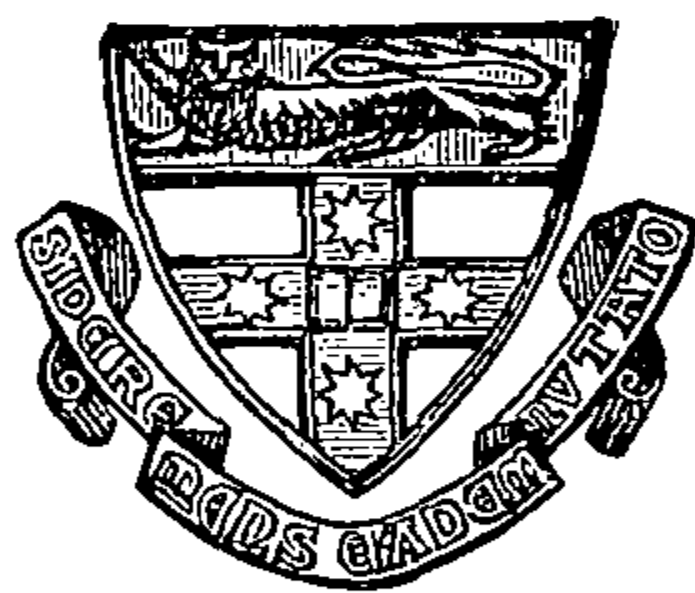


CALENDAR  
OF THE  
UNIVERSITY OF SYDNEY  
FOR THE YEAR  
1899



SYDNEY  
ANGUS AND ROBERTSON  
PUBLISHERS TO THE UNIVERSITY  
1899

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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 the annual income of £5000. Since 1882, this endowment has been supplemented by annual Parliamentary grants for the general purposes of the University, the amount voted for 1896-7 being £4000, and also by grants for special purposes.

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.

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 Mathematics, Chemistry, Physiology, and Law have been 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 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 1886 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 Engineering, and Mining Engineering. 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 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.

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, &c.

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 is 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.

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, 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.

1899-1900.

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# Sydney University Calendar.

1899.

MARCH XXXI.

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

# Sydney University Calendar.

1899.

APRIL XXX.

1	S	
2	<b>S</b>	Easter Sunday.
3	M	Senate Meets (on nearest convenient day).
4	Tu	LAW MATRICULATION Examination.
5	W	
6	Th	
7	F	
8	S	
9	<b>S</b>	First Sunday after Easter.
10	M	
11	Tu	
12	W	
13	Th	
14	F	
15	S	
16	<b>S</b>	Second Sunday after Easter.
17	M	
18	Tu	
19	W	
20	Th	
21	F	
22	S	
23	<b>S</b>	Third Sunday after Easter.
24	M	
25	Tu	
26	W	
27	Th	
28	F	
29	S	
30	<b>S</b>	Fourth Sunday after Easter.

# Sydney University Calendar.

1899.

MAY XXXI.

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

# Sydney University Calendar.

1899.

JUNE XXX.

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

# Sydney University Calendar.

1899.

JULY XXXI.

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

# Sydney University Calendar.

1899.

AUGUST XXXI.

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

# Sydney University Calendar.

1899.

SEPTEMBER XXX.

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

# Sydney University Calendar.

1899.

OCTOBER XXXI.

1	<b>S</b>	Eighteenth Sunday after Trinity.
2	<b>M</b>	Senate Meets.
3	<b>Tu</b>	
4	<b>W</b>	Latest date for receiving applications for Local SENIOR
5	<b>Th</b>	[and MATRICULATION HONOUR and SCHOLAR-
6	<b>F</b>	SHIP Examinations on November 13th.
7	<b>S</b>	
8	<b>S</b>	Nineteenth 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>	Twentieth 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 13th.
21	<b>S</b>	nation, and MATRICULATION HONOUR and SCHOLARSHIP
22	<b>S</b>	Latest date for receiving entries for the SENIOR PUBLIC Exami-
23	<b>M</b>	Twenty-first Sunday after Trinity.
24	<b>Tu</b>	
25	<b>W</b>	
26	<b>Th</b>	
27	<b>F</b>	[Examinations in December.
28	<b>S</b>	Latest date for receiving entries for the ANNUAL UNIVERSITY
29	<b>S</b>	Twenty-second Sunday after Trinity.
30	<b>M</b>	
31	<b>T</b>	



# Sydney University Calendar.

1899.

## 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	Twenty-third Sunday after Trinity.
6	M	Senate Meets.
7	Tu	
8	W	
9	Th	
10	F	
11	S	
12	S	Twenty-fourth 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-fifth Sunday after Trinity.
20	M	
21	Tu	
22	W	
23	Th	
24	F	
25	S	
26	S	Twenty-sixth Sunday after Trinity.
27	M	
28	Tu	
29	W	
30	Th	

# Sydney University Calendar.

1899.

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	Sunday after Christmas.

# Sydney University Calendar.

1900.

JANUARY XXXI.

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

# Sydney University Calendar.

1900.

FEBRUARY XXVIII.

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

# Sydney University Calendar.

1900.

MARCH XXXI.

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

# Sydney University Calendar.

1900.

APRIL XXX.

1	<b>S</b>	Fifth Sunday in Lent.
2	<b>M</b>	Senate Meets. LAW MATRICULATION Examination.
3	<b>Tu</b>	
4	<b>W</b>	
5	<b>Th</b>	
6	<b>F</b>	
7	<b>S</b>	
8	<b>S</b>	Palm Sunday.
9	<b>M</b>	
10	<b>Tu</b>	
11	<b>W</b>	
12	<b>Th</b>	
13	<b>F</b>	Good Friday.
14	<b>S</b>	
15	<b>S</b>	Easter Sunday.
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>	First Sunday after Easter.
23	<b>M</b>	
24	<b>Tu</b>	
25	<b>W</b>	
26	<b>Th</b>	
27	<b>F</b>	
28	<b>S</b>	
29	<b>S</b>	Second Sunday after Easter.
30	<b>M</b>	Last day for receiving applications for LOCAL JUNIOR [PUBLIC Examinations in June.

# Sydney University Calendar.

1900.

MAY XXXI.

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

# Sydney University Calendar.

1900.

JUNE XXX.

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



# Sydney University Calendar.

1900.

JULY XXXI.

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

# Sydney University Calendar.

1900.

AUGUST XXXI.

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

# Sydney University Calendar.

1900.

SEPTEMBER XXX.

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

# Sydney University Calendar.

1900.

OCTOBER XXXI.

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

# Sydney University Calendar.

1900.

NOVEMBER XXX.

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

# Sydney University Calendar.

. 1900.

DECEMBER XXXI.

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

THE ROYAL CHARTER OF THE UNIVERSITY, THE VARIOUS ACTS OF THE LEGISLATURE OF NEW SOUTH WALES RELATING TO THE UNIVERSITY AND COLLEGES, AND THE DEEDS OF GRANT UNDER WHICH THE UNIVERSITY HOLDS THE LANDS VESTED IN IT, WILL BE FOUND IN THE UNIVERSITY CALENDAR FOR 1893.

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Royal Charter, issued under the Queen's sign manual, February 27th, 1858.

An Act to Incorporate and Endow the University of Sydney, 14 Victoria, No. 31. Assented to 1st October, 1850.

An Act to amend an Act intituled "An Act to Incorporate and Endow the University of Sydney," 16 Victoria, No. 28. Assented to 21st December, 1852.

An Act to enable the University of Sydney to purchase the Sydney College, with the land attached thereto, 17 Victoria, No. 18. Assented to 5th September, 1853.

An Act to provide a Fund for Building the University of Sydney, 17 Victoria, No. 28. Assented to 24th October, 1853.

An Act to confer certain privileges on Graduates of the University of Sydney, 20 Victoria, No. 14. Assented to 3rd February, 1857.

An Act to amend the Sydney University Incorporation Act, 24 Victoria, No. 13. Assented to 26th April, 1861.

An Act to empower the Senate of the University of Sydney to confer Degrees in certain cases without Examination, and to give to Bachelors of Arts the right of voting in certain cases, 44 Victoria, No. 22. Assented to 23rd March, 1881.

An Act to enable the University of Sydney to grant Additional Degrees and Certificates in the nature of Degrees, and for other purposes, 47 Victoria. Assented to 16th May, 1884.

An Act to provide for the Establishment and Endowment of Colleges within the University of Sydney, 18 Victoria, No. 37. Assented to 2nd December, 1854.

An Act to Incorporate St. Paul's College as a College within the University of Sydney, 18 Victoria. Assented to 1st December, 1854.

An Act to enlarge the Council of St. Paul's College, 21 Victoria. Assented to 15th December, 1857.

An Act to Incorporate St. John's College as a College within the University of Sydney, 21 Victoria. Assented to 15th December, 1857.

An Act to Incorporate St. Andrew's College as a College within the University of Sydney, 31 Victoria. Assented to 12th December, 1867.

An Act to Establish and Endow a College for Women within the University of Sydney, 53 Victoria, No. 10. Assented to 21st September, 1889.

An Act to Incorporate the Prince Alfred Hospital, 30 Victoria. Assented to 3rd April, 1873.

An Act to authorise the resumption by the Crown and dedication as a site for the Prince Alfred Memorial Hospital of a portion of the land granted to the University of Sydney. 36 Victoria, No. 28. Assented to 25th April, 1873.

Three deeds of grant under which the University holds the land granted to it by the Crown. Register of grants, 23rd January, 1855, 10th July, 1866, and 26th July, 1897.



# 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 5-7-87 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 5-7-87 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 5-7-87 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 5-7-87 annually at a duly convened meeting of the Senate, to be held in Lent Term, except as in cases otherwise provided by the Act of Incorporation.

5.—The Chancellor and Vice-Chancellor shall be members 6-5-90 *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 5-7-87 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 5-7-87 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 5-7-87 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, in accordance with the provisions of the University Extension Act of 1884.

† By a resolution of the Senate, of date July 2, 1883, 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.

(24 Victoria, No. 13.)

20-9-98 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 Chemistry, such selections to take effect from the date of the Governor's assent hereto, and to endure for the term of two years from that date, 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 25-11-87 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 25-11-87 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 25-11-87 as Secretary, and keep the minutes of all proceedings.

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

6.—All questions submitted to the Convocation shall be 25-11-87 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 25-11-87 President, and shall be laid by the Registrar before the Senate at its next meeting.

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

#### CHAPTER IV.—SUPERIOR OFFICERS.

(24 Victoria, No. 13.)

1.—The Registrar and the Solicitor to the University are 5-7-87 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."

## BY-LAWS OF THE UNIVERSITY.

## 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. 27-9-92

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. 10-7-94

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. 27-9-92

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. 27-9-92

6.—A precis 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. 27-9-92

#### CHAIRMANSHIP OF BOARDS.

7.—The Chairman of the Professorial Board shall be elected at its first meeting in each year, such election to be by ballot if required by any member. The Chairman of every other Board shall be the Dean of the Faculty with which it is connected. 18-7-93

#### CONVENING AND QUORUM OF BOARDS.

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 18-7-93

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, 5-7-87 except 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 and other teachers at such times and in such order as the Senate may from time to time direct. 5-7-87

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

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

5.—Each Professor and Lecturer shall keep a daily record 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. 18-7-93

6.—Any undergraduate not holding a scholarship in the University, nor being a member of a college established under the provisions of the Act 18 Victoria, No. 37, may be exempted 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. 27-9-92

7.—No such exemption shall be granted until the Examiners 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. 27-9-92

- 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 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 be arranged in order of merit.

8.—Examiners shall be appointed from time to time by the Senate to conduct the examinations provided for under these By-laws.

#### CHAPTER XIV.—SCHOLARSHIPS.

1.—Scholarships shall be awarded after examination as the Senate may from time to time appoint.

2.—No Scholarship shall be awarded except to such candidates 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 with the Matriculation and Yearly Examinations, additional papers and questions being set when required.

#### CHAPTER XV.—FACULTY OF ARTS.

1.—The Faculty of Arts shall consist of the Professors of 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 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 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 examinations shall be conducted by means of written or printed papers, but the examiners shall not be precluded from putting *viva 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 20-9-98 following 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, 28-12-87 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 28-12-87 an 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 Examinations in these subjects.

14.—Candidates for the degree of Bachelor of Arts shall, 6-5-90 during their Second Year, attend the University lecturers 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,	Biology,
Mathematics,	Geology,
Chemistry,	History,
Physics,	Physiology,
Logic.	

Provided that those students who take up three languages shall select Latin or Greek as one of them.

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.

12-4-98 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,
Jurisprudence and Roman Law,	
Constitutional Law and International Law.	

Provided that those students who take Jurisprudence and Roman Law, and Constitutional Law and International Law, 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. 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.

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

22.—Students proceeding to the Degree of B.A. who have 21-4-96  
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 21-4-96  
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 11-9-93  
distinguished 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 5-7-87  
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 5-7-87  
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 of 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.

- 26-4-97 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.
- 26-4-97 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; and



shall have the general direction and superintendence over the teaching in Law, subject to such resolutions as the Senate may think fit to pass in relation thereto.

3.—The Dean of the Faculty of Law shall act as Chairman 26-4-97 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.—There shall be two Degrees granted in the Faculty of Law, 26-4-97 viz.:—Bachelor of Laws (LL.B.) and Doctor of Laws (LL.D.)

5.—Candidates for the Degree of Bachelor of Laws (LL.B.) 26-4-97 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.

6.—Thereafter students shall attend the various courses of 26-4-97 lectures prescribed in the subjects mentioned in Sections 10 and 11. Such attendance shall (1) in the case of students who have passed the Senior Public Examination, or an examination equivalent thereto, extend over a period of not less than five years; (2) in the case of students who have completed two years in Arts, and passed the Second Year Examination, extend over a period of not less than three years; and (3) in the case of students who have already graduated in Arts, extend over a period of not less than two years. Students must also pass the examinations referred to in Section 8, and comply with such regulations as may be from time to time prescribed by the Faculty of Law and approved by the Senate.

7.—The order in which the various courses of lectures shall 26-4-97 be taken shall be such as may be from time to time prescribed by the regulations of the Faculty. Provided that such order may in the case of any individual student be varied with the written consent of the Dean of the Faculty.

8.—There shall be two examinations for the Degree of 26-4-97 Bachelor of Laws, called respectively the Intermediate and the Final LL.B. Examination. The Intermediate and Final LL.B.

Examinations shall be held at the same time as the Annual Examinations in other Faculties. Students who have not acquitted themselves satisfactorily in such Class Examinations or exercises (including attendance at Court) as may be prescribed by the Faculty of Law, may be refused admission to these Examinations.

- 26-4-97 9.—The names of candidates who have passed the Intermediate LL.B. Examination shall be published in order of merit. The names of the candidates who have passed the Final 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 his Intermediate 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 his Final Examination within three years of passing his intermediate Examination shall not be eligible for any Prize or Scholarship awarded for proficiency in the subjects of that examination.

- 26-4-97 10.—At the Intermediate Examination candidates shall be examined in—

- I. Jurisprudence.
- II. Roman Law.
- III. Constitutional Law.
- IV. International Law.

- 26-4-97 11. At the Final Examination candidates shall be examined in—

- I. The Law of Property and Principles of Conveyancing.
- II. The Law of Status, Civil Obligations and Crimes.
- III. Equity, Probate, Bankruptcy and Company Law, and Procedure in those Jurisdictions; and
- IV. Procedure in Civil and Criminal Cases before the Supreme Court in its Common Law Jurisdiction and before Courts of Inferior Jurisdiction, together with Evidence and Pleading.

- 26-4-97 12.—Students 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.

13.—The Degree of LL.D. shall not be conferred until after 26-4-97 the expiration of two years from the granting of the LL.B. Degree.

14.—Candidates for the Degree of Doctor of Laws shall be 26-4-97 examined in the following subjects :—

I. Jurisprudence.

II. Roman Law.

III. English Law, including the Legislation of the Colony of New South Wales.

IV. International Law, and the Conflict of Laws.

There shall be one examination for the Degree of Doctor of Laws, called the LL.D. Examination. Such Examination shall take place in the month of March in each year.

15.—The candidates who distinguish themselves most highly 26-4-97 at the Degree Examinations respectively shall, if of sufficient merit, receive a bronze medal.

16.—The fee for the Degree of Bachelor of Laws shall be 26-4-97 £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.

17.—Candidates who fail to pass the examination for any 26-4-97 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.

18.—Students at Law and Articled Clerks and other persons 26-4-97 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.

1.—The Chancellor and Vice-Chancellor, the Fellows of the 19-3-89 Senate who are legally qualified members of the Medical Profession, the Professors and Lecturers in the subjects of the Medical curriculum, and the Examiners in Medicine appointed by the Senate, shall constitute the Faculty of Medicine.

2.—The Dean shall exercise a general superintendence over 19-3-89 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 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 to record the proceedings.

19-3-89 3.—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 Medicine, and such questions as may be referred to it by the Senate.

19-3-89 4.—Courses of instruction shall be given as directed by the Senate, and, except where otherwise specified, each shall consist either of a long course of one hundred hours' instruction, extending throughout two Terms, or of a short course of fifty hours' instruction, extending throughout one Term; and, where possible, the long courses shall be given during Lent and Trinity Terms, and the short courses during Michaelmas Term.

26-4-97 5.—Written Class Examinations shall be held during each course of instruction in Lent and Trinity Terms. 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. Students who fail to pass the Class Examinations may, at the discretion of the Board of Examiners, be refused admission to the Annual Examination.

19-3-89 6.—There shall be three Degrees granted in the Faculty of Medicine, viz.—Doctor of Medicine (M.D.), Bachelor of Medicine (M.B.), and Master of Surgery (Ch.M.).

18-7-93 7.—Candidates for a Degree in Medicine shall, before 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.

8.—Candidates for the Degrees of Bachelor of Medicine and Master of Surgery shall attend the following courses of instruction, and present the following certificates:—

I. In the First Year—

Inorganic Chemistry and Practical Chemistry.  
Physics and Practical Physics.  
Biology and Practical Biology.

II. In the Second Year—during Lent and Trinity Terms—

Descriptive Anatomy (Junior Course).  
Physiology (Junior Course).

During Trinity and Michaelmas Terms—

Practical Physiology (Histology and Experimental Physiology.)

During Michaelmas Term—

Organic Chemistry.  
Descriptive Anatomy (Senior Course).

III. In the Third Year—

During Lent Term—

Practical Physiology (Physiological Practical Chemistry).

During Lent and Trinity Terms—

Materia Medica and Therapeutics (seventy-five lectures).  
Regional Anatomy.

During Michaelmas Term—

Physiology (Senior Course).

IV. In the Fourth Year—

During Lent and Trinity Terms—

Pathology.

Surgery.

Operative Surgery and Surgical Anatomy—a course of twenty-five hours' instruction.

Clinical Surgery.

Tutorial Surgery.

During Michaelmas Term—

Practical Pathology.

Clinical Surgery.

Tutorial Medicine.

V. In the Fifth Year—

During Lent and Trinity Terms—

Medicine.

Midwifery (fifty lectures).

Gynæcology (twenty-five lectures).

Applied Logic (twenty lectures).

Clinical Medicine (twice weekly).

Tutorial Medicine.

During Trinity and Michaelmas Terms—

Medical Jurisprudence and Public Health.

During Michaelmas Term—

Psychological Medicine, including Clinical Instruction, and at least twelve systematic lectures.

Ophthalmic Medicine and Surgery, including Clinical instruction, and at least twelve systematic lectures.

Clinical Medicine (twice weekly).

Provided that the courses of instruction in Ophthalmic Medicine and Surgery and Psychological Medicine may be taken by the student in either the Fourth or the Fifth Year of study, as may from time to time be provided by the teaching regulations of the University. Provided further that the course of instruction in Applied Logic may be taken by the student in any year of study.

Before admission to the Final Examination, candidates 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 the Fourth and Fifth Years.
- (ii.) Of attendance on a class of Practical Pharmacy approved by the Faculty of Medicine, or a certificate showing that the student has been engaged during at least twenty-five attendances of two hours each, in compounding and dispensing drugs in a laboratory or a 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 upon Post-mortem Examinations during at least one Term during the Fourth and Fifth Years of the curriculum.
- (v.) Of attendance on at least twelve cases of Practical Midwifery.
- (vi.) Of proficiency in vaccination, signed by a legally qualified Medical Practitioner.
- (vii.) Of proficiency in the administration of Anæsthetics.
- (viii.) Of having attended a course of twenty lectures on Applied Logic, and of having passed a satisfactory Class Examination in the subjects thereof.

9.—For the Degrees of Bachelor of Medicine and Master of Surgery there shall be five examinations, viz., one at the end of each year of study. 26-4-97

The examination at the end of the First Year shall include Inorganic Chemistry, Physics and Biology.

The examination at the end of the Second Year shall include Organic Chemistry and an Intermediate Examination in Anatomy and Physiology.

The examination at the end of the Third Year shall include the entire subjects of Anatomy, Physiology and Materia Medica and Therapeutics.

Before admission to the Third Examination, candidates shall be required to present certificates of having dissected during at least six Terms, and of having completed the dissection of every part of the body at least once.

The examination at the end of the Fourth Year shall include Pathology and Operative Surgery and Surgical Anatomy.

The examination at the end of the Fifth Year shall include Medicine, Clinical Medicine, Surgery, Clinical Surgery, Midwifery, Medical Jurisprudence and Public Health, Psychological Medicine and Ophthalmic Medicine and Surgery.

Provided that the examination in Ophthalmic Medicine and Surgery shall form a part of either the Fourth Year or the Fifth Year Examination, according as the student has attended the course in those subjects in his Fourth or Fifth Year of study.

- 6-9-92 10.—Before admission to the Final Examination each candidate shall furnish a declaration of having completed his twenty-first year, and also a certificate of good fame and character, signed by two competent persons.
- 19-3-89 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.
- 19-3-89 12.—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.
- 11-9-93 13.—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.
- 19-3-89 14.—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 six 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.
- 19-3-89 15.—Bachelors of Medicine and Masters of Surgery of this University shall not possess any right to assume the title of Doctor of Medicine.



16.—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. 19-3-89

17.—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 for a like period and in a manner approved by the Faculty in the scientific study of any subject included in the Medical curriculum of the University of Sydney. 19-3-89

18.—Candidates shall be required to pass an examination conducted by means of set papers and by  *viva voce*  interrogations in one division of one of the two following groups, viz.:— 9-10-91

(i.) Medicine, Surgery, Midwifery, and Gynæcology.

The examination in each case shall include examination of, and report on, the cases of patients in a hospital, and examination and demonstration of specimens or preparations, normal or morbid.

(ii.) The other subjects included in the Medical curriculum of the University.

They shall further be required to present, and if called upon to defend, a thesis on some subject included in the Medical curriculum of the University. Five printed copies of the thesis on paper five and a half inches wide and eight and three quarters of an inch deep must be transmitted to the Registrar at least two months before the date fixed for the examination.

19.—The candidate who shall at this examination most distinguish himself shall, if of sufficient merit, receive a bronze medal. 11-9-93

20.—The Degree of Master of Surgery shall not be conferred on any person who has not already been admitted a Bachelor of Medicine. 19-3-89

21.—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. 19-3-89

22.—Candidates who fail to pass the Examination for any Degree shall be allowed to present themselves for a second 19-3-89

examination for the same Degree without fee, but for every further examination that may be required they shall pay the sum of five pounds.

- 6-9-92 23.—Undergraduates in Medicine who have passed the subjects of the Second and Third Medical Examinations, and have, in addition, attended an advanced course of and passed an advanced examination 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.

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

- 8-10-89 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. 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.

- 8-10-89 3.—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 Science, and such questions as may be referred to it by the Senate.

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

- 26-4-97 5.—Candidates for the Degree of Bachelor of Science shall, 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.

6.—Candidates for the Degree of Bachelor of Science shall, 8-10-89 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).

7.—Candidates for the Degree of Bachelor of Science shall, 12-4-98 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.

8-10-89 10.—No candidate shall be admitted to this examination 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.

18-4-94 11.—The fee for the Degree of B.Sc. shall be three 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. For any re-examination for the same degree he shall pay a fee of two pounds.

18-7-93 12.—The Annual Examinations shall be conducted in the 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.

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

8-10-89 14.—The Examination for the Degree of Doctor of Science (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 8-10-89 must produce evidence that he has been employed in scientific study and research for at least three Academic years since obtaining the B.Sc. Degree. He shall be required to pass a theoretical and practical examination in one of the following branches of Science, viz., Botany, Chemistry, Geology, Palæontology, Physics, Physiology, and Zoology. He shall also be required to present, for the approval of the examiners, a paper embodying the result of an original investigation or scientific research. Five printed copies of this paper must be transmitted to the Registrar at least two months before the date fixed for the examination. The candidate must also submit sufficient evidence of the authenticity of his paper to the examiners, who may, if they think fit, examine him in the contents thereof.

16.—The candidate who shall at this examination most 11-9-93 distinguish himself shall, if of sufficient merit, receive a bronze medal.

17.—The fee for the Degree of D.Sc. shall be ten pounds. 8-10-89 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.

18.—Candidates for the Degree of Bachelor of Engineering 28-3-99 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 in the following subjects, viz., Latin, one of the three languages—Greek, French, or German; and four of the following subjects, viz., Arithmetic, Algebra, Geometry, Trigonometry, Elementary Surveying and Astronomy, Mechanics, Applied Mechanics.

- (4) Of having passed 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 four of the following subjects, viz., Arithmetic, Algebra, Geometry, Trigonometry, Elementary Surveying and Astronomy, Mechanics, Applied Mechanics.

28-3-99. 19.—Candidates for the Degree of Bachelor of Engineering 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.

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 of the First Year as they have not already passed at the above-mentioned examinations.

#### CIVIL AND MECHANICAL ENGINEERING.

9-2-92 20.—Candidates for the Degree of Bachelor of Engineering in Civil and Mechanical 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).
- II. Civil Engineering.
- III. Drawing.

- IV. Geology.
- V. Mathematics.
- VI. Physics (with one term laboratory practice).
- VII. Surveying.

21.—Candidates for the Degree of Bachelor of Engineering 9-2-92 in Civil and Mechanical 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).
- III. Mathematics.
- IV. Surveying.

And one of the following:—

- a. Civil Engineering and Architecture.
- b. Mechanical Engineering and Machine Construction.

Every candidate is required to prepare and submit to the Board of 11-9-93 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.

22.—Candidates for the Degree of Bachelor of Engineering 28-3-99 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. Materials and Structures.
- IV. Geology, with laboratory practice as prescribed by regulation.
- V. Mineralogy, with laboratory practice as prescribed by regulation.
- VI. Surveying.
- VII. Physics, with laboratory practice as prescribed by regulation.

28-3-99 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.

#### ELECTRICAL ENGINEERING.

9-2-92 \*24.—Candidates for the Degree of Bachelor of Engineering in 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).
- II. Mechanical Drawing.
- III. Mathematics.
- IV. Physics (with two terms' laboratory practice).
- V. Surveying.

9-2-92 25.—Candidates for the Degree of Bachelor of Engineering in Electrical Engineering shall, during the Third Year, attend the courses of instruction upon, and pass the examinations in, the following subjects:—

- I. Electrical Engineering.
- II. Electric Theory (with laboratory practice).
- III. Dynamo and Motor Drawing and Design.
- IV. Mathematics.

Every candidate is required to prepare and submit to the Board of Examiners an original set of working drawings and specifications for an electric light or power scheme, or for an electric railway.

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

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\* The University is not at present in a position to carry out in full the by-laws for the curriculum in Electrical Engineering.



27.—A candidate shall not be admitted to the Degree of 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. 8-10-89

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

29.—The Examination for the Degree of Master of Engineering 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. 8-10-89

30.—Every candidate shall be required to produce to the 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. 9-2-92

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 :— 13-12-92

- 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.

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

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

#### CHAPTER XIX.—ADMISSION *AD EUNDEM GRADUM*.

5-7-87 1.—Admission *ad eundem gradum* in the University may, at 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 Universities 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 by the Registrar in such manner as the Senate shall from time to time direct. 5-7-87

2.—A Register of the Members of Convocation shall be kept 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. 5-7-87

## CHAPTER XXI.—SUBSTITUTES FOR OFFICERS.

1.—Any act required by the By-laws to be performed by 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. 5-7-87

## CHAPTER XXII.—ACADEMIC COSTUME.

1.—The Academic costume shall be for— 12-9-92

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.

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.

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

5-7-87 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  
6-5-90 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.

## CHAPTER XXIII.—PUBLIC EXAMINATIONS.

1.—Two Public Examinations shall be held every year, the 5-7-87 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.

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

3.—The subjects of the Junior Public Examination shall be 5-7-87 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.

4.—The subjects of the Senior Public Examination shall be 5-7-87 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.

5.—Every candidate who shall pass either of these examina- 5-7-87 tions, 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.

6.—No person shall be admitted to either of the Public Ex- 5-7-87 aminations 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.

7.—The Professors and Assistant Professors not engaged in 18-7-93 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.

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

9.—Subject to these By-laws, the Public Examinations 5-7-87 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 examinations 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.
- 30-7-94 4.—In all cases not provided for in the preceding By-laws of this Chapter, Evening Students shall be subject to the same By-laws, Rules, and Regulations as other students.

## CHAPTER XXV.—UNIVERSITY EXTENSION.

- 18-4-94 1.—There shall be a Board, consisting of not more than 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.

3.—All action taken by the Board shall be subject to the 12-9-92  
By-laws, and to any directions which may be given by the Senate.

4.—The Board shall from time to time recommend to the 12-9-92  
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.

5.—The Board may appoint any persons whose employment 12-9-92  
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.

6.—The Board shall determine the tenure of office of the 12-9-92  
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.

7.—The payments to be made to the Lecturers shall be 12-9-92  
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.
- 12-9-29 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.
- 9-10-94 2.—Any salaried officer of the University becoming a candidate for election to the Legislative Assembly shall thereby vacate his office.

## CHAPTER XXVII.—FINANCE.

- 11-9-93 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.
- 7-6-92 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.



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

4.—The Registrar shall attend all meetings of the Committee, 7-6-92 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.

5.—It shall be the duty of the Finance Committee to submit 7-6-92 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.

6.—The Finance Committee shall, as soon as practicable 7-6-92 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.—The Registrar and Accountant shall present to the 7-6-92 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 to the preceding day.

8.—The Finance Committee shall once in each month 7-6-92 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.

7-6-92 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.

20-9-98 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 :—

- (a) Deposit with the Government of the Colony 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 Colonies.
- (c) Debentures or other Loan issues of Municipal or other public bodies within this Colony, 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 have not 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 Colony.
  - (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.
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# REGULATIONS.

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## 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.

Matriculated students who have lost their places in their own proper year, either by non-attendance at the prescribed courses 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.

## 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, or on any day on which the Library is closed 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.

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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 has determined to apply the sum of £20,000 and its accumulations from February, 1888, to the erection of a Library building at and for the University, 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, a small Museum for the Nicholson Antiquities, and additional Lecture Rooms, together with a Refectory for Students. The balance of the principal money up to £10,000 is invested as a perpetual endowment fund for keeping up and adding to the Library.

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### MUSEUM OF ANTIQUITIES.

*Committee of Management*—Professor SCOTT, M.A.; Professor WOOD, M.A.; and Professor DAVID, B.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.

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### 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 their 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 collections have been removed to the University.

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### MUSEUM OF NORMAL AND MORBID ANATOMY.

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

*Curator*—S. JAMIESON, B.A., M.B., Ch.M.

#### 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.

UNIVERSITY EXTENSION BOARD, 1899:—Professor Anderson, M.A.; H. C. L. Anderson, M.A.; His Honour Judge Backhouse, M.A.; Hon. W. P. Cullen, M.A., LL.D.; Professor David, B.A.; H. Goodere; G. C. Henderson, B.A.; Rev. Jas. Hill, M.A.; A. W. Jose; Professor MacCallum, M.A.; Professor Scott, M.A.; E. B. Taylor; R. Teece; Professor Wilson, M.B.; Professor Wood, M.A. Honorary Secretary, A. W. Jose.

## 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 at £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.

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## 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, 1900, will begin on Monday, MARCH 5th, 1900. The Examination for Matriculation Honours and Scholarships will commence on NOVEMBER 13th, 1899.

### 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, 1900: Cicero pro Murena (Heitland, Cambridge). March, 1901: Livy, Book XXVI. (Nicholls, Angus and Robertson).
- 2.—*Arithmetic*.
- 3.—*Algebra*—To quadratic equations involving one unknown quantity.
- 4.—*Geometry*—Euclid, Books I., II. and III.

### OPTIONAL SUBJECT—PASS.

- 1.—*Greek*—March, 1900: An examination similar to that in Latin. Subject set: Xenophon, Anabasis, Book II. (Pretor, Cambridge); or Demosthenes, de Pace, 2nd and 3rd Philippics, and De Chersoneso (Abbott and Matheson, Oxford). For the examination in March, 1901, no special Greek book will be set. Candidates will be required to translate passages of Greek at sight, and to translate simple English sentences into Greek. The knowledge of Greek required will be such as may be gained in the course of reading a book of Xenophon or some other writer of simple Attic prose.

- 2.—*French*—An examination similar to that in Latin. Subject set for March, 1900: Balzac, Ursule Mirouët (Whittaker). March, 1901: Michaud, La Première Croisade (Macmillan).
- 3.—*German*—An examination similar to that in Latin. Subject set for March, 1900: Auerbach, Schwarzwälder Dorfgeschichten (Whittaker). March, 1901: Elster, Zwischen den Schlachten (Macmillan).

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.

CLASSICS.—Translation from specified books, with questions on language and subject matter. Translation at sight from Latin and Greek into English, and from English into Latin and Greek. The examination will include questions on Roman and Greek history, and may include questions on any subject connected with classical study.

*Latin.* Nov., 1899.—Cicero pro Murena (Heitland, Cambridge).  
Virgil, Æneid, Book II. (Sidgwick, Cambridge).

History of Rome, from the Tribune of Tiberius Gracchus to the Battle of Actium (B.C. 133 to 31).

Nov., 1900.—Livy, Book XXVI. (Nicholls, Angus and Robertson). Horace, Odes, Book I. (Wickham, Clarendon Press, or Page, Macmillan).

History of Rome, from the Tribune of Tiberius Gracchus to the Battle of Actium (B.C. 133 to 31).

*Greek.* Nov., 1899.—Demosthenes, De Pace, 2nd and 3rd Philippics, and De Chersoneso (Abbott and Matheson, Oxford). Homer, Iliad, Book I., and Book II. to line 483 (Monro, Oxford).

History of Greece, from the expulsion of the Pisistratidæ to the end of the Peloponnesian War (B.C. 510 to 404).

Nov., 1900.—Herodotus, Book VII., chapters 138 to 239 (Butler, Macmillan). Sophocles, Antigone (Campbell and Abbott, Oxford).

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., 1899.—Victor Hugo, Hernani (Rivington), Balzac, Ursule Mirouët (Whittaker).

Nov., 1900.—Michaud, La Première Croisade (Macmillan), Molière, Les Femmes Savantes (Macmillan).

