments—
  - (a) Fulvius Romam comitiorum causa arcessitus quum comitia consulibus rogandis haberet, praerogativa Voturia iuniorum T. Manlium Torquatum et T. Otacilium *absentem consules dixit.*
  - (b) Permutatis provinciis, Siculi in senatum introducti multa de Hieronis regis fide perpetua erga populum Romanum verba fecerunt.
  - (c) Trebia, Trasumennus, Cannae quid aliud sunt quam monumenta occisorum exercituum consulumque Romanorum?
3. Translate into Latin—
  - (a) Do you really believe that the town will not be taken?
  - (b) There is no doubt that the Carthaginians would have been victorious if Hasdrubal had been able to join forces with his brother.
  - (c) Tullius was afraid that his friend was not going to keep his promise.
  - (d) It is said that all the Fabii went to offer up sacrifices on the Quirinal Hill to Hercules, whom they regarded as the founder of their race. They had not armed themselves, because it was usual for an enemy not to molest those engaged in such ceremonies. But the Veientes lay in ambush and slew every one of them, so that of this great family there remained only one boy, who had been left at Rome. This boy grew to manhood; for it was the pleasure of the gods that great deeds should be done by the Fabii in after times.

\*NOTE.—The time allowed for each paper is three hours, except where otherwise stated.

## 4. Translate—

Fabius ad Anxur oppugnandum sine ulla populatione accessit. Anxur fuit urbs prona in paludes. Ab ea parte Fabius oppugnationem ostendit. Circummissae quattuor cohortes cum C. Servilio Ahala cum imminentem urbi collem cepissent, ex loco altiore, qua nullum erat praesidium, ingenti clamore ac tumultu moenia invasere. ad quem tumultum obstupefacti, qui adversus Fabium urbem infimam tuebantur, locum dedere scalas admovendi, pleneque hostium cuncta erant, et inmitis diu caedes pariter fugientium ac resistentium, armatorum atque inermium fuit. Cogebantur itaque victi, quia cedentibus spei nil erat, pugnam inire.

## GREEK.

1. Translate into English, extracts from Plato, Apology.
2. Translate, and give explanatory notes upon grammatical and historical points—

(a) ἦλθον ἐπὶ τινα τῶν δοκούντων σοφῶν εἶναι, ὡς ἐνταῦθα, εἰ πέρ που, ἐλέγξω τὸ μαρτεῖον καὶ ἀποφανῶν τῷ χρησμῷ ὅτι οὐτοσί ἐμοῦ σοφώτερός ἐστι, σὺ δ' ἐμέ εἴησθα. διασκοπῶν οὖν τούτων—ὀνόματι γὰρ οὐδὲν δέομαι λέγειν, ἣν δέ τις τῶν πολιτικῶν, πρὸς ὃν ἐγὼ σκοπῶν τοιοῦτόν τι ἔπαθον, ὧ ἄνδρες Ἀθηναῖοι—καὶ διαλεγόμενος αὐτῇ, ἔδοξέ μοι οὗτος ὁ ἀνὴρ δοκεῖν μὲν εἶναι σοφὸν ἄλλοις τε πολλοῖς ἀνθρώποις καὶ μάλιστα ἑαυτῷ, εἶναι δ' οὐ.

(b) ἐγὼ γάρ, ὧ Ἀθηναῖοι, ἄλλην μὲν ἀρχὴν οὐδεμίαν πώποτε ἥρξα ἐν τῇ πόλει, ἐβούλευσα δέ· καὶ ἔτυχεν ἡμῶν ἡ φυλὴ Ἀντιοχίς πρυτανεύουσα, ὅτε ὑμεῖς τοὺς δέκα στρωτηγούς τοὺς οὐκ ἀνελομένους τοὺς ἐκ τῆς ναυμαχίας ἐβούλεσθε ἀθρόους κρίνειν, παρανόμως, ὡς ἐν τῷ ὑστέρῳ χρόνῳ πᾶσιν ὑμῖν ἔδοξε.

## 3. Translate—

Οἱ δὲ Θηβαῖοι εὐθὺς μὲν μετὰ τὴν μάχην ἔπεμψαν εἰς Ἀθήνας ἄγγελον ἐστεινωμένον, καὶ ἅμα μὲν τῆς νίκης τὸ μέγεθος ἔφραζον, ἅμα δὲ βοηθεῖν ἐκέλευον, λέγοντες ὡς νῦν ἐξείη Λακεδαιμονίους πάντων ὧν ἐπεποιήκεσαν αὐτοὺς τιμωρήσασθαι. τῶν δὲ Ἀθηναίων ἡ βουλὴ ἐτύγχανεν ἐν ἀκροπόλει καθυμένη. ἐπεὶ δ' ἤκουσαν τὸ γεγενημένον, ὅτι μὲν σφόδρα ἠνιάθησαν πᾶσι δῆλον ἐγένετο· οὔτε γὰρ ἐπὶ ξένια τὸν κήρυκα ἐκάλεσαν,

περί τε τῆς βοήθειας οὐδὲν ἀπεκρίναντο. καὶ Ἀθήνηθεν μὲν οὕτως ἀπῆλθεν ὁ κήρυξ. πρὸς μὲντοι Ἰάσονα, σύμμαχον ὄντα, ἔπειπον σπουδῇ οἱ Θηβαῖοι, κελεύοντες βοηθεῖν. ὁ δ' εὐθὺς διεπορεύθη εἰς τὴν Βοιωτίαν.