*German.* Nov., 1899.—Select Letters of Mendelssohn (Pitt Press), Auerbach, Schwarzwälder Dorfgeschichten (Whittaker).

Nov., 1900.—Elster, Zwischen den Schlachten (Macmillan). Schiller, Lyrical Ballads (Macmillan).

**MATHEMATICS.**—The Honour papers in Mathematics will be (i.) Algebra; (ii.) Geometry; (iii.) Trigonometry. The papers will be similar in general character to those hitherto set in the Senior Public Examination and the Entrance Examination for Law, Medicine and Science.

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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 suration.
  - (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. Those who take the Senior Public Examination may pass in *any* three or four (as the case may be) of the sections in Group III.—Mathematics.

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, 1900: Cicero pro Murena (Heitland,



Cambridge); Virgil, *Æneid*, Book II. (Sidgwick, Cambridge). March, 1901: Livy, Book XXVI. (Nicholls, Angus and Robertson); Horace, *Odes*, Book I. (Wickham, Oxford, or Page, Macmillan).

*Greek*.—An examination similar to that in Latin. Subjects for March, 1900: Demosthenes, *De Pace*, 2nd and 3rd *Philippics*, and *De Chersonese* (Abbott and Matheson, Oxford); Homer, *Iliad*, Book I., and Book II. to line 483 (Monro, Oxford). March, 1901: Herodotus, Book VII., chapters 138 to 239 (Butler, Macmillan); Sophocles, *Antigone* (Campbell and Abbott, Oxford).

*French*.—An examination similar to that in Latin. Subjects for March, 1900: Victor Hugo, *Hernani* (Rivington), Balzac, *Ursule Mirouët* (Whittaker). March, 1901: Michaud, *La Première Croisade* (Macmillan); Molière, *Les Femmes Savantes* (Macmillan).

*German*.—An examination similar to that in Latin. Subjects for March, 1900: *Select Letters of Mendelssohn* (Pitt Press), Auerbach, *Schwarzwälder Dorfgeschichten* (Whittaker). March, 1901: Elster, *Zwischen den Schlachten* (Macmillan). Schiller, *Lyrical Ballads* (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.

*Trigonometry*, including Solution of Triangles, Heights and Distances, and Properties of Triangles.

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Copies of the papers set in the ENTRANCE EXAMINATION will be found in the *Appendix*.

---

# 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 (Junior A) .. .. .	..	9	..	9	..
1	§Latin .. .. .	9	..	9	..	9
4	Greek (Preliminary) .. .. .	..	9	..	9	..
14	Mathematics .. .. .	10	10	10	10	10
7	French (Junior B) .. .. .	..	11	..	11	..
9	German (Junior) .. .. .	11	..	..	..	11
11	English .. .. .	..	..	11	..	..
23	Chemistry .. .. .	12	12	..	12	12
19	Physics.. .. .	..	..	..	..	..
31	Physiography .. .. .	..	..	..	..	..
28A	*Chemistry (Practical) for Honours .. .. .	2-5	..	2-5	..	2-5
SECOND YEAR.						
14	Mathematics .. .. .	9	9	9	9	9
10	German (Senior) .. .. .	..	9	..	9	9
20	Physics.. .. .	..	10	..	10	..
12	English .. .. .	¶1	10	..	1	10
17	History .. .. .	10	..	10	10	..
2	Latin .. .. .	11	¶11	11	..	11
6	Greek (Junior) .. .. .	..	11	..	11	..
32	†Geology .. .. .	..	11	..	11	..
	Biology, with Laboratory Practice .. .. .	11	11	11	11	11
24	Chemistry (Metals) with one term Practical .. .. .	..	..	..	..	..
8	French (Senior) .. .. .	12	¶1	12	..	12
16	Logic and Mental Philosophy .. .. .	..	12	..	12	9
44	Physiology .. .. .	12	12	12	12	12
22	Practical Physics .. .. .	..	2-5	..	2-5	..
THIRD YEAR.						
33	†Geology .. .. .	..	9	..	9	..
10	German (Senior) .. .. .	..	9	..	9	9
13	English .. .. .	9	9	¶9	..	9
3	§Latin .. .. .	10	..	10	§10	10
6	Greek (Senior) .. .. .	..	10	..	2	..
16	Logic and Mental Philosophy .. .. .	..	11	..	9	11
14	Mathematics .. .. .	11	11	11	11	11
18	History .. .. .	11	..	11	11	..
	Biology, with Laboratory Practice.. .. .	11	11	11	11	11
24-25	Chemistry, with one term Practical .. .. .	..	..	..	..	..
8	French (Senior) .. .. .	12	¶1	12	..	12
44-46	Physiology .. .. .	12	12	12	12	12
21-22	Physics.. .. .	†2-5	..	†2-5	..	†2-5

\*Or at times to be arranged. †Laboratory practice. ‡Practical work each week as arranged.  
 Excursions every third or fourth Saturday as arranged. ¶Honours Lecture. §One hour  
 additional for Honours. ||See page 106.

## OF ARTS.

FOR 1899.

refer to the Synopses of Lectures on pp. 73-125.

REFERENCE NUMBER.	TRINITY TERM.					MICHAELMAS TERM.				
	Mon.	Tues.	Wed.	Thur.	Fri.	Mon.	Tues.	Wed.	Thur.	Fri.
7	..	9	..	9	..	..	9	..	9	..
1	9	..	9	..	9	9	..	9	..	9
4	..	9	..	9	..	..	9	..	9	..
14	10	10	10	10	10	10	10	10	10	10
7	..	11	..	..	11	..	11	..	..	11
9	11	..	..	11	..	11	..	..	11	..
11	..	..	11	..	..	..	..	11	..	..
23	..	..	..	..	..	..	..	..	..	..
19	12	12	..	12	12	..	..	..	..	..
31	..	..	..	..	..	12	12	..	12	12
28	..	..	..	..	..	..	..	..	..	..
14	9	9	9	9	9	9	9	9	9	9
10	..	9	..	9	9	..	9	..	9	9
20	..	10	..	10	..	..	10	..	10	..
12	¶1	..	1	..	10	¶12	10	9	..	10
17	10	..	10	10	..	10	..	10	10	..
2	11	¶11	11	..	11	11	¶11	11	..	11
5	..	11	..	11	..	..	11	..	11	..
32	..	11	..	11	..	..	11	..	11	..
24	..	2	11	2	..	..	..	..	..	..
8	12	¶1	12	..	12	12	¶1	12	..	12
15	..	12	..	12	9	..	12	..	12	9
44	12	12	12	12	12	..	..	..	..	..
22	..	2-5	..	2-5	..	..	..	..	..	..
33	..	9	..	9	..	..	9	..	9	..
10	..	9	..	9	9	..	9	..	9	9
13	9	9	¶9	..	9	9	9	¶9	..	9
3	10	..	10	§10	..	10	..	10	§10	10
6	..	10	..	2	9	..	10	..	2	9
16	..	11	..	9	11	..	11	..	11	11
14	11	11	11	11	11	11	11	11	11	11
18	11	..	11	11	..	11	..	11	11	..
24-25	¶11	2	11	2	..	..	..	..	..	..
8	12	¶1	11	11	11	11	11	11	11	11
44	12	12	12	12	12	12	¶1	12	..	12
21-22	†2-5	..	†2-5	..	†2-5	..	12	..	12	..

†Laboratory Practice. ‡Students of the third year can take either the Trinity or Michaelmas Term Course. ¶Honours Lecture.

# FACULTY TIME TABLE

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

REFERENCE NUMBR.	SUBJECT.	LENT TERM.				
		M.	Tu.	W.	Th.	F.
	THIRD YEAR.					
65	(a) Jurisprudence & Roman Law	12-30	..	12-30	..	1-30
66	(a) Constitutional Law and International Law .. ..	..	12-30	..	12-30	12-30
	FOURTH YEAR.					
67	(a) Law of Status, Civil Obligations, and Crimes .. ..	..	4-30	..	4-30	..
68	(b) Law of Procedure, Evidence, and Pleading .. ..	4-30	..	4-30	..	4-30
	FIFTH YEAR.					
69	(b) The Law of Property, & Principles of Conveyancing† ..	..	5-15	..	5-15	..
70	(b) Equity, Probate, Bankruptcy, and Company Law.. ..	..	4-15	..	4-15	..

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

NOTE.—Graduates in Arts who have not taken Law Subjects in their Third Year, and who propose to proceed to the Degree of LL.B. in two years, are required to take the courses marked (a) in their First Year, and those marked (b) in their Second Year.

+ Certain additional lectures will be delivered on this subject, at such times as may be arranged.

## OF LAW.

FOR 1899.

refer to the Synopses of Lectures on pp. 73-125.

REFERENCE NUMBER.	TRINITY TERM.					MICHAELMAS TERM.				
	M.	Tu.	W.	Th.	F.	M.	Tu.	W.	Th.	F.
65	12-30	..	12-30	..	1-30	12-30	..	12-30	..	1-30
66	..	12-30	..	12-30	12-30	..	12-30	..	12-30	12-30
67	4-30	..	4-30	..	4-30	..	4-30	..	4-30	..
68	..	4-15	..	4-15	..	4-30	..	4-30	..	4-30
69	..	5-15	..	5-15	..	..	5-15	..	5-15	..
70	4-15	..	4-15	..	4-15	..	4-15	..	4-15	..

## FACULTY OF

## TIME TABLE

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

REFERENCE NUMBER.	SUBJECT.	LENT TERM.				
		M.	Tu.	W.	Th.	Fri.
FIRST YEAR.						
34-35	Biology .. .. .	11	11	11	11	11
23-24	Chemistry (Inorganic) .. .. .	12	12	12	12	12
19	Physics .. .. .	..	..	..	..	..
39-40	Practical Biology .. .. .	2-4	..	2-4	..	2-4
28A	Practical Chemistry .. .. .	..	..	..	..	..
22	*Practical Physics (Class A) .. .. .	9-11	..	9-11	..	9-11
22	*Practical Physics (Class B) .. .. .	..	..	..	..	..
SECOND YEAR.						
41	Descriptive Anatomy .. .. .	9	9	9	9	9
45	*Practical Physiology .. .. .	..	..	..	..	..
44	Physiology (Junior) .. .. .	12	12	12	12	12
25	Organic Chemistry .. .. .	..	..	..	..	..
THIRD YEAR.						
45	Practical Physiology .. .. .	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 .. .. .	11.45	11.45	11.45	11.45	11.45
49	Surgery .. .. .	1.15	1.15	1.15	1.15	1.15
49	§ Operative Surgery .. .. .	..	2.15	..	..	2.15
51	Practical Pathology .. .. .	..	..	..	..	..
	Hospital, with Clinical and Tutorial Surgery .. .. .	..	..	..	..	..
FIFTH YEAR.						
50A	Midwifery .. .. .	9	9	9	9	9
50B	Gynæcology (during first six weeks of Term) .. .. .	..	..	..	..	..
52	Medical Jurisprudence & Public Health (last four weeks of Trinity Term) .. .. .	..	..	..	..	..
48	Medicine .. .. .	1	1	1	1	1
54	§ Ophthalmic Medicine and Surgery .. .. .	2	..	2	..	..
53	§ Psychological Medicine .. .. .	..	..	..	..	..
	§ Applied Logic .. .. .	..	..	..	..	..
	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.

FOR 1899.

refer to the Synopses of Lectures on pp. 73-125.

REFERENCE NUMBER.	TRINITY TERM.					MICHAELMAS TERM.				
	M.	Tu.	W.	Th.	Fri.	M.	Tu.	W.	Th.	Fri.
34-35	..	2	11	2	..	¶11	..	¶11	..	¶11
23-24	11	11	11	11	11	..	..	..	..	..
19	12	12	..	12	12	..	11	..	11	..
39-40	..	..	..	..	..	..	2-4	..	2-4	..
28	2-5	..	2-5	..	2-5	..	..	..	..	..
22	..	..	..	..	..	..	..	..	..	..
22	..	..	..	..	..	9-11	..	9-11	..	9-11
41	9	9	9	9	9	12	12	12	12	12
45	10-12	10-12	10-12	10-12	10-12	9-11	9-11	9-11	9-11	9-11
44	12	12	12	12	12	..	..	..	..	..
25	..	..	..	..	..	11	11	..	11	11
45	..	..	..	..	..	..	..	..	..	..
47	9	9	9	9	9	..	..	..	..	..
42	12	12	12	12	12	..	..	..	..	..
44	..	..	..	..	..	12	12	12	12	12
51	11.45	11.45	11.45	11.45	11.45	..	..	..	..	..
49	1.15	1.15	1.15	1.15	1.15	..	..	..	..	..
49	..	2.15	..	..	2.15	..	..	..	..	..
51	..	..	..	..	..	11.30	11.30	11.30	11.30	11.30
..	..	..	..	..	..	..	..	..	..	..
50A	..	..	..	..	..	..	..	..	..	..
50B	9	9	9	9	9	..	..	..	..	..
52	9	9	9	9	9	9	9	9	9	9
48	1	1	1	1	1	..	..	..	..	..
54	..	..	..	..	..	..	2	..	2	..
53	..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..	..

¶ Until the course is completed.

# FACULTY

## TIME TABLE OF

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

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

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



## OF SCIENCE.

## LECTURES FOR 1899.

refer to the Synopses of Lectures on pp. 73-125.

REFERENCE NUMBER.	TRINITY TERM.					MICHAELMAS TERM.				
	M.	Tu.	W.	Th.	F.	M.	Tu.	W.	Th.	F.
14	10	10	10	10	10	10	10	10	10	10
34-35	..	2	11	2	..	§11	..	§11	..	§11
23-24	11	11	11	11	11	..	..	..	..	..
19	12	12	..	12	12	..	11	..	11	..
39-40	..	..	..	..	..	..	2-4	..	2-4	..
28A	2-5	..	2-5	..	2-5	..	..	..	..	..
22	..	..	..	..	..	2-5	..	2-5	..	..
31	..	..	..	..	..	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	..	..	..	..	..	11	11	11	11	11
32	..	11	..	11	..	..	11	..	11	..
45	10-12	..	10-12	..	10-12	2-4	..	2-4	..	2-4
44	12	12	12	12	12	..	..	..	..	..
36-38	..	2-5	..	2-5	..	..	2-5	..	2-5	..
22	..	2-5	..	2-5	..	..	2-5	..	2-5	..
28B	2-5	..	2-5	..	2-5	..	..	..	..	..
33	..	9	..	9	..	..	9	..	9	..
37	10	..	10	..	10	10	..	10	..	10
45	2-4	..	2-4	..	2-4	2-4	..	2-4	..	2-4
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	..	2	..	..	..	..	..	..	..	..
37	2-5	..	2-5	..	2-5	2-5	..	2-5	..	2-5
28B	2-5	..	2-5	..	2-5	2-5	..	2-5	..	2-5

‡ Practical work.    § Until the course is completed.

# DEPARTMENT OF CIVIL 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 .. ..	10	10	10	10	10
56	Descriptive Geometry & Drawing	..	11	..	11	..
55	Applied Mechanics .. ..	11	..	11	..	11
23-24	Chemistry (Inorganic) .. ..	12	12	12	12	12
19	Physics .. ..	..	..	..	..	..
31	Physiography .. ..	..	..	..	..	..
28A	Practical Chemistry .. ..	2-5	..	2-5	..	2-5
22	Practical Physics .. ..	..	..	..	..	..
61	Mechanical Drawing .. ..	..	2-5	..	2-5	..
SECOND YEAR.						
14	Mathematics .. ..	9	9	9	9	9
57	Applied Mechanics .. ..	10	..	10	..	10
20-22	Physics and Practical Physics ..	..	10 *2-5	..	10 *2-5	..
32	†Geology .. ..	..	11	..	11	..
62	Surveying .. ..	11	..	11	..	..
61	Mechanical Drawing .. ..	2-5	..	2-5	..	2-5
THIRD YEAR.						
14	Mathematics .. ..	11	11	11	11	11
59	Civil Engineering—Materials and Structures .. ..	12	..	12	..	12
58	Civil Engineering .. ..	..	12	..	12	..
61	Mechanical Drawing and Design	2-5	2-5	2-5	2-5	2-5
60	Mechanical Engineering, &c. ..	..	..	..	..	..
63	Architecture—Building Construction .. ..	..	..	..	..	..
63	Architecture—History of .. ..	..	..	..	..	..
62	Surveying .. ..	..	..	..	..	..

† Practical work each week, as arranged. Excursions every third or fourth Saturday, arranged. \* Laboratory practice.

## ENGINEERING.

## MECHANICAL.

FOR 1899.

refer to the Synopses of Lectures on pp. 73-125.

REFERENCE NUMBER.	TRINITY TERM.					MICHAELMAS TERM.				
	M.	Tu.	W.	Th.	F.	M.	Tu.	W.	Th.	F.
14	10	10	10	10	10	10	10	10	10	10
56	..	..	9	..	9	..	..	..	..	..
55	..	..	..	..	..	11	..	11	..	11
23-24	11	11	11	11	11	..	..	..	..	..
19	12	12	..	12	12	..	11	..	11	..
31	..	..	..	..	..	12	12	..	12	12
28	..	..	..	..	..	2-5	..	2-5	..	2-5
22	2-5	..	2-5	..	..	..	..	..	..	..
61	..	2-5	..	2-5	..	..	2-5	..	2-5	..
14	9	9	9	9	9	9	9	9	9	9
57	11	..	11	..	11	..	..	..	..	..
20-22	..	10 *2-5	..	10 *2-5	..	..	10	..	10	..
32	..	11	..	11	..	..	11	..	11	..
62	10	..	10	..	10	..	..	..	..	..
61	2-5	..	2-5	..	2-5	2-5	..	2-5	..	2-5
14	11	11	11	11	11	11	11	11	11	11
59	12	..	12	..	..	..	12	..	12	..
58	..	12	..	12	12	..	..	..	..	..
61	2-5	2-5	2-5	2-5	2-5	2-5	2-5	2-5	2-5	2-5
60	..	..	..	..	..	..	..	..	..	..
63	..	..	..	..	..	..	3	..	..	3
63	..	..	..	..	..	..	4	..	..	4
62	..	..	..	..	..	..	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 .. .. .	10	10	10	10	10
56	Descriptive Geometry and Drawing ..	..	11	..	11	..
55	Applied Mechanics .. .. .	11	..	11	..	11
23-24	Chemistry (Inorganic) .. .. .	12	12	12	12	12
31	Physiography .. .. .	..	..	..	..	..
19	Physics .. .. .	..	..	..	..	..
28A	Practical Chemistry .. .. .	2-5	..	2-5	..	2-5
22	Practical Physics .. .. .	..	..	..	..	..
61	Mechanical Drawing** .. .. .	..	2-5	..	2-5	..
SECOND YEAR.						
20-22	Physics and Practical Physics .. ..	..	..	..	..	..
32	†Geology, &c. .. .. .	..	11	..	11	..
57	Applied Mechanics .. .. .	10	9-11	10	9-11	10
61	‡Mechanical Drawing .. .. .	..	..	..	..	..
62	Surveying.. .. .	11	..	11	..	..
59	Materials and Structures .. .. .	12	..	12	..	12
30	Mineralogy .. .. .	..	..	..	..	..
28B	Chemistry (Quantitative Analysis) ..	2-5	2-5	2-5	2-5	2-5
THIRD YEAR.						
28c	Assaying .. .. .	9-4	9-4	9-4	9-4	9-4
64	Mining .. .. .	4	..	4	..	..
27	Metallurgy .. .. .	..	4	..	4	..
61	‡Mechanical Drawing and Design ..	..	..	..	..	..

\*\* Also on Saturdays from 9 to 1    † Practical work as arranged.    ‡ On Saturdays from 9-1.

# ENGINEERING.

## METALLURGY.

FOR 1899.

refer to the Synopses of Lectures on pp. 73-125.

REFERENCE NUMBER.	TRINITY TERM.					MICHAELMAS TERM.				
	M.	Tu.	W.	Th.	F.	M.	Tu.	W.	Th.	F.
14	10	10	10	10	10	10	10	10	10	10
56	..	..	9	..	9	..	..	..	..	..
55	..	..	..	..	..	11	..	11	..	11
23-24	11	11	11	11	11	..	..	..	..	..
31	..	..	..	..	..	12	12	..	12	12
19	12	12	..	12	12	..	11	..	11	..
28	..	2-5	..	2-5	2-5	..	..	..	..	..
22	2-5	..	2-5	..	..	..	..	..	..	..
61	..	..	..	..	..	..	2-5	..	2-5	..
20-22	..	¶9-11	..	¶9-11	..	..	10	..	10	..
32	..	11	..	11	..	..	11	..	11	..
57	11	..	11	..	11	¶9-11	..	¶10-11	..	¶9-11
61	..	..	..	..	..	..	..	..	..	..
62	§10	..	§10	..	§10	..	..	9	..	..
59	12	..	12	..	..	..	..	..	..	..
30	..	12	..	12	..	¶11-1	..	¶11-1	..	¶11-1
28	2-5	2-5	2-5	2-5	2-5	2-5	2-5	2-5	2-5	2-5
28c	9-4	9-4	9-4	9-4	9-4	..	9-4	..	9-4	..
64	4	..	4	..	..	4	..	4	..	..
27	..	4	..	4	..	..	4	..	4	..
61	..	..	..	..	..	..	..	..	..	..

¶ Laboratory practice.

§ For five weeks only.

## FACULTY OF ARTS.—EVENING LECTURES.

## \* TIME TABLE FOR 1899.

N.B.—The numbers in the left-hand column refer to the Synopses of Lectures on pp. 73-125.

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

\* This time table is subject to alteration.

|| Chemistry and Physics and Physiography are taken in alternate years.

# LECTURE SUBJECTS FOR 1899.

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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."

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*N.B.—The numbers refer to the Time Tables of Lectures on pages 60-72.*

## CLASSICS AND MODERN LANGUAGES.

Subjects selected for Lectures and Examinations:—

### LATIN.—1899.

1.—*First Year, Pass.*—Cicero pro Sestio; Virgil, Æneid V., VI. *Add. for Honours.*—Tacitus, Agricola and Dialogus de Oratoribus; Virgil, Æneid I., II., III., IV. Roman History to the Tribunate of Tib. Gracchus.

2.—*Second Year, Pass.*—Cicero in his Letters (Tyrrell); Horace, Satires (selections). *Add. for Honours.*—Cicero, Philip-pics, I. to VII.; Plautus, Captivi and Trinummus. *Pass and Honours.*—Roman History from the Tribunate of Tib. Gracchus to the battle of Actium.

3.—*Third Year, Pass.*—Tacitus, Histories III. and IV.; Lucretius, Book V.; Martial, Select Epigrams, Stephenson, Books I. to X. *Add. for Honours.*—Tacitus, Histories I., II., V.; Lucretius I. and II.; Horace, Epistles. *Pass and Honours.*—Roman History from the battle of Actium to the death of Marcus Aurelius.

#### LATIN—1900.

*First Year, Pass.*—Livy, Book XXVI.; Virgil, Georgics, I. and II. *Add. for Honours.*—Quintilian, Book X.; Virgil, Æneid VII., VIII., IX., X. Roman History to the Tribune of Tib. Gracchus.

*Second Year, Pass.*—Sallust, Catiline; Cicero, II. Philippic; Horace, Odes I., II., and III. *Add. for Honours.*—Tyrrell's Cicero's Letters, Vol. I.; Terence, Phormio; Catullus (selections). *Pass and Honours.*—Roman History from the Tribune of Tib. Gracchus to the battle of Actium.

*Third Year, Pass.*—Tacitus, Annals III. and IV.; Juvenal (selections); Horace, Epistles. *Add. for Honours.*—Tacitus, Annals I., II., V., VI.; Lucretius (selections); Lucan (selections). *Pass and Honours.*—Roman History from the battle of Actium to the death of Marcus Aurelius.

#### GREEK.

There will be three classes in Greek—Preliminary, Junior, and Senior.

Students of the First Year may attend either the Preliminary or the Junior Class; but candidates for Honours in the First Year must attend the Junior Class.

Students of the Second Year may attend either the Junior or the Senior Class; but those who have attended the Junior Class in their First Year, and candidates for Honours in the Second Year, must attend the Senior Class.

Students of the Third Year must attend the Senior Class.

Students of all years will be required to translate at sight from Greek into English. Those who attend the Preliminary Class, and candidates for Honours in all years, will be required to translate at sight from English into Greek.

#### GREEK—1899.

4.—*Preliminary Class.*—Herodotus, Book VIII. (*Shuckburgh*, Cambridge); Euripides, Alcestis (*Jerram*, Oxford).



5.—*Junior Class*.—Thucydides, Books IV. and V.; Æschylus, Prometheus Vincetus; Sophocles, Ajax; Greek History to B.C. 404.

6.—*Senior Class*.—Plato, Republic (selections); Homer, Iliad (selections); History of Greek Literature.

*For Third Year Honours*.—Plato, Republic and Homer, Iliad (the whole); History of Greek Literature.

#### GREEK—1900.

*Preliminary Class*.—Plato, Apologia and Crito. Homer, Odyssey, V. 262 to VIII. 265.

*Junior Class*.—Thucydides, Books VII. and VIII.; Sophocles, Antigone and Œdipus Coloneus. Greek History to B.C. 404.

*Senior Class*.—Aristotle, Ethics (selections); Æschylus, Agamemnon; Sophocles, Œdipus Coloneus. History of Greek Ethical and Political Theory.

*Additional for Third Year Honours*.—Aristotle, Ethics (the whole); Euripides, Medea and Orestes.

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#### 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).

##### *Elementary—*

Roby's Smaller Latin Grammar; The New Latin Primer, Postgate and Vince (Cassell); The Revised Latin Primer, Kennedy (Longmans); or any other Latin Grammar of similar character.

Rutherford's First Greek Grammar.

A Sidgwick's First Greek Writer.

Thompson Syntax of Attic Greek.

Gow's Companion to School Classics (Macmillan). (A handbook of Greek and Roman Antiquities).

##### ANCIENT HISTORY—

Mommsen's History of Rome, translated by Dickson (Bentley).

Mommsen, the Provinces under the Roman Empire.

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

- Merrivale's History of the Romans under the Empire.  
 Shuckburgh's History of Rome (Macmillan).  
 How and Leigh's History of Rome (Longmans).  
 Pelham's Outlines of Roman History.  
 Capes' Early Roman Empire, and Age of the Antonines (Epochs of Ancient History, Longmans).  
 Bury's Students' Roman Empire (Murray).  
 Strachan-Davidson, Cicero. Warde Fowler, Julius Caesar.  
 Grote's History of Greece.  
 Students' History of Greece, by Smith (Murray), or Oman's History of Greece (Rivington).  
 Cox, The Greeks and Persians; Cox, The Athenian Empire; Sankey, The Spartan and Theban Supremacies (Epochs of Ancient History, Longmans).  
 Abbott, Pericles.

#### 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, or History of Latin Literature, Simcox.  
 Roman Poets of the Republic, Sellar.  
 Roman Poets of the Augustan Age, Sellar.  
 Mackail's Latin Literature.  
 History of Ancient Greek Literature, Murray or Mahaffy.  
 Studies of the Greek Poets, first and second series, Symonds.  
 Classical Writers' Series, ed. J. R. Green (Macmillan); Sophocles, Campbell; Euripides, Mahaffy; Demosthenes, Butcher.  
 Guide to Greek Tragedy, Campbell (Percival).  
*Editions of Latin Authors.*

#### FOR PASS STUDENTS:

- Cicero, 2nd Philippic, J. E. B. Mayor (Macmillan); 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); Selected Letters, Tyrrell (Macmillan).  
 Horace, Odes, Wickham, Smaller edition, or Page (Macmillan); Satires, Palmer (Macmillan); Epistles, Wilkins (Macmillan).  
 Juvenal, Pearson and Strong (Oxford), or Hardy (Macmillan), or Duff (Cambridge).  
 Livy (text, in 8 parts, sold separately) Madvig; Books XXI., XXII. (text and notes), Capes (Macmillan); Book XXVI, Nicholls (Angus & Robertson, Sydney); Book XXVII., Stephenson (Pitt Press).  
 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., III., IV., V., *Godley* (Macmillan); or *Simcox* (Rivington).

Virgil, *abridgment of Conington* (Bell), or *Sidgwick* (each book sold separately, Cambridge), or *Æneid*, I.-VI., *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*, *Orelli* (Latin Notes), or *Wickham* (Oxford); or *Satires*, *Palmer* (Macmillan); *Epistles*, *Wilkins* (Macmillan).

Juvenal, *Mayor* (Macmillan).

Lucan, *Haskins* (Bell).

Lucretius, *Munro* (Bell).

Persius, *Conington* (Oxford).

Plautus, *Captivi* *Sonnenschein*, or *Hallidie* (Macmillan); *Trinummus*, *Wagner*, or *Grey* (Cambridge); Text, *Ritschl*.

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

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

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

Virgil, *Conington* (Bell).

*Editions of Greek Authors.*

Æschylus, *Agamemnon*, *Choephoroi* and *Eumenides*, *Sidgwick* (Oxford); *Prometheus Vincetus*, *Prickard* (Oxford), or *Glazebrook* (Longmans), or *Sikes and Willson* (Macmillan).

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

Aristotle, *Ethics* (text), *Bywater* (Oxford); (notes), *Stewart* (Oxford); *Ethics* (text and notes), *Grant* (Longmans).

Aristotle, *Politics* (text), *Bekker* (Berlin); (commentary), *Newman* (Oxford); (translation and notes), *Jowett* (Oxford) or *Welldon* (Macmillan); (text and notes books I. to V.), *Susemihl and Hicks* (Macmillan); (text and translation of Books I., III., and IV.), *Bolland and Lang* (Longmans).

Aristotle, *Poetics*, *Butcher* (Macmillan).

Demosthenes, *Orations against Philip*, *Abbott and 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*, *Holmes* (Rivington) or *Drake-Shuckburgh* (Macmillan); *De Falsa Legatione*, *Shilleto* (Cambridge).

Euripides, *Helena*, *Iph. in Taur.*, *Heracleidae*, *Jerram* (Oxford), *Iph. in Aul.*, *Headlam* (Cambridge); *Hippolytus*, *Hadley* (Cambridge); *Medea*, *Heberden* (Oxford), or *Glazebrook*

- (Rivington) or *Verrall* (Macmillan); *Alcestitis*, *Jerram* (Oxford), or *Earle* (Macmillan); *Bacchae*, *Tyrrell* (Macmillan); *Hecuba*, *Hadley*, (Cambridge); *Orestes*, *Wedd* (Cambridge); *Troades*, *Tyrrell* (Dublin); *Phoenissae*, *Paley* (Bell); *Ion*, *Jerram* (Oxford), or *Bayfield* (Macmillan), or *Verrall* (Cambridge).
- Herodotus (text), *Dietsch* (Trubner); (with notes) Book III. *Macaulay* (Macmillan); Book V., VI., VIII., IX., *Shuckburgh* (Cambridge); VI., *Strachan* (Macmillan); VII., *Butler* (Macmillan); IX., *Abbott* (Oxford). Translation and notes. *Rawlinson* (Murray).
- Homer, *Iliad*, *Monro* (Oxford); or *Leaf and Bayfield* (Macmillan); The Story of Achilles from Homer's *Iliad* (*Iliad Books*, 1, 9, 11 and 16 to 24), by *Pratt and Leaf* (Macmillan); *Odyssey*, *Merry* (Oxford). Introduction to Homer, *Jebb* (MacLehose, Glasgow); Homer and the Epic, *A. Lang* (Longmans); Companion to the *Iliad*, *Leaf* (Macmillan); *Homeric Grammar*, *Monro* (Oxford).
- Pindar, Olympian and Pythian Odes, *Gildersleeve* (Macmillan); Nemean and Isthmian Odes, *Fennell* (Cambridge).
- Plato, Protagoras, *Wayte* (Bell) or *Adam* (Cambridge); Gorgias, *Thompson* (Bell), or *Lodge* (Ginn); Apologia, Meno, *St. George Stock* (Oxford); Apologia, Crito, Euthyphro, *Adam* (Cambridge); Laches, *Tatham* (Macmillan); Phaedo, *Archer-Hind* (Macmillan); Republic (text), *Baier*; Companion to Plato's Republic, *Bosanquet* (Rivington and Percival); Theaetetus, *Campbell*; Ion and Hippias Minor, *G. Smith* (Rivington); Hippias Major, *G. Smith* (Rivington). Translations of, and introductions to, all the Dialogues, *Jowett* (Oxford).
- Sophocles, in single plays, *Jebb* (Rivington), or *Campbell and Abbott* (Oxford).
- Thucydides (text), *Stahl* (Tauchnitz); (text and notes), *Classen* (German), or *Poppo* (Ed. Minor, Latin); Book I., *Forbes* (Oxford); II., *Marchant* (Macmillan) or *Shilleto* (Bell); III., *Spratt* (Cambridge); IV. and V., *Graves* (Macmillan); VI., VII., *Marchant* (Macmillan); VII., *Holden* (Cambridge); VIII., *Tucker* (Macmillan). (Translation and Notes), *Jowett* (Oxford).
- Lyric and Elegiac Poets, *Anthologia Lyrica* (Trubner).

## 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—1899.

7.—*Junior Course, Pass.*—Composition: Roulier; Corneille, Horace (*Hachette*); La Fontaine, Fables (*Bell*); Molière Fourberies de Scapin (*Hachette*). *Add. for Honours.*—French Historical Grammar; La Bruyère, Caractères (*Hachette*); Molière, Les Fâcheux (*Bibliothèque Nationale, Paris*).

8.—*Senior Course, Pass.*—Composition: Roulier; Literature of the 17th Century, Racine, Athalie (*Clar. Press*); Boileau, Satires (*Hachette*); Molière, Misanthrope (*Hachette* or *Clar. Press*); La Fayette, Princesse de Clèves (*Marpon et Flammarion*); La Bruyère, Caractères (*Hachette*). *Add. for Third Year Students.*—Sévigné, Lettres Choies (*Hachette*). *Add. for Honours.*—Early French Literature; Toynbee, Specimens of Old French (*Clar. Press*).

## FRENCH—1900.

*Junior Course, Pass.*—Composition: Passages for Translation (*Angus & Robertson*); Voltaire, Mérope (*Clarendon Press*); Montesquieu, Sur la Grandeur et Décadence des Romains (*Hachette*); Piron, La Métromanie (*Hachette* or *Pitt Press*). *Add. for Honours.*—French Historical Grammar; Rousseau, Extraits en Prose (*Hachette*); Sedaine, Le Philosophe sans le savoir (*Hachette* or *Pitt Press*).

*Senior Course, Pass.*—Composition: Passages for Translation (*Angus & Robertson*); Literature of the 18th Century; Rousseau, Extraits en Prose (*Hachette*); Brueys et Palaprat, L'Avocat Patelin (*Hachette*); Voltaire, Choix de Lettres (*Hachette*); Sedaine, Le Philosophie sans le savoir (*Hachette* or *Pitt Press*); Sainte-Beuve, Causeries du Lundi, Vol. III. (*Garnier*). *Add. for Third Year Students.*—Pages choisies de Lesage (*A. Colin et Cie*). *Add. for Honours.*—Literature of the 16th Century; Darmesteter et Hatzfeld, Le seizième siècle en France (*Delagrave*); Pages choisies de Rabelais (*A. Colin et Cie*).

## 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—1899.

9.—*Junior Course, Pass.*—Composition: Buchheim's Materials; Kleist, Prinz von Homburg (*Reklam*); Heine, Lieder und

Gedichte (*Macmillan*). *Add. for Honours*.—Schiller, Braut von Messina (*Nutt*); Heinrich Stilling's Jugend, etc. (*Spemann*); German Historical Grammar.

10.—*Senior Course, Pass.*—Composition: Buchheim's Materials; Lessing, Hamb. Dramaturgie (*Hachette*); Goethe, Hermann und Dorothea (*Pitt Press*); Schiller, Braut von Messina (*Nutt*); Heinrich Stilling's Jugend, etc. (*Spemann*). *Add. for Third Year Students*.—Schiller and Goethe, Correspondance (*Hachette*). *Add. for Honours*.—Early German Literature; Bachmann, Mittelhoch-deutsches Lesebuch (*Höhr, Zurich*).

#### GERMAN—1900.

*Junior Course, Pass.*—Composition: Passages for Translation (*Angus & Robertson*); Immerman, Der Oberhof (*Pitt Press*); Buchheim, Deutsche Lyrik (*Macmillan*). *Add. for Honours*.—Historical German Grammar; Heine's Prose (*Clarendon Press*); Halm, Griseldis (*Clar. Press*).

*Senior Course, Pass.*—Composition: Passages for Translation (*Angus & Robertson*); Literature in the lifetime of Heine; E. T. A. Hoffmann, Der Goldene Topf (*Reklam*); Heine's Prosa; (*Clarendon Press*); Kleist, Käthchen von Heilbronn (*Reklam*); Z. Werner, Der 24 Februar (*Reklam*); Buchheim, Balladen und Romanzen (*Macmillan*). *Add. for Third Year Students*—Fouqué, Undine (*Reklam*); Börne, Aus meinem Tagebuche (*Reklam*). *Add. for Honours*.—Literature of the 16th and 17th Centuries; Liederbuch des 16 Jahrhunderts (*Brockhaus*); Ch. Weise, die drei ärgsten Erznarren (Halle, *Niemeyer*).

#### ENGLISH—1899.

11.—*First Year*.—Lectures on English Language, Composition and Style. Chaucer, Prologue to the Canterbury Tales (*Clarendon Press*). Shakespeare, Hamlet (*Clarendon Press*).

12.—*Second Year*.—History of Literature from Chaucer to Milton, with special reference to the Stuart Drama. *Set Books*: Selections from Chaucer's Canterbury Tales, ed. Corson (*Macmillan*). Life of Doctor Faustus, Mediæval Tales (*Morley's Universal Library*). Marlowe, Faustus (*Clarendon Press*). Shakespeare's Plutarch, ed. Skeat (*Macmillan*). Shakespeare's Coriolanus and Julius Cæsar (*Clarendon Press*). Antony and Cleopatra (*Macmillan*). Ben Jonson, Timber (*Ginn & Co.*)

*Additional for Honours*.—Cook, First Book of Old English; Corson's Selections from Chaucer's Canterbury Tales (whole

book). Skeat: *Specimens of English Literature*, from the Ploughman's Crede (*Clarendon Press*).

13.—*Third Year*.—History of Literature from Dryden to Burke. Lectures on the Foreign Influences that have affected English Literature. *Set Books*: Shakespeare's Tragedies. Dryden, *Select Poems* (*Clarendon Press*). Swift, *Selections*, Vol. I. (*Clarendon Press*). Goldsmith, *Vicar of Wakefield*. Collins, *Poems*. Burke, *Speeches* (*Macmillan*).

*Additional for Honours*.—Beowulf (*Ginn & Co.*). Maclean, *Old and Middle English Reader* (*Macmillan*).

ENGLISH—1900.

*First Year*.—Lectures on English Language, Composition, and Style. Sweet's *Selections from Chaucer* (Second Middle English Primer. *Clarendon Press*). Shakespeare, *Tempest* (*Clarendon Press*).

*Second Year*.—Lectures on the chief writers from Chaucer to Milton; special subject, the Stuart Drama; Chaucer, *Knights Tale* (*Clarendon Press*); Shakespeare, *Midsummer Night's Dream*, *Merchant of Venice*, *Much Ado about Nothing* (all *Clarendon Press*), and *Winter's Tale* (*Macmillan*); Jonson, *Plays and Poems* (*Morley's Universal Library*); Shakespeare and Fletcher, *the Two Noble Kinsmen* (*Pitt Press*); Milton, *Comus* (*Clarendon Press*). *Add. for Honours*.—Cook, *First Book of Old English* (*Ginn & Co.*); Skeat, *Specimens of English Literature, 1394 to 1579* (*Clarendon Press*); *The Kinges Quair* (*Early Scottish Text Society*).

*Third Year*.—Lectures on Shakespeare's Comedies. Lectures on the History and Principles of Criticism. Lectures on the Literature of the Romantic Revival. Special books to be named hereafter. *Add. for Honours*.—Andreas (*Ginn & Co.*). Maclean, *Old and Middle English Reader* (*Macmillan*). *Early Alliterative Poems* (ed. Morris, *Early English Text Society*).

14. MATHEMATICS.\*

All Science and Engineering students during their First Year must attend either the lectures prescribed for Class A or B of the First Year in Arts. Students of the Second Year in Science who select Mathematics as one of their subjects, and students of the Second Year in Electrical Engineering, must

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

attend Class A or B of the Second Year in Arts; and in their Third Year they must attend Class A or B of the Third Year in Arts. Students in Civil or Mechanical Engineering are required during their Second and Third Years to attend the A or B lectures prescribed for the Second and Third Years in Arts, in Statics and Dynamics, Differential Calculus, Integral Calculus, Spherical Trigonometry, and Analytical Geometry.

All students attending lectures, except Third Year A lectures, must present themselves at the class examinations as under—

#### AT THE END OF LENT TERM.

First Year in Arts and Science .. ..	Geometry.
Second Year in Arts .. ..	Logarithms and Trigonometry.
Second Year in Science .. ..	Differential Calculus.
Third Year in Arts and Second and Third	{ (i.) Differential Calculus.
Year Science and Engineering .. ..	{ (ii.) Spherical Trigonometry.

#### AT THE END OF TRINITY TERM.

First Year in Arts and Science .. ..	Algebra.
Second Year in Arts and Science .. ..	Integral Calculus.
Third Year in Arts .. ..	{ (i.) Integral Calculus.
	{ (ii.) Astronomy.

Students who pass in a class examination 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.

#### FIRST YEAR IN ARTS.

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

#### FIRST YEAR—CLASS A.

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

LENT TERM.—*Geometry* (*Tu., Th.*)—Euclid Books I.-IV., VI. and XI., with exercises and other theorems and problems relating to rectilinear figures and circles, poles and polars for the circle, anharmonic ratio, the sphere, cylinder, cone and regular polyhedra. *Algebra* (*M., W.*)—Surds, indices, complex quantities, scales of notation, permutations and combinations, binomial, multinomial, and exponential theorems, logarithms, interest, annuities, series, continued fractions, inequalities, properties of numbers, probabilities, determinants.



TRINITY TERM.—*Geometrical Conics* (Tu., Th.)—Parabola, ellipse, hyperbola, focus and directrix, tangent and normal, conjugate diameters, poles and polars, asymptotes, orthogonal projection. *Trigonometry* (M., W.)—Measurement of angles, formulæ, identities, equations, logarithmic tables, solution of triangles, heights and distances, properties of triangles, Demoivre's theorem, expansion of sine and cosine in series ar 1 in factors, summation of series, proportional differences.

MICHAELMAS TERM.—*Analytical Geometry* (Tu., Th.)—Coordinates rectilinear and polar, the straight line, the circle, parabola, ellipse, hyperbola, tangent, normal, eccentric angle, diameters, asymptotes. *Differential Calculus* (M., W.)—Limits, differentiation, successive differentiation, Taylor's theorem, tangent and normal, maxima and minima.

FIRST YEAR—CLASS B.

Three days a week, at 10 a.m. throughout the year, as follows :—

LENT TERM.—*Algebra* (F.)—Up to quadratic equations of two and three unknown quantities, and corresponding problems. *Geometry* (Tu., Th.)—Euclid, Books I-IV., VI. and XI., with exercises and other theorems and problems relating to rectilinear figures and circles.

TRINITY TERM.—*Algebra and Trigonometry* (Tu., Th.)—*Algebra*—Up to the binomial theorem. *Trigonometry*—Measurement of angles, trigonometrical ratios, formulæ for one or two angles, easy equations and identities. *Geometrical Conics* (F.)—Parabola, ellipse, focus and directrix, tangent and normal.

MICHAELMAS TERM.—*Trigonometry* (M., W.)—Logarithms and logarithmic series, triangles, heights and distances. *Analytical Geometry* (F.)—Coordinates rectilinear and polar, the straight line, the circle.

FIRST YEAR—CLASS C.

Three days a week, at 10 a.m., throughout the year, as follows :—

LENT TERM.—*Geometry* (M., W.)—Euclid, Book IV., with definitions of Books V. and VI., and propositions 1-4, 7-13, 19, 20, 23, 24, 33 of Book VI., easy exercises, geometrical constructions, and mensuration of lines and surfaces. *Algebra* (F.)—Up to quadratic equations of two and three unknown quantities, and corresponding problems.

TRINITY TERM.—*Algebra* (*M.*, *W.*)—Surds, fractional indices, ratio, proportion, variation, the three progressions. *Trigonometry* (*Fri.*)—Measurement of angles, trigonometrical ratios, formulæ for one and two angles, easy equations and identities.

MICHAELMAS TERM.—*Trigonometry* (*Tu.*, *Th.*, *F.*)—Formulæ relating to triangles, numerical solution of triangles in simple cases without logarithms.

#### SECOND YEAR IN ARTS.

Students of the Second Year in Arts may attend any one of the three courses specified below.

#### SECOND YEAR—CLASS A.

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

LENT TERM.—*Analytical Geometry* (*M.*, *W.*)—Poles and polars, asymptotes, general equation of the second degree, similar conics, confocal conics, reciprocal polars, orthogonal and conical projection, anharmonic ratio, abridged notation. *Differential Calculus* (*Tu.*, *Th.*)—Differentiation, Taylor's and Maclaurin's theorems, successive and partial differentiation, indeterminate forms. Change of variables, maxima and minima, elimination of functions, curves, tangents, asymptotes, curvature, evolutes, involutes, singular points, curve tracing.

TRINITY TERM.—*Integral Calculus* (*M.*, *W.*)—Integration, reduction formulæ, lengths of curves, areas of curves, volumes of solids, involutes, evolutes, definite integrals, differentiation of an integral, mean values and probability. *Statics* (*Tu.*, *Th.*)—Components and resultants, moments, conditions of equilibrium, stability, friction, elastic strings, elementary machines, virtual displacements.

MICHAELMAS TERM.—*Dynamics* (*M.*, *W.*)—Uniform velocity, uniform acceleration, laws of motion, projectiles, collision, motion on a curve, the cycloid, the pendulum, harmonic vibration, Central forces, moments of inertia, translation and rotation of rigid bodies. *Newton* (*Tu.*, *Th.*)—The first three sections of the *Principia*, and *Calculus of Finite Differences*.

#### SECOND YEAR—CLASS B.

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

LENT TERM.—*Differential Calculus* (*Tu.*, *Th.*, *Fri.*)—Limits, Differentiation, Taylor's theorem, maxima and minima, curve tracing.

TRINITY TERM.—*Integral Calculus* (Tu., Th.)—Integration, areas, lengths of curves, surfaces and volumes of solids of revolution.

TRINITY TERM.—(F.), and MICHAELMAS TERM (Tu., Th., F.)—*Statics and Dynamics*—Components and resultants, moments, couples, centre of gravity, friction, elementary machines, uniform velocity and acceleration, laws of motion, collision, projectiles, harmonic vibration, energy, moments of inertia, translation and rotation of rigid bodies.

SECOND YEAR—CLASS C.

Mondays, Wednesdays and Fridays throughout the year, as follows :—

LENT TERM.—*Logarithms and Trigonometry* (M., W., F.)—Preliminary theorems, use of tables, arithmetical applications, interest, discount, annuities, solution of triangles, heights and distances, properties of triangles.

TRINITY TERM.—*Statics* (M., W., F.)—Components and resultants, moments, couples, centre of gravity, elementary machines.

MICHAELMAS TERM.—*Hydrostatics* (M., W., F.) Fluid pressure, floating bodies, specific gravity, pressure of a gas, pressure of the atmosphere, elementary machines.

THIRD YEAR IN ARTS.

Students of the Third Year may attend either of the two courses specified below.

THIRD YEAR—CLASS A.

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

LENT TERM.—*Integral Calculus and Differential Equations* (Tu., Th.)—*Integral Calculus* as in the Second Year. Differential equations of the first order and degree, homogeneous equations, linear equations, exact equations, singular solutions. *Solid Geometry* (M., W., F.)—Coordinates, rectilinear and polar, the plane, the sphere, the paraboloid, the ellipsoid, the hyperboloid of one and two sheets, tangent planes, diameters, circular sections, and generating lines, curves, surfaces, curvature, osculation and torsion, geodesics, vectors.

TRINITY TERM.—*Spherical Geometry and Trigonometry* (Tu., Th.)—Formulae, properties of triangles, spherical excess, approximate formulae, regular solids. *Analytical Statics, Dynamics of a particle, and Rigid Dynamics* (M., W., F.)—

Systems of forces in three dimensions, central axis, virtual displacements, strings. *Dynamics of a particle and Rigid Dynamics*—Velocity and acceleration along and perpendicular to the tangent and the radius vector, small oscillations, rectilinear, parabolic and elliptic motion, central forces, Kepler's laws, moments of inertia, motion of a rigid body.

MICHAELMAS TERM.—*Astronomy* (Tu., Th.)—Instruments, motion of heavenly bodies, transits, latitude, longitude, time, the seasons, eclipses, parallax, aberration, refraction. (M., W., F.)—As in Trinity Term.

### THIRD YEAR—CLASS B.

Lectures at 11 a.m. daily throughout the year.

The course consists of at least four of the following six subjects:—

LENT TERM. — *Spherical Geometry and Trigonometry* (Tu., Th.)—Formulæ, solution of triangles, properties of triangles, spherical excess, approximate formulæ, regular solids. *Differential Calculus* (M., W., F.)—Limits, differentiation, Taylor's theorem, indeterminate forms, maxima and minima, tangent and normal, asymptotes, curve tracing.

TRINITY TERM.—*Integral Calculus* (Tu., Th.)—Integration, definite and indefinite, known forms, areas and lengths of plane curves, surfaces and contents of solids of revolution. *Astronomy* (M., W., F.)—Instruments, motion of heavenly bodies, transits, latitude, longitude, time, parallax, aberration, refraction.

MICHAELMAS TERM.—*Analytical Geometry* (Tu., Th.)—Coordinates, rectilinear and polar, the straight line, circle, parabola, ellipse, hyperbola, tangent, normal, eccentric angle, diameters, asymptotes, pencils and ranges. *Dynamics* (M., W., F.)—Velocity, acceleration, laws of motion, collision, projectiles, harmonic vibration, conservation of areas, energy, moments of inertia.

For any one or more of the above, candidates may substitute a subject or subjects from the list as given above for Class A.

### SCHOOL OF MATHEMATICS.

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 approved by the Professor of Mathematics.

BOOKS RECOMMENDED.

FOR MATRICULATION.

*Pass.*—Any ordinary treatises on Arithmetic and on Algebra; Hall and Stevens' Euclid. *Honours.*—Todhunter's Algebra or C. Smith's Algebra, or Hall and Knight's Algebra; Todhunter's Trigonometry, Lock's Trigonometry, or Hall and Knight's Elementary Trigonometry.

FOR FIRST YEAR STUDENTS.

- (C) Lock's Elementary Trigonometry or Hall and Knight's Elementary Trigonometry.
- (B) Taylor's Geometry of Conics; Smith's Conic Sections.
- (A) Edwards' Differential Calculus.

FOR SECOND YEAR STUDENTS.

- (C) Loney's Elements of Statics; Besant's Elementary Hydrostatics.
- (B) Edwards' Differential Calculus for Beginners; Edwards' Integral Calculus for Beginners; Loney's Elements of Dynamics; Worthington's Dynamics of Rotation.
- (A) Frost's *Newton* or Main's *Newton*; Boole's *Finite Differences*; Loney's Elementary Dynamics.

FOR THIRD YEAR STUDENTS.

Edwards' Integral Calculus; Todhunter's Spherical Trigonometry; McClelland and Preston's Spherical Trigonometry; Godfray's Astronomy; Besant's Dynamics; Routh's Analytical Statics; Murray's Introductory Course in Differential Equations (*Longmans*); Aldis's Solid Geometry; Smith's Solid Geometry; Aldis's Rigid Dynamics.

LOGIC AND MENTAL PHILOSOPHY.

The course of study in Logic and Mental Philosophy for students in the Faculty of Arts extends over two years.

15.—The following subjects will be discussed in the Lectures to Second Year students:—

- LOGIC (*a*) Province and Definition of Logic; Principles and Limits of Formal Logic; Terms, Propositions, and Syllogisms; Functions and value of the Syllogism; Fallacies connected with the use of Terms, Propositions, Syllogisms.
- (*b*) Nature of Inductive Inference: Relation of Induction to Deduction, with a general account of the various methods of Scientific Investigation and Proof.

PSYCHOLOGY: Definition, Subject-matter, and Method of Psychology; Classification of Mental Phenomena. Detailed Account of the various Modes and Stages of Mental Activity.

BOOKS RECOMMENDED.—Minto's Logic, Inductive and Deductive; Mill's Logic; Höfding's Psychology; Bosanquet's Essentials of Logic.

The following works are recommended for reference :—Ray's *Deductive Logic*; Fowler's *Inductive Logic*; Keyne's *Formal Logic*; Baldwin's *Elementary Psychology and Education*; Titchener's *Psychology*; Clark Murray's *Handbook of Psychology*; Sully's *The Human Mind*. For Honour Students—Bosanquet's *Logic*; Baldwin's *Handbook of Psychology*; Ladd's *Physiological Psychology*.

16. The following subjects will be discussed in the lectures to Third Year students :—

(a) A course of lectures will be delivered on the development of Greek philosophy, with a special examination of the philosophy of Plato.

(b) Historical and critical survey of the leading problems of philosophy in modern times, with a special examination of the form in which they were presented by Kant.

(c) A course of lectures will be delivered on Theories of the State, and the Grounds of Political Obligation.

BOOKS RECOMMENDED.—Schwegler's *History of Philosophy*; Mackenzie's *Manual of Ethics*.

ADD. FOR HONOURS.—Plato's *Republic*; Green's *Prolegomena to Ethics*; Spencer's *Principles of Ethics*.

The following works are recommended for reference :—Royce's *Spirit of Modern Philosophy*; Sidgwick's *History of Ethics*; Muirhead's *Elements of Ethics*; Erdmann's *History of Philosophy*; Hegel's *History of Philosophy*; Watson's *Selections from Kant*; Watson's *Kant and his English Critics*; Green's *Ground of Political Obligation* (*Works*, Vol. II.); W. Wilson's *The State*; Willoughby's *Nature of the State*; MacCunn's *Ethics of Citizenship*.

#### HIGHER COURSE—LECTURES TO GRADUATES.

Special courses of lectures will be delivered periodically on subjects prescribed for the Degree of M.A. in the School of Mental Philosophy.

#### HISTORY.

The course in 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*; Anglo-Saxon Chronicle (references); Stubbs's *Select Charters* (introduction and references); Simon de Montfort and his cause (English History from contemporary writers); Fortescue's *Governance of England*; More's *Utopia*; Gibbins's *Industry in England*; Beesley's *Queen Elizabeth*; Seeböhm's *Protestant Revolution*; Freeman's *Growth of the English Constitution*.

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 ; Hallam's Constitutional History.

- (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.

- (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 ; Gardiner's Puritan Revolution ; Gardiner's Constitutional Documents (introduction and references) ; Harrison's Cromwell ; Traill's Strafford ; Seeley's Expansion of England ; Gibbins's Industry in England ; Toynbee's Industrial Revolution ; Hobson's Problems of Poverty ; Milton's Areopagitica ; Burke's Thoughts on the Present Discontent ; 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.

- (3) A paper on the History of England to 1603.
- (4) A paper on the History of Europe from 800 to 1250.
- (5) A paper on the History of Europe from 1789 to the present time.

BOOKS RECOMMENDED.—Rousseau's Social Contract ; Burke's Reflections on the French Revolution ; Syme's French Revolution ; Seeley's Napoleon ; Fyffe's Modern Europe ; Dickinson's Revolutions and Reactions in Modern France ; Cesareo's Liberation of Italy ; Mazzini's Essays.

- (6) Essays to be written in the course of the year.

## PHYSICS.

### 19—FOR FIRST YEAR STUDENTS.

*Text Book.*—Everett's or Balfour Stewart's Elementary Physics. Students are recommended to read through the book as soon as possible, or at least to read through the part treating

of the subject with which each lecture deals *before* the lecture takes place. In the lectures it will be assumed that this has been done.

For students in the Faculties of Medicine and Science the text book recommended is "Physics," by C. G. Knott (W. and R. Chambers).

The course consists of about thirty lectures.

Candidates for Honours and Scholarships are required to attend the Laboratory for two afternoons a week during one term.

The following Syllabus is intended only as a general guide to the range of subjects dealt with, and will be modified, if necessary.

1. Sketch of the History of Physical Science. Axioms of Experimental Philosophy. Units and Measurements.
2. Elementary Dynamics.
3. Conservation of Mass, Conservation of Energy, and Theory of Gravitation.
4. The Physical States of Matter. Characteristics of Solids, Liquids and Gases.
5. Density. Laws of Hydrostatics. Specific Gravity. Motion of Fluids.
6. Capillary and Allied Phenomena. Dilatency.
7. The Tides.
8. Heat and Temperature. Proof that Heat is a form of Energy. Construction and Theory of the Thermometer.
9. Calorimetry; Latent and Specific Heats.
10. Gaseous Laws: The Barometer: and the Isothermal Diagram.
11. Air Thermometer. Provisional Absolute Scale. Evaporation and Condensation. The Heat Engine. Sketch of Thermo-dynamics.
12. Laws of Cooling. Radiation. Prevost's Law. Radiant Energy.
13. Characteristics of Wave Motion. Effects of a Prism. Study of the Spectrum.
14. Interference as a justification of the Undulatory Theory. Rectilinear Propagation of Light.
15. Application to Mirrors. Images. Refraction. Lenses.
16. Optical Instruments. Polarised Light.



17. Fluorescence. Phosphorescence. Colours of Thin Plates. Scattering of Light.
18. Elementary Theory of Sound.
19. Musical Instruments, &c.
20. Electrostatics. Fundamental Experiments. Induction.
21. Condensers. Electrical Machines. Energy of Electrification.
22. Electrostatic Measuring Instruments. Meaning of Potential and Capacity. Specific Inductive Capacity.
23. Study of the Electrostatic Field. The Electric Current.
24. Batteries. Resistance. Ohm's Law.
25. Magnetism.
26. Galvanometer, Electro-magnet, &c.
27. Measurement of Current, Electromotive Force, and Resistance.
28. Induction of Currents, and Instruments based on it.
29. Dynamo Machines and the Electric Light.
30. Transmission of Power. Telegraphs and Telephones.
31. Electro Optics. Maxwell's Electro-Magnetic Theory.
32. Constitution of Matter.

The course in Michaelmas Term for First Year students consists of twenty lectures, chiefly on the principles of optical, magnetic and electric measurements, and generally the subjects of the previous Term's lectures are treated more precisely.

#### 20.—FOR STUDENTS IN THE SECOND YEAR OF SCIENCE.

Properties of matter, elementary theory of elasticity, capillarity and matters connected therewith, elementary dynamics, including the pendulum, theory of moments of inertia, experimental basis of the theory of heat, elementary principles of thermodynamics, principles of electric and magnetic theory and electric and magnetic measurements, practical work on the simpler physical measurements.

#### 21.—FOR STUDENTS IN THE THIRD YEAR OF SCIENCE.

Physical optics and acoustics. Electricity and Magnetism. Advanced physical measurements.

The examination will include the subjects of the Second Year.

## PHYSICAL LABORATORY.

The Physical Laboratory was commenced in 1886, and completed early in 1888. It is open all day in Term time, and during most of the vacations. Besides the lecture and instrument rooms, there is a special workshop, furnished with machine tools and various electric generators, large Junior Laboratory, several small rooms for advanced work, Professor's Private Laboratory, and a small but efficient library. The building is lighted throughout by the electric light. There is a large installation of storage cells and a fair supply of apparatus. Junior students, whether members of the University or not, are admitted to the laboratory at stated times, and receive instruction from the Demonstrator. Senior students are admitted at any time by arrangement with the Professor. During the vacations, instruction and assistance will be provided for such students as have passed through an elementary course. It is not intended, however, to open the Laboratory during vacation to students requiring much supervision, however many Junior courses they may have attended. Senior students are encouraged as much as possible in the pursuit of original investigation, as it is believed that this supplies the best training. Such students need not be members of the University, but in this case they will require to make special arrangements with the Registrar with regard to fees.

The Laboratory was founded for the encouragement of Physical Science, both by imparting instruction and aiding research, and no reasonable requirement or facility within the means of the University will be refused for either of these purposes. Detailed information on any point connected with the Laboratory may be obtained at any time from the Professor of Physics.

## 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 are examined every day by the Demonstrator, as well as at the end of the year by the Examiner in Physics, and 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.*—Stewart and Gee's Practical Physics, Vols. i. and ii.

A short course of ten classes in elementary experimental optics will be held in Lent Term, if desired. The course has been arranged to be preparatory to the instruction in Petrology for students in the Second Year of Arts, and will include experiments in the Reflection and Refraction of Light, Total Reflection, Refractive Indices, Double Refraction, Polarisation, Construction and use of a Nicol's prism, &c.

#### THIRD YEAR.

Advanced Physical Measurements.

#### BOOKS RECOMMENDED.

FOR FIRST YEAR STUDENTS IN ARTS.

Balfour Stewart's Elementary Text Book of Physics.

FOR FIRST YEAR STUDENTS IN THE FACULTIES OF MEDICINE AND SCIENCE.  
**Knott's Physics.**

FOR SECOND AND THIRD YEAR STUDENTS.

*General Physics.*—Tait's Properties of Matter. Lord Kelvin's Article on Elasticity, in the Encyclopædia Britannica. Glazebrook and Shaw's Practical Physics, and Balfour Stewart and Gee's Practical Physics. Maxwell's Matter and Motion. Worthington's Dynamics of Rotation.

*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.

*Light.*—Lewis Wright's Light. Glazebrook's Physical Optics, or Lloyd's Wave Theory of Light. Preston's Theory of Light.

*Sound.*—Tyndall's Treatise on Sound. Stone's Sound.

*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. Gordon's Electricity. Articles on Electricity and Magnetism in the Encyclopædia Britannica. Balfour Stewart and Gee's Practical Physics, part II. Ewing's Magnetic Induction in Iron and other Metals. Gerard's Leçons sur l'Électricité. Fleming's Alternate Current Transformer, 2 vols.

*General Text Book.*—Anthony and Brackett's Physics.

*Standard Works on Physics which may be consulted by students.*—Maxwell's Electricity and Magnetism. J. J. Thomson's Recent Researches in Electricity and Magnetism. Helmholtz's Sensations of Tone. Clausius' Thermodynamics—translated by Browne. Lord Rayleigh's Sound. Verdet's Optique. Thomson's Application of Dynamics to Physics and Chemistry.

## 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.

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; also Physical Chemistry for Beginners, Van Deventer (*E. Arnold*).

\* A fuller syllabus can be obtained in the Registrar's Office or at the Laboratory. The course is delivered in Lent Term, and is intended for students of all Faculties.

## THE METALS.

24.—*Second Course* of fifty lectures upon the Metals and their principal compounds and alloys. Compulsory for students in the Faculties of Medicine and Science and the Department of Engineering. During Trinity Term.

*Text Books.*—Tilden's Inorganic Chemistry, Thorpe's Metals, or other similar text book.

## ORGANIC CHEMISTRY.

25.—*Third Course* of fifty lectures upon the Carbon Compounds. Compulsory for students in the Faculties of Science and Medicine. During Michaelmas Term.

*Text Books.*—Organic Chemistry by Perkin and Kipping. Tilden's Organic Chemistry and Streatfeild's Organic Chemistry (Spon).

## TUTORIAL CLASS IN CHEMISTRY.

A Class for Calculations and similar exercises will meet once a week during term. Attendance is compulsory for students in the Faculties of Medicine and Science and Department of Engineering.

## CHEMICAL PHILOSOPHY.

26.—*Fourth Course* compulsory 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. The History of Chemical Philosophy and Discovery.

*Text Books.*—Theoretical Chemistry, by W. Nernst (McM. & Co.), 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.), Vant Hoff's Chemistry in Space.

GENERAL BOOKS OF REFERENCE.—Roscoe and Schorlemmer's Treatise on Chemistry, Mendeleef's Principles of Chemistry, Morley and Muir's Dictionary of Chemistry, Thorpe's Dictionary of Applied Chemistry.

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.

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 and ASSAYING, and to be examined in the same.

#### METALLURGY.

27.—A course of about fifty 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. If possible, the latter part of the course will be subject to modifications to meet the wishes of students who desire to study in particular the metallurgy of certain metals.

Excursions will be arranged to works in districts where metallurgical operations are being carried on. Students attending the course will have special facilities for studying the processes carried out at the Government metallurgical works.

No text book will be used. Students will be expected to make full notes at the lectures, and will be referred to the literature of the subject immediately under discussion.

Every student is required to prepare a written description of either a mine or metallurgical plant, as part of his final examination for the third year.

Students are also required to prepare drawings and specifications for the erection of metallurgical works.

BOOKS RECOMMENDED.—Roberts-Austen's Introduction to the Study of Metallurgy; Gruner'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.

#### 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. For the most part it consists of only one floor, but with an extensive basement, which affords convenient rooms for stores, workshops, gas engine, dynamo, gas holders, and other similar purposes.

The small lecture room will seat 120, and the larger one about 240 students.

The Junior Laboratory will accommodate 120 students per term when worked up to its full capacity, and the Senior Laboratory will take about 60 advanced students. There are also separate rooms for spectroscopic, volumetric, and gas analysis and photography. There are also two or three other rooms, specially provided and fitted up as laboratories for the use of students engaged upon researches. There is also a room for Chemical Collections, and old forms of apparatus, &c., 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, so that the student has not to waste his time in going from place to place for different purposes. A number of larger and separate hoods and draught cupboards for combustions, sulphuretted hydrogen gas, water baths, and ovens are also provided for use in common, to all of which gas and water are laid on; and some, in addition (for fusions with gas furnaces), are arranged for a blast of compressed air. There are three balance rooms, each 21 by 16 feet, well provided with balances for different purposes, which, to prevent vibration, rest on slate benches, supported upon stone brackets.

The Metallurgical Laboratory is provided with the usual fusion and muffle assay furnaces; and arrangements are being made for the accommodation of a much larger number of students and for the erection of reverberatory and other furnaces.

A plant for the concentration and treatment of metalliferous ores is provided, and is about to be erected, in order that the students may acquire some practical knowledge of such processes. It includes a Gates' rock breaker, Rogers' crushing rolls, and the necessary sieves, elevators and samplers, amalgamating plates, a Frue vanner, a set of plunger jigs, settling tanks, &c. 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 properties of gases, *e.g.*, hydrogen, oxygen, carbon, monoxide, carbon dioxide, the oxides of nitrogen and sulphur, chlorine, hydrochloric acid, hydrofluoric acid, ammonia, &c.

3. The structure of flame, flame re-actions, use of blowpipe, reduction of metals on charcoal, residues coloured by cobalt nitrate, incrustations, films, &c., borax and microcosmic salt beads.

4. Spectroscopic reactions.

5. Reactions of Reagents.

6. Qualitative Analysis by wet and dry processes.

7. Reactions and processes for the detection of the alkaloids, sugars, starch, glycerine, alcohol, fusil oil, carbolic acid and similar common substances.

Students who have done the above course, either in the University Laboratory or elsewhere, are allowed to proceed with more advanced work.

At the practical examinations there will be separate pass and honour tests or exercises.

Each student is required to provide himself with a set of apparatus necessary for the above course of Experimental Chemistry and Qualitative Analysis.

In certain exceptional cases of emergency, students may obtain sets of apparatus on payment of 25s. to the Accountant.



One half-price will be allowed for all articles returned by students in good condition. 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 Menschutkin'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 :—

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 (kupfernicksel). 15. Smaltite (Co. Ni. and As.). 16. Copper pyrites. 17. Topaz.

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. Manures.

Also the following volumetric estimations :—

1. Chlorine. 2. Silver. 3. Potassium and sodium. 4. Sodium hydrate. 5. Iron by permanganate and dichromate solutions. 6. Bleaching powder. 7. Nitric acid. 8. Chloric acid. 9. Ammonia.

And the following determinations of organic substances :—

1. Exercises in the purification of substances, including fractional crystallisation and distillation. 2. Boiling and melting points

specific gravity. 3. Ultimate analyses. 4. Vapour density. 5. Molecular weights of acids. 6. Use of polariscope. 7. Preparation of carbon compounds.

TEXT BOOKS.—Quantitative Analysis, by Clowes and Coleman's Fresenius' Quantitative Analysis; Sutton's Volumetric Analysis; Phillip's; Engineering Chemistry; Wöhler's Mineral Analysis.

### C.—ASSAYING COURSES.

Candidates for the B.E. Degree in Mining and Metallurgy are required to take the following courses :—

I. Technical examination of fuels and fire clays; dry assay of lead, silver, gold, copper, and tin ores; gold and silver assaying by mint methods; vanning of gold and tin ores; volumetric and electrolytic assay of copper, iron, and zinc; analysis of furnace gases, slags, fluxes, mattes, and other furnace products.

And certain of the following according to the requirements of the student :—

II. Additional methods for the estimation of zinc, lead, manganese, calcium and copper; detailed examination of gold ores; preparation and examination of certain metals and alloys; ultimate analysis of fuel; leaching assays of gold and silver ores by chlorine, cyanide, and other processes; assay of antimony, bismuth, mercury, nickel, platinum ores, &c.; further analysis of gases.

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 :—Hiorn's Metallurgy and Assaying; Brown's Manual of Assaying.

### 29. REGULATIONS FOR THE CHEMICAL AND METALLURGICAL LABORATORIES.

The Chemical and Metallurgical Laboratories are open daily during Term time for practical instruction in Experimental Chemistry, Qualitative and Quantitative Chemical Analysis and Assaying.

Assistance will also be afforded to those who wish to perform chemical researches. 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.

Students engaged in Quantitative Analysis will have to provide themselves with a platinum crucible; also a set of gramme weights.

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 Demonstrator.

The nature of the instruction will depend upon the special requirements of the student and the extent of his previous knowledge.

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 140.