4. Translate into Greek—

- (a) We feared the citizens might attempt a revolution.
- (b) I should have conquered him, strong though he is, had he not run away.
- (c) They encamped in the middle of the island.
- (d) Messengers came to Athens saying that the whole army had been destroyed, and that the generals themselves were dead. At first no one believed that the news was true. Some said that the messengers wished to deceive the people; others that they knew the enemy had been defeated. But at last they perceived that the messengers spoke the truth.

FRENCH.

[The answers are to be given up in two separate bundles, and marked clearly A and B. Answers given up in the wrong bundle will receive no marks. Each sheet must be clearly marked with the letters A and B.]

A.

1. Translate into English, extracts from Berthon, Specimens of Modern French Prose.
2. (a) Write down the 3rd person singular, present indicative, perfect indicative, and imperfect subjunctive of the underlined verbs in the above passages, viz., *pesa*, *crurent*, *reconnaitre*, *vivaient*, *rappelait*, *mettent*, *combattre*.
- (b) Rewrite in 1 (a) the sentence, "*Les nobles habitants . . . par lui*," changing *habitants* and the dependent words to the singular and *protecteur* and the dependent words to the plural, and making the whole statement refer not to the past but to the future.
- (c) Give the rules for the use of *tout* as an adverb.

B.

3. Translate into French—

- (a) i. Please come to my house at a quarter to five.



- ii. The wall round the house is eight foot high, a foot and a half broad, and eighty yards in circumference.
- iii. I for my part do not like him, but he and his brothers love each other.

iv. How old do you think me?

v. I should say you were about twenty.

vi. No. I am twenty-three, nine months and eight days, and shall be twenty-four on the fifteenth of May.

(b) Of all the knights that lived in Fairyland, there was none more kindly or more courteous than Sir Calidore. He was beloved of every one; for to his natural gentleness of spirit and charm of manner he added a manly bearing and grace of language that stole men's hearts away. He was tall and strong, and very famous for his bravery in battle, for he had been known without any help but his own good lance and sword, to face three proven champions; and he never employed his great gifts for mean purposes, or flattered any one, for he loved steadfast truth and honesty. Spenser tells the story of his adventures, and Spenser saw in him the exact image of his departed friend, the blameless Philip Sidney.

4. Translate (at sight)—

Il y avait en ce temps-là à Domrémy, village de la haute Lorraine champenoise, sur le penchant boisé des Vosges, non loin de la petite ville de Vaucouleurs, une famille dont le nom était d'Arc. Le père de famille était un simple laboureur, mais un laboureur qui cultivait son propre héritage et dont le toit, bâti et possédé par ses pères, devait appartenir à ses fils. Si l'on en juge par les mœurs et par les habitudes domestiques de la famille, il y avait dans cette maison de paysans le loisir et la piété que donne l'aisance, et cette noblesse de cœur et de front qu'on retrouve en ceux qui cultivent la terre paternelle plus qu'en ceux qui travaillent dans l'atelier d'autrui, parce que la possession d'un coin de terre, quelque petit qu'il soit, conserve au paysan l'indépendance de l'âme en lui faisant sentir qu'il tient son pain de Dieu. Le père s'appelait Jacques d'Arc; la mère, Isabelle Romée, surnom qu'on donnait dans ces contrées aux pèlerines qui étaient allées à Rome visiter les pieux tombeaux des martyrs.

## GERMAN.

1. Translate into English, extracts from Hauff, Das Wirtshaus im Spessart.
2. (a) Write down the 2nd person singular imperative and perfect indicative of the underlined verbs in the above passages, viz., *bittet*, *ansah*, *galt*, *entgegenging*, *sah*, *lag*, *warf*, *stieg*, *rief*.  
(b) Give the gender, genitive singular, and nominative plural of *Bär*, *Schuh*, *Mauer*, *Segel*, *Beil*, *Bett*, *Ding*, *Bau*.  
(c) Mention some uses of the verbs *wollen* and *sollen* that do not correspond with the English *will* and *shall*.
3. Translate into German—
  - (a) i. Have you not seen anything?  
ii. His garden and mine are both beautiful.  
iii. I who speak to you, am guilty.  
iv. Of what are you guilty?  
v. What day of the month is it?  
vi. It is Tuesday, the fourteenth of February, 1905 (*Numerals in full*).
  - (b) Once upon a time there lived a king who was so kind and just to his people, that Merlin, the good magician, gave him a wonderful present. It was a mirror that by his art he had made round like a ball and hollow inside. He who looked into it saw not his own face, but all that concerned him, though it might be happening very far away. It was very useful to the king. He could, for instance, learn from it the approach of an enemy more surely and quickly than from the swiftest messenger.
4. Translate (at sight)—