### 30.—MINERALOGY.

*Optional for Students in Third Year in the Faculties of Science and Arts and Department of Engineering, compulsory for Students in Mining Engineering in their Second Year.*

A course of about twenty-five Lectures upon Mineralogy will be delivered during Trinity Term. These lectures are illustrated by a series of over 1000 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.

#### PRACTICAL MINERALOGY.

During Michaelmas Term exercises will be given in the Geological Laboratory upon the characteristic physical and chemical properties of minerals; with practical blowpipe work upon the determination and description of mineral specimens. Especial stress will be laid upon tests useful to the miner, geologist and explorer.

Each student has to provide himself with a small collection of specimens for use with the blowpipe; also with the following apparatus, viz., a blowpipe, pair of platinum pointed forceps, pestle and mortar, platinum wire and foil, duster, test tubes, glass tubing.

*Text Books.*—Dana's Manual of Mineralogy and Petrography; Bauerman's Mineralogy; Collins' Mineralogy, Parts I. and II.; Minerals of New South Wales, A. Liversidge, M.A., LL.D., F.R.S.

#### OPTICAL PROPERTIES OF MINERALS.\*

An additional course of about ten lectures will be delivered during Michaelmas Term on this subject. These lectures are illustrated by means of diagrams, and a series of transparent sections of minerals specially prepared for showing interference figures, &c. This course is optional for Pass students, but compulsory for Honour students in Mineralogy or in Third Year Geology.

*Text Books.*—Microscopical Physiography of Rock-making Minerals, Rosenbusch, Iddings; Rock-forming Minerals, Rutley.

#### GEOLOGY AND PHYSICAL GEOGRAPHY.

##### 31.—PHYSIOGRAPHY.

##### FOR FIRST YEAR STUDENTS.

A course of thirty lectures on the above subject, with special reference to Australian Physical Geography, will be delivered in Michaelmas Term.

The lectures will treat of the Composition, Movements and Work of the Atmosphere and of the Ocean; of Evaporation and

\* See note on page 141 in regard to the use of University Microscopes.

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.*—Mill's Realm of Nature.

*For Reference and Further Study.*—Volcanoes, by Professor J. W. Judd; Weather, by Abercrombie; Geology of Sydney and the Blue Mountains, by the Rev. J. M. Curran.

### 32.—GENERAL GEOLOGY.

FOR SECOND YEAR STUDENTS.

This course of instruction will consist of a series of sixty lectures, together with practical work in the Geological Laboratory in the determination of common minerals by blowpipe and chemical tests, in slicing rocks for microscopic examination, and in the determination of rocks by means of the petrological microscope.

The following are the subdivisions of the subjects in the order in which they will be discussed at the lectures:—History of Geology, Material Geology, Elementary Mineralogy, Structural Geology, Stratigraphical Geology.

The Geological Laboratory is provided with a lapidary's lathe and all material necessary for the preparation of transparent microscopic sections of rock, and ten petrological microscopes of the latest and most approved pattern, and with a large assortment of microscopic slices of rocks from Australia and other countries.\*

The lectures will occasionally be illustrated by means of a lime-light lantern. Occasional Geological Excursions will be conducted on Saturdays during the Lent and Trinity Terms to localities of special geological interest in the neighbourhood.

Three type collections respectively of Minerals, Rocks and Fossils have been arranged specially for the use of students in the new buildings for the University School of Mines.

\* See Regulation in reference to Microscopes on page 141.

Larger type collections for the use of advanced students are available in the same building.

*Text Books.*—Rutley's Mineralogy and either Geikie's Classbook of Geology or the Student's Lyell, by Judd, 1896.

*For Reference and Further Study.*—The Student's Handbook of Physical Geology, A. J. Jukes Browne. Physical Geology, A. H. Green.

### 33.—ADVANCED GEOLOGY AND PALÆONTOLOGY.

FOR THIRD YEAR STUDENTS.

This course will consist of sixty lectures, to be delivered during the Lent, Trinity and Michaelmas Terms, and will include practical work in the Laboratory,† and instruction in the preparation of geological maps and sections indoors and in the field. The lectures will be devoted partly to advanced Geology, but chiefly to Palæontology. Students attending these lectures will be encouraged to take up some original line of research, either in Palæontology, Petrology or Field Mapping, and will be credited for such original work, if satisfactory, at the Annual Examination.

Students seeking Honours must attend the lectures and practical work in Optical Mineralogy.

Geological excursions will be held occasionally, as in the case of Second Year Geology students.

*Text Books.*—Grundzüge der Palæontologie, Zittel; Cole's Aids in Practical Geology; Geikie's Text Book of Geology; Nicholson's Manual of Palæontology. Tables for the Determination of the Rock-forming Minerals, by Professor F. Loewinson Lessing, translated by J. W. Gregory, B.Sc., F.G.S., with a chapter on the Petrological Microscope by Professor Grenville A. J. Cole, M.R.I.A., F.G.S.; London, Macmillan & Co., 1893; price, 4s 6d. net. Further reference will be given as required in the course of lectures.

### BIOLOGY.\* †

#### 34.—ZOOLOGY.

A course of fifty lectures illustrated by specimens and diagrams, and supplemented by occasional demonstrations.

I. Introduction to Biology. Main divisions of the science.

II. General structure and physiology of animals. *Amœba*. 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.

\* A detailed syllabus of the various courses, with books recommended and other information, is to be had from the Registrar.

† See Regulation in reference to Microscopes, page 141.

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. *Protococcus*. 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, Spermatophyta.

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*, *Edogonium*, *Vaucheria*, *Hormoseira*, *Nitella* or *Chara*, *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.

†A detailed syllabus of the various courses, with books recommended and other information, is to be had from the Registrar.

The following animals are studied : *Paramæcium*, *Vorticella*, *Obelia*, *Nereis*, *Asterina*, *Strongylocentrotus*, *Helix*, *Palinurus*, *Urolophus*, *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.

### HUMAN ANATOMY.

#### 41.—DESCRIPTIVE ANATOMY.

FOR MEDICAL STUDENTS OF SECOND YEAR.

Daily during Lent, Trinity and Michaelmas Term.

Introduction. Preliminary account of Human Ontogeny. Description of Structure and Development of Osseous system, Articular system, Muscular system, Vascular system, Peripheral Nervous system, Central Nervous system, and Organs of Special Sense.

The lectures are illustrated by anatomical preparations, naked-eye and microscopical, and by dissections, lantern slides and diagrams.

*Text Books.*—Morris's Treatise on Anatomy; Gray's Anatomy; Macalister's Text book of Anatomy. The last edition of Quain's Anatomy still forms the most complete handbook, and even though another text book be chosen certain of the separate parts of Quain ought to be in the possession of every student (especially Vol I., pt. 1., and Vol. III., pts. 1 and 3).

#### 42.—REGIONAL ANATOMY.

FOR MEDICAL STUDENTS OF 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. The course of demonstrations is made as complete as possible, and *visd voce* as well as written examinations are held during its progress.

#### 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 six 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 two consecutive hours must be devoted daily to actual work in the dissecting room, where alone a practical familiarity with the details of human structure can be acquired.

The necessary certificate of 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. Certificates of having dissected each "part," at least once, are necessary for 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,

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\* See Regulation in reference to Microscopes, page 141.

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.—SHORT COURSE OF PRACTICAL PHYSIOLOGY.

FOR ARTS STUDENTS.

This course includes :—

A short account of the bones, joints and ligaments, and of the principal muscles, nerves and vessels.

An account of the microscopical structure of the tissues and organs of the body.

The anatomy of the organs of respiration, circulation, alimentation, excretion, &c.

A description of the sense organs, of the larynx, of the central nervous system, and of the organs of reproduction.

A course of microscopical anatomy and of chemical and experimental physiology.

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; Kirke'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 Physiology; Brodie's Essentials of Experimental Physiology; Quain's Anatomy or Schäfer's Essentials of Histology.

## 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.

## MEDICAL STUDENTS' COURSE.

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Mr. Thomas Dixon, M.B. and Ch.M.

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 Pharmacopoeial or Extra-Pharmacopoeial, obtained from the organic and inorganic kingdoms.

The principles of Dietetics, of Hydrotherapy, of Climatotherapy, 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.*—Pharmacology, Therapeutics, and Materia Medica, *Lauder Brunton*. Materia Medica, *Hale White*. Elements of Pharmacology, *Schmiedeberg* (English Edition). Text Book of General Therapeutics, *Hale White*. Food in Health and Disease, *J. Burney Yeo*.

*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, *Aernberg*.

## MATERIA MEDICA.—COURSE FOR PHARMACEUTICAL STUDENTS.

This series of lectures consists of two sections, one of which is adapted to the requirements of both medical and pharmaceutical students, the other to the special requirements of the latter.

The whole series will treat primarily of 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 recognizing the latter, causes and means of prevention of deterioration; and also of the constitution and posology of official preparations.

The method of action and uses of the drugs will be referred to shortly, and where in individual cases needful, 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.*—*Squire's Companion to the Pharmacopœia.*

*For Reference.*—*Flückiger and Stanbury, Pharmacopaphia; Martindale and Westcott, Extra Pharmacopœia.*

#### 48.—PRACTICE OF MEDICINE.

Dr. J. C. Cox.

1. HISTORY OF MEDICINE AS A SCIENCE.
2. METHODS USED FOR THE OBSERVATION, DIAGNOSIS AND RECORDING OF DISEASES.
3. THE SYMPTOMS, DIAGNOSIS AND TREATMENT OF—
  - a.* Fever. *b.* Idiopathic Fevers. *c.* General Diseases allied to the Fevers. *d.* Constitutional Diseases. *e.* Diseases of the Circulatory System. *f.* Diseases of the Respiratory System. *g.* Diseases of the Alimentary System. *h.* Diseases of the Urinary System. *i.* Diseases of the Nervous System. *j.* Diseases of the Skin.

BOOKS RECOMMENDED.—*Principles and Practice of Medicine, Fagge. Principles and Practice of Medicine, Osler. The Practice of Medicine, Taylor.*

#### 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; Heath's Surgical Dictionary; Treve's Manual of Surgery; MacCormac's Operations; Barker's Manual; Jacobson's Operations of Surgery.

#### 50A. MIDWIFERY.

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.

#### 50B.—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 Student's Guide to Diseases of Women; McNaughton-Jones' Manual of Gynæcology (6th edition).

#### 51.—PATHOLOGY.\*

Dr. W. Camac Wilkinson.

A.—GENERAL PATHOLOGY.

##### 1. PATHOLOGY OF CIRCULATION:—

- (a) Heart: morbid states, and the effect of such upon  
 (i.) the Heart itself and (ii.) upon the circulation. The Pulse: its variations in disease, and effects thereof.  
 (b) Vessels: morbid states and their effect on Heart and circulation; local vascular disturbances. Anæmia, Hyperæmia, Thrombosis, Embolism, Hæmorrhage, Dropsy.

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\* See Regulations in reference to Microscopes on page 141.

- (c) Blood and Lymphatics : chief morbid states. Anæmia, Chlorosis, Pernicious Anæmia, Leucocythæmia, Lymphadenoma. Changes due to perversion of internal secretion of Thyroid, Pancreas, Suprarenals, &c., Gout, Rheumatism.
2. PATHOLOGY OF NUTRITION :—  
 (a) Atrophy, Degeneration, Necrosis, Organisation and Regeneration, Hypertrophy.
3. INFLAMMATION.—Phenomena, their nature and explanation. Signs. Classification of phenomena (a) histological, (b) aetiological. Rôle of micro-organisms. Special study of pathogenic organisms. Infectious diseases. Fever. Immunity.
4. TUMOURS.

#### B.—SPECIAL PATHOLOGY.

An account of disturbances of function, nutrition and structure in the various organs of the body.

#### C.—PRACTICAL PATHOLOGY.

A microscopical course during one term—every day for two hours—Bacteriology and Morbid Histology.

#### 52.—MEDICAL JURISPRUDENCE AND PUBLIC HEALTH.

Dr. W. H. Goode.

The Science of Medical Jurisprudence, Duties of a Medical Jurist, Evidence, Coroners' Inquests, Signs and Causes of Death, Poisoning, Wounds, Inheritance, Insanity.

Public Health.—History of Epidemics. Soils—Conditions of Soil affecting Health, Drainage of Soil. Water—Quantity and Supply, Quality, Impurities, Purification. Removal of Excreta—Methods of Removal, Sewers, Air—Impurities in Air, Diseases produced by Impure Air, Ventilation, Cubic Space required, Natural Ventilation, Artificial Ventilation. Habitations—General conditions of Health, Hospitals. Warming of Houses. Food—General principles of Diet, Diseases connected with Food, Quality, Choice and Cooking of Food, Beverages. Bacteriology—Methods of examination for, and cultivation of Micro-organisms. Bacteriological examination of Soils, Air, and Water. Disinfection. Vital Statistics.

## 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 Eyelids and Lachrymal Apparatus.

Operations.

BOOKS RECOMMENDED.—*Text books*—Diseases of the Eye, *Nettleship*; Handbook of Diseases of the Eye, *Swanzy*; Diseases of the Eye, *Berry*.  
*For Reference*—*Traité Complet d' Ophthalmologie, de Wecker and Landolt*.

## 55.—APPLIED MECHANICS.

FIRST YEAR.

LENT TERM.—The chief constructive processes used by engineers, such as casting, forging, turning, planing, drilling, chipping, filing, &c., and the various tools, machines and appliances used in these processes. 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.—Shelly's Workshop Appliances; Unwin's Machine Design; Engineering Construction in Iron, Steel and Timber, by Prof. Warren, published by Longmans.

TRINITY TERM.—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.

In the course is also included the design of such details as—riveted joints, bolts, nuts, keys and cotters, shaft couplings, pedestals and brackets.

BOOKS RECOMMENDED.—Kennedy's Mechanics of Machinery; Unwin's Machine Design, Part I.

#### 56.—PRACTICAL PLANE AND SOLID 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. Tangent planes. The projection of shadows. Principles of perspective projection. Principles of isometric projection.

BOOKS RECOMMENDED.—Angel's Practical Plane Geometry and Projection; Plane Geometrical Drawing and Perspective, by E. M. Mutton (Philips and McCredie).

#### 57.—APPLIED MECHANICS.

##### SECOND YEAR.

57A. THE MECHANICS OF MACHINERY.—Tangential and radial acceleration. Velocity and acceleration diagrams. Static equili-



brium of links and mechanisms. Various problems in machine dynamics, such as train resistance, the fly-wheel, the connecting rod and the governor.

Miscellaneous mechanisms. The pantograph. Parallel or straight line motions. Quick return motions.

Non-plane motion. The screw. Conic crank trains. The universal joint. Disc engines.

Friction in mechanisms and machines. "Laws" of friction. Various appliances for determining the co-efficient of friction. Friction brakes and dynamometers.

57B. THE STEAM ENGINE AND OTHER PRIME MOVERS.—History of the steam engine. Thermodynamics of the steam engine. 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. Refrigerating machines; description of the principal types in use.

Air, gas, and oil engines. Internal and external combustion. Use of the regenerator.

Methods of testing engines, boilers and hydraulic machinery.

In the course is also included the design of lifting and hoisting machinery—cranes, winches and elevators, and various kinds of hydraulic machines—pumps, presses, accumulators, water wheels and turbines.

BOOKS RECOMMENDED.—Kennedy's *Mechanics of Machinery*; Cotterill's *Applied Mechanics*; Ewing's *Steam Engine*; Holmes' *Steam Engine*; 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. DEVELOPMENT AND TRANSMISSION OF POWER.—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. Design and construction of pneumatic, hydraulic, and electrical machinery.

BOOKS RECOMMENDED.—Unwin's *Development and Transmission of Power*; Silvanus Thompson's *Dynamo Electric Machinery*; Bell's *Transmission of Power*.

## CIVIL ENGINEERING.

## 58.—HYDRAULIC AND RAILWAY ENGINEERING.

The courses of instruction in these two branches will consist of 50 lectures in Hydraulic and 50 lectures in Railway Engineering for Second and Third Year students delivered in alternate years.

(a) HYDRAULIC ENGINEERING.—The water supply of towns, and the design and construction of the various works required.

SANITARY ENGINEERING.—Various systems of sewerage House drainage. Sewerage disposal. The destruction of night-soil, street garbage, refuse from slaughter houses, &c. The design and construction of the various works required in connection with Sanitary Engineering.

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.

(b) RAILWAY ENGINEERING.—The location of roads and railways. The design and construction of railway works, such as earthworks, tunnels, bridges, permanent way, signals, points and crossings, interlocking systems, passenger and goods stations, locomotive engines, rolling stock, brakes, couplings, and other railway appliances. Road work, paving of carriage ways.

BOOKS AND PAPERS RECOMMENDED FOR REFERENCE IN DESCRIPTIVE ENGINEERING.—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 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.

## CIVIL ENGINEERING.

## THIRD YEAR.

## 59.—MATERIALS AND STRUCTURES.

The materials used in engineering and building construction: their characteristic properties, strength, and durability,

with especial reference to iron, steel, timber, concrete, brick-work, masonry. The theory of long columns. Equations of slope and deflection of beams, discontinuous and continuous. The calculation of the stresses from fixed and moving loads in structures such as plate web and lattice girder bridges for roads and railways. Bowstring and polygonal trusses. Continuous railway bridges. Swing and other movable bridges. Arched, suspension and cantilever bridges, roofs, &c. The design and construction of retaining walls, reservoir dams, piers, abutments and masonry arches. Temporary works in connection with engineering structures.

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; 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.

#### 60.—MECHANICAL ENGINEERING.

The lectures of the first two years in Mechanical Engineering are the same as those for Civil Engineering; but, in the classes for engineering drawing, special attention is given to the design of machine details.

In the third year lectures will be delivered on—The theory of the steam engine, including the consideration of wire drawing, cylinder condensation, steam jacketing, multiple expansion, and the determination of the most economical point of cut-off. The design of steam boilers. Gas, oil and air engines. The design and construction of turbines, water wheels and water engines.

The construction of continuous current electrical machinery. Alternating current machinery. The design and preparation of working drawings of generators, transformers, and other alternating current apparatus. Instruments and appliances used in electrical testing.

Discussion of the design, equipment and management of hydraulic and steam power stations for electric lighting, traction, and power distribution. Long distance transmission of power by electricity. Special applications of electricity to industrial purposes, such as the driving of workshop tools, cranes, pumps and other machinery by means of electric motors.

**LABORATORY PRACTICE.**—Students are required to attend a course in laboratory practice, including—The testing of materials, the practical management and testing of gas engines, steam engines and boilers, the measurement of the flow of water, the testing of hydraulic motors, the determination of the power absorbed by different machines, and various tests of the value of lubricants.

#### 61. ENGINEERING DRAWING.

All students in Engineering are required to attend lectures in the following subjects, and to continue their practice till they have satisfied the lecturers as to their proficiency—The use of drawing instruments. Systems of lettering, writing and colouring on engineering and surveying plans, charts, &c. Conventions for the representation of topographical and orographical features.

The course for the first two years includes—The practical design of machine details, engines, boilers, and machinery. Drawing out valve diagrams, and diagrams of stresses in structures. Design of bridges, roofs and buildings.

In the third year students are required to prepare an original set of working drawings, having reference to the particular branch of engineering which they have taken up in that year.

#### 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 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 machine of 100,000 pounds capacity, with an accumulator and various descriptions of apparatus for measuring strains, autographic recording apparatus, micro-meters, verniers, &c. 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 value 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 evaporative efficiency and power developed under

various conditions of working. 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.

Excursions are made during terms to works such as the Railway Workshops at Eveleigh; Hudson Brothers, Clyde; Mort's Dock and Engineering Company; and to the various works in progress in connection with railways, docks, water supply, and sewerage.

#### 62.—SURVEYING.

THE COURSE CONSISTS OF LECTURES AND FIELD DEMONSTRATIONS.

1. GENERAL.—Definition, aim, scope, and theory of survey. Analysis and methods. Conditions of precision. General applications of mathematics. Elementary applications of the theory of probability and theory of errors. Physical and economic limitations in surveying, considered as an art.

2. INSTRUMENTS.—Instruments for lineal and angular measurement, for telemetry and photogrammetry: their structure, examination, adjustment and use. Theory of their defects and of defective manipulation: the influence of these on the precision of survey. The elimination of systematic error.

3. FIELD OPERATIONS.—General principles. Methods of lineal measurement. Plane table surveying and its problems. Traversing in horizontal and vertical planes. Aligning, setting out circular and other curves. The use of curves of adjustment in railway surveying. Levelling, contouring, and grading. Systems of telemetry and their place in schemes of survey. Photogrammetry. The setting out of road and railways, of areas, and the measurement of volumes. Retrace of survey and problems connected therewith. Cadastral survey. Methods by which surveys made for different purposes may be included as integral parts of a comprehensive scheme.

4. MARKING AND RECORD.—Methods of marking survey. Necessity for permanent marking in cadastral survey. The recording of survey operations generally. Systems of keeping field records appropriate for various classes of survey.

5. COMPUTATION.—General principles. Mathematical tables, and tables for facilitating various calculations. Graphics. Instruments for facilitating calculation: integrating machines. The closure of survey. Distribution of residual error. Deter-

mination of missing elements. Localization of error. Reduction to coördinate systems. Problems arising in survey, respecting lines, areas, and volumes.

6. CARTOGRAPHY.—General principles of cartography. Instruments required, their examination and use. Protractor and coördinate systems of plotting. The preparation of plans and sections. Conventions in delineating topographical and orographical features. Systems of reducing, enlarging, and reproducing plans. The theory of projection. Projections used in map compilation. Method of map compilation.

7. HYDRAULICS.—The general applications of hydrodynamics. The flow of water through orifices, over weirs, and overfalls, through pipes, and in sewers, canals, and rivers. Velocity and discharge formulæ. Current meters and their rating. The gauging of discharges. Theory of flow in permeable strata and of artesian flow. Hydraulic computations. The present state of hydraulic theory.

8. HYPSONOMETRY.—The theory of thermometric and barometric hypsometry: its application to the hypsometer, and to the aneroid and mercurial barometers. Schemes of hypsometric observation. Limitations of these methods of height determination.

9. NAUTICAL AND HYDROGRAPHIC SURVEY.—Scope, aim, and general principles of nautical surveying. Measurement of land and sea bases. System of angle observations. Survey of estuaries, harbours, and of coast line generally. Tidal phenomena: their observation and systematic reduction, and their application to hydrographic survey. Soundings. Hydrographic cartography.

10. ASTRONOMY.—The general mathematical theory of astronomy. Its geodetical applications. Systems of coördinates. Ephemerides. The apparent places of stars. Interpolations in tables. Celestial refraction, parallax, semi-diameter. The various methods of determining time, latitude, meridian, and longitude. Conditions of precision.

11. GEODESY.—The figure of the earth. Distance and azimuths on a sphere, spheroid, and ellipsoid. The measurement of base-lines. Geodetic instruments and their use. The theory of errors and its application to geodesy. Computation of triangulation. The geodetic determination of latitudes and longitudes. Geodetical hypsometry. Terrestrial refraction. Attraction, and the connection between astronomical and geodetic coördinates of points on the earth's surface.

MINING SURVEYING.

1 to 8 inclusive.

12. **ELEMENTARY GEODESY.**—Triangulation; determination of meridian; convergency of meridians; computation and empirical adjustment of a triangulation.

13. **UNDERGROUND SURVEYING.**—General features of underground surveying. Methods of transferring the azimuth of the surface to the underground survey. Alignment and the setting out of tunnels, &c., in curves. Methods of securing precision in underground survey. Special instruments and their use. The relation between surface and mine workings. The survey of the positions of strata veins, &c., their dip, strike, intersection, &c.

14. **DEVIATION OF BORES.**—Methods of determining the direction and inclination of a bore and the instruments required.

15. **MINING CARTOGRAPHY.**—Systems of representing the results of mining surveys.

**BOOKS RECOMMENDED FOR REFERENCE.**—Johnson's Theory and Practice of Surveying; Jackson's Aid to Survey Practice; Bauernfeind's Elemente der Vermessungskunde; Downing's Hydraulics; Neville's Hydraulic Tables, Coefficients and Formulæ; Jackson's Hydraulic Manual; Ganguillet's and Kutter's Flow of Water in Rivers and Channels; Merriman'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.

63.—ARCHITECTURE.

**HISTORY OF ARCHITECTURE**, illustrated by photographs and drawings; and **BUILDING CONSTRUCTION**, illustrated by diagrams and drawings, and samples of materials.

**BOOKS RECOMMENDED.**—History of Architecture, by Fergusson (4 vols.); A History of Architecture, by Banister Fletcher (1 vol.).

**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.

**BUILDING CONSTRUCTION.**—Description of the nature and proper utilisation of building materials, and of the modes of construction adopted in the various building trades.

64.—MINING.

1. Brief history of Mining. Conditions under which mines are held; the chief provisions of the Mining Acts of New South Wales; the different varieties of mineral deposits, and their

mode of occurrence. Heaves or dislocations; the rules for finding the lost or dislocated portions of lodes. Genesis of mineral veins. Influence of adjoining rocks upon veins. Descriptions of some of the most celebrated mines and mineral districts.

2. Prospecting or search for minerals; shoading; trenching; costeaning. Exploration by shafts and adits. Boring and drilling, the various appliances used therefor.

3. Tools employed in Mining. Explosives and their use in blasting. Tools employed in blasting. Rock-drills. Machinery employed in getting coal.

4. Principles of employment of labour in mines; daily wages; working by tribute or by contract.

5. Methods of Mining in open works and quarries; ground sluicing; hydraulic sluicing.

6. Illumination of Mines. The different varieties of lamps used in metalliferous mines and colliery.

7. Sinking shafts and driving levels. The different methods of securing excavations by timbering, masonry and tubbing. Construction of underground dams.

8. Exploitation of mineral deposits. The different methods of laying out excavations in metalliferous mines and collieries.

9. Haulage or transport of minerals underground.

10. Winding or raising in shafts, and the machinery employed.

11. Pumps and pumping arrangements.

12. Principles of ventilation in mines. Natural ventilation. The noxious gases occurring in mines, and the methods adopted for removing them. Methods of testing the purity and measuring the volume of the air employed for ventilation.

13. The mechanical treatment of ores. The different kinds of machinery used in the reduction and concentration of ores.

*Text Books.*—A Treatise on Ore Deposits (J. A. Phillips, and H. Louis), Colliery Manager's Handbook (Pamely). The following books may also be consulted:—Callon's Lectures on Mining (translated by Foster and Galloway). Ore and Stone Mining (Dr. C. Le Neve Foster). Mining and Ore-Dressing Machinery (C. G. Warnford Lock).

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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.

## 65.—JURISPRUDENCE AND ROMAN LAW.

## A.—JURISPRUDENCE.

The Principles of Analytical Jurisprudence, the Theory of Legislation and the Early History of Legal Institutions.

Students are recommended to read the following books:—Austin Lectures, I., V., VI., and the Essay on the Uses of the Study of Jurisprudence; T. E. Holland, Elements of Jurisprudence; Bentham, Theory of Legislation, by Dumont; Maine's Ancient Law, and chapters xii. and xiii. of the Early History of Institutions.

Reference may also be made to Maine's Early Law and Custom; and to Fitzjames Stephen's History of the Criminal Law, chapters ii., iii., xvii., xviii., xix. and xxxiv.

## B.—ROMAN LAW.

The Institutes of Justinian, Books I. and II.; Book III., Title 13 to end of Book; Book IV., Titles 1 to 5 inclusive.

Students are recommended to read Moyle's Institutes of Justinian.

Reference may also be made to Hunter's Roman Law.

## 66.—CONSTITUTIONAL LAW AND INTERNATIONAL LAW.

## A.—CONSTITUTIONAL LAW.

Students will be expected to exhibit a general knowledge of the Law and Conventions of the English Constitution, and a more particular knowledge of the Constitutional system of New South Wales.

Students are recommended to read or refer to Stephen's Commentaries, Introduction, sections 3 and 4, Book IV., part I., chapters 1 to 8 inclusive; Dicey's Law of the Constitution; Bagehot's English Constitution; Anson's Law and Custom of the Constitution; together with the more important Statutes, Instruments, and Decisions, relating to the government of New South Wales.

Reference may also be made to Broom's Constitutional Law; Traill's Central Government; Cotton and Payne's Colonies and Dependencies.

#### B.—INTERNATIONAL LAW.

This subject may be studied in Hall's International Law.

Reference may also be made to the Naturalisation Act of New South Wales, 39 Vic., No. 19; Wheaton's International Law; Cobbett's Leading Cases and Opinions on International Law.

#### 67.—THE LAW OF STATUS, CIVIL OBLIGATIONS AND CRIMES.\*

Students are required to read Anson's Law of Contract; Pollock's Law of Torts; Fitzjames Stephen's Criminal Law; Stephen's Commentaries, Books III., V. and VI.; Dixon on Divorce; Broom's Judicial Maxims; and the following cases with Notes, from Smith's Leading cases:—*Armory v. Delamirie*, *Ashby v. White*, *Addison v. Gandasequi*, *Calye's Case*, *Coggs v. Bernard*, *Manby v. Scott*, *Marriott v. Hampden*, *Paterson v. Gandasequi*, *Semayne's Case*, *Six Carpenters' Case*, *Twyne's Case*, *Thompson v. Davenport*, *Vicars v. Wilcox*; together with the Statutes in force in New South Wales relating to the above-mentioned subjects.

Reference may also be made to other parts of Smith's Leading Cases and to Pollock's Principles of Contract.

#### 68.—PROCEDURE IN CIVIL AND CRIMINAL CASES, BOTH BEFORE THE SUPREME COURT IN ITS COMMON LAW JURISDICTION AND BEFORE COURTS OF INFERIOR JURISDICTION; TOGETHER WITH EVIDENCE AND PLEADING.

Students are recommended to read or refer to Fitzjames Stephen's Digest of the Law of Evidence; Stephen on Pleading; Pilcher's Supreme Court Practice; Foster's District Court Practice; Wilkinson's Australian Magistrate, and Best on Evidence; together with the following cases, with notes, from Smith's Leading Cases:—*Higham v. Ridgway*, *Price v. Torrington*, *Doe d. Christmas v. Oliver*, *Hughes v. Cornelius*, the *Duchess of Kingston's Case*, and *Trevivan v. Lawrence*; and the Statutes in force in New South Wales relating to the above-mentioned subjects.

\*In this and other professional subjects students are of course required to make themselves acquainted with the law in force in New South Wales.

69.—THE LAW OF PROPERTY AND PRINCIPLES OF CONVEYANCING, IN FORCE IN NEW SOUTH WALES.

Students are recommended to read or refer to Williams' Real Property ; Williams' Personal Property ; together with the Statutes in Force in New South Wales relating to this subject.

Reference may also be made to Stephen's Commentaries, Book II. ; Elphinstone's Introduction to Conveyancing ; The Dissertations contained in Prideaux's Precedents in Conveyancing.

70.—EQUITY, PROBATE, BANKRUPTCY AND COMPANY LAW, TOGETHER WITH PROCEDURE IN THOSE JURISDICTIONS.

Students are recommended to read or refer to Snell's Principles of Equity ; The Practice in Equity (Walker and Rich) ; The Probate Acts (Garrett and Walker) ; The Bankruptcy Acts (Salisbury) ; The Company Acts (Rich and Rolin) ; and the following cases with notes from White and Tudor's Leading Cases :—Fox v. Macreth, Ellison v. Ellison, Cuddee v. Rutter, Bassett v. Nosworthy, Townley v. Sherborne, Penn v. Lord Baltimore ; together with the Statutes in Force in New South Wales relating to subjects of Equitable Jurisdiction.

Reference may be made to other parts of White and Tudor's Leading Cases.

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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 HISTORY.

Candidates may offer themselves for examination in one or more of the following subjects :

1. The History of Greece, to the death of Alexander. Special knowledge of Herodotus and Thucydides, or of Thucydides and Demosthenes, will be required.
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. Special knowledge will be required of Homer, Iliad or Odyssey, and of six plays from among those of Aeschylus and Sophocles, and candidates will be required to show a general knowledge of, and translate passages from, other Greek authors.
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. The History of Greek Philosophy, down to and including Aristotle. Special knowledge will be required of Plato's Republic and of Aristotle's Ethics or Politics.
6. Comparative Philology, with special application to the Greek and Latin Languages. Books specially recommended : King and Cookson's Sounds and Inflections

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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.

in Greek and Latin ; Monro's Homeric Grammar ; Wordsworth's Specimens of Early Latin ; Lindsay's The Latin Language.

Candidates for honours are required to offer not less than two of these subjects, of which one must be Greek and one Roman.

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 Professors of Greek and Latin ; but other books or subjects of similar nature and extent may, subject to the approval of the Professors of Greek and Latin, 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 :

A. LOGIC. The principles of Logic and the History of Logical Doctrines. In addition candidates are required to offer at least two of the following books :

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|---------------------|-----------------------------------|
| 1. Lotze's Logic.   | 4. Bosanquet's Logic.             |
| 2. Mill's Logic.    | 5. Bradley's Principles of Logic. |
| 3. Sigwart's Logic. |                                   |

B. MENTAL PHILOSOPHY. Outline of the History of Mental Philosophy. In addition a special knowledge will be required of at least two of the following groups :

1. Plato—Timaeus, Sophistes, Parmenides. Aristotle—Metaphysics.
2. Descartes—Method and Meditations. Spinoza—Ethics. Leibnitz—Monadologie.
3. Berkeley (Selections by Frazer) ; Hume—Treatise on Human Nature, Book I. ; Kant—Critique of Pure Reason.
4. The Logic of Hegel (Trans. by Wallace) ; Bradley's Appearance and Reality.

C. MORAL PHILOSOPHY. Outline of the History of Ethics. In addition a special knowledge will be required of at least two of the following groups :

1. Plato—Gorgias, Philebus, Republic; Aristotle's Ethics.\*
2. Hume—Treatise on Human Nature, Books II. and III.  
Kant—Metaphysics of Morals and Critique of Practical Reason; Green-Prolegomena to Ethics.
3. Mill—Utilitarianism; Spencer—Principles of Ethics; Alexander's Moral Order and Progress.

D. POLITICAL PHILOSOPHY:

1. History of Political Theories. In addition a special knowledge will be required of at least two of the following:—

\*(a) Plato's Republic, and Aristotle's Politics.

(b) Hobbes' Leviathan; Locke's Treatise on Civil Government; Rousseau's Social Contract, and the Social Philosophy of Comte; Bentham's Theory of Legislation; and Austin's Jurisprudence.

(c) Mackenzie's Introduction to Social Philosophy; Sidgwick's Elements of Politics; Burgess' Political Science and Constitutional Law.

- Or, 2. The Principles of Political Economy. A special knowledge will be required of Mill's Political Economy and Marshall's Principles of Economics.

Candidates for honours are required to offer not less than two of these subjects.

Classical and Foreign Authors may be read in translations. Other books or subjects of similar nature and extent may be offered, subject to the approval of the Professor of Logic and Mental Philosophy.

SCHOOL OF MATHEMATICS.

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 approved by the Professor of Mathematics.

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.

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\* Candidates who offer C 1 and D 1 (a) together must offer some other book or books equivalent to the Republic.