Zart und schwach auf die Welt gekommen, war James Watt lange Zeit eine grosse Sorge für die Eltern. Er war still und schüchtern, und blieb geistig hinter allen Knaben seines Alters zurück. Seine Lehrer klagten über den schweigsamen, träumerischen Schüler, und die Verwandten schalteten ihn träge und lässig. Aber faul war er nicht. Alle Erscheinungen und Vorgänge in der Natur zogen ihn mächtig an: stundenlang konnte er still sitzen und darüber nachdenken. Das verdross seine Ver-

wandten sehr, die nicht begreifen konnten, was in der Seele des Knaben vorging. "Sieh nur den dummen Jungen an!" so rief einmal seine Tante, als sie ihn vor ihrem Theekessel sitzend und den Dampf beobachtend fand; "Da sitzt er wie immer, faul und zerstreut." Sie wusste nicht, dass der verachtete Neffe sich schon zur Erfindung der Dampfmaschine vorbereitete.

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ARITHMETIC.

PASS.

TWO HOURS AND A HALF.

1. By how much is the sum of  $15\frac{3}{8}$  and  $14\frac{5}{7}$  less than the difference of  $321\frac{1}{8}$  and  $290\frac{1}{2}$ ?
2. Find the G.C.M. of 70818, 247863 and 516705.
3. Express £17 19s.  $3\frac{3}{4}$ d. as the decimal of £100.
4. How often is £3 17s.  $10\frac{1}{2}$ d. contained in £1000, and what is the remainder?
5. On a sum of £3,803,401 the interest received for a year amounted to £182,222 18s. 9d. What is the rate of interest realised per cent. per annum?
6. If 1 lb. avoirdupois = 7000 grns. troy, shew that 1 oz. troy = 1.097 oz. avoirdupois.
7. A cistern is 2 metres by  $1\frac{1}{2}$  metres by 1 metre. How many cubic feet of water will it contain? 1 metre = 39.4 inches.
8. The length of a rectangular field is twice its breadth, and its area is 20 acres; find its length and breadth.
9. Books are sold at a discount of 10 per cent. off the published price, and the seller then makes a profit of 20 per cent. At what discount off the published price does the book-seller get his books?
10. Trees are planted all round the boundary of the field in Question 8, each tree being  $7\frac{1}{2}$  feet from the nearest boundary, and 15 feet from its neighbour in the same line. How many trees will be required?
11. A man sells out £3000 N.S.W. 4 per cent. Stock at 99 and invests the proceeds as far as possible in Sugar Company's £20 Shares at  $39\frac{7}{8}$ . If the dividend is 10 per cent. what difference does the transfer make in his annual income?

## ALGEBRA.

TWO HOURS AND A HALF.

PASS.

1. Find the value of

$$(a+b) \frac{a-c}{2} + (b+c) \frac{a+d}{2} - [(a+d)] d^2$$

when  $a=5$ ,  $b=3$ ,  $c=-1$ ,  $d=1$ .

2. Divide

$$a^4 + b^4 - c^4 + 4ab(a^2 + b^2) + 6a^2b^2 \text{ by } a^2 + b^2 + c^2 + 2ab.$$

3. Find the highest common divisor and (in factors) the lowest common multiple of
- $x^6 + x^4 + x^3 + x$
- and

$$3x^5 + 5x^4 + 7x^3 + 7x^2 + 4x + 2.$$

4. Simplify

$$(i.) \frac{a}{b} \left( a + \frac{b-a}{1+ba} \right) \div \left( 1 - \frac{a(b-a)}{1+ab} \right)$$

$$(ii.) \frac{a(b+c-a)}{(a-b)(a-c)} + \frac{b(c+a-b)}{(b-c)(b-a)} + \frac{c(a+b-c)}{(c-a)(c-b)}$$

5. Solve the equations

$$(i.) \frac{(2x+3)^2 - 1}{4} - x^2 - 6 = -1.$$

$$(ii.) \sqrt{2x-5} + \sqrt{x+1} = \sqrt{x+7} + \sqrt{2x-11}.$$

$$(iii.) (2a-b+x)^2 + 2bx = 4a^2 + 2b^2.$$

Verify your answers by substitution.

6. Solve the equations

$$\left. \begin{aligned} \frac{3x+7y}{42} &= \frac{3x}{2} \\ \frac{2x-5y}{3} &= x + \frac{1}{3} \end{aligned} \right\}$$

7. Resolve into factors

$$(i.) 36x^2 - 43xy - 35y^2.$$

$$(ii.) \{(a+b)^2 - (c+d)^2\}^2 - \{(a-c)^2 - (b-d)^2\}^2.$$

8. A man gave away £7 less than
- $\frac{1}{4}$
- of his money, and had left £30 more than
- $\frac{1}{2}$
- of it. How much had he at first?

9. A man spent six shillings and eightpence in buying cigars. If he had got five more for his money, they would have cost eightpence less apiece. How many did he buy?

## GEOMETRY.

## PASS.

## TWO HOURS AND A HALF.

*Candidates may answer Paper A or Paper B, but not portions of both. In handing up their papers, Candidates should mark Paper A or Paper B, as the case may be.*

## PAPER A.

1. The angles at the base of an isosceles triangle are equal.
2. Prove that the sums of the angles of a triangle and quadrilateral are respectively two and four right angles.
3. Prove that parallelograms upon the same bases and between the same parallels are equal in area, and deduce the corresponding theorem about parallelograms upon equal bases and between the same parallels.
4. The square on the hypotenuse of a right-angled triangle is equal to, &c. Complete this enunciation, and prove the theorem.  
The side of a square ABCD is 1 inch. X lies in AB so that  $AX=2 \cdot XB$ . Find, correct to 3 decimal places, the length of DX in inches.
5. Prove that the complements of the parallelograms about a diagonal of any parallelogram are equal in area.
6. Enunciate and prove the geometrical theorems which correspond to the algebraical identities—
  - (i.)  $a(a-b)=a^2-ab$
  - (ii.)  $(a-b)(a+b)=a^2-b^2$ .
7. In a circle a chord is drawn: show that the angle between the tangents at the ends of this chord is equal to the supplement of twice the angle subtended by the chord at any point in the circumference of the segment opposite to the intersection of the tangents.

8. OT is a tangent to, and OPQ a secant of the circle PQT; prove that  $OT^2 = OP \cdot OQ$ .

## PAPER B.

1. With your instruments construct a square whose sides are 1 inch in length. Find the centres of the inscribed and circumscribed circles of this square. Estimate their radii from your figure.
  2. Prove that the order of magnitude of the angles of a triangle is the same as that of the opposite sides. . . . .  
If the angles are as 1:2:3 find the ratios of the corresponding sides.
  3. Prove that the sums of the angles of a triangle and quadrilateral are respectively two and four right angles.
  4. Prove that parallelograms upon the same bases and between the same parallels are equal in area, and deduce the corresponding theorem about parallelograms upon equal bases and between the same parallels.
  5. Prove that the complements of the parallelograms about a diagonal of any parallelogram are equal in area.
  6. Enunciate and prove the geometrical theorems which correspond to the algebraical identities—  
(i.)  $a(a-b) = a^2 - ab$   
(ii.)  $(a-b)(a+b) = a^2 - b^2$ .
  7. Prove that angles in the same segment of a circle are equal.
  8. OT is a tangent to and OPQ a secant of the circle PQT.  
Prove that  $OT^2 = OP \cdot OQ$ .  
Further if  $\angle TPQ =$  a right angle and  $OP = 10$  inches,  $PQ = 20$  inches, find the lengths of OT, TP, TQ correct to one decimal place.
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\* ENTRANCE EXAMINATION  
FOR THE  
FACULTIES OF LAW, MEDICINE AND SCIENCE,  
INCLUDING THE  
DEPARTMENT OF ENGINEERING AND  
P. N. RUSSELL SCHOLARSHIP.

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LATIN.

1. Translate into English, extracts from Livy, Book xxvi.
2. Translate, with brief comments—
  - (a) Cn Fulvius exsulatum Tarquinius abiit. Id ei iustum exsilium esse scivit plebs.
  - (b) Tribuni plebis ex auctoritate senatus ad populum tulerunt, ut M. Marcello, quo die urbem ovans iniret, imperium esset.
3. Translate into English, extracts from Horace, Odes, Book 1.
4. Translate, with brief comments—
  - (a) Non Laërtiaden, exitium tuæ  
Genti, non Pylium Nestora respicis?
  - (b) Occidit et Pelopis genitor, conviva deorum,  
Tithonusque remotus in auras,  
Et Iovis arcanis Minos admissus.
  - (c) Eheu cicatricum et sceleris pudet  
Fratrumque. Quid nos dura refugimus  
Aetas?
5. Translate—

Sic eques, sic pedes, ut praeceperat, pugnant, nec dux  
legiones nec fortuna fefellit ducem. multitudo hostium,  
nulli rei praeterquam numero freta et oculis utramque  
metiens aciem, temere proelium iniit, temere omisit;  
clamore tantum missilibusque telis et primo pugnae impetu

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\* NOTE.—The time allowed for each paper is three hours, except where otherwise stated.

ferox gladios et conlatum pedem et vultum hostis ardore animi micantem ferre non potuit. impulsa frons prima et trepidatio subsidiis inlata. et suum terrorē intulit eques; rupti inde multis locis ordines motaque omnia et fluctuanti similis acies erat. dein, postquam cadentibus primis iam ad se quisque perventuram caedem credebatur, terga vertunt. instare Romanus; et donec armati confertique abibant, peditum labor in persequendo fuit.