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, or Schiller's Plays and Poems, and of Lessing's Chief 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 above.

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 MODERN HISTORY.

Candidates may offer themselves for examination in accordance with the following scheme:—

## PASS.

Candidates will be required:—

- (A) To write an essay on some subject to be suggested by themselves, and approved by the Professor of History.

The essay must be sent into the Registrar on or before the first day of the examination in March for the M.A. Degree.

- (B) To offer themselves for examination in one of the following subjects, provided that they have not been examined in any part of the subject for the Degree of B.A.

- (1) The History of England from 449 to the present time (a).
- (2) The History of Continental Europe from 449 to the present time (b).<sup>1</sup>
- (3) The History of England from 449 to 1603, together with the History of Continental Europe during the same period.
- (4) The History of England from 1603 to the present time, together with the history of Continental Europe during the same period.

Papers on the History of England will be set in December, other papers in March.

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.

## HONOURS.

Candidates will be required:—

- (A) To write an essay on some subject to be approved by the Professor of History.

The essay must be sent in to the Registrar on or before the first day of the examination in March for the M.A. Degree.

- (B) To offer themselves for examination in the following subjects:—

- (1) The History of England from 449 to the present time (a).
- (2) The History of Europe from 449 to the present time (b).



(3) One of the following subjects:—

- (i.) Political Philosophy as prescribed in the School of Philosophy, Section D 1 (d).
- (ii.) Political Economy as prescribed in the School of Philosophy, Section D 2.
- (iii.) The writings of Milton, Burke and Carlyle, to be studied in relation to the history of their times.
- (iv.) The Application of the Federal Principle in Modern History (c).

Papers on the History of England will be set in December, other papers in March.

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.

(a) BOOKS RECOMMENDED FOR HISTORY OF ENGLAND.—Same as for B.A. Degree; see Calendar for 1899, page 89.

(b) BOOKS RECOMMENDED FOR HISTORY OF EUROPE.—Same as recommended for B.A. Degree, see Calendar for 1898; and, in addition, the following:—*Church's* Beginning of the Middle Ages; *Hodgkin's* Charles the Great; *Epochs of European History* (Rivington); *Finlay's* History of Greece; *Lodge's* Modern Europe; *Dyer's* Modern Europe; *Creighton's* Papacy; *Ranke's* Popes; *Villari's* Savonarola; *Beard's* Hibbert Lectures; *Beard's* Luther; *Froude's* Council of Trent; *Froude's* Erasmus; *Motley's* Dutch Republic and United Netherlands; *Armstrong's* Religious Wars in France; *Heroes of the Nations Series*; *Gardiner's* Thirty Years' War; *Longman's* Seven Years' War; *Carlyle's* Frederick the Great, and the French Revolution; *De Tocqueville's* Ancien Regime.

(c) BOOKS RECOMMENDED (so far as they bear on the subject).—*For the U.S.*—*Bryce's* American Commonwealth; *Fiske's* American Revolution, and *Critical Years of American History*; *Landon's* Constitutional History and Government of the U.S.; *Burgess's* Political Science. *For Switzerland.*—*Adams's* Swiss Confederation; *Vincent's* Federal Government in Switzerland. *For Canada.*—*Bourinot's* Constitutional History of Canada and Federal Government in Canada; *Munro's* Constitution of Canada. *For Australia.*—*Bar-ton's* Australian Federation; *Debates of the Sydney Convention. Generally.*—*Hart's* Introduction to the Study of Federal Government; *Freeman's* Federal Government, ch. 1 and 2; *Dicey's* Law of the Constitution, Book I.; *Baker's* Manual of Reference to Authorities. *Garran's* The Coming Commonwealth.

Candidates will be expected to show a general knowledge of the origin, development, and present structure of the systems of Federal Government existing in the United States of America, Switzerland, Canada, and the German Empire; together with a knowledge of the Federal Movement in Australia from 1846 to the present time.

(d) The following books are recommended for the History of Political Theories:—Essays on Plato and Aristotle in "Hellenica;" *Flint's* Philosophy of History; *Maine's* Ancient Law and Popular Government; *Bonar's* Philosophy and Economics; *Lecky's* Democracy and Liberty; *Hegel's* Introduction to Philosophy of History; *Graham's* Socialism; *Montague's* Limits of Individual Liberty; *Green's* Ground of Political Obligation.

### EXAMINATION FOR THE DEGREE OF LL.B.

See By-laws, Chap. xvi.

A. The Intermediate LL.B. Examination will, until further notice, include the following subjects:—

1. Jurisprudence.
2. Roman Law.
3. Constitutional Law.
4. International Law.

The examination will be conducted partly in writing and partly *vidv voce*.

B. The Final LL.B. Examination will, until further notice, include:—

1. The Law of Property and Principles of Conveyancing.
2. The Law of Status, Civil Obligations and Crimes.
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 Evidence and Pleading.
4. Equity, Probate, Bankruptcy, and Company Law; and Procedure in those jurisdictions.

The examination will be conducted partly in writing and partly *vidv voce*.

### 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, 1899, and April, 1900, will be the same as those prescribed for the Matriculation Examination of March, 1900, and so on in future years. (See page 55.)

## EXAMINATION FOR THE DEGREE OF LL.D.

See By-laws, Chap. xvi.

The Examination for the Degree of Doctor of Laws will, until further notice, include the following subjects:—

### I.—JURISPRUDENCE.

All candidates will be examined in Jurisprudence and the Principles of Legislation. They will be expected to show a critical knowledge of the subject, and a familiarity with current literature relating thereto.

### II.—ROMAN LAW.

Candidates will be examined in the General Principles of Roman Law, and in the following special subject to be studied in connection with the corresponding department of English Law.

For March, 1900.—The contract of *Emptio Venditio*. On this subject candidates are advised to refer to the following Titles of the Digest—*De contrahenda Emptione* (xviii., 1); *De actionibus empti et venditi* (xix., 1):

## III.—THE LAW OF NEW SOUTH WALES.

Candidates will be expected to show a general knowledge of the principles of the law applicable in New South Wales, and also to show a detailed knowledge both of principles and practice in one of the following departments—

1. Common Law, including the Law of Evidence and Criminal Law.
2. Equity.

## IV.—PUBLIC AND PRIVATE INTERNATIONAL LAW.

Candidates will be expected to show a general knowledge of the principles of International Law and a more detailed knowledge of the principles and decisions relating to the international application of Foreign Law.

No books are prescribed by the Faculty, but any person proposing to present himself as a candidate may apply to the Professor of Law for advice on the subject. The examination will be conducted partly in writing and partly *viva voce*.

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EXAMINATIONS FOR THE DEGREES OF M.B. & M.D.

See By-laws, Chap. xvii.

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## EXAMINATIONS FOR THE DEGREES OF D.Sc. &amp; B.Sc.

See By-laws, Chap. xviii.

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## EXAMINATIONS FOR DEGREES IN ENGINEERING.

See By-laws, Chap. xviii.

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## 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 161.) The last award was made in March, 1897.

The **BOWMAN-CAMERON** Scholarship—Every third year, for general proficiency. £50 for three years. (See page 154.) The last award was made in March, 1899.

The **COOPER** Scholarship No. II.—Awarded to a student distinguished in Classics. £50 for one year. (See page 152.)

The **BARKER** Scholarship No. II.—Awarded to a student distinguished in Mathematics. £50 for one year. (See page 151.)

The **LITHGOW** Scholarship—Awarded to a student distinguished in modern languages (French and German). £50 for one year. (See page 153.)

The **ATTKEN** 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 155.)

The **FREEMASONS** Scholarship—For Sons of Freemasons. Every third year. £50 for three years. (See page 154.) The last award was made in March, 1899.

**HORNER** Exhibition—For proficiency in Mathematics. £8 for one year. (See page 162.)

**BURSARIES** of the annual value of £25, £40 and £50 each are awarded from time to time. (See page 163.)

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\*Scholars are required to proceed with their studies in the respective Faculties in which their Scholarships are awarded.

## AWARDED AT THE FIRST YEAR EXAMINATIONS.

- The COOPER Scholarship No. III.—For Classics. £50 for one year. (See page 152.)
- The GEORGE ALLEN Scholarship—For Mathematics. £50 for one year. (See page 153.)
- 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 150.)
- The GARTON Scholarship No. I.—For French and German. £30 for one year. (See page 158.)
- The \*SMITH Prize—For Physics. £5. (See page 170.)
- The SLADE Prizes—For Practical Chemistry and Practical Physics. £5 each. (See page 170.)
- The COLLIE Prize—For Botany. £5. (See page 171.)
- The STRUTH Exhibition—For general proficiency. Awarded at the First Year Examination in Arts to a student entering the Faculty of Medicine. £50 for five years. (See page 162.) The last award was made in March, 1897.

## AWARDED AT THE SECOND YEAR EXAMINATIONS.

- The COOPER Scholarship No. I.—For Classics. £50 for one year. (See page 152.)
- The BARKER Scholarship No. I.—For Mathematics—£50 for one year. (See page 151.)
- The GARTON Scholarship No. II.—For French and German. £30 for one year. (See page 158.)
- The NORBERT QUIRK Prize—For Mathematics. £6. (See page 170.)
- The DEAS-THOMSON Scholarship—Awarded in the Faculty of Science for Physics. £50 for one year. (See page 151.)
- The DEAS-THOMSON Geology Scholarship—Awarded in the Faculty of Science for Geology. £50 for one year. (See page 152.)
- The CAIRD Scholarship—Awarded in the Faculty of Science for Chemistry. £50 for one year. (See page 154.)

## AWARDED AT EACH DEGREE EXAMINATION.

BRONZE MEDALS are awarded to the highest proficient in the various Degree Examinations.

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\* Candidates for Honours and Scholarships in Physics are required to attend the Laboratory during one term, i.e., two afternoons a week.

## SCHOLARSHIPS TENABLE BY GRADUATES.

The **FRAZER** Scholarship—Awarded upon the results of examinations, &c., in History. £80. (See page 156.)

The **JAMES KING** of Irrawang Scholarship, awarded to a Graduate of not more than four years' standing. £150 for two years. (See page 155.)

The **WOOLLEY** Scholarship—Awarded to a Graduate in Arts of not more than four years' standing. £150 for two years. (See page 157.)

Her Majesty's Commissioners of the Exhibition of 1851 have on four occasions awarded Scholarships to Graduates in Science of this University, upon the nomination of the Senate. A fifth nomination has been offered for March, 1900. £150 for two or three years. (See page 156.)

## AWARDED IN THE FACULTY OF LAW.

The **WIGRAM ALLEN** Scholarship—Awarded for proficiency at the Intermediate Law Examination. Candidates are required to present themselves for examination in all the subjects of the Intermediate Examination, notwithstanding they may have passed in some of them in the Arts course. £50 for one year. (See page 153.)

## 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. £50 for five years. (See page 162.) The last award was made in March, 1897.

The **RENWICK** Scholarship—For proficiency in the subjects of the First Year Examination in Medicine. £50 for one year. (See page 153.)

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 155.)

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 169.)

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 168.)

Subject for 1899-1900.—Art for Art's Sake.

WENTWORTH Medal for Undergraduates—£10. Awarded annually for an English Essay. (See page 168.)

Subject for 1899-1900.—Art for Art's Sake.

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 169.)

Subject for 1899-1900.—The Death of Socrates.

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 1899-1900.—Santiago (1898).

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 1899-1900.—The State in its relation to unemployed labour, with special reference to Australian conditions.

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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, 1900. 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.



## 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 15s. for “parts”) .. .. .	2	17	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 .. .. .	2	2	0
ASSAYING ( <i>see Practical Chemistry</i> )			
BIOLOGY .. .. .	2	2	0
BIOLOGY, PRACTICAL .. .. .	2	2	0
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
CIVIL ENGINEERING .. .. .	2	2	0
DESCRIPTIVE GEOMETRY AND DRAWING ..	1	11	6
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
HISTORY .. .. .	2	2	0

\* For Students who have passed through the first 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

LECTURE FEES <i>per term—continued.</i>					£	s.
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 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 .. .. .	..	..	..	..	3	3 0
MEDICINE .. .. .	..	..	..	..	3	3 0
MEDICINE, CLINICAL .. .. .	..	..	..	..	2	2 0
MIDWIFERY .. .. .	..	..	..	..	3	3 0
METALLURGY .. .. .	..	..	..	..	2	2 0
MINERALOGY .. .. .	..	..	..	..	2	2 0
MINING .. .. .	..	..	..	..	2	2 0
OPHTHALMIC MEDICINE AND SURGERY .. .. .	..	..	..	..	1	1 0
PATHOLOGY .. .. .	..	..	..	..	3	3 0
PATHOLOGY, PRACTICAL .. .. .	..	..	..	..	4	4 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
PHYSIOLOGY .. .. .	..	..	..	..	3	3 0
PHYSIOLOGY, SENIOR .. .. .	..	..	..	..	3	3 0
PHYSIOLOGY, PRACTICAL .. .. .	..	..	..	..	3	3 0
PSYCHOLOGICAL MEDICINE .. .. .	..	..	..	..	1	1 0
SURGERY .. .. .	..	..	..	..	3	3 0
SURGERY, CLINICAL .. .. .	..	..	..	..	2	2 0
SURGERY, OPERATIVE .. .. .	..	..	..	..	4	4 0
SURVEYING .. .. .	..	..	..	..	2	2 0
TUTORIAL MEDICINE—per annum .. .. .	..	..	..	..	1	1 0
TUTORIAL SURGERY .. .. .	..	..	..	..	1	1 0

\* In the Faculty of Law, the fee payable by Students not going through the regular course is two guineas per Term for each subject.

## TABLE OF FEES.

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DEGREE FEES—	£	s.	d.
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
Fee for use of Microscope .. .. .	1	0	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
PRELIMINARY EXAMINATION FOR ARTICLED CLERKS (payable to the Prothonotary) .. .. .	5	10	6

## MICROSCOPES.

In Practical Classes in the Departments of Biology, Geology, Pathology, and Physiology, students may use their own microscopes provided they be of an approved pattern, or may use the microscopes provided by the University, for the use of which a charge of £1 per course will be made. The following are the approved patterns of microscopes:—

- (1) Zeiss's stand V2 with revolving diaphragm, double nose-piece, ocular 3 and objectives A and D.
- (2) Reichert's "University" stand with revolving diaphragm double nose-piece, ocular III., and objectives 3 and 7a.
- (3) Reichert's Stand III. with revolving diaphragm or Abbe condenser. Objectives Nos. 3 and 7 of best series; ocular 3, double nose-piece.

TABLE OF FEES SHOWING THE TOTAL COST OF  
GRADUATION IN MEDICINE.

	£	s.	d.	£	s.	d.
1st Year—Chemistry .. .. .	6	6	0			
Practical Chemistry .. .. .	5	5	0			
Physics .. .. .	6	6	0			
Practical Physics .. .. .	3	3	0			
Biology .. .. .	4	4	0			
Practical Biology .. .. .	4	4	0			
				29	8	0
2nd Year—Descriptive Anatomy .. .. .	6	6	0			
Practical Physiology .. .. .	6	6	0			
Physiology .. .. .	6	6	0			
Chemistry—Organic .. .. .	3	3	0			
Descriptive Anatomy (Senior) .. .. .	3	3	0			
Dissections and parts .. .. .	8	11	0			
				33	15	0
3rd Year—Regional and Surgical Anatomy .. .. .	5	5	0			
Practical Physiology .. .. .	3	3	0			
Physiology (Senior) .. .. .	3	3	0			
Materia Medica and Therapeutics .. .. .	6	6	0			
Dissections and parts .. .. .	8	11	0			
				26	8	0
4th Year—Surgery .. .. .	6	6	0			
Pathology .. .. .	6	6	0			
Operative Surgery .. .. .	4	4	0			
Clinical Surgery .. .. .	4	4	0			
Practical Pathology .. .. .	4	4	0			
Tutorial Surgery .. .. .	1	1	0			
				26	5	0
5th Year—Midwifery and Gynaecology .. .. .	6	6	0			
Medicine .. .. .	6	6	0			
Medical Jurisprudence and Public Health .. .. .	3	3	0			
Clinical Medicine .. .. .	4	4	0			
Ophthalmic Medicine and Surgery .. .. .	1	1	0			
Psychological Medicine .. .. .	1	1	0			
Applied Logic .. .. .	1	1	0			
Tutorial Medicine .. .. .	1	1	0			
				24	3	0
Total Lecture Fees .. .. .				£139	19	0
Matriculation Fee .. .. .				2	0	0
Fee for M.B. Degree .. .. .				10	0	0
Total Fees payable to University .. .. .				£151	19	0
Perpetual Attendance at the Prince Alfred Hospital .. .. .	10	10	0			
Practical Midwifery .. .. .	5	5	0			
Practical Pharmacy .. .. .	3	3	0			
Fees payable to Hospitals .. .. .				18	18	0
Total Cost of Education and Graduation as M.B. .. .. .				£170	17	0

TABLE OF LECTURE FEES PAYABLE IN THE  
DEPARTMENT OF ENGINEERING.

					<i>Civil Eng.</i>			<i>Mining Eng.</i>		
					£	s.	d.	£	s.	d.
1st Year—	Mathematics..	..	..	..	6	6	0	6	6	0
	Applied Mechanics..	..	..	..	4	4	0	4	4	0
	Chemistry—Inorganic	..	..	..	6	6	0	6	6	0
	Practical Chemistry..	..	..	..	8	5	0	10	5	0
	Physics ..	..	..	..	6	6	0	6	6	0
	Practical Physics ..	..	..	..	3	3	0	3	3	0
	Descriptive Geometry, &c...	..	..	..	3	3	0	3	3	0
	Physiography ..	..	..	..	2	2	0	2	2	0
	Mechanical Drawing ..	..	..	..	2	2	0	2	2	0
					£41 17 0			£43 17		
					£	s.	d.	£	s.	d.
2nd Year—	Mathematics..	..	..	..	6	6	0	—	—	—
	Applied Mechanics ..	..	..	..	4	4	0	4	4	0
	Physics ..	..	..	..	9	9	0	3	3	0
	Practical Physics ..	..	..	..	6	6	0	3	3	0
	Practical Chemistry ..	..	..	..	—	—	—	15	0	0
	Geology ..	..	..	..	6	6	0	6	6	0
	Surveying ..	..	..	..	4	4	0	4	4	0
	Civil Engineering ..	..	..	..	3	3	0	—	—	—
	Materials and Structures ..	..	..	..	—	—	—	2	2	0
	Mineralogy and Practical Mineralogy ..	..	..	..	—	—	—	4	4	0
	Mechanical Drawing ..	..	..	..	2	2	0	1	1	0
					£42 0 0			£43 7 0		
					£	s.	d.	£	s.	d.
3rd Year—	Mathematics..	..	..	..	6	6	0	—	—	—
	Civil Engineering ..	..	..	..	3	3	0	—	—	—
	Materials and Structures ..	..	..	..	4	4	0	—	—	—
	Surveying ..	..	..	..	2	2	0	—	—	—
	Architecture and Building Construction..	..	..	..	2	2	0	—	—	—
	Drawing School ..	..	..	..	2	2	0	1	1	0
	Metallurgy ..	..	..	..	—	—	—	4	4	0
	Mining ..	..	..	..	—	—	—	4	4	0
	Assaying ..	..	..	..	—	—	—	24	0	0
					£19 19 0			£33 9 0		

## 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 have been collected and invested partly in England and partly in New South Wales; and all the specific bequests have been paid, as well as the annuities up to date.

The assets in England, amounting to £30,000, being not more than sufficient to provide for the payment of the various annuities, may be retained by the Trustees until the expiration of such annuities. Those in Australia amount to £239,700.

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 has been applied for the payment of half the cost of the erection of a new Chemical Laboratory, and a further sum of £1,200 has been 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 three 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, 1890—C. A. Coghlan, M.A., LL.D.

## 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.

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 sum of £50,000, 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, 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:

Other conditions of the Deed 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.

Under the second clause of the deed of gift above recited, a portion of the income of the Russell Fund has been devoted to the maintenance of the following offices:—

Assistant Lecturer in Mechanical Engineering and Drawing, 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—Edward F. Pittman, A.R.S.M.

Lecturer in Metallurgy, 1899—Basil W. Turner, A.R.S.M.

Lecturer in Architecture, 1897—John Sulman, F.R.I.B.A.

Mechanical Instructor—Henry Blay.

#### 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, the Senate has determined, with the donor's approval, to award one Scholarship annually, until further notice, 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:—(i.) That he has been engaged in an approved workshop for a period of at least one year, and has, in addition, obtained Certificates of the following courses in the Sydney Technical College:—

(a) Applied Mechanics, First and Second Year Courses.

(b) Mechanical Drawing, First and Second Year Courses.



(c) Mechanical Workshops, a two years' Course.

or, (ii.) that he has been engaged, under approved conditions, in the study of Practical Mechanical Engineering for at least three 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.

2.—The Scholarship will be awarded, after competitive examination held in the month of November, concurrently with the Senior Public Examination, and the holder will be styled the "Peter Nicol Russell Scholar."

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, Part I. (150 marks).
- (d) Physics, Part 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 Scholarship will be awarded to the candidate who obtains the highest aggregate number of marks in this examination, provided that he shall have shown sufficient merit to enable him, in the opinion of the Examiners, to profit by the award of a Scholarship.

4.—The Scholar will be required to commence attendance upon the University Classes in the March following the award of the Scholarship to him, 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 Engineering, and shall pass all the prescribed examinations.

5.—The Scholarship will be of the value of £90 per annum, and will be tenable for three years, under the conditions mentioned 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 the three years' course, to the Degree of Bachelor of Engineering in Mechanical Engineering.

Those who have not so qualified themselves will be entitled at the end of the three years' course to certificates of their Attendance and Examination in the individual subjects, and a certificate showing that they have held the Peter Nicol Russell Scholarship, under the prescribed conditions, for a period of three years—but not to any Degree.

The candidates' names, together with an examination fee of £1 10s., and all the required certificates, must be in the hands of the Registrar of the University at least three weeks before the first day of examination.

#### THE PETER NICOL RUSSELL MEDAL.

THE PETER NICOL RUSSELL MEDAL (value £20) is open to competition amongst Graduates in Engineering of not more than two years' standing. 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.

### 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 April, 1899, was £2,085 14s. 5d.

## 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—UNIVERSITY SCHOLARSHIPS.

Awarded at the Matriculation Examination for General Proficiency. Extinguished in 1893, by reason of Private Foundations for the same purpose.

1891—Edwards, D. S.

1892—Hall, E. C.

Rowland, N. de H. } æq.

## 2—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 on its foundation in 1851 as an endowment for a Scholarship.

It is 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.

1891—Brearley, J. H. D.

1896—Woolnough, W. G.

1892—Seale, H. P.

1897—Harker, G.

1893—Wood, J. P.

1898—Madsen, John P. V.

1894—Strickland, T. P.

1899—Boyd, W. S.

1895—Sandes, F. P.

Heden, E. C. } æq.

\* The names of holders of Scholarships before the year 1891 will be found in the University Calendar for 1893.

BARKER SCHOLARSHIPS.

Founded in 1853 by a gift of £1,000 (with accumulations) from Thomas Barker, Esq., for the encouragement of Mathematical Science.

3.—BARKER SCHOLARSHIP, No. I.

Awarded at the Second Year Examination, for proficiency in Mathematics. £50, tenable for one year.

1891—[Fell, J. W.]*	1895—Stewart, D. G.
O'Reilly, H. de B.	1896—Chalmers, S. D.
1892—Davies, W. J. E.	1897—Griffiths, F. G.
1893—Davies, A. B.	1898—Sawkins, Dansie T.
1894—Burfitt, W. F.	1899—Stephen, H. M.

4.—BARKER SCHOLARSHIP, No. II.

Awarded at the Matriculation Examination, for proficiency in Mathematics. £50, tenable for one year.

1891—Davies, A. B.	1897—Boyd, W. S.	
1892—Simpson, E. S.	Horn, W. R.	
1893—Stewart, D. G.	Mort, H. S.	} <i>prox.</i> <i>acc.</i>
Strickland, T. P†.	Stephen, H. M.	
1894—Chalmers, S. D.	1898—Mort, Harold S.	
1895—Griffiths, F. G.	1899—Tivey, John P.*	} <i>æq.</i>
1896—Hawken, R. W.	Vonwiller, O. U.	
Waterhouse, G. A., <i>prox. acc.</i>	Smith, W., <i>prox. acc.</i>	

DEAS-THOMSON SCHOLARSHIPS.

Founded in 1854 by a gift of £1000 (with accumulations) from the Honourable Edward Deas-Thomson, for the encouragement of the study of Natural Science.

5.—DEAS-THOMSON SCHOLARSHIP FOR PHYSICS.

Awarded at the Second Year Examination in the Faculty 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.

1891—Fell, J. W.	1895—Strickland, T. P.
1892—Brearley, J. H. D.	1898—Durack, Joseph J. E.
1893—Brearley, J. H. D.	1899—Madsen, J. P. V.

\*Awarded to H. de B. O'Reilly, Fell being the holder of two other Scholarships.

†Awarded to D. G. Stewart, T. P. Strickland being the holder of two other Scholarships.

## 6.—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.

1892—Hughes, M. O'G., B.A.

1899—Ball, C. L.

1893—Watt, J. A., M.A.

Mort, S. R. } æq.

## COOPER SCHOLARSHIPS.

Founded in 1857 by a gift of £1000 (with accumulations) from Sir Daniel Cooper, Bart., for the encouragement of Classical Literature.

## 7.—COOPER SCHOLARSHIP, No. I.

Awarded at the Second Year Examination for proficiency in Classics. £50, tenable for one year.

1891—Parker, W. A.

1896—Whitfield, H. E.

1892—Levy, D.

1897—Evans-Jones, D. P.

1893—Garnsey, A. H.

1898—[Teece, R. C.]\*

1895—Waddell, G. W.

1899—Robson, R. N.

## 8.—COOPER SCHOLARSHIP, No. II.

Awarded at the Matriculation Examination for proficiency in Classics. £50, tenable for one year.

1891—Garnsey, A. H.

1897—Arnold, A. G. de L. }

1892—Hall, E. C.

Bourne, Eleanor E. } æq.

1893—Mitchell, E. M. }  
Waddell, G. W. } æq.1898—Power, Percy H. }  
Woodd, G. N. } *prox. acc.*

1894—Whitfield, H. E.

Todd, F. A. } *prox. acc.*

1895—Evans-Jones, D. P.

1899—[Browne, C. S.†] }

1896—[Teece, R. C.]†

[Teece, R. N.¶] } æq.

McEvoy, B. P.

1897—Robson, R. N.

## 9.—COOPER SCHOLARSHIP, No. III.

Awarded at the First Year Examination for proficiency in Classics. £50, tenable for one year.

1891—Levy, D.

1895—Whitfield, H. E.

1892—Garnsey, A. H.

1896—Evans-Jones, D. P.

1893—[Hall, E. C.]

1897—[Teece, R. C.]§

Rowland, N. de H.‡

Walsh, J. J.

1894—Mitchell, E. M. }  
Waddell, G. W. } æq.

1898—Robson, R. N.

1899—Todd, F. A.

\* R. C. Teece being the holder of two Scholarships could not retain the Cooper Scholarship No. 1, which was not awarded.

† Awarded to B. P. McEvoy, R. C. Teece being the holder of two Scholarships.

‡ The first place in the Scholarship Examination was gained by E. C. Hall, who did not comply with the conditions for holding the Scholarship.

§ Awarded to J. J. Walsh, R. C. Teece being the holder of two other Scholarships.

¶ C. S. Browne did not comply with the conditions for holding the Scholarship. R. N. Teece was the holder of two other Scholarships.

10.—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.

1891—Mell, C. N.	1892—Rowland, N. de H. Whitfeld, Eleanor M. } <i>æq.</i>
1893—Strickland, T. P.	1896—Nicholson, G. G.
1894—[Ludowici, E.]* Whitehead, Trixie	1898—Armstrong, Ina B. H.
1895—Pilcher, N. G. S.	1899—Wilshire, Hector

11.—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 the Intermediate Law Examination. Candidates for this Scholarship are required to present themselves for examination in all the subjects of the Intermediate Examination, notwithstanding they may have previously passed in some of them in the Arts Course. £50, tenable for one year.

1892—Flannery, G. E., B.A.	1896—Hammond, J. H., B.A.
1893—Holme, J. B., B.A.	1897—Mitchell, E. M., B.A.
1894—Levy, D., B.A.	1898—Dettmann, H.S., B.A.
1895—Bavin, T. R., B.A.	1899—Pilcher, N. G. S., B.A.

12.—RENWICK SCHOLARSHIP.

Founded in 1877 by a gift of £1000 from 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. £50, tenable for one year.

1891—Hughes, M. O'G. Veech, M., <i>prox. acc.</i>	1895—Sandes, F. P.
1892—Deck, G. H. B.	1896—Burfitt, W. F., B.A.
1893—Dixon, G. P.	1897—Macintosh, A. H. Graham, Mabel J., <i>prox. acc.</i>
1894—Hall, E. C. Kater, N. W. } <i>æq.</i>	1898—Muscio, A.
	1899—Dansey, St. J. W.

13.—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. £50, tenable for one year.

1891—Levy, D.	1892—Davies, A. B.
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\* Awarded to Trixie Whitehead, E. Ludowici not having complied with the conditions necessary for holding the Scholarship.

1893—Burfitt, W. F.		1897—Hawken, R. W.	} æq.
1894—Stewart, D. G.		Morris, J. F.	
1895—Chalmers, S. D.		Sawkins, D. T.	
1896—Griffiths, F. G.		[Page, E. C. G.*]	
		1898—Boyd, W. S.	
		1899—Mort, H. S.	

## 14.—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.

1893—Mitchell, E. M.		1899—[Browne, C. S.]†	} æq.
1896—Teece, R. C.		Teece, R. N.	
		Wilshire, H., <i>prox. acc.</i>	

## 15.—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 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.		1899—Teece, R. N.
1896—Teece, R. C.		

## 16.—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

\* E. C. G. Page did not comply with the conditions for holding the Scholarship.

† C. S. Browne did not comply with the conditions for holding this Scholarship.



to attend the theoretical and practical courses of instruction in Chemistry during the Third Year of the Faculty of Science. £50, tenable for one year.

1891—Fell, J. W.

1894—Simpson, E. S.

1898—Harker, George

#### 17.—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.

1894—Dettmann, H. S.

1895—Griffiths, F. G.

1897—Horn, W. R.

Bourne, Eleanor E., *prox. acc.*

1898—Todd, Frederick A.

#### 18.—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 £150 per annum, tenable for not more than two years.

1889—Newton, H., B.A.

1892—Brennan, C. J., B.A.

1894—Henderson, G. C., B.A.

1896—Smith, G. E., M.D., Ch.M.

1898—Chalmers, S. D., B.A.

#### 19.—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.

1891—Dick, R.  
1892—Smith, G. E.  
1893—Craig, R. G.  
1894—Deck, G. H. B.  
1895—Dixon, G. P.

1896—MacPherson, J., M.A., B.Sc.  
1897—Willis, C. S.  
1898—Burfitt, W. F., B.A.  
1899—Barling, E. V.  
Graham, Mabel J. } æq.

## 20.—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 April, 1899, amounted to £452 8s. 5d.

## 21.—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 any branch of Science with a view of developing the Manufactures and Industries of his country. £150, tenable for two years. Her Majesty's Commissioners have offered to the University the nomination to a Scholarship in March, 1900.

1892—Barracrough, S. H., B.E.  
1893—Ledger, W. H., B.E.

1895—Watt, J. A., M.A., B.Sc.  
1897—Strickland, Tom P., B.E.

## 22.—FRAZER SCHOLARSHIP.

Founded in 1890 by a bequest of £2000 from the Hon. John Frazer, M.L.C. £80.

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.

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.

1893—Henderson, G. C., B.A.	1896—Doust, Edith L., B.A. }	} æq.
Wearne, Amy I., B.A.,	Yarnold, A. H., B.A. }	
<i>prox. acc.</i>	Murray, Florence J., B.A.,	
1894—Finney, J., B.A.	<i>prox. acc.</i>	
Harriott, Georgina J., B.A.,	1897—Chalmers, S. D., B.A.	
<i>prox. acc.</i>	1898—Lance, Elisabeth A., B.A. }	} æq.
1895—Dennis, J., B.A.	Pilcher, N. G. S., B.A. }	
Griffith, J. S., B.A., <i>prox. acc.</i>	1899—Teece, R. C.	

#### 24.—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.

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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.

#### 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.

##### 25.—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.

1899.—Not awarded.

##### 26.—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.

## VII.

## 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.

## ARMY MEDICAL SERVICE.

The ordinary mode of admission to the Army Medical Staff is by competitive examination held twice a year. The Candidates must be 21 years of age, and not over 28 years of age, at the date of commencement of the competitive Examination. Each candidate must present an extract from the register of his birth, a recommendation from a person of standing in society, and a certificate of moral character. He must possess two diplomas or licences, recognised by the General Medical Council—one to practice Medicine, and the other Surgery, and must be registered under the Medical Act in force in the United Kingdom at the time of his appointment. He must also produce a certificate of having discharged the duties of a medical clinical clerk during six months, and of a surgical dresser during another six months, of which, in each case, not less than three months must have been spent in the wards of a hospital; and a certificate of having attended a course of instruction during not less than three months at an ophthalmic hospital, or the ophthalmic department of a general hospital, which course shall include instruction in the errors of refraction. Other conditions contained in the regulations must also be satisfied.

The following provision is also contained in Regulation No. 5 :—

“ It will be competent for the Secretary of State for War to fill up the remaining number (of vacancies) from such qualified candidates as may be proposed by the governing bodies of Public Schools of Medicine in the United Kingdom or in the Colonies, as he may think proper. Every candidate so proposed must be approved by the Director-General of the Army Medical Department, and be certified by the Governing body proposing him to be duly qualified according to a standard laid down by the Secretary of State.”

The full regulations may be seen in the Registrar's Office.

#### NAVAL MEDICAL SERVICE.

The Lords Commissioners of the Admiralty have been pleased to revise the regulations governing the entry to the Medical Branch of the Royal Navy so as to provide that the Board of Admiralty may admit annually one candidate, proposed by the governing bodies of Public Schools of Medicine in the United Kingdom, or attached to such Colonial Universities as they may think proper; the candidate so proposed to be approved by the Director-General of the Medical Department of the Navy, and to be certified by the Governing Body proposing him to be duly qualified according to the Regulations in force for the entry of candidates. It is provided in the regulations that “ in the cases of Colonial nominations, registrations of professional qualifications as required by Clause 2 of these regulations, may be deferred until after the arrival in England of a candidate who has been passed on the station; but a Commission as Surgeon will not be granted until the certificate of the Registrar of the Medical Council shall have been produced at the Medical Department of the Navy.”

The Colonial candidates are required to pass examinations both as to physical and professional fitness for the Service before a Board of Naval Medical Officers on the Station.

The full regulations may be seen in the Registrar's Office.

#### 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 Her 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 HER MAJESTY'S NAVY.

The regulations for the entry of Engineering students in Her 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.

1891—Garnsey, A. H.

1894—Whitfield, H. E.

| 1897—Stephen, H. M.