6. Translate into Latin—

Now at that time Jupiter had bidden the Romans to celebrate the great games anew, and many of the Volscians went to Rome to see the sight. But Attius Tullius, going by stealth to the consuls, bade them remember the mischief wrought in Rome by a tumult of the Sabines, and counselled them to prevent the Volscians doing the like. And when the consuls told this to the Senate, they made proclamation that before sunset every Volscian should be gone from Rome. So they went homewards full of wrath at the dishonour done to them. And as they passed by the spring of Ferentina, in the Alban hills, Attius met them and stirred them up to make war with the Romans, who had thus put them to shame. So the Volscians gathered a great host, and over it they set Attius and Cn. Marcius, the banished Roman.

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FRENCH.

*The answers are to be given up in two separate bundles, and marked clearly A and B. Answers given up in the wrong bundle will receive no marks. Each sheet must be clearly marked with the letters A or B.*

A.

- 1 and 2. Translate into English, extracts from Berthon, Specimens of Modern French Prose; Molière, Les Fâcheux.

B.

3. Translate into French—

In 1569 Elizabeth had refused to decide anything on the question of the Scottish Queen's guilt or innocence. This being so, Mary undoubtedly, by every rule of law and justice, ought to have been set at liberty. She had been accused of matters, which, as Elizabeth herself admitted, were not brought home to her by proof, and of which,



even if they had been proved, the Queen of England had no right to take cognisance. Nevertheless Elizabeth continued to treat Mary as guilty, though she declined to pronounce her so, and to coerce as her subject an independent sovereign who had chosen England for a retreat in the hope of experiencing that hospitable treatment which would have been extended to the meanest Scotchman, if, flying from the laws of his own country, he had sought refuge in the sister kingdom. Elizabeth was a great and glorious queen, but her conduct towards Mary casts a deep shadow on her character, and leads us to reflect what poor frail creatures even the wisest of mortals are, and of what imperfect material that which we call human virtue is found to consist.

4. Translate (at sight)—

AN ESCAPE FROM BRIGANDS.

Je n'avais pas un instant à perdre : les minutes étaient d'or. Ma grosse montre marquait onze heures. J'éteignis les deux foyers de bois résineux qui éclairaient notre table. Il faisait beau. Pas plus de lune que sur la main, mais des étoiles en profusion : c'était bien la nuit qu'il me fallait. Il était une heure moins un quart. Je retournai à ma tente, je pris ma boîte qui était suspendue au-dessus de mon lit, et je l'attachai sur mes épaules. En passant par l'endroit où nous avions diné, je ramassai le quart d'un pain et un morceau de viande que l'eau n'avait pas encore mouillés. Je serrai ces provisions dans ma boîte pour mon déjeuner du lendemain. J'ôtai mes souliers, je les liai ensemble par les cordons et je les pendis aux courroies de ma boîte. Enfin, après avoir songé à tout, j'allongeai une jambe par-dessus le parapet, je pris à deux mains un arbuste qui pendait sur l'abîme, et je me mis en voyage à la garde de Dieu. C'était une rude besogne, plus rude que je ne l'avais supposé de là-haut. Deux fois je fis fausse route en inclinant sur la gauche. Il fallut revenir, à travers des difficultés incroyables. L'espérance m'abandonna souvent, mais non la volonté. Le pied me manqua ; et je tombai de quinze ou vingt pieds de haut, collant mes mains et tout mon corps au flanc de la montagne, sans trouver où me retenir. Une racine de figuier me rattrapa par la manche de mon paletot : vous en voyez ici les marques.

ARITHMETIC.

TWO HOURS AND A HALF.

1. What is the whole number nearest to three millions which is exactly divisible by 3241 ?
2. A year contains 365·242 mean solar days, or 366·242 sidereal days. What is the difference in mean solar minutes, etc., between a mean solar day and a sidereal day ?
3. A merchant writes off for depreciation of his office fittings each year 10 per cent. of the value as it stands in his books from year to year. Another writes off 8 per cent. of the original value. Taking £300 as the original value, compare the book values of the fittings at the end of the fifth year.
4. A cylindrical vessel is 2 feet long and of diameter 1 foot. How many gallons will it contain if 1 gallon = 277·27 cubic inches ?
5. A merchant allows a discount for cash of 5 per cent. off the marked price of his goods. His expenses are 25 per cent. of the marked price, and he makes a profit of 15 per cent. on his *original* outlay. At what advance on cost is the marked price ?
6. What is the circumference of a circular cricket ground whose area is 20 acres? Take  $\frac{1}{\pi} = \cdot 3183$ .
7. A man is told to melt up some 22-carat gold and 15-carat gold in order to get 18-carat gold. He makes a mistake and reverses the proportions used. If he has  $3\frac{1}{2}$  ounces of this erroneously mixed alloy, how much pure gold (or pure alloy) will it be necessary to add to correct the mistake ?
8. Standard silver consists of 37 parts of pure silver and 3 parts alloy. Silver is quoted at 2s.  $4\frac{1}{4}$ d. per oz. standard. What is the corresponding price of pure silver ?  
66 shillings are coined out of 1 lb. troy of standard silver. What is the market value of the metal contained in 20 shillings, which have lost 5 per cent. of their weight from abrasion ?

9. Express "1 penny a mile" as "francs per kilometre," being given  $\pounds 1 = 25.22$  francs, and 1 metre = 39.371 inches.

# ALGEBRA.

TWO HOURS AND A HALF.

1. Shew that  $(2ax - by + cz)^3 + (cx + by + 2az)^3$  is divisible by  $2a + c$  and by  $x + z$ .
2. Prove that the factors of  $x^2 + px + q$  are (i.) real, (ii.) rational, according as  $p^2 - 4q$  is (i.) positive, (ii.) a perfect square.

Shew that the roots of the equation  $x^2 - bx + b^2 - a^2 = 0$  are both real and positive if  $b$  lies between  $\frac{2a}{\sqrt{3}}$  and  $a$ .

3. Solve the equations  
 $(x+y)^2 + 3(x+y) + 2 = 0$ .  
 $x^2 - 2xy - y^2 + \frac{7}{2} = 0$ .

4. Solve the equation

$$\sqrt{3x-1} + \sqrt{6(x+2)} = \sqrt{9x+19},$$

and find by actual substitution whether the values of  $x$  you find satisfy the equation as given.

5. What is a surd? Shew that, if  $x + \sqrt{y} = a + \sqrt{b}$ , then  $x = a$  and  $y = b$ . Under what conditions is this true?

Find the value of  $\sqrt{2\frac{1}{4}} + \sqrt{2}$ .

6. Find the sum of  $n$  terms of a G.P.

Apply a similar method to find the sum of the series

$$1 + 3x + 6x^2 + 10x^3 + 15x^4 + \dots \text{ to infinity,}$$

$x$  being less than unity.

7. Solve the equations

$$x + xy + y = 3$$

$$x^2y + xy^2 = 1\frac{1}{2}.$$

8. Find the number of permutations of  $n$  things  $r$  at a time.

Four boat crews have to be made up from 16 men; when the four "strokes" have been picked it is found that the others can row in any place. How many different sets of four crews can be formed?

9. If  $\log_a N = x$ , and  $\log_{ma} N = y$ , shew that  $m^{xy} = N^{x-y}$ .  
 Find the value of  $\sqrt[5]{324}$  and of  $\sqrt[4]{4 \cdot 21} + \sqrt[3]{622}$ .
10. Find the term involving  $x^7$  in  $(1+2x+3x^4)^{10}$ , and the term without  $x$  in  $\left(x^3 - \frac{1}{x^3}\right)^{12}$ .

## GEOMETRY.

TWO HOURS AND A HALF. THREE HOURS ALLOWED FOR CANDIDATES FOR THE  
 P. N. RUSSELL SCHOLARSHIP.

- Triangles upon the same base and between the same parallels are equal to one another.  
 Upon a base line measuring 4 units, parallelograms of area 12 units are described. Find the locus of the intersections of their respective diagonals.
- Two straight lines are parallel to two other straight lines each to each. Prove that the bisectors of the angles formed by the one pair of lines are parallel to the bisectors of the angles between the other pair.
- In any triangle the square on the side opposite to an acute angle is less than the sum of the squares on the sides containing the acute angle by twice the rectangle contained by one of these sides and the projection on it of the other.
- ABC is a triangle having the angles at B and C acute. BE and CF are respectively perpendicular to AC and BA; prove that  $BC^2 = \text{rect. AB.BF} + \text{rect. AC.CE}$ .
- Draw a tangent to a circle from an external point.  
 Prove that the tangents drawn to a circle from an external point are equal.
- Prove that a parallelogram which can be described about a circle must have all its sides equal.
- In equal circles or the same circle equal angles subtend equal arcs.  
 ABC, A'B'C' are two triangles inscribed in a circle and are such that AB is parallel to A'B' and AC parallel to A'C'.  
 Prove that BC' is parallel to B'C.