##### 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. 160), 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.

4. The holder, who shall at once proceed with his studies in the Faculty of Medicine, shall receive the sum of £50 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, 1897.

### 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.

1891—Davies, A. B.  
 1892—Simpson, E. S.  
 1893—Stewart, D. G.  
       Strickland, T. P.\* } *æq.*  
 1894—Chalmers, S. D.  
 1895—[Griffiths, F. G.]†  
       Forsyth, W. G.  
 1896—Hawken R. W.  
       Waterhouse, G. A., *prox. acc.*

1897—Boyd, W. S.  
       Horn, W. R.  
       Mort, H. S. } *prox. acc.*  
       Stephen, H. M.  
 1898—Mort, Harold S.  
 1899—Tivey, J. P.  
       Vonwiller, O. U. } *æq.*  
       Smith, W., *prox. acc.*

## 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.

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

\* Awarded to D. G. Stewart; Strickland being the holder of two Scholarships.  
 † Awarded to W. G. Forsyth; Griffiths being the holder of two Scholarships.

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 (3), 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, debentures for £1000, at 5 per cent., were given by Mrs. Maurice Alexander for the endowment of a Bursary in memory of her late husband. The annual value is £50.

## 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 April, 1899, to £940 1s. 2d.

## 7.—BURDEKIN BURSARY.

In 1876, the sum of £1000 was given by Mrs. Burdekin for the foundation of a Bursary, of the annual value of £50, to be called the Burdekin Bursary.

## 8.—HUNTER-BAILLIE BURSARY, No. I.

In 1876, Government debentures for £1000, at 5 per cent., were given by Mrs. Hunter-Baillie for the foundation of a Bursary of the annual value of £50, to be called the Hunter-Baillie Bursary.

## 9.—HUNTER-BAILLIE BURSARY, No. II.

In 1877, Government debentures for £1000, at 5 per cent., were given by Mrs. Hunter-Baillie for the foundation of a Bursary of the annual value of £50, 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.

## 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.

## THE LEVEY AND ALEXANDER ENDOWMENT.

In 1879, debentures for £1000, at 5 per cent., were 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 provided 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 choice would 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 pupilage; 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.

## 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.

The fund having accumulated sufficiently to provide for two Prizes of the value of £10 each, a Prize is now given for competition amongst Undergraduates, and a Second Prize for competition amongst Bachelors of Arts of not more than three years' standing.

#### GRADUATES' MEDAL.

1891—Curnow, W. L., B.A.	1896—Griffith, J. S., B.A.
1893—Smairl, J. H., B.A.	1897—Cowan, David, B.A.
Pratt, F. V., B.A., <i>prox. acc.</i>	Taylor, Eliz. I., B.A., <i>prox. acc.</i>
1894—Smairl, J. H., B.A.	1898—Dettmann, H. S., B.A.
1895—Pratt, F. V., B.A.	1899—Dettmann, H. S., B.A.

#### UNDERGRADUATES' MEDAL.

1894—MacMaster, D. A. D.	1897—Dowling, F. V.
1895—Griffith, J. S.	1898—Nicholson, G. G.
1896—Dettmann, H. S.	1899—Gough, N. J.

\* The names of those who gained prizes before 1891 will be found in the University Calendar for 1893.

## 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 Under-graduates and Graduates of not more than two years' standing. Value, £10. The last award was made in 1889.

## 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. The last award was made in 1885. (See page 137.)

## 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, £20 and £10 respectively.

## SENIOR PRIZE.

1891—Whitfield, Eleanor M.	1895—Lane-Latham, Ethel J.
1892—Bloomfield, Elsie I.A.	1896—Bourne, Eleanor E.
1893—Crouch, Olive	1897—Copas, Theodora E. J.
1894—Lance, Elisabeth Ada } æq.	1898—Knox, Marjory
England, Hannah } æq.	

## JUNIOR PRIZE.

1891—Ferguson, Margaret } æq.	1896—Bowmaker, Jessie } æq.
Elizabeth } æq.	Bruce, Grace Mitchell } æq.
Parker, Annie H. } æq.	Mills, Elsie A. H. } prox. acc.
1892—Dey, Charlotte J.	Stewart, Jessie I. } prox. acc.
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. } æq.	1898—Kellick, Stella M.

## 5.—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, £10.

1891—Dixon, Graham P.	} æq.	1895—Teece, Richard C.
Hall, Edwin C.		1896—Bourne, Eleanor E.
Rowland, Norman de H.		Horn, W. R.
Simpson, Edward S.		Robson, R. N. } <i>prox. acc.</i>
Roberts, Francis J., <i>prox. acc.</i>		Stephen, H. M. }
1892—Mitchell, E. M.	} æq.	1897—Todd, F. A.
Strickland, T. P.		1898—Browne, C. S. } æq.
1893—Whitfield, Hubert Edwin		Teece, R. N. }
1894—Griffiths, Frederick Guy		Macrossan, H. D. } <i>prox. acc.</i>
Kerr, Richard Alex., <i>prox. acc.</i>		Morton, H. G. S. }

#### 6.—SMITH PRIZE.

Founded in 1885, by a bequest of £100 from the Honourable Professor Smith. Awarded to the best Undergraduate of the First Year in Experimental Physics. Value £5.

1891—Deck, C. H. B.	} æq.	1895—Burfitt, W. F.
Doak, W. J., <i>prox. acc.</i>		1896—Beaver, W. R.
1892—Doak, W. J.		Harker, G. }
1893—Strickland, T. P.		1897—Ward, L. K.
Quaife, A. F. } <i>prox. acc.</i>		1898—Jordan, G. E. G.
Stewart, D. 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, £6.

1891—O'Reilly, H. de B.	} æq.	1896—Chalmers, S. D.
1892—Davies, W. J. E.		1897—Griffiths, F. G.
1893—Davies, A. B.		1898—Sawkins, D. T.
1894—Burfitt, W. F.		1899—Stephen, H. M.
1895—Stewart, D. G.		

#### 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.

1891—Weigall, A. R.	} æq.	1895—Reid, N.
1892—Dixon, J. T.		1896—Jack, R. L.
Simpson, E. S. (Class Exam.)		1897—Winton, L. J.
1893—Woore, J. M. S.		1898—Heden, E. C.
Strickland, T. P. (Class Exam.)		Newman, J. M. }
1894—Sandes, F. P.		
Warren, E. W. (Class Exam.)		



## PHYSICS.

1891—Brearley, J. H. D.	1895—Woolnough, W. G.
1892—Doak, W. J.	1897—Madsen, J. P. V.
1893—Arnott, R. F.	1898—Weston, P. L.
Jackson, C. F. } <i>æq.</i>	Wilson, R. C. } <i>æq.</i>
1894—Sandes, F. P.	

## 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, £5.

1891—Dixon, Graham P.	1895—Teece, Richard C.
Hall, Edwin C.	1896—Bourne, Eleanor E.
Rowland, Norman de H.	Horn, W. R.
Simpson, Edward S.	Robson, R. N. } <i>prox. acc.</i>
Roberts, Francis J., <i>prox. acc.</i>	Stephen, H. M.
1892—Mitchell, E. M.	1897—Todd, F. A.
Strickland, T. P. } <i>æq.</i>	1898—Browne, C. S. } <i>æq.</i>
1893—Whitfield, Hubert E.	Teece, R. N.
1894—Griffiths, Frederick Guy	Macrossan, H. D. } <i>prox. acc.</i>
Kerr, Richard A., <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.

1893—Hall, E. C.	1897—Bourne, Eleanor E.
1895—Burfitt, W. F., B.A.	1898—Higgins, T. E. C.
1896—Graham, Mabel J.	

## \* 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.

1892—Cocks, N. J.  
1896—Smail, J. H.

1899—Garrahan, R. R.

### 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.

1891—Stephen, E. M.  
1892—Parker, W. A.  
1893—Levy, Daniel  
1896—Mitchell, E. M.

1897—Whitfield, H. E.  
Dettmann, H. S., *prox. acc.*  
1898—Evans-Jones, D. P.  
1899—Teece, R. C.

#### MATHEMATICS.

1893—Davies, W. J. E.  
1894—Davies, A. B.  
1896—Stewart, D. G.

1897—Chalmers, S. D.  
1899—Sawkins, D. T.

#### LOGIC AND MENTAL PHILOSOPHY.

1891—Brennan, C. J.  
1892—Pratt, F. V.  
1893—Henderson, G. C.  
1894—Cowan, D.  
1895—Rowland, N. de H. }  
Whitfield, Eleanor M. } *æq.*

1896—Swanwick, K. ff.  
1897—Wallace, D.  
1898—Pilcher, N. G. S.  
1899—Nicholson, G. G.

### 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.

1894—Flannery, G. E.

1896—Bavin, T. R.  
1898—Peden, J. B.

### 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 E. (Anatomy).

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\* The names of those who gained prizes before 1891 will be found in the University Calendar for 1893.

## 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.

1892—Dick, Robert		1896—Dixon, G. P.
1894—Craig, R. G.		1898—MacPherson, J.

## 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.

1894—Watt, J. A. (Geology and Palæontology).

## 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.

1892—Vicars, James		1896—Bradfield, J. J. C.
1894—Dare, H. H.		

## 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.

1892—Stephens, C. T.		1895—Doak, W. J.	} æq.
1893—Ledger, W. H.		Jackson, C. F. V.	
1894—Seale, H. P.		1897—Strickland, T. P.	

## 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.

1892—Brereton, John le Gay		1893—Brereton, John le Gay
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## 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.

1891—Blatchford, T.	} æq.	1896—Harker, G.	} æq.
1892—Whitfeld, Eleanor M.		1897—Rutherford, Florence M.	
Thompson, Alexr.		Mutton, I, <i>prox. acc.</i>	
1893—Murray, Florence J.	} <i>prox. acc.</i>	1898—Jarrett, Marjorie K.	} æq.
1894—Darbyshire, Taylor		Poole, W.	
Hansard, Edith H., <i>prox. acc.</i>		Buchanan, G. A., <i>prox. acc.</i>	
1895—Evans-Jones, D. P.			

## 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.

## SENIOR PRIZE.

1891—Dixon, Graham P.	} æq.	1892—Mitchell, E. M.	} æq.
Hall, Edwin C.		Strickland, T. P.	
Rowland, Norman de H.		1893—Whitfeld, H. E.	}
Simpson, Edward S.		1894—Griffiths, Frederick G.	
Roberts, Francis J., <i>prox. acc.</i>		Kerr, Richard A., <i>prox. acc.</i>	

## JUNIOR PRIZE.

1891—Whitfeld, Hubert E.	}	1895—Browne, Claude S.	}
Stewart, D. G., <i>prox. acc.</i>		Woodd, George N., <i>prox. acc.</i>	
1892—Kelly, E. H.		1896—Teece, R. N.	} æq.
Grant, R. W., <i>prox. acc.</i>		1897—Griffiths, J. N.	
1893—Teece, R. C.		1898—Armstrong, R. S.	
1894—Robson, Reginald N.		Neal, H. E.	
		Molesworth, E. H., <i>prox. acc.</i>	

## \* PRIVATE ANNUAL PRIZES.

PATHOLOGY.—Prizes, given by Dr. W. Camac Wilkinson, for  
proficiency in Pathology.

1891—Smith, G. E.	1895—Dixon, G. P.
1892—Craig, R. G.	1896—MacPherson, J., M.A., B.Sc.
1894—Halliday, J. C.	1898—Burfitt, W. F., B.A., B.Sc.

MATERIA MEDICA AND THERAPEUTICS.—Prizes given by Dr.  
Thomas Dixon.

1894—McClelland, W. C., B.Sc.	} <i>æq.</i>	1897—McLean, G.
Harris, L. H. L.		Burfitt, W. F., B.A., <i>prox. acc.</i>
1895—MacPherson, J., M.A.		1898—Graham, Mabel J.
1896—Brennan, H. J. W., B.A.		

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.

1891—Mell, C. N.	} <i>æq.</i>	1895—Forsyth, W. G.
1892—Kidd, Russell		1896—Nicholson, G. G.
Whitfield, Eleanor M.		White, Margaret I. } <i>æq.</i>
1893—Murray, Florence J.		1897—Gough, N. J.
Waddell, G. W. (a)		1898—Adams, Frances L. } <i>æq.</i>
1894—Dettmann, H. S.		Wilson, D.

### SECOND YEAR.

1891—Proctor, Lizzie	} <i>æq.</i>	1895—Dettmann, H. S.
1892—Brereton, J. Le G.		1896—Dowling, F. V.
1893—Whitfield, Eleanor M.		1897—Read, Elizabeth J. } <i>æq.</i>
Roseby, Gertrude (a)		Withycombe, E. J. }
1894—Yarnold, A. H.		1898—Gough, N. J.

### THIRD YEAR.

1891—Pickburn, J. P. } <i>æq.</i>	1894—Whitfield, Eleanor M.
Pratt, F. V. }	1895—Beardmore, Ada
1892—Kennedy, Annie A.	1896—Dettmann, H. S.
1893—Brereton, J. Le G.	1897—Fidler, Isabel M.
Uther, Jennie B. (a)	1898—Nicholson, G. G.

\* The names of those who gained prizes before the year 1891 will be found in the University Calendar for 1893. (a) Second prizes given by Mr. A. W. Jose.

BIOLOGY.—Prizes of £2 2s., given by Professor Haswell, for proficiency in Biology.

1891—MacPherson, J.	1896—Graham, Mabel J.
1892—Dixon, G. P.	1897—Bourne, Eleanor E. } <i>æq.</i>
1893—Kater, N. W.	Muscio, A.
1894—Brennand, H. J. W.	1898—Suckling, F. M.
1895—(Zoology)—	Woolnough, R. E., <i>prox. acc.</i>
Woolnough, W. G.	
Burfitt, W. F., <i>prox. acc.</i>	

BIOLOGY.—A Prize of £1 1s., given by Professor Haswell, for excellence in Laboratory notes.

1895—Holmes, H. G. }	1897—Muscio, A.
Durack, W. J. } <i>æq.</i>	1898—Mansfield, W. C. }
Harris, W. E. }	Smith, S. A. } <i>æq.</i>
1896—Humphery, E. M.	

BOTANY.—Prize of £2 2s., given by Professor Haswell, for proficiency in Botany.

1892—MacPherson, J.

GEOLOGY.—Prize of £5 each, given by Professor David, for proficiency in Geology.

FIRST YEAR.

1895—Graham, Mabel	1895—Griffiths, F. G.
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SECOND YEAR.

1893—Simpson, E. S.	1897—Waterhouse, G. A.
1894—Brearley, J. H. D.	1898—Ball, L. C.
1895—Shortland, W. A.	Winton, L. J.
1896—Woolnough, W. G.	

THIRD YEAR.

1891—Ledger, W. H.	1894—Burfitt, W. F.
1892—Andrews, E. C.	1897—Woolnough, W. G.
1893—Watt, J. A.	1898—Waterhouse, G. A.

SURGERY.—Prize of £10, given by Dr. MacCormick, for proficiency in Surgery.

1891—Luker, D.	1893—Halliday, J. C.
1892—Studdy, W. B.	

ANATOMY.—Two Prizes of £5 each, given by Professor Wilson, for proficiency in the Class Examinations in (a) General and Descriptive Anatomy and (b) Regional and Surgical Anatomy respectively.

1891—(a) Robison, E. H.	1892—(a) Dixon, G. P.
(b) Smith, G. E.	(b) Craig, R. G.

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.

1891—Davis, Henry, B.A.	1895—Barron, J., B.A.
1892—Davis, Henry, B.A.	1896—Cowan, D., B.A.
1894—Pratt, F. V., B.A.	1898—Wallace, D., B.A.
Henderson, G. C., B.A., <i>prox.</i> <i>acc.</i>	

CHEMISTRY.—Prizes of £5 and £3 3s. respectively, given by Professor Liversidge, for proficiency in Chemistry amongst Evening students.

1893—Barry, H. de B. } <i>æq.</i>	1897—Quaife, C.
Dennis, J.	

LOGIC AND MENTAL PHILOSOPHY.—Prizes of £5 each given by Professor Anderson.

## SECOND YEAR.

1891—Peden, J. B.	1896—Wallace, D.
1892—Abigail, Eliza L. } <i>æq.</i>	1897—Pilcher, N. G. S.
Kendall, F. C.	1898—Nicholson, G. G.
1893—Cowan, D.	1899—Merrington, E. N.
1894—Whitfeld, Eleanor M.	Rutherford, Florence M., <i>prox. acc.</i>
1895—Taylor, Eliz. I. } <i>æq.</i>	
Swanwick, K. ff.	

## THIRD YEAR.

1892—Pratt, F. V. } <i>æq.</i>	1896—Swanwick, K. ff.
Peden, J. B.	Taylor, Elizabeth I., <i>prox. acc.</i>
1893—Henderson, G. C.	1897—Wallace, D.
1894—Cowan, D.	1898—Pilcher, N. G. S.
1895—Rowland, N. de H. } <i>æq.</i>	1899—Nicholson, G. G.
Whitfeld, Eleanor M.	

HISTORY.—Prize of £5, given by Professor Wood for proficiency in History.

1894—Dennis, J.	1898—Teece, R. C.
1895—Doust, Edith L.	1899—Robson, R. N. } <i>æq.</i>
1896—Bloomfield, Elsie I'A.	Rutherford, Florence M.
1897—Lance, Elisabeth A.	

# \* HONOURS AT THE DEGREE EXAMINATIONS.

## FACULTY OF ARTS.

### M.A. EXAMINATION.

#### LOGIC AND MENTAL PHILOSOPHY, ETC.

1892—Cocks, N. J.  
Brennan, C. J.  
1894—Shaw, H. G.

1896—CLASS I.—Smairl, J. H.  
CLASS II.—Millard, G. W.  
1899—CLASS I.—Garran, R. R.  
CLASS II.—Taylor, Eliz. I.

#### ENGLISH LITERATURE AND POLITICAL PHILOSOPHY.

1894—Russell, F. A. A.

#### LATIN AND MODERN FRENCH LITERATURE.

1895—CLASS II.—Bowmaker, Ruth.

#### PHILOSOPHY AND FRENCH LITERATURE.

1896—CLASS II.—Stonham, J.

#### GREEK AND LATIN LITERATURE.

1897—CLASS II.—Pratt, F. V.

#### ENGLISH LITERATURE AND MODERN HISTORY.

1897—CLASS II.—Doust, Edith L.

#### MODERN HISTORY.

1898—CLASS II.—Chalmers, S. D.  
Edwards, E. S.

### B.A. EXAMINATION.

#### CLASSICS (LATIN AND GREEK).

1891.

CLASS I.—Stephen, E. M.

CLASS II.—Brennan, C. J.

#### LATIN.

1892.

CLASS I.—Parker, W. A.

Peden, J. B.

Pratt, F. V.

CLASS II.—Bowmaker, Ruth

Craig, C.

1893.

CLASS I.—Levy, D.

Atkins, W. L.

Kennedy, Annie A.

CLASS II.—Anstey, G. W.

Kendall, F. L.

\* The names of those who obtained honours before the year 1891 will be found in the University Calendar for 1893.



1894.

- CLASS I.—Edwards, D. S.  
 CLASS II.—Garnsey, A. H. } æq.  
                   Mell, C. N.  
 CLASS III.—Kilgour, A. J.  
                   Stonham, J.  
                   MacMaster, D. A. D. } bæ  
                   Barron, J.  
                   Dixon, H. H.

1895.

- CLASS II.—Whitfeld, 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.—Whitfeld, H. E.  
                   Dettmann, H. S.  
 CLASS II.—Armstrong, Margaret J.  
                   Hobbs, E.

1898.

- CLASS I.—Fidler, Isabel M.  
                   Evans-Jones, D. P.  
 CLASS III.—Dunnicliff, 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, Fannie A.  
                   Perkins, F. T.

## GREEK.

1892.

- CLASS I.—Parker, W. A.  
                   Peden, J. B.  
 CLASS II.—Pratt, F. V.

1893.

- CLASS I.—Levy, D.  
                   Gill, A. C.

1894.

- CLASS I.—Garnsey, A. H.  
 CLASS II.—Edwards, D. S.

1895.

- CLASS I.—Griffith, J. S.  
                   Rowland, N de H.

1896.

- CLASS I.—Mitchell, E. M.

1897.

- CLASS I.—Dettmann, H. S. } æq.  
                   Whitfeld, H. E.  
 CLASS II.—Hobbs, E.

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.

## LATIN AND FRENCH.

1891.

- CLASS II.—Forde, J.

## FRENCH.

1892.

- CLASS I.—Bowmaker, Ruth.  
                   Perkins, J. A. R.  
                   Craig, C.  
 CLASS II.—Wilson, Ella

1893.

- CLASS I.—Atkins, W. L.  
                   Kennedy, Annie A.  
                   James, A. H.

1894.  
 CLASS I.—Stonham, J.  
 CLASS II.—Maynard, Ethel M.  
 CLASS III.—Uther, Jennie B.
1895.  
 CLASS I.—Stonham, Kathleen  
 Hunter, Mary A. M.  
 CLASS II.—Macdonald, Fannie  
 Mallarky, Ethel M.
1896.  
 CLASS I.—Montefiore, Hortense H.  
 CLASS III.—Johnston, Mary E.
1897.  
 CLASS II.—Armstrong, Margaret J.  
 Musmann, C. E. G.

1898.  
 CLASS I.—Fidler, Isabel M.  
 CLASS II.—De Lissa, Ethel N.  
 Harwood, Marian F. } seq.  
 Dey, Charlotte J.  
 Jarvie, B.
1899.  
 CLASS I.—Nicholson, G. G.  
 Parsons, J.  
 CLASS II.—Curtis, W. J.  
 CLASS III.—Page, A. E.  
 Lee, T. N.

## LATIN AND ENGLISH.

1891.

- CLASS I.—Holme, E. R.

## GERMAN.

1893.  
 CLASS I.—Barton, Joanna  
 James, A. H.  
 Proctor, Lizzie
1894.  
 CLASS II.—Mell, C. N.
1895.  
 CLASS II.—Stonham, Kathleen  
 Hunter, Mary A. M.

1897.  
 CLASS I.—Dettmann, H. S.  
 CLASS II.—Musmann, C. E. G.
1898.  
 CLASS II.—Harwood, Marian F.  
 De Lissa, Ethel N.
1899.  
 CLASS I.—Nicholson, G. G.

## ENGLISH.

1892.  
 CLASS I.—Pickburn, J. P.
1893.  
 CLASS I.—Kennedy, Annie A.  
 Martin, L. O.  
 Lenthall, Ellen M.  
 James, A. H.
1894.  
 CLASS I.—Brereton, J. Le G.  
 Byrne, J. K.
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.

## HISTORY.

1892.  
CLASS II.—Wootton, E.
1893.  
CLASS I.—Boyce, F. S.  
Henderson, G. C. } æq.  
Wearne, Amy I.  
Abbott, H. P.  
Kendall, F. L.  
Chapman, A. E.
- CLASS II.—Kellett, F.  
Lewis, H. C. } æq.  
Telfer, J. B.  
Symonds, Daisy
- CLASS III.—Layton, J. E.  
Dove, N. W.
1894.  
CLASS I.—Finney, J.  
Harriott, Georgina J.
- CLASS II.—Walker, J. E.  
Walker, S. H.
- CLASS III.—Edwards, E. S.
1895.  
CLASS I.—Dennis, J.  
Griffith, J. S.  
Whitfield, Eleanor M.  
Harker, Constance E.  
Elkin, J. B.

1895.  
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. (evening student)
1897.  
CLASS I.—Chalmers, S. D.  
Monahan, W. W.
- CLASS II.—Jones, C. H. F.
1898.  
CLASS I.—Lance, Elisabeth A. } bæ  
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.

## MATHEMATICS.

1891.  
CLASS III.—Stephen, E. M.  
Doak, F. W.
1892.  
CLASS II.—Marks, H.  
O'Reilly, H. de B. } bæ  
CLASS III.—Bowmaker, Ruth
1893.  
CLASS I.—Davies, W. J. E.  
CLASS III.—Craig, A. D.
1894.  
CLASS I.—Davies, A. B.  
CLASS II.—Andrews, E. C.
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.

## LOGIC AND MENTAL PHILOSOPHY.

1891.  
 CLASS I.—Brennan, C. J.  
           Smairl, J. H. } æq.  
           Stephen, F. M.  
 CLASS II.—Russell, Lillian

1892.  
 CLASS I.—Pratt, F. V.  
           Peden, J. B.  
           Edmunds, J. M.  
           Mannell, F. W.  
 CLASS II.—Rooney, W. J.  
           Lasker, S.  
           MacManamey, W. F.  
           Kidston, R. M.  
           Wootton, E.  
           Shaw, H. G.  
           Perkins, J. A. R.  
 CLASS III.—Wilson, Ella

1893.  
 CLASS I.—Henderson, G. C.  
           Kennedy, Annie A. } æq.  
           Atkins, W. L.  
 CLASS II.—Kendall, F. L.  
           Proctor, Lizzie  
 CLASS III.—Chapman, A. E.  
           Martin, L. O.  
           Dowe, P. W.

1894.  
 CLASS I.—Cowan, D.  
           Bavin, T. R.  
 CLASS II.—Russell, J. F. S.  
 CLASS III.—Barron, J.

1895.  
 CLASS I.—Rowland, N. de H. } æq.  
           Whitfield, 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.  
           Whitfield, 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.

## GEOLOGY AND PALÆONTOLOGY.

1891.  
 CLASS I.—Cosh, Jas.  
 CLASS II.—Blacket, C.  
           Harris, G.  
           Serisier, L. E.

1892.  
 CLASS II.—Prentice, A. J.

1893.  
 CLASS I.—MacPherson, J.  
 CLASS II.—Enright, W. J.  
           Symonds, Daisy

1895.  
 CLASS I.—Burfitt, W. F.  
 CLASS II.—Elliott, Millicent V.

1896.  
 CLASS II.—Montefiore, Hortense H.  
           Brook, H. J. S.  
           \*Officer, C. G. W.

1897.  
 CLASS II.—Langley, Isabella E.

## HONOURS.

183

1898.  
CLASS II.—Heden, E. C.  
Potts, Cuthbert

1899.  
CLASS II.—Lee, T. N.

## BOTANY.

1893.  
CLASS I.—MacPherson, J.

1894.  
CLASS II.—Holmes, W. F.

## CHEMISTRY.

1894.  
CLASS II.—Blatchford, T.

1897.  
CLASS II.—Sharp, W. A. R.

## PHYSICS.

1899.  
CLASS I.—Durack, J. J. E.

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## FACULTY OF LAW.

## LL.B. EXAMINATION.

1892.	
CLASS II.—	Meillon, J.
	Kelynack, A. J.
CLASS III.—	Curlewis, H. R.
	Mack, S.
1893.	
CLASS II.—	Taylor, J. M.
	Harris, G.
	Uther, A. H. } <i>æq.</i>
CLASS III.—	Waddy, P. R.
	Veech, L. S.
1894.	
CLASS I.—	Flannery, G. E.
CLASS II.—	Pickburn, J. P.
	Gerber, E. W. T.
	Watt, A. R. J.

1895.	
CLASS II.—	Levy, D.
	Martin, L. O.
	Holme, J. B.
1896.	
CLASS II.—	Walker, J. E.
	Boyce, F. S.
	Kershaw, J. C.
1897.	
CLASS I.—	Bavin, T. R.
1898.	
CLASS I.—	Peden, J. B.
CLASS II.—	Clines, F. J.
	Hammond, J. H.
	Parker, W. A.
1899.	
CLASS II.—	Waddell, G. W.
	Edwards, D. S.
	Bloomfield, W. J.

## FACULTY OF MEDICINE.

## M.D. EXAMINATION.

1895.—Smith, G. E. (Anatomy).

## M.B. EXAMINATION.

1892.	
CLASS I.—	Dick, R.
	Sawkins, F. J. T.
CLASS II.—	Tidswell, F.
1893.	
CLASS II.—	Smith, G. E. } <i>æq.</i>
	Vallack, A. S. }
1894.	
CLASS I.—	Craig, R. G.
1895.	
CLASS II.—	Hall, G. R. P.
	Hughes, M. O'G.
	Jackson, J. W.
1896.	
CLASS II.—	Deck, G. H. B. } <i>æq.</i>
	Halliday, J. C. }
	McClelland, W. C.

1896.	
CLASS II.—	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. } <i>æq.</i>
	Blackburn, C. B. }
	Cargill, W. D. }
	Margarey, F. W. A. }

## FACULTY OF SCIENCE.

## B.Sc. EXAMINATION.

## CHEMISTRY.

1893.		1899.
CLASS II.—Forde, J.		CLASS I.—Harker, G.

## GEOLOGY AND PALÆONTOLOGY.

1894.		1898.
CLASS I.—Watt, J. A.		CLASS I.—Woolnough, W. G.
CLASS II.—Bennett, Agnes E. L.		*Poole, W.
1897.		1899.
CLASS I.—Horton, Marion C.		CLASS I.—Waterhouse, G. A.

## MINERALOGY.

1893.		1894.
CLASS II.—Forde, J.		CLASS I.—Watt, J. A.

## PHYSICS.

1894.		1896.
CLASS I.—Brearley, J. H. D.		CLASS II.—*Strickland, T. P.

## BIOLOGY.

1894.		1898.
CLASS II.—Bennett, Agnes E. L.		CLASS II.—Davis, Agnes M. H.
1897.		
CLASS I.—Horton, Marion C.		

## M.E. EXAMINATION.

## CIVIL ENGINEERING.

1892.		1896.
CLASS I.—Vicars, James		CLASS I.—Bradfield, J. J. C.
1894.		
CLASS I.—Dare, H. H.		

\* Not passing through the regular course.

## B.E. EXAMINATION.

## CIVIL ENGINEERING.

1892.		1895.	
CLASS I.—Stephens, C. T.		CLASS II.—Arnott, R. F.	
Barraclough, S. H.		1896.	
Roberts, J. W.	} æq.	CLASS II.—Hole, W. F.	
McTaggart, N. J. C.		Woore, J. M. S.	
1893.		*Hedgeland, E. W.	
CLASS I.—Ledger, W. H.		1897.	
1894.		CLASS I.—Strickland, T. P.	
CLASS I.—Seale, H. P.		CLASS II.—Shortland, W. A.	
CLASS II.—White, N. F.		Smail, H. S. I.	
1895.		1898.	
CLASS I.—Jackson, C. F.	} æq.	CLASS II.—Boyd, R. J.	
Doak, W. J.		1899.	
Wood, J. P.		CLASS II.—Beaver, W. R.	
		Mathison, W. C.	

## MINING AND METALLURGY.

1895.		1899.	
CLASS II.—Simpson, E. S.		CLASS II.—Jack, R. L.	
Dixon, J. T.		Morris, J. F.	



# MATRICULATION EXAMINATION.

HONOURS.

NOVEMBER, 1898.

BOWMAN-CAMERON SCHOLARSHIP FOR GENERAL PROFICIENCY—

[\*C. S. Browne] } æq.  
R. N. Teece  
H. Wilshire, *prox. acc.*

COOPER SCHOLARSHIP No. II., FOR CLASSICS—[\*C. S. Browne] } æq.  
[†R. N. Teece]

BARKER SCHOLARSHIP No. II., AND HORNER EXHIBITION FOR MATHEMATICS—

J. P. Tivey } æq.  
O. U. Vonwiller }  
W. Smith, *prox. acc.*

LITHGOW SCHOLARSHIP FOR FRENCH AND GERMAN—H. Wilshire.

FREEMASONS' SCHOLARSHIP FOR GENERAL PROFICIENCY AMONGST THE SONS OF  
FREEMASONS—R. N. Teece.

## LATIN.

### CLASS I.

Browne, C. S.  
Teece, R. N.  
Larcombe, E. R.

### CLASS II.

Campbell, J. S. } æq.  
Salkeld, W. L. D. }  
Harrison, L. }  
Makinson, A. }

### CLASS III.

Macrossan, H. D. } æq.  
Vonwiller, O. U. }  
McKelvey, J. L. }  
Corlette, J. M. C. } æq.  
Wilshire, H. }  
Weedon, W. A. } æq.  
Redmond, E. J. }  
Docker, F. J. }  
Macdonald, J. J. }  
Stewart, Jessie I. }  
Bellemey, S. J. }  
Phillips, F. G. } æq.  
Morton, F. G. S. }  
Dart, N. }

## GREEK.

### CLASS I.

Teece, R. N.  
Browne, C. S.

### CLASS II.

Salkeld, W. L. D.  
Roseby, W. L. T.

### CLASS III.

Morton, H. G. S.  
Macrossan, H. D.  
Makinson, A.  
Larcombe, E. R.

## FRENCH.

### CLASS I.

Wilshire, H.  
Thomas, D.  
Browne, C. S.  
Harvey-Armstrong,  
Helen D.  
Mackness, Constance  
Fraser-Hill, Charlotte E.  
O'Reilly, S. H.  
Teece, R. N.

## CLASS II.

Sandford, Blanche V.  
Kemp, Laura M. K.  
Campbell, J. S. } æq.  
Docker, F. J. }  
Hagen, Mary A. C.  
Adams, Edith M.  
Vonwiller, O. U.  
Marks, H. C.  
Davies, Ethel

## CLASS III.

Harrison L.  
Henry, Ida E. } æq.  
Stewart, Jessie B. }  
Beet, H. E. B. }  
Phillips, F. G. }  
McKelvey, J. L. }  
Corlette, J. M. C. }  
Try, J. C. }  
Dart, N. }  
Thomas, Mary E.  
Bellemey, S. J.  
Mawson, W.  
Goddard, E. J.

\* C. S. Browne did not comply with the conditions for holding this Scholarship.

† Holder of two other Scholarships.

## GERMAN.

CLASS I.	CLASS II.	CLASS III.
Wilshire, H. Harvey-Armstrong, Helen D.	Thomas, D. Adams, Edith M. Roe, Maud M. Salkeld, W. L. D.	Vonwiller, O. U. Mote, A. R.

## MATHEMATICS.

CLASS I.	CLASS II.	CLASS III.
Tivey, J. P. Vonwiller, O. U. } aeq. Smith, W. Thomas, D. Macrossan, H. D. Murphy, P. J. Morton, H. G. S. Geraghty, W. B. McKelvey, J. L. Wilshire, H. Browne, C. S. Teece, R. N.	Marks, H. C. Bellemey, S. J. Warlow-Davies, H. } aeq. Dart, N. Try, J. C. Beet, Hannah E. G. Salkeld, W. L. D. Weedon, W. A. Woods, E. T. Phillips, R. B.	Hammond, F. B. Powell, S. W. C. Lethbridge, H. O. Fraser-Hill, Charlotte E. Hamilton-Lowe, H. C. } aeq. Loudon, Bertha W. Goddard, E. J. Docker, F. J. Campbell, J. S. Wheeler, H. C. F. Clark, J. E. Oxley, A. G. Weigall, H. S.