8. A point  $P$  is at distance  $d$  from the centre of a circle of radius  $r$ . Express the rectangle contained by the segments of a chord through  $P$  in terms of  $d$  and  $r$  if (i.)  $P$  is inside, (ii.)  $P$  is outside the circle.
9. Inscribe a regular pentagon in a given circle.  
The straight lines which join alternate vertices of a regular pentagon intersect so as to form another regular pentagon.

*Additional for Candidates for the P. N. Russell Scholarship.*

10. The bisector of any angle of a triangle divides the opposite side in the ratio of the sides containing that angle.  
On a given straight line  $BC$  describe a triangle  $ABC$ , having the angle  $BAC$  half a right angle, and the sides  $AB$ ,  $AC$  in the ratio  $1:3$ .
11. Every solid angle is contained by plane angles which are together less than four right angles.

### TRIGONOMETRY.

TWO HOURS AND A HALF.

1. Prove that the number of radians in an angle at the centre of a circle is equal to the fraction whose numerator is the measure of the arc subtended and whose denominator is the measure of the radius.  
The distance between two places on the equator is 100 miles. Find their difference in longitude, assuming that the radius of the earth is 3960 miles.
2. Prove that the cosine of a given positive angle less than  $90^\circ$  is a definite positive proper fraction.  
Find geometrically  $\cos 30^\circ$ , and write down the values of  $\cos 150^\circ$ ,  $\cos 210^\circ$ ,  $\cos 330^\circ$ .
3. A ladder, of length 57 feet, just reaches to the top of a window of a house when its inclination to the horizontal is  $63^\circ$ , and when the foot of the ladder is moved further away from the house the ladder just reaches to the bottom of the same window, its inclination being  $47^\circ$ .  
Find the height of the window and its height above the ground.

4. Prove geometrically that

$$\sin (90^\circ + A) = \cos A,$$

taking  $A$  to be an angle between  $45^\circ$  and  $90^\circ$ .

5. Prove the following identities—

(i.)  $\tan A + \cot A = \sec A \operatorname{cosec} A.$

(ii.)  $4 \sin^3 \frac{A}{3} = 3 \sin \frac{A}{3} - \sin A.$

(iii.)  $\sin A \cos 4A + \cos A \sin 2A = \cos 2A \sin 3A.$

6. Prove, if possible by projection, the formulae for  $\sin (A+B)$  and  $\cos (A+B)$ , taking  $A$  and  $B$  both acute angles.

Find the value of  $\tan 15^\circ$ .

7. Obtain a formula suited to logarithmic calculation by means of which we can obtain the values of the angles of a triangle when the sides are given, and point out the advantage this form has over others which give the angles in terms of the sides.

8. Prove that

$$\frac{\sin A}{a} = \frac{\sin B}{b} = \frac{\sin C}{c} = \frac{1}{2R}.$$

9. A ship is steaming in a direction  $W. 57^\circ 48' S.$  at 13 knots an hour. A lighthouse is observed to bear  $W. 26^\circ 37' S.$ , and 10 minutes later  $W. 18^\circ 53' S.$

How near is the ship to the lighthouse at the second observation?



## EXAMINATION FOR THE PETER NICOL RUSSELL SCHOLARSHIP FOR MECHANICAL AND ELECTRICAL ENGINEERING.

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*The papers are the same as those set in the Entrance Examination for Law, Medicine, Science and Engineering, with the addition of the following:—*

### APPLIED MECHANICS.

1. Investigate the equations of bending moments and shearing stresses in the following cases:—
  - (a) A beam supported at each end and loaded with an uniformly distributed load.
  - (b) A beam supported at each end and loaded with two concentrated loads arranged symmetrically.
  - (c) A beam supported at each end, with equal overhanging portions, loaded at the centre and at the extremities of the beam.
2. Explain the following terms:—Elastic limit, coefficient or modulus of elasticity, coefficient of rigidity, tensile, compressive, shearing and torsional strength, modulus of rupture, modulus of a cross-section, velocity ratio of a machine, mechanical efficiency, horse-power.
3. Explain Culman's Principle, and apply it to draw the bending moment diagram for a beam, loaded with three concentrated loads.
4. Prepare a tabulated statement, giving the tensile, compressive and shearing strengths, also the modulus of rupture of the following materials:—

Cast iron, structural steel, and ironbark timber.
5. Find the moment of resistance of a rolled girder, having given the following dimensions:—

Depth	..	35 inches.
Flanges	..	5 inches by $\frac{3}{4}$ of an inch thick.
Web	..	$\frac{1}{2}$ inch thick.
Intensity of stress,		8 tons per square inch.