## MARCH, 1899.

## PASS.

Amos, Nellie M. Ballhausen, F. L. Barnett, Doris J. Bolton, Barbara L. Bonamy, S. P. F. Brownlie, Eveline A. Cahill, C. B. Castleman, A. Clay, Bernice S. Clayton, C. H. J. Coady, J. J. J. Cohen, E. H. Courthope, W. E. Coutts, Florence Crabbe, Gertrude M. Crisford, Hilda N. M. Dart, R. N. Doherty, Annie G. Dowe, Florence M. Ferguson, J. A. Fisher, A. D. W. Fraser-Hill, Charlotte E.	Freeman, V. Gerard, E. G. B. Gibson, R. M. Gillies, Geraldine H. Gillies, Teresa Graham, Emily R. Hall, E. K. Harvey-Armstrong, Helen D. Harris, H. T. R. Harris, R. H. Harris, R. J. K. Heaslop, J. W. Henry, Ida E. Hinton, W. S. Hodge, S. T. Jackson, F. H. Jaques, H. B. Johnstone, J. L. G. Jones, Ethel A. Joseph, Esther Kemp, Laura M. K.	Knapp, Agnes M. T. Knox, Acacia R. Larkin, J. B. Lindsay, W. C. Lord, F. C. T. Loudon, Bertha W. Love, J. McCarthy, J. P. S. McCrae, A. G. McCulloch, H. T. C. Macdonald, J. J. Mackness, Constance McSharry, P. J. McSwiney, P. Makin, W. Nathan, V. V. Nicholls, W. F. Nicholson, C. W. A. Orton, F. A. Phillips, Irene V. Phillips, R. B. Plomley, Dorothy F.
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MARCH PASS—*continued.*

Proctor, Bessie K.	Singleton, H. G.	Trivett, Nellie M.
Raffan, G.	Slade, O. C.	Uther, G. T.
Reid, Violet M.	Sly, Muriel L.	Verge, C. A.
Roberts, S. A. C.	Smith, C. S. G.	Waters, E. J. H.
Roger, J. M.	Smith, V. T.	Watson, H. F.
Robertson, J. R.	Sproule, A. H.	Wheeler, H. C. F.
Rundle, C. W.	Stoyles, B. L.	Williams, Doris M.
Rutherford, Constance M.	Taylor, Dorothy R.	Wilson, Annie
Saunders, Elsie M.	Thompson, J. A. M. W.	Wilson, B. C.
Shiels, J. S.	Thompson, Lucy E.	Wilson, Nellie P.
	Tivey, J. P.	Woodburn, J. W.

## ENTRANCE EXAMINATION

FOR THE FACULTIES OF LAW, MEDICINE AND SCIENCE,  
AND THE DEPARTMENT OF ENGINEERING.

MARCH, 1899.

*Note.*—Those whose names are marked with the letter (E) are qualified for admission to the Department of Engineering.

Bligh, E. A. R.	Kay, S.	(E) Platt, C. P.
D'Arcy, Constance E.	(E) McEncroe, J. M.	(E) Ross, A. W.
(E) Corfe, D. B.	(E) Mawson, D.	(E) Vonwiller, O. U.
Fullerton, Lottie	(E) Mawson, W.	(E) Withers, O. E. B.
(E) Green, H. M.	Phillips, A. B.	(E) Wood, H.
Innes, P. S. L.		

# FACULTY OF ARTS.

## FIRST YEAR EXAMINATION.

DECEMBER, 1898, AND MARCH, 1899.

COOPER SCHOLARSHIP, No III., FOR CLASSICS.—F. A. Todd.

GARTON SCHOLARSHIP, No. I., FOR FRENCH AND GERMAN—Not awarded.

PROFESSOR MACCALLUM'S PRIZE FOR ENGLISH

ESSAYS—  
Frances L. Adams } æq.  
D. Wilson

UNIVERSITY PRIZE FOR PHYSIOGRAPHY—Marjorie K. Jarrett } æq.  
W. Poole

G. A. Buchanan, *prox. acc.*

THE FOLLOWING HAVE COMPLETED THE FIRST YEAR EXAMINATION:—

(Alphabetical).

Adams, Frances L.  
Anderson, Virginia  
\*Armitage, C. H.  
Armstrong, Ina B. H.  
Armstrong, J. N. F.  
\*Binns, W. J.  
Bowmaker, Jessie  
Buchanan, G. A.  
Browne, J. A.  
Bruce, Annie  
Bruce, Grace M.  
Caro, P.  
Chalmers, G.  
Chambers, G. A.  
Connolly, T. P.  
Crowley, A.  
Dey, D. D.  
Dight, C. C.  
Docker, A. B.  
Ewing, F. P.  
Fahey, B. F.  
Fiaschi, C. F.  
Freeman, C. C.  
Fry, Florence M.

Gillespie, A. P.  
Godsall, R. S.  
Goergs, K. R.  
\*Gough, N. J.  
Gould, H. J.  
\*Graham, A. N.  
\*Grieve, J. T.  
\*Grieve, R. H.  
Heery, D. J.  
Hill, J. G. W.  
Holt, Edith J. K.  
Jarrett, Marjorie K.  
MacInnes, A.  
Mack, A. C.  
MacDonald, S. G.  
McLintock, W. C. S.  
Maclean, C. H. R.  
Marks, R. A.  
\*Maxted, H. L.  
Mills, Elsie A. H.  
Noake, R. R.  
Nolan, J. H. M.  
O'Sullivan, E. F.

Palmer, Selina E.  
Paxton, Betha  
Perkins, R.  
Plomley, R. C.  
Poole, W.  
Power, P. H.  
Reynolds, R. B.  
Robson, Hilda  
Rundle, G. W.  
Ryan, J. W.  
\*Smee, R.  
Skuthorpe, G.  
Stephenson, Anita L.  
Stoyles, H. G.  
Suttor, F. A.  
Taylor, T. M.  
Todd, F. A.  
Ure, Sarah L.  
Vickery, E. F.  
White, A. B. S.  
Wilson, D.  
Wilson, G. H.  
Woodd, G. N.

## HONOUR LISTS.

## GREEK.

## CLASS I.

Todd, F. A.  
Woodd, G. N.

## CLASS II.

Ryan, J. W.  
Power, P. H.

## CLASS III.

Hill, J. G. W.

## JUNIOR FRENCH.

## CLASS I.

Paxton, Betha  
Armstrong, Ina B. H.  
Palmer, Selina E.  
Bruce, Annie

## CLASS II.

Mills, Elsie A. H.  
Fry, F. Mildred

## CLASS III.

Reynolds, R. B.

## MATHEMATICS.

## CLASS I.

Mort, H. S. (Science)  
Gregson, W. H., B.A.  
(Eng.)

## CLASS II.

Myers, H. W. (Eng.)

## CLASS III.

\*Fetherstone, L.  
Fry, F. Mildred  
O'Sullivan, E. F.

## LATIN.

## CLASS I.

Todd, F. A.  
Woodd, G. N.  
Mills, Elsie A. H. } æq.  
Hill, J. G. W. }  
Ryan, J. W. } æq.  
Paxton, Betha }

## CLASS II.

Palmer, Selina E.  
Power, P. H.  
Armstrong, I. B. H. } æq.  
Reynolds, R. B. }

## JUNIOR GERMAN.

## CLASS II.

Armstrong, Ina B. H.

## ORDER OF MERIT IN INDIVIDUAL SUBJECTS.

## LATIN.

PASS. DECEMBER, 1898.

Vickery, E. F.  
Wilson, D.  
Bruce, Grace M.  
Bruce, Annie  
Fahey, B. F.  
Mackenzie, M.  
Fry, Florence M.  
MacDonald, S. G.  
Bowmaker, Jessie  
\*Fetherstone, L.  
Marks, R. A.  
Dight, C. C.  
Maclean, C. H. R.  
Chambers, G. A.  
Godsall, R. S.  
\*Little, V. A. S.  
Buchanan, G. A.

\*Fletcher, W. A.  
Goergs, K. R.  
O'Sullivan, E. F.  
Chalmers, G.  
MacInnes, A.  
Mack, A. C.  
Stephenson, Anita L.  
Plomley, R. C. } æq.  
Skuthorpe, G. }  
Wall, A. P. }  
Armstrong, J. N. F.  
\*Neale, C. N.  
Adams, Frances L.  
\*Artlett, W. L.  
White, A. B. S.  
Perkins, R.  
Osborne, O. T. } æq.

Browne, J. A.  
Connolly, T. P. } æq.  
Gillespie, A. P. }  
Freeman, C. C. } æq.  
Jarrett, Marjorie K. }  
† Caro, P.  
Docker, A. B.  
Crowley, A. } æq.  
Robson, Hilda }  
Gould, H. J. }  
Taylor, T. M. } æq.  
Wilson, G. H. }  
Barton, M. D. } æq.  
Heery, D. J. }  
Fiaschi, C. F. } æq.  
Poole, W.  
Holt, Edith J. K.

\*Evening Student.

† Unmatriculated.

## MARCH, 1899 (Alphabetical).

Anderson, Virginia  
†Caro, P.  
Dey, D. D.  
Ewing, F. P.

Heery, D. J.  
Moseley, A. H.  
Noake, R. R.  
Rundle, G. W.

Styles, H. G.  
Suttor, F. A.  
Ure, Sarah L.

## ENGLISH.

## PASS. DECEMBER, 1898.

Wilson, D.  
MacDonald, S. G. } Æq.  
Mills, Elsie A. H. } Æq.  
Todd, F. A.  
Bowmaker, Jessie  
Armstrong, Ina B. H.  
Wilson, G. H.  
Fry, Florence M.  
Fahey, B. F.  
\*Binns, W. J. } Æq.  
Bruce, Grace M. } Æq.  
Goergs, K. R. } Æq.  
\*Artlett, W. L. } Æq.  
Ryan, J. W. } Æq.  
Vickery, E. F. } Æq.  
Jarrett, Marjorie K. } Æq.  
Paxton, Betha } Æq.  
Bruce, Annie  
Adams, Frances L.  
Hill, J. G. W. } Æq.  
Perkins, R. } Æq.  
\*Fletcher, W. A.  
Woodd, G. N.

Buchanan, G. A. } Æq.  
Palmer, Selina E. } Æq.  
Godsall, R. S. } Æq.  
Holt, Edith J. K.  
Maclean, C. H. R.  
Docker, A. B.  
Marks, R. A. } Æq.  
O'Sullivan, E. S. } Æq.  
\*Brown, J. M.  
McInnes, A. } Æq.  
Poole, W. } Æq.  
Power, P. H. } Æq.  
Pitt, A. G. M.  
Chambers, G. A.  
Dey, D. D.  
Connolly, T. P.  
Dight, C. C. } Æq.  
\*Neale, C. N. } Æq.  
Renton, W. J.  
Robson, Hilda  
Reynolds, R. B.  
Browne, J. A.  
Freeman, C. C. } Æq.  
Mackenzie, M.

Mack, A. C. } Æq.  
Noake, R. R. } Æq.  
\*Fetherstone, L.  
\*Petersen-Schrader, } Æq.  
C. P.  
†Riley, P. R.  
Armstrong, J. N. F.  
†Caro, P.  
Gillespie, A. P. } Æq.  
Gould, H. J. } Æq.  
Heery, D. J. } Æq.  
Skuthorpe, G. } Æq.  
Crowley, A.  
Stephenson, Anita L.  
White, A. B. S.  
Suttor, F. A.  
Taylor, T. M.  
Ure, Sarah L.  
Chalmers, G.  
Rundle, G. W.  
Stoddart, R.  
Henning, C. T. B.

## MARCH, 1899 (Alphabetical).

Anderson, Virginia  
de Lambert, A. W. L.  
Ewing, F. P.

Fiaschi, C. F.  
Moseley, A. H.

Osborne, O. T.  
Plomley, R. C.

## GREEK (PRELIMINARY CLASS).

## PASS. DECEMBER, 1898.

MacDonald, S. G.

†Riley, P. R. | Chalmers, G.

## MARCH, 1899 (Alphabetical).

MacInnes, A.

| \*Walsh, J. J.

## JUNIOR FRENCH.

## PASS. DECEMBER, 1898.

Marks, R. A.  
Fahey, B. F.  
Bowmaker, Jessie  
Bruce, Grace M.  
Holt, Edith J. K.  
\*Graham, A. N.

Wilson, D.  
Goergs, K. R.  
Jarrett, Marjorie K.  
Docker, A. B.  
White, A. B. S.  
\*Little, V. A. S.

Crowley, A. } Æq.  
Perkins, R. } Æq.  
Wilson, G. H.  
Connolly, T. P.  
Dight, C. C.  
O'Sullivan, E. F.

## JUNIOR FRENCH—continued.

*Fetherstone, L.	} æq.	Poole, W.	} æq.	Armstrong, J. N. F.
Mackenzie, M.		Noake, R. R.		Gould, H. J.
Robson, Hilda	} æq.	Fiaschi, C. F.		Buchanan, G. A.
Stephenson, Anita L.		Wall, A. P.		Ewing, F. P.
*Neale, C. N.	} æq.	Freeman, C. C.		Chambers, G. A.
Gillespie, A. P.		Stoyles, H. G.	} æq.	Renton, W. J.
Maclean, C. H. R.	} æq.	Taylor, T. M.		Skuthorpe, G.
Anderson, Virginia		Mack, A. C.		Suttor, F. A.

## MARCH, 1899 (Alphabetical).

Browne, J. A.	De Lambert, A. W. L.	Rundle, G. W.
Caro, P.	Heery, D. J.	Ure, Sarah L.
Dey, D. D.	Plomley, R. C.	

## JUNIOR GERMAN.

## PASS.

Vickery, E. F.	Holt, Edith J. K.	Adams, Frances L.
Marks, R. A.	Godsall, R. S.	

## MATHEMATICS.

## (a) TRIGONOMETRY.

## PASS. DECEMBER, 1898.

Chalmers, G.	} æq.	*Petersen-Schrader,	} æq.	Crowley, A.
Vickery, E. F.		C. C.		Poole, W.
Bowmaker, Jessie	} æq.	Woedd, G. N.	} æq.	Ryan, J.
Fahey, B. F.		Todd, F. A.		De Lambert, A.
Pitt, H. E.	} æq.	Wilson, D.		Hall, E. J. K.
Mills, Elsie A. H.		Bruce, Grace M.	} æq.	MacDonald, S. G.
Plomley, R. C.	} æq.	Paxton, Betha		*Neale, C. N.
Henning, C. T. B.		Robson, Hilda	} æq.	Garry, J. J.
MacInnes, A.	} æq.	Connolly, T.		Gould, H. J.
O'Sullivan, E. F.		Freeman, C. C.	} æq.	Power, P. H.
Fry, F. Mildred	} æq.	Browne, J. A.		Armstrong, Ina B.
Buchanan, G. A.		Goergs, K. R.	} æq.	H.
Mort, H. S. (Science)	} æq.	Osborne, O. T.		+Caro, P.
Stoyles, H. G.		Mack, A. C.	} æq.	Ure, Sarah L.
Maclean, C. H. R.	} æq.	Armstrong, J. N. F.		Barton, M. D.
Skuthorpe, G.		Ewing, B. J.	} æq.	Moseley, A. H.
Weston, P. L. (Science)	} æq.	Docker, A. B.		Renton, W. J.
Godsall, R. S.		Fiaschi, C. F.	} æq.	Reynolds, R. B.
Taylor, T. M.	} æq.	Bruce, Annie		*Binns, W. J.
Gillespie, A.		Palmer, E. L.	} æq.	Mackenzie, M.
Dey, D. D.	} æq.	Perkins, R.		Campbell, T. F.
*Fetherstone, L.		Marks, R. A.	} æq.	Rundle, G. W.
Heery, D. J.	} æq.	Adams, Frances L.		Suttor, F. A.
Chambers, G. A.		Stephenson, Anita L.	} æq.	Jarrett, Marjorie K.
Dight, C. C.	} æq.			Wilson, G. H.
Hill, J. G. W.				

(a) Class Examinations in Geometry and Arithmetic and Algebra were held in Lent and Trinity Terms respectively.

\* Evening student.

PASSED IN MARCH, 1899.

Anderson, Virginia  
\*Graham, A. N.

Noake, R. R.

Stoddart, Raymond

## CHEMISTRY.

CLASS EXAMINATION, MAY, 1898.

PASS.

CLASS II.

Poole, W.  
Connolly, T. P.

Godsall, R. S.

Vickery, E. F.

SATISFIED THE CONDITIONS OF BY-LAWS, CHAP. XV., SEC. 12.

Adams, Frances  
Armstrong, Ina B. H.  
Armstrong, J. N. F.  
Bowmaker, Jessie  
Browne, J. A.  
Bruce, Annie  
Bruce, Grace M.  
Buchanan, G. A.  
Chalmers, G.  
Crowley, A.  
Dey, D. D.  
Dight, C. C.  
Docker, A. B.  
Fahey, B. F.  
Flowers, J.  
Freeman, C. C.  
Fry, F. MildredGoergs, K.  
Heery, D. J.  
Henning, C. T. B.  
Hill, J. G. W.  
Holt, Edith J. K.  
Jarrett, Marjorie K.  
Marks, R. A.  
MacDonald, S. G.  
MacInnes, A.  
Mackenzie, M.  
MacLean, C. H. R.  
McEwen, C. C.  
Mills, Elsie A. H.  
Moseley, A. H.  
Noake, R. R.  
O'Reilly, J. F.  
O'Sullivan, E. F.Palmer, Selina E.  
Paxton, Betha  
Perkins, R.  
Pitt, A. G. M.  
Reynolds, R. B.  
Rundle, G. W.  
Ryan, J. W.  
Skuthorpe, G.  
Stephenson, Anita L.  
Stoddart, R.  
Taylor, T. M.  
Todd, F. A.  
Ure, Sarah L.  
Wilson, G. H.  
Wilson, D.  
Woodd, G. N.

OCTOBER, 1898.

Barton, E. M. D.  
Ewing, F. P.  
Fiaschi, C. F.Gould, H. J.  
Osborne, O. T.  
Power, P. H.Studdy, M. M. E.  
White, A. B. S.

DECEMBER, 1898.

Browne, J. A.  
Chambers, G. A.

Plomley, R. C.

Stoyles, H. G.

## PHYSICS.

CLASS EXAMINATION, AUGUST, 1898.

PASS.

Poole, W.  
Woodd, G. N. } æq.  
Perkins, R. }  
Vickery, E. F.  
Holt, Edith J. K.  
Buchanan, G. A.  
Marks, R. A.  
Godsall, R. S. }  
Armstrong, I. B. H. } æq.Wilson, G. H.  
Jarrett, Marjorie K. }  
Mills, Elsie A. H. } æq.  
Bowmaker, Jessie }  
Hill, J. G. W. }  
Ryan, J. W. }  
Goergs, K.  
Freeman, C. C.  
Fry, F. MildredMoseley, A. H.  
Chalmers, G.  
Wilson, D.  
Docker, A. B.  
Bruce, Grace M.  
Bruce, Annie  
Dight, C. C.  
Armstrong, J. N. F.  
Fiaschi, C. F.

\* Evening student.



## PHYSICS—continued.

Skuthorpe, G.	White, A. B. S.	} æq.	Dey, D. D.	} æq.
Stoddart, R.	Crowley, A.		Rundle, G. W.	
Macdonald, S. G.	Adams, Frances L.	} æq.	Power, P. H.	} æq.
Stephenson, A. Leila	Ure, Sarah L.		Smee, R.	
Palmer, Selina E.	Gould, H. J.	} æq.	Flowers, J.	} æq.
Barton, E. M. D.	Henning, C. T. B.		Ewing, F. P.	
Todd, F. A.	Heery, D. J.	} æq.	Taylor, T. M.	} æq.
Maclean, C. H. R.	Reynolds, R. B.			
McInnes, A.	Noake, R. R.			
Connolly, T. P.				
Pitt, A. G. M.				
O'Sullivan, E. F.				

## NOVEMBER, 1898 (Alphabetical).

Fahey, B. F.	Osborne, O. T.	Plomley, R. C.
Mackenzie, M.	Paxton, Betha	Studdy, M. M. E.
MacEwen, C. C.		

## DECEMBER, 1898.

*Binns, W. J.	*McLintock, W. C. S.	} æq.	*Gough, N. J.	} æq.
*Grieve, R. H.	Chambers, G. A.		*Maxted, H. L.	
*Grieve, J. T.	Stoyles, H. G.	} æq.	*Fetherstone, L.	} æq.
	*Graham, A. N.		*Armitage, C. H.	
	*Little, V. S. A.	} æq.	*Neale, C. N.	} æq.
	*Campbell, T. F.		Browne, J. A.	
	*Fletcher, W. A.	} æq.		
	*Schrader, C. P.			
	*Nolan, J. H. M.	} æq.		
	*Artlett, W. L.			

## PHYSIOGRAPHY.

## PASS. DECEMBER, 1898.

Poole, William	Fahey, B. F.	} æq.	MacDonald, S. G.	} æq.
Jarrett, Marjorie K.	*Fletcher, W. A.		Wilson, D.	
Buchanan, G. A.	*Grieve, R. H.	} æq.	Crowley, A.	} æq.
Connolly, T. P.	Armstrong, Ina B. F.		Jordan, G. E. (Sci.)	
Vickery, E. F.	Ure, Sarah L.	} æq.	Meston, L. O. (Sci.)	} æq.
Woolnough, R. E.	Gorringe, L. S.		Moseley, A. H.	
(Science)	(Engineering)	} æq.	Goergs, K.	} æq.
Perkins, R.	*Smee, Reginald		*Little, V. A. S.	
Petrie, J. M. (Science)	*McLintock, W. C. S.	} æq.	*Maxted, H. L.	} æq.
Bowmaker, Jessie	*Graham, A. N.		Reynolds, R. B.	
O'Sullivan, E. F.	Horsburgh, J.	} æq.	Hill, J. G. W.	} æq.
Grut, C. F. De Jersey	(Eng.)		Spier, R. V. (Eng.)	
(Engineering)	Godsall, R. S.	} æq.	Taylor, T. M.	} æq.
Bruce, Grace M.	Mort, H. S. (Science)		Wilson, G. H.	
Adams, F. Lucy	Delohery, E. (Eng.)	} æq.	MacInnes, A.	} æq.
Browne, J. A.	*Schrader, C. P.			
Freeman, C. C.	Boyd, A. (Eng.)	} æq.		
Maclean, C. H.	*Nolan, J. H. M.			

\* Evening student.

PHYSIOGRAPHY—*continued.*

Mack, A. C.	} <i>bæ</i>	*Armitage, C. H.	} <i>æq.</i>	*Fetherstone, L.	} <i>æq.</i>
Paxton, Betha		Marks, R. A.		Docker, A. B.	
Pitt, A. G. M.		†Riley, P. R.		*Binns, W. J.	
Weston, P. L. (Sci.)		Skuthorpe, G.	} <i>æq.</i>	Chambers, G. A.	
White, A. B. S.		Armstrong, J. N. F.		Dight, C. C.	
Henning, C. T. B.	} <i>æq.</i>	Gould, H. J.		Fry, F. Mildred	
Fiaschi, C. F.		Holt, Edith J. K.		Mills, Elsie A. H.	
Stoddart, R.	} <i>bæ</i>	Peterson, A. J. (Sci.)	} <i>æq.</i>	Myers, H. W. (Eng.)	
*Artlett, W. L.		Bruce, Annie		*Neale, C. N.	
*Gough, N. J.		Chalmers, G.		Palmer, Selina E.	
Newman, J. M.		Garry, J. J. (Eng.)		Power, Percy H.	
(Eng.)		Heery, D. J.		Stephenson, A. Leila	
Noake, R. R.	} <i>æq.</i>			Stoyles, H. G.	
Ryan, J. W.				Woodd, G. N.	

# FACULTY OF ARTS.

## SECOND YEAR EXAMINATION.

DECEMBER, 1898, AND MARCH, 1899.

COOPER SCHOLARSHIP No. I., FOR CLASSICS—R. N. Robson.

BARKER SCHOLARSHIP No. I. AND NORBERT QUIRK PRIZE FOR MATHEMATICS—  
H. M. Stephen.  
W. S. Boyd, *prox. acc.*

GARTON SCHOLARSHIP No. II., FOR FRENCH AND GERMAN—Margaret A. Bailey.

PROFESSOR ANDERSON'S CLASS PRIZE FOR LOGIC AND MENTAL PHILOSOPHY—  
E. N. Merrington.  
Florence M. Rutherford, *prox. acc.*

PROFESSOR MACCALLUM'S PRIZE FOR ENGLISH ESSAYS—N. J. Gough.

PROFESSOR WOOD'S PRIZE FOR HISTORY—Florence M. Rutherford } *æq.*  
R. N. Robson

THE FOLLOWING HAVE COMPLETED THE SECOND YEAR EXAMINATION:—

(Alphabetical).

Bailey, Margaret A.	Lehane, T. J.	Rutherford, G. W.
*Binns, W. J.	McCook, W. H.	Sadler, A.
Brownlie, Elizth. A. D.	McLintock, W. C. S.	Scrutton, Caroline M.
Butler, P. J.	McMahon, W. D.	Smee, R.
Carlile-Thomas, Ella	Manning, H. E.	Sheridan, Muriel E. B.
Clark, F. G.	Merrington, E. N.	Small, Ethel E.
Crawford, T. S.	Mutton, I.	Stephen, H. M.
Eldridge, Ada M.	Newsham, Alice I.	Turner, Emily M.
Fell, Catherine I.	*Nolan, J. H. M.	Uther, Mary H.
Gillam, Dora A.	Pratt, W. H.	Ward, L. K.
*Gough, N. J.	Poidevin, L. O. S.	West, Edith A.
Henry, Ada	Robson, R. N.	Wilson, Gwendolene L.
Hill, J. H. F.	Roseby, Sarah M.	Wilton, E. N.
Hutchison, G. T.	Rutherford, Florence M.	Young, J.

### HONOUR LISTS.

LATIN.	GREEK.	GERMAN.
CLASS I.	CLASS I.	CLASS I.
Hill, J. H. F. } <i>æq.</i>	Robson, R. N.	Bailey, Margaret A.
Robson, R. N. }	Hill, J. H. F.	
Mutton, I.	CLASS II.	
CLASS II.	None.	
None.	CLASS III.	
CLASS III.	Ward, L. K.	
*Gough, N. J.		ENGLISH.
Fell, Catherine I.		CLASS I.
Uther, Mary H.		Scrutton, Caroline M.
Ward, L. K.		

\* Evening student.

HONOUR LISTS—*continued.*

MATHEMATICS.	FRENCH.	HISTORY.
CLASS I.	CLASS I.	CLASS I.
Stephen, H. M.	*Gough, N. J.	Robson, R. N.
Boyd, W. S.	Bailey, Margaret A.	Rutherford, Flo- } æq.
Waterhouse, G. A. (Eng.)	Uther, Mary H.	rence M.
Madsen J. P. V. (Eng.)	CLASS II.	Scrutton, Caroline M.
Hawken, R. W. (Eng.)	Small, Ethel E.	Fell, Catherine I.
CLASS II.	CLASS III.	*Nolan, J. H. M.
None.	Sheridan, Muriel E. B.	CLASS II.
CLASS III.		Butler, P. J.
Heery, D. J.	LOGIC & MENTAL PHILOSOPHY.	
	CLASS I.	
	Merrington, E. N.	
	CLASS II.	
	Rutherford, Florence M.	
	Wilson, Gwen. L.	

## ORDER OF MERIT IN INDIVIDUAL SUBJECTS.

## LATIN.

## PASS.

Rutherford, Florence M.	McLintock, W. C. S. } æq.	Wilton, E. N.
Clark, F. G.	Young, J. } æq.	Brownlie, Elizth. A. D.
Scrutton, Caroline M.	Newsham, Alice I.	Pratt, W. H.
Rutherford, G. W.	Roseby, Sarah M.	*Nolan, J. H. M.
Bailey, Margaret A.	Smee, R.	Merrington, E. N.
Sheridan, M. E. B.	Turner, Emily M.	Hutchison, G. T.
Small, Ethel E.	Manning, H. E.	Lehane, T. J.
Crawford, T. S.	de Lepervanche, E. M.	Butler, P. J.

## MARCH, 1899. (Alphabetical.)

*Binns, W. J.	Heery, T. J.	Sadler, A.
Eldridge, Ada M.	McCook, W. H.	West, Edith A.
Gillam, Dora A.	McMahon, W. D.	Wilson, Gwendolene L.

## ENGLISH.

## PASS.

Rutherford, Florence M.	*de Lepervanche, E. M.	Butler, P. J. } æq.
*Gough, N. J.	Merrington, E. N. } æq.	Small, Ethel E. } æq.
Wilson, Gwendolene L.	Mutton, I. } æq.	Eldridge, Ada M.
Fell, Catherine I.	McLintock, W. C. S. } æq.	Turner, Emily M.
Clark, F. G.	Roseby, Sarah M. } æq.	Newsham, Alice I.
Uther, Mary H.	Henry, Ada	
Poidevin, L. O. S. } æq.	Wilton, E. N. } æq.	
Rutherford, G. W. } æq.	Young, J. } æq.	

\* Evening student.

## MARCH, 1899. (Alphabetical.)

*Binns, W. J.	Hutchison, G. T.	*Nolan, J. H. M.
Brownlie, Elizth. A. D.	McCook, W. H.	Sadler, A.
Carlile-Thomas, Ella	Manning, H. E.	Smee, R.

## SENIOR FRENCH.

## PASS.

Fell, Catherine I.	Wilson, Gwendolene L.	*Grieve, J. T.
Roseby, Sarah M.	Gillam, Dora A.	Brownlie, Elizth. A. D.
Turner, Emily M.	Henry, Ada	Lehane, T. J.
Eldridge, Ada M.	*Nolan, J. H. M.	Poidevin, L. O. S.

## MARCH, 1899. (Alphabetical.)

*Binns, W. J.	M'Mahon, W. D.	West, Edith A.
Carlile-Thomas, Ella	Pratt, W. H.	

## SENIOR GERMAN.

## PASS.

Frank, Mathilde J. H.

## JUNIOR GREEK.

## PASS.

Mutton, I.	Crawford, T. S.	Merrington, E. N.
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## LOGIC AND MENTAL PHILOSOPHY.

## PASS.

Bailey, Margaret A.	} æq.	Turner, Emily M.	Henry, Ada
Scrutton, Caroline M.		Robson, R. N.	Carlile-Thomas, Ella
		Smee, R.	Newsham, Alice I.
Clark, F. G.	} æq.	McLintock, W. C. S.	Manning, H. E.
Gillam, Dora A.		Ward, L. K.	Pratt, W. H.
Crawford, T. S.		Young, J.	*Walsh, Jas. J.
Wilton, E. N.	} æq.	Small, Ethel E.	Lehane, T. J.
Eldridge, Ada M.		Hill, J. H. F.	*Armitage, C. H.
Sheridan, Muriel		Hutchison, G. T.	McCook, W. H.
E. B.		Butler, P. J.	†Brown, J. M.
Rutherford, G. W.			

## MARCH, 1899. (Alphabetical.)

*Binns, W. J.	McMahon, W. D.	West, Edith A.
Griffith, E. P. T.		

## HISTORY.

## PASS.

Clark, F. G.	} æq.	Sheridan, M. E. B.	Pratt, W. H.
McLintock, W. C. S.		Young, J.	Brownlie, Elizth. A. D.
Gillam, Dora A.		Crawford, T. S.	†Brown, J. M.
Uther, Mary H.	} æq.	Rutherford, G. W.	Stephen, H. M.
Lehane, T. J.		McCook, W. H.	Manning, H. E.
Poidevin, L. O. S.		Henry, Ada	*Nolan, J. H. M.
		McMahon, W. D.	*Gough, N. J.

\* Evening student.

† Unmatriculated.

## MATHEMATICS.

PASS. (Alphabetical.)

Bailey Margaret A.  
Frank, Mathilde J. H.  
Hutchison, G. T.

Mutton, I.  
Walker, Annie L.

Ward, L. K.  
West, Edith A.

## CHEMISTRY.

PASS. MARCH, 1899.

Sadler, A.

## GEOLOGY.

See under Department of Engineering.

## BIOLOGY.

PASS.

Carlile-Thomas, Ella.

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# FACULTY OF ARTS.

## THIRD YEAR EXAMINATION.

DECEMBER, 1898, AND MARCH, 1899.

UNIVERSITY MEDAL FOR CLASSICS—R. C. Teece.

UNIVERSITY MEDAL FOR MATHEMATICS—D. T. Sawkins.

UNIVERSITY MEDAL FOR LOGIC AND MENTAL PHILOSOPHY—G. G. Nicholson.

FRAZER SCHOLARSHIP FOR HISTORY—R. C. Teece.

PROFESSOR ANDERSON'S CLASS PRIZE FOR LOGIC AND MENTAL PHILOSOPHY—  
G. G. Nicholson.

PROFESSOR MACCALLUM'S PRIZES FOR ENGLISH—G. G. Nicholson.

THE FOLLOWING HAVE COMPLETED THE THIRD YEAR EXAMINATION:—

(Alphabetical.)

Bonamy, Nellie M. B.  
Cadden, L. G. B.  
\*Clegg, W. C.  
Clipsham, Gertrude M.  
Cribb, Estelle M. B.  
Curtis, W. J.  
d'Apice, A. W. M.  
Davidson, C. G. W.  
Davis, Edith W.  
\*Day, L. S.  
\*Dickinson, E. M.  
Durack, J. J. E.  
Elphinstone, Elsie M.  
Galt, J.  
Hadley, C. W.  
Lafferty, T. M.

Lee, T. N.  
\*Liggins, Jessie H.  
\*McEvoy, B. P.  
Mackintosh, Bertha A.  
H.  
MacLaurin, H. N.  
\*Maloney, J. T.  
Marr, Fannie A.  
\*Mathews, H. B.  
\*Mulholland, J. J.  
Nicholson, G. G.  
Page, A. E.  
Parsons, Emily W.  
Parsons, J.  
Perkins, F. T.

Read, Elizabeth J.  
Slack, Ida L.  
Sawkins, D. T.  
Sinclair, C. A.  
\*Sullivan, D. J.  
Teece, R. C.  
Tozer, S. D.  
Turner, Annie E.  
Verge, J.  
Walsh, John J.  
\*Walton, G. H. M.  
Williams, L. B.  
Williamson, P. L.  
Withycombe, E. J.  
Yarnold, Isabel M.

### HONOUR LISTS.

#### LATIN.

##### CLASS I.

Teece, R. C.  
Parsons, J.

##### CLASS II.

Galt, J.  
Walsh, J. J.  
Read, Elizabeth J.  
\*Liggins, Jessie H.

##### CLASS III.

Marr, Fannie A.  
Perkins, F. T.

#### PHYSICS.

##### CLASS I.

Durack, J. J. E.

#### GREEK.

##### CLASS I.

Teece, R. C.  
Walsh, J. J.

##### CLASS II.

Galt, J.

##### CLASS III.

Perkins, F. T.

#### MATHEMATICS.

##### CLASS I.

Sawkins, D. T.  
Durack, J. J. E.  
\*Mathews, H. B.

\* Evening student.