Find the distributed load which the girder would carry on a span of 15 feet, when the maximum intensity of stress is 8 tons per square inch.

6. Describe and sketch any good form of double-acting lift and force pump, suitable for pumping water from a deep mine.
7. Make sketches illustrating the construction of any form of steam boiler with which you are acquainted, showing riveting, stays, and necessary fittings.
8. Contrast the function of the governor of a steam engine with that of the flywheel. Sketch any good form of governor you are acquainted with, and explain the terms, height, and sensibility.
9. Sketch one form of exact straight line motion, also Watt's parallel motion, and explain the theory of the pantagraph.

### CHEMISTRY.

*Give equations and sketches of apparatus wherever possible.*

1. Describe two or more laboratory processes for making oxygen, also one commercial process. Give equations for the changes which take place in each case.

2. What are the common compounds containing Nitric Acid, and how do they occur in nature?

How much Sodium Nitrate and Sulphuric Acid are required for the preparation of 1 lb. of the acid?

H=1. Na=23, S=32. N=14 and O=16.

3. State what you know about (a) the solution of salts in water, (b) supersaturation, and (c) the formation of hydroxides.
4. What reaction takes place when potassium ferrocyanide is heated with sulphuric acid?

5. Name the following gases, and state which support combustion and which are non-supporters:—

CO, CO<sub>2</sub>, H<sub>2</sub>S, SO<sub>2</sub>, CH<sub>4</sub>, C<sub>2</sub>H<sub>2</sub>, HCl, HI, PH<sub>3</sub>, N<sub>2</sub>O, NO, N<sub>2</sub>O<sub>4</sub>, and NH<sub>3</sub>.

How much oxygen is required for the combustion of 2 vols. of CH<sub>4</sub>, and of 3 vols. of CO; how many vols. of the products of combustion would be formed in each case?



6. How does Silver occur in nature? What chemical reactions take place when it is extracted by the Mexican or other amalgamation process?
7. What are the chemical changes which take place when iron is extracted from its ores in the blast furnace? What are the common impurities in cast iron?
8. Why are nitrogen, phosphorus, and arsenic classed together? What is the "white arsenic" of the shops?
9. What do you understand by the density of a substance? How would you experimentally prove that the vapour density of a body is equal to half its molecular weight?
10. Describe how you would analyse a mixture containing the following substances, in order to identify the bases and acids present:—Potassium nitrate, antimony trioxide, calcium carbonate, ferrous sulphate, stannous chloride, aluminium phosphate.

State which of the above bases you could identify in the dry way only, and describe how you would do so.

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#### PHYSICS I.

1. Distinguish between fundamental and derived units of measurement. Define the fundamental units which have been adopted for the scientific measurement of physical quantities. Explain with examples what is meant by the "dimensions" of physical quantities.
2. Clearly express what you understand by the term "surface tension" as applied to liquids, and give some examples illustrating your answer. What is the value of the surface tension of water at ordinary temperatures?
3. The pressure of gases is most frequently stated as "so many inches or millimetres of mercury." What is exactly meant by such a statement, and how would you deduce from it the value of the pressure in dynes per square centimetre?
4. Explain fully the meaning of the coefficients which are used to describe the elastic properties of isotropic bodies.  
Deduce the value of the incompressibility of any gas which obeys Boyle's law.

5. Describe the methods which have been used to determine the relation between the temperature and pressure of vapours in presence of their liquid, and explain how such vapours behave differently to gases far removed from the conditions under which they liquefy.
  6. Explain the circumstances which in practice prevent the definition of the image formed by a lens being perfect.
  7. Describe the methods used by Helmholtz for the analysis and synthesis of musical sounds. What conclusion has been drawn from such experiments as to the differences in quality of musical sounds?
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## PHYSICS II.

1. Describe the gold leaf electroscope, and explain how you would use it to determine whether a body was positively or negatively electrified.
2. Find the potential at a point at a distance  $r$  from the centre of a sphere uniformly electrified, and show that the capacity of a sphere far removed from the influence of other electrified bodies is numerically equal to its radius.
3. Describe the earth's magnetic field at Sydney, defining any magnetic terms you use.
4. A bar of iron previously unmagnetised is subjected to a magnetic force which starts from zero, increases to a certain value, and then decreases to zero. Draw a curve showing the relation between the magnetic force and the magnetic intensity during the experiment.
5. Describe Oersted's discovery as to the motion of a magnetic needle near a conductor carrying a current. A piece of steel is to be magnetised by being placed in a solenoid attached to a battery; explain how you would predict, before switching on the current, which end of the steel will be the north pole.
6. State the main facts of electrolysis, describing in detail some practical application.

7. Give an account of Faraday's experiments on electro-magnetic induction. State the "law" which has been invented to describe the phenomena, and apply it to the calculation of the magnitude of the induced electromotive force in some simple case.

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