HONOUR LISTS—*continued.*

<b>FRENCH.</b> CLASS I. Nicholson, G. G. Parsons, J.	<b>ENGLISH.</b> CLASS I. Nicholson, G. G. CLASS III. Slack, Ida L. LOGIC and MENTAL PHILOSOPHY. 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.	<b>HISTORY.</b> CLASS I. Teece, R. C. CLASS II. Read, Elizabeth J.
CLASS II. Curtis, W. J. CLASS III. Page, A. E. Lee, T. N.		<b>GEOLOGY.</b> <i>(See under Faculty of Science.)</i>
<b>GERMAN.</b> CLASS I. Nicholson, G. G.		

## ORDER OF MERIT IN INDIVIDUAL SUBJECTS.

<b>LATIN.</b>		
<b>PASS.</b>		
Verge, J. Lee, T. N. Page, A. E. Turner, Annie E. *McEvoy, B. P. Davies, Edith W.	Slack, Ida L. Curtis, W. J. Mackintosh, Bertha A. H. Williams, L. B.	Saywell, T. S. Davidson, C. G. W. Bonamy, Nellie M. B. MacLaurin, H. N. Clipsham, Gertrude M.

MARCH, 1899. (Alphabetical.)

Elphinstone, Elsie M. | Parsons, Emily W. | Yarnold, Isabel M.

<b>ENGLISH.</b>		
<b>PASS.</b>		
Read, Elizabeth J. Withycombe, E. J. Davies, Edith W. Hadley, C. W. *Dickinson, E. M. Cadden, L. G. B. MacLaurin, H. N. Williamson, P. L. *Day, L. S.	*Liggins, Jessie H. Mackintosh, Bertha A. H. Turner, Annie E. Cribb, Estelle M. B. Verge, J. *Mulholland, J. J. Clipsham, Gertrude M.	Sinclair, C. A. *Sullivan, D. J. Yarnold, Isabel M. Bonamy, Nellie M. B. *Studds, H. A. Buchanan, C. B. d'Apice, A. W. M.

\* Evening student.



# THIRD YEAR EXAMINATION IN ARTS. . 203

MARCH, 1899. (Alphabetical.)

\*Maloney, J. T. | Parsons, Emily W. | \*Walton, G. H. M.

## FRENCH.

PASS.

Williams, L. B.	*Day, L. S.	Elphinstone, Elsie M.
Verge, J.	*Dickinson, E. M.	Yarnold, Isabel M.
Cadden, L. G. B.	*Sullivan, D. J.	

MARCH, 1899.

Parsons, Emily W.

## SENIOR GREEK.

PASS.

Marr, Fannie A. | Tozer, S. D. | \*McEvoy, B. P.

## LOGIC AND MENTAL PHILOSOPHY.

PASS.

Cadden, L. G. B.	Buchanan, C. P.	Marr, Fannie A.
Hadley, C. W.	Williamson, P. L.	*Studds, H. A.
*Day, L. S.	MacLaurin, H. N.	*Mulholland, J. J.
Walsh, J. J.	Perkins, F. T.	

MARCH, 1899.

\*Maloney, J. T.

## HISTORY.

PASS.

*Dickinson, E. M.	} det.	*Clegg, W. C.	} det.	Page, A. E.
Parsons, J.		*Mulholland, J. J.		Galt, J.
Williamson, P. L.	} det.	Cribb, Estelle M. B.	} det.	*Sullivan, D. J.
Mackintosh, Bertha		*McEvoy, B. P.		*Maloney, J. T.
A. H.		Elphinstone, E. M.		Parsons, Emily W.
Withycombe, E. J.		Hadley, C. W.		
*Liggins, Jessie H.				

MARCH, 1899.

Bonamy, Nellie M. B.

## MATHEMATICS.

(Alphabetical).

Cribb, Estelle M. B. | Williams, L. B.

## LAW SUBJECTS.

(See under Faculty of Law.)

# FACULTY OF ARTS.

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## M.A. EXAMINATION.

MARCH, 1899.

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### SCHOOL OF PHILOSOPHY.

HONOURS.

CLASS I.

Garran, R. R., B.A. (University Medal).

CLASS II.

Taylor, Elizabeth I., B.A.

PASS.

Gill, A. C., B.A.

Hill, G. A., B.A.

# FACULTY OF LAW.

## INTERMEDIATE LL.B. EXAMINATION.

MARCH, 1899.

WIGRAM ALLEN SCHOLARSHIP FOR PROFICIENCY IN THE SUBJECTS OF THE  
EXAMINATION—N. G. S. Pilcher, B.A.

PASS.

(*Order of Merit.*)

Pilcher, N. G. S., B.A.	Evans-Jones, D.P., B.A.	Lafferty, T. M.
Clegg, W. C.	Davidson, C. G. W.	d'Apice, A. W. M.
Walton, G. H. M.	Byrne, J. K., B.A.	Holliday, A., B.A.
Tozer, S. D.	Evans, Ada E., B.A.	Sinclair, C. A.

### ROMAN LAW, JURISPRUDENCE, AND THE THEORY OF LEGISLATION.

(*Order of Merit.*)

Pilcher, N. G. S., B.A.	Tozer, S. D.	Lafferty, T. M.
Clegg, W. C.	Evans-Jones, D.P., B.A.	d'Apice, A. W. M.
Davidson, C. G. W.	Evans, Ada E., B.A.	Holliday, A., B.A.
Walton, G. H. M.	Byrne, J. K., B.A.	Sinclair, C. A.

### CONSTITUTIONAL LAW AND INTERNATIONAL LAW.

(*Order of Merit.*)

Pilcher, N. G. S., B.A.	Evans-Jones, D.P., B.A.	Lafferty, T. M.
Clegg, W. C.	Davidson, C. G. W.	Evans, Ada E., B.A.
Walton, G. H. M.	d'Apice, A. W. M.	Holliday, A., B.A.
Tozer, S. D.	Byrne, J. K., B.A.	Sinclair, C. A.

## FINAL LL.B. EXAMINATION.

MARCH, 1899.

### HONOURS.

CLASS I.

None.

CLASS II.

Waddell, G. W., B.A.  
Edwards, D. S., B.A.  
Bloomfield, W. J., B.A.

### PASS.

Abigail, E. R., B.A. } æq.  
Scoular, D., B.A. }  
Barraclough, F. E., B.A.  
Wallace, F. E., B.A.

# FACULTY OF MEDICINE.

## FIRST YEAR EXAMINATION.

DECEMBER, 1898.

RENWICK SCHOLARSHIP FOR GENERAL PROFICIENCY IN THE SUBJECTS OF THE  
EXAMINATION—St. J. W. Dansey.

COLLIE PRIZE FOR BOTANY—T. E. C. Higgins.

PROFESSOR HASWELL'S PRIZE FOR CLASS EXAMINATION IN ZOOLOGY—

F. M. Suckling

R. E. Woolnough, *prox. acc.*

PROFESSOR HASWELL'S PRIZE FOR LABORATORY NOTES IN ZOOLOGY—

W. C. Mansfield } *æq.*  
S. A. Smith }

### PASS (Alphabetical).

Aiken, P. N.  
Clouston, T. B.  
Cowlshaw, L.  
Dansey, St. J. W.  
Davis, J. S.  
Doyle, W. O.  
Fox, H. E.  
Higgins, T. E. C.

Hipsley, P. L.  
Latham, O.  
Marsh, H. S.  
Mason, T. W.  
Newman, E. L.  
Osborne, J. K.  
Plomley, M. J.

Sharp, G. G.  
Smith, S. A.  
Stiles, B. T.  
Suckling, F. M.  
Thomson, J. M.  
Walton, J. F.  
Woolnough, R. E.

### CLASS LISTS IN HONOURS.

#### PHYSICS.

##### CLASS I.

Davis, J. S.  
Weston, P. L. (Sci.)  
Boyd, W. S. (Eng.)  
Dansey, St. J. W.  
Latham, O.  
Heden, E. C. (Sci.)

##### CLASS II.

Smith, S. A.  
Woolnough, R. E.  
Boyd, A. (Eng.)  
Suckling, F. M.  
Marsh, H. S.  
Higgins, T. E. C.  
Aiken, P. N.

#### CHEMISTRY.

##### CLASS I.

Dansey, St. J. W.

##### CLASS II.

Suckling, F. M.  
Woolnough, R. E.  
Higgins, T. E. C.  
Davis, J. S.  
Aiken, P. N.

#### BIOLOGY.

##### CLASS II.

Dansey, St. J. W.  
Suckling, F. M.  
Higgins, T. E. C. } *æq.*  
Smith, S. A. }

### DEFERRED EXAMINATION.

MARCH, 1899.

#### PASS.

Finckh, A. E.

Jones, H. A.

Vernon, M. M.

## SECOND YEAR EXAMINATION.

DECEMBER, 1898.

## PASS (Alphabetical).

Blaney, H. P.	Horton, W. H.	Sadler, H. F.
Bourne, Eleanor E.	Langton, W. D.	Seldon, W.
Cahill, J. H.	Llewellyn, R. F.	Tudor-Jones, E.
Carlile-Thomas, Ida M.	Miller, R. C.	Ure, Edith
Conroy, L. B. H.	Muscio, A.	Wallace, D., B.A.
Hansard, N. W.	Page, E. C. G.	White, Margaret I.
Holland, J. J.	Rees, W. L.	

## ANATOMY AND PHYSIOLOGY.

## PASSED WITH DISTINCTION.

Muscio, A.	} æq.	Page, E. C. G.
Wallace, D., B.A.		

## PASSED WITH CREDIT.

Bourne, Eleanor E.	} Æq.	Langton, W. D.	Sadler, H. F.
White, Margaret I.		Seldon, W.	Tudor-Jones, E.
Miller, R. C.		Llewellyn, R. F.	

## ORGANIC CHEMISTRY.

## HONOURS.

## CLASS I.

Muscio, A.		Page, E. C. G.
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## CLASS II.

Bourne, Eleanor E.	Wallace, D., B.A.	Tudor-Jones, E.
Waterhouse, G. A. (Sci.)	Conroy, L. B. H.	

## DEFERRED EXAMINATION.

MARCH, 1899.

## PASS.

Corfe, A. J.		Humphery, E. M.
Dight, W. B.		Vivers, G. A.
Elworthy, W. H.		Watson, J. F.
Fitzpatrick, E. B. L.		

## THIRD YEAR EXAMINATION.

DECEMBER, 1898.

## JOHN HARRIS SCHOLARSHIP FOR ANATOMY AND PHYSIOLOGY—

Mabel J. Graham	} æq.
J. E. V. Barling	

## DR. DIXON'S PRIZE FOR MATERIA MEDICA AND THERAPEUTICS—

Mabel J. Graham.

## PASSED WITH DISTINCTION.

Graham, Mabel J.		Barling, J. E. V.	} æq.
		Macintosh, A. H.	

## FACULTY OF MEDICINE.

## PASSED WITH CREDIT.

Cox, H.		Savage, E. J.
Griffiths, F. G., B.A.	} æq.	Sharp, W. A. R., B.A.
Maffey, R. W. H., B.A.		

## PASS (Alphabetical).

Anderson, A.	Garde, H. L.	McCredie, R. W.
Anderson, H. M., B.A.	Greenham, Eleanor C.	Pritchard, Alice, B.A.
Barton, J. a' B. D., B.A.	Gullett, Lucy E.	Savage, V. W.
Cameron, D. A.	Holt, A. C., B.A.	Thomas, G. B.
Combes, E. W. A.	Jones, P. S.	Webb, F. W.

## DEFERRED EXAMINATION.

MARCH, 1899.

## PASS.

Bridge, N. H.	Hart, B. L.	Stephen, E. H. M.
Clarke, G. R. C.	Lee, H. H.	Tarleton, J. W.

## FOURTH YEAR EXAMINATION.

DECEMBER, 1898.

DR. WILKINSON'S PRIZE FOR PATHOLOGY—W. F. Burfitt, B.A., B.Sc.

## PASSED WITH DISTINCTION.

Burfitt, W. F., B.A., B.Sc.

## PASSED WITH CREDIT.

Cleland, J. B.	Burge, S. B.	} æq.
Holmes, H. G.	McEvoy, J. J. S.	

## PASS (Alphabetical).

Busby, H.	Harris, W. E.	Paton, J. W.
Chisholm, E. C.	King, A. A.	Pockley, E. O.
Deck, J. N.	Lees, G. J.	Roseby, E. R.
Forster, R. C.	McLean, G.	

## DEFERRED EXAMINATION.

MARCH, 1899.

## PASS.

Blue, A. I.	Durack, W. J.	Flashman, C. E.
Davies, R. L.	Farrelly, J. T.	Marr, G. W. S.

## FIFTH YEAR EXAMINATION.

DECEMBER, 1899.

DR. SCOT-SKIRVING'S PRIZE FOR CLINICAL MEDICINE—F. W. A. Magarey.

M.B. AND CH.M.

HONOURS AT GRADUATION.

CLASS II.

MacMaster, D. Æ. D., B.A., B.Sc.	} $\frac{1}{2}$	Cargill, W. D.	} æq.
Blackburn, C. B.		Magarey, F. W. A.	

PASSED WITH CREDIT IN THE SUBJECTS OF THE  
FIFTH YEAR EXAMINATION.

DECEMBER, 1898.

MacMaster, D. Æ. D.,		Magarey, F. W. A.		Cargill, W. D.
B.A., B.Sc.		Wilson, T. G.		Brennand, H. J. W.,
Blackburn, C. B.				B.A.

Pass (Alphabetical).

Brade, G. F.		Ludowici, E.		Shorter, H. L. A.
Fairfax, E. W.		Sandes, F. P.		Willis, C. S.

DEFERRED EXAMINATION.

MARCH, 1899.

PASS.

Delohery, H. C.		Mackenzie, J.		Windeyer, J. C.
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# FACULTY OF SCIENCE.

## FIRST YEAR EXAMINATION.

DECEMBER, 1899.

GEORGE ALLEN SCHOLARSHIP FOR MATHEMATICS—H. S. Mort.

LEVEY SCHOLARSHIP FOR CHEMISTRY AND PHYSICS—W. S. Boyd (Eng.) }  
E. C. Heden, B.A. } æq.

SLADE PRIZE FOR PRACTICAL PHYSICS—P. L. Weston }  
R. C. Wilson } æq.

SLADE PRIZE FOR CHEMISTRY—E. C. Heden, B.A. }  
J. M. Newman (Eng.) } æq.

### PASS.

Harris, Marian, B.A.  
Heden, E. C., B.A.  
Jordan, G. E. G.

Mort, H. S.  
Peterson, A. J.  
Petrie, J. M.

Waterhouse, G. A.  
Wilson, R. C.  
Woolnough, R. E.

### CLASS LISTS.

#### CHEMISTRY.

##### HONOURS.

##### CLASS I.

Petrie, J. M.  
Heden, E. C., B.A.

##### CLASS II.

Woolnough, R. E.

### PASS.

Peterson, G. E.  
Harris, Marian, B.A.  
Jordan, G. E. G.  
Wilson, R. C.  
Mort, H. S.

#### PHYSICS.

##### HONOURS.

(See under Faculty of  
Medicine.)

### DEFERRED EXAMINATION.

MARCH, 1899.

### PASS.

Weston, P. L.



## SECOND YEAR EXAMINATION.

DECEMBER, 1898.

## CHEMISTRY

(ORGANIC).

PASS.

Waterhouse, G. A.

## GEOLOGY.

(See under Department of  
Engineering.)

## MATHEMATICS.

PASS.

d'Apice, J. E. F.  
Waterhouse, G. A.

## DEFERRED EXAMINATION.

MARCH, 1899.

PASS.

d'Apice, J. E. F. (Geology and Chemistry).

## THIRD YEAR EXAMINATION.

DECEMBER, 1898.

PROFESSOR DAVID'S PRIZE FOR GEOLOGY—G. A. Waterhouse.

## GEOLOGY, &amp;c.

HONOURS.

CLASS I.

Waterhouse, G. A.

CLASS II.

Lee, T. N. (Arts)

## CHEMISTRY.

HONOURS.

CLASS I.

Harker, G.

# DEPARTMENT OF ENGINEERING.

## FIRST YEAR EXAMINATION.

DECEMBER, 1898, AND MARCH, 1899.

### PASS. DECEMBER, 1898. (Alphabetical.)

Boyd, A.	Gregson, W. H., B.A.	Newman, J. M.
Boyd, W. S.	Grut, C. F. de J.	Poole, W.
Delohery, E. C.	Heden, E. C., B.A.	Potts, C., B.A.
Gorringe, L. S.	Myers, H. W.	Spier, R. V.

### MARCH, 1899.

Cameron, C. B.

Henning, E. T.

### CLASS LISTS.

## APPLIED MECHANICS, DESCRIPTIVE GEOOMETRY, AND DRAWING.

HONOURS.	CLASS II.	PASS.
CLASS I.		
Boyd, A.	Gorringe, L. S.	†Horsburgh, J.
Boyd, W. S.	Heden, E. C., B.A.	Cameron, C. B.
Grut, C. F. de J.	Potts, C., B.A.	Henning, E. T.
	Gregson, W. H., B.A.	Delohery, E. C.
	Poole, W.	Spier, R. V.
	Newman, J. M.	Myers, H.

## CHEMISTRY FOR CIVIL ENGINEERS.

HONOURS.	PASS.
CLASS I.	
Boyd, A.	Henning, E. T.
	Myers, H. W.

## CHEMISTRY FOR MINING ENGINEERS.

HONOURS.	CLASS II.	PASS.
CLASS I.		
Heden, E. C., B.A.	Gorringe, L. S.	Delohery, E. C.
Newman, J. M.	Grut, C. F. de J.	Gregson, W. H., B.A.
Boyd, W. S.		Poole, W.
		Potts, C., B.A.
		Spier, R. V.

## PHYSICS.

### HONOURS.

(See under Faculty of Medicine.)

## MATHEMATICS.

### HONOURS.

(See under Faculty of Arts.)

## CHEMISTRY, PHYSICS, AND PHYSIOGRAPHY.

### PASS.

†Horsburgh, J.

† Unmatriculated.

## SECOND YEAR EXAMINATION.

DECEMBER, 1898, AND MARCH, 1899.

DEAS-THOMSON SCHOLARSHIP FOR GEOLOGY—L. C. Ball }  
S. R. Mort } æq.

DEAS-THOMSON SCHOLARSHIP FOR PHYSICS—J. P. V. Madsen.

PROFESSOR DAVID'S PRIZE FOR GEOLOGY—L. C. Ball.  
L. J. Winton.

PASS (Alphabetical).

## DEPARTMENT OF CIVIL ENGINEERING.

Hawken, R. W. | Madsen, J. P. V.

## DEPARTMENT OF MINING AND METALLURGY.

Ball, L. C. | Poole, W.  
Barker, R. F. | Slee, R. T.  
Gibson, C. G. | Winton, L. J.  
Mort, S. R.

## GEOLOGY.

HONOURS.

## CLASS I.

Ball, L. C.  
Ward, L. K. (Arts)  
Mort, S. R.  
Poole, W.  
Harker, G. (Science)

## CLASS II.

Madsen, J. P. V.  
Winton, L. J.  
Roseby, Sarah M. (Arts)  
Wilton, E. N. (Arts)  
Slee, R. T.  
Barker, R. F.  
Hill, J. H. F. (Arts) } æq.  
Mutton, I. (Arts)

PASS.

Poidevin, L. O. S. (Arts)  
Sadler, A. (Arts)  
Newsham, Alice I. (Arts)  
More, G. A.  
Snee, R. (Arts)  
Hawken, R. W. } æq.  
Gibson, C. G.  
Heery, T. J. (Arts)  
d'Apice, J. E. (Science)  
Gillam, Dora A. (Arts)

## CIVIL ENGINEERING, APPLIED MECHANICS, AND SURVEYING.

HONOURS.

## CLASS I.

Madsen, J. P. V.

## CLASS II.

Hawken, R. W.  
Barker, R. F.

PASS.

Poole, W.  
Ball, L. C.  
Mort, S. R.  
Winton, L. J.  
Slee, R. T.  
Gibson, C. G.

## PHYSICS.

HONOURS.

## CLASS I.

Madsen, J. P. V.

## CLASS II.

Hawken, R. W.

## MINERALOGY.

HONOURS.

## CLASS II.

Poole, W.  
PASS.  
Jackson, C. F., B.E.

## MATHEMATICS.

(See under Faculty of Arts.)

## ORGANIC CHEMISTRY.

PASS.

Gibson, C. G.

## \*CHEMISTRY.

DECEMBER, 1897.

HONOURS.

## CLASS II.

Morris, J. F.  
Jack, R. L.  
Waterhouse, G. A. } æq.  
PASS.  
Gibson, C. G.

\* This list was accidentally omitted from last year's Calendar.

## DEPARTMENT OF ENGINEERING.

## THIRD YEAR EXAMINATION.

DECEMBER, 1898, AND MARCH, 1899.

## DEPARTMENT OF CIVIL ENGINEERING.

## CIVIL ENGINEERING, MATERIALS AND STRUCTURES, AND SURVEYING.

HONOURS.

CLASS II.

Beaver, W. R.

Mathison, W. C.

## RAILWAY ENGINEERING.

PASS.

Waterhouse, G. A.

## MATHEMATICS.

PASS.

Beaver, W. R. (Sph. Trig. and Astr.)

Mathison, W. C. (Sph. Trig. and  
Int. Cal.)

## DEPARTMENT OF MINING AND METALLURGY.

## MINING AND METALLURGY.

HONOURS.

CLASS II.

Jack, R. L.

Morris, J. F.

## MINING SURVEYING.

PASS.

Jackson, C. F., B.E.

CIVIL ENGINEERING AND  
MINING SURVEYING.

PASS (Alphabetical).

†Allen, C. P.

Jack, R. L.

Morris, J. F.

## 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 William Lygon, the Right Hon. Earl Beauchamp, K.C.M.G.

At the Commemoration in 1872, after Lord Belmore's departure, and at the Commemoration in 1879, after Sir Hercules Robinson's departure, Sir Alfred Stephen, G.C.M.G. and C.B., administering the Government, presided as Visitor. At the Commemorations in 1893, 1895, and 1899 Sir Frederick Darley, C.J., Kt., 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.

\* 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, LL.D., Kt., K.C.M.G.  
 1895.—The Hon. Sir Wm. Chas. Windeyer, M.A., LL.D., Kt.  
 1896.—The Hon. Hy. Normand MacLaurin, 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.

### 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 Honor 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
- 1857-1860—Denison, Alfred, B.A.
- 1850-1861—Donaldson, the Hon. Sir Stuart A.
- 1857-1861—Cooper, Sir Daniel, Bart., G.C.M.G.
- 1853-1865—Douglas, Henry Grattan, M.D.
- 1861-1866—Woolley, the Rev. J., D.C.L. (Principal)
- 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.
- 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.  
 1861-1885—Smith, the Hon. Professor, M.D., LL.D., C.M.G.  
 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, B.A.  
 1879-1887—Darley, the Hon. Sir F. M., B.A., Chief Justice  
 1878-1887—Stephen, the Hon. Sir Alfred, C.B., G.C.M.G., Ex-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.  
 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.  
 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.  
 1861-1895—Manning, the Hon. Sir Wm. Montagu, Kt., K.C.M.G., LL.D.  
 1892-1896—Manning, the Hon. Mr. Justice, M.A.  
 1894-1896—Gurney, Professor Theodore T., M.A.  
 1866-1897—Windeyer, the Hon. Sir William Charles, M.A., LL.D., Kt.  
 1896-1898—Scott, Professor Walter, M.A.

## PRESENT SENATE.

- 1895—Anderson, Henry Charles Lennox, M.A.  
 1887—Backhouse, His Honour Judge, M.A., Vice-Chancellor.  
 1892—Barton, the Hon. Edmund, M.A.  
 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.  
 1887—Jones, Philip Sydney, M.D.  
 1894—Knox, Edward William  
 1879—Liversidge, Professor Archibald, M.A., LL.D., F.R.S.,  
     Dean of the Faculty of Science (*ex officio*).  
 1898—MacCallum, Professor Mungo W., M.A., Dean of the  
     Faculty of Arts (*ex officio*).  
 1883—MacLaurin, the Hon. Henry Normand, M.A., M.D.,  
     LL.D., Chancellor.  
 1893—O'Connor, the Hon. Richard Edward, M.A.  
 1879—Oliver, Alexander, M.A.  
 1877—Renwick, the Hon. Sir Arthur, B.A., M.D., Kt.  
 1889—Rogers, Francis E., M.A., LL.B., Q.C.  
 1875—Russell, Henry C., B.A., C.M.G., F.R.S.



- 1897—Simpson, His Honour Mr. Justice Archibald Henry, M.A.  
 1888—Stephen, Cecil Bedford, M.A.  
 1883—Stuart, Professor T. P. Anderson, M.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.

## CHEMISTRY AND EXPERIMENTAL PHYSICS.

1852-1885—Smith, the Hon. John, M.D., LL.D., C.M.G.

## NATURAL HISTORY (GEOLOGY, ETC.)

1882-1890—Stephens, William John, M.A.

## PHYSICS.

1886-1898—Threlfall, Richard, M.A.

## TEACHING STAFF.

ANATOMY—Challis Professor—1890 (*a*) James T. Wilson, M.B.,  
 Ch.M. (Edin.)

Demonstrator—1898—Frederick J. T. Sawkins, M.B., Ch.M.

ARCHITECTURE—P. N. Russell Lecturer—1887—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, B.Sc., F.L.S.

CHEMISTRY—Professor—1874 (*b*) Archibald Liversidge, M.A.,  
 LL.D., F.R.S. (Christ's College, Cambridge), Dean  
 of the Faculty of Science.

Demonstrator—1892—James A. Schofield, A.R.S.M., F.C.S.

Junior Demonstrator—1898—George Harker, B.Sc.

CLINICAL MEDICINE—Lecturer—1889—R. Scot-Skirving, M.B.,  
 Ch.M. (Edin.)

CLINICAL SURGERY—Lecturers—1895—Charles P. B. Clubbe,  
 M.R.C.S., L.R.C.P.—1897—John F. McAllister, M.D.,  
 B.S. (Melb.)

(*a*) M.B., Ch.M., Honours 1873. Late Demonstrator of Anatomy, University of Edinburgh.

(*b*) Associate of the Royal School of Mines, London; late University Demonstrator of  
 Chemistry, Cambridge.

ENGINEERING—Challis Professor—1884 (*c*) William H. Warren, Wh. Sc., M. Inst. C.E.

P. N. Russell Assistant Lecturer in Mechanical Engineering and Drawing—(*d*) S. Henry Barraclough, B.E. (Sydney), M.M.E. (Cornell), Assoc. M. Inst. C.E.

GEOLOGY AND PHYSICAL GEOGRAPHY—Professor—1891—(*e*) T. W. Edgeworth David, B.A. (New College, Oxford).

Demonstrator—1898—W. G. Woolnough, B.Sc.

WILLIAM HILTON HOVELL LECTURER IN GEOLOGY AND PHYSICAL GEOGRAPHY—(*e*) T. W. Edgeworth David, B.A. (New College, Oxford).

GREEK—Professor—1885—(*f*) Walter Scott, M.A. (Merton College, Oxford).

HISTORY—Challis Professor—1891—G. Arnold Wood, M.A. (Balliol College, Oxford). Acting Professor for Lent and Trinity Terms—1899—G. C. Henderson, B.A. (Syd. and Balliol Col., Oxford).

LATIN—Professor—1891—Thomas Butler, B.A. (Sydney)

Assistant Lecturer—1891, Frederick Lloyd, B.A., LL.B.

LAW—Challis Professor—1890—Pitt Cobbett, M.A., D.C.L. (University College, Oxford), Dean of the Faculty of Law.

EQUITY, PROBATE, BANKRUPTCY AND COMPANY LAW—Challis Lecturer—1890—G. E. Rich, M.A.

LAW OF PROCEDURE, EVIDENCE AND PLEADING—Challis Lecturer—1890—C. A. Coghlan, M.A., LL.D.

LAW OF STATUS, CIVIL OBLIGATIONS AND CRIMES—Challis Lecturer—1890—F. Leverrier, B.A., B.Sc.

LOGIC AND MENTAL PHILOSOPHY—Challis Professor—1890—(*g*) Francis Anderson, M.A. (Glasgow).

MATERIA MEDICA AND THERAPEUTICS—Lecturer—1883—Thomas Dixon, M.B., Ch.M. (Edin.)

MATHEMATICS—Professor—1877—(*h*) Theodore T. Gurney, M.A. (St. John's College, Cambridge)

Assistant Lecturers—1886—A. Newham, B.A. (St. John's College, Cambridge), Evening Lecturer. 1887—E. M. Moors, M.A., F.I.A.

(*c*) Member Inst. Civil Engineers, London; Member of the American Society of Civil Engineers; Whitworth Scholar; Society of Arts Technological Scholar.

(*d*) Late Science Research Scholar of Her Majesty's Commissioners of the Exhibition of 1851.

(*e*) Late Scholar of New College, Oxford, and late member of the Geological Survey of New South Wales.

(*f*) Late Fellow of Merton College, Oxford.

(*g*) Late Clarke Philosophical Fellow, University of Glasgow.

(*h*) Late Scholar and Fellow of St. John's College, Cambridge, and Bell University Scholar.

MEDICAL JURISPRUDENCE AND PUBLIC HEALTH—Lecturer—1883—  
W. H. Goode, M.A., M.D., Ch.M. (Dub.)

MEDICAL TUTOR—1887—E. J. Jenkins, M.A., M.D. (Oxon.).

METALLURGY—P. N. Russell Lecturer—1899. Basil W. Turner,  
A.R.S.M.

MIDWIFERY—Lecturer—1897—James Graham, M.D., Ch.M.  
(Edin.).

DISEASES OF WOMEN—1897—Joseph Foreman, M.R.C.S.

MINING—P. N. Russell Lecturer—1892—Edward F. Pittman,  
A.R.S.M.

MODERN LITERATURE—Challis Professor—1887—(i) Mungo W.  
MacCallum, M.A. (Glasgow), Dean of the Faculty of  
Arts.

Assistant Lecturers—French and German—1889—(j) Emil J.  
Treichmann, M.A. (Oxon.), Ph.D. (Heidelberg). English  
—1894—Ernest R. Holme, B.A.

OPHTHALMIC MEDICINE AND SURGERY—Lecturer—1889—(k) F.  
Antill Pockley, M.B., Ch.M. (Edin.)

PATHOLOGY—Lecturer—1883—(l) W. Camac Wilkinson, B.A.  
(Syd.), M.D. (Lond.), M.R.C.P. (Lond.). Lecturer for  
Lent and Trinity Terms—1899—Sydney Jamieson,  
B.A., M.B., Ch.M.

PHYSICS—Professor—1899—James A. Pollock, B.Sc. (Sydney).  
Demonstrator for Lent Term—1899—J. H. D. Brearley,  
B.Sc. Junior Demonstrator—J. P. V. Madsen.

PHYSIOLOGY—Professor—1883—(n) T. P. Anderson Stuart,  
M.D., Ch.M. (Edin.), Dean of the Faculty of Medicine.  
Demonstrator—1898—(o) Herbert Hawker.

PRINCIPLES AND PRACTICE OF MEDICINE—Lecturer—1883—James  
C. Cox, M.D. (Edin.), F.R.C.S. (Eng.)

PRINCIPLES AND PRACTICE OF SURGERY—Lecturer—1890—  
Alexander MacCormick, M.D. (Edin.)

PSYCHOLOGICAL MEDICINE—Lecturer—1889—Chisholm Ross,  
M.D. (Syd.)

(i) Late Professor of English Literature in University College, Aberystwyth, Wales; late  
Luke Fellow, University of Glasgow.

(j) Late Lecturer in Modern Languages at the University College of North Wales, Bangor.

(k) M.B., Ch.M., First Class Honours, University Medal; Scholar and Prizeman,  
Edin., 1884.

(l) M.B. First Class Honours Medicine, University Scholarship and Gold Medal.

(n) M.B., Ch.M., First Class Honours, Ettles Scholar, 1880; M.D., Thesis Gold Medal  
1882, Edin.; late Assistant to Professor of Physiology, Edinburgh.  
Late Demonstrator in Physiology, University College, London.

SURGICAL TUTOR—1898—Henry V. Critchley Hinder, M.B., Ch.M.  
 SURVEYING—P. N. Russell Lecturer—1890—George H. Knibbs,  
 L.S., F.R.A.S.  
 TUTOR TO THE WOMEN STUDENTS—1892—Jane F. Russell, M.A.  
 (Syd.)

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F. Norton Manning, M.D. (St. And.)

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A. Watson Munro, M.B., Ch.M. (Edin.)

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M.L.C.

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CLERK, 1887—William S. Mayer.

JUNIOR ASSISTANTS IN THE LIBRARY—W. J. Binns, — McLintock.

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YEOMAN BEDELL—S. Craddock.

OVERSEER OF THE UNIVERSITY PARK AND GROUNDS—Henry  
Goodhew.

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Abbott, Thos. K., B.A., 1888	Barlee, Frederick R., M.A.
Abigail, Ernest Robert, B.A., 1896, LL.B.	Barnes, Edmund H., M.B., Ch.M.
Affleck, Ada C., M.B., Ch. M.	Barnet, Donald McKay, B.A., 1890
Allan, Edith Jeannie, B.A., 1895	Barracrough, Francis Egerton, B.A., 1895, LL.B.
Allen, Arthur Wigram, B.A., 1883§	Barracrough, Samuel H., B.E., 1892¶
Allen, George Boyce, B.A., 1877	Barret, James, M.D.
Allen, Reginald C., B.A., 1879	Barrington, Fourness, F.R.C.S., M.B., Ch.M.‡
Ameiss, William, B.A., 1883	Barton, Edmund, M.A.†
Anderson ( <i>née</i> Amos), Jeanie Cairns, B.A., 1890	Barton, H. Francis, M.A.
Amphlett, Edward Albin, B.E., 1889	Barton, John a'Beckett Darvall, B.A., 1896
Anderson, Francis, M.A.‡¶	Barry, Alfred, LL.D.‡
Anderson, Henry C. L., M.A.†	Barton, Joanna, B.A., 1893
Anderson, Hugh Miller, B.A., 1890	Bates ( <i>née</i> Abigail), Eliza L., B.A., 1893
Anderson, Maud Edith, B.A., 1896	Bavin, Thos. Rainsford, B.A., 1894, LL.B.‡
Anderson, William A. S., B.A., 1892	Baylis, Harold M., B.A., 1883
Andrews, Ernest Clayton, B.A., 1894	Beardmore, Ada, B.A., 1896
Andrews, William, M.B., 1887‡	Beardsmore, Emily Maud, B.A., 1894
Anstey, George Webb, B.A., 1893	Beardsmore, Robert Henry, B.A., 1895
Armstrong, Isabella, B.A., 1895	Beegling, Daniel, B.A., 1885
Armstrong, Laurens F. M., B.A., 1884, LL.B.	Beehag, Samuel Alfred, B.A., 1885
Armstrong, Tancred de Carteret, B.A., 1891	Belgrave, T. B., M.D.‡
Armstrong, William G., B.A., 1884, M.B., Ch.M.	Bennet, Francis Alexander, M.D.‡
Arnold, Edwin Charles, B.A., 1896	Bennett, Agnes Elizabeth L., B.Sc., 1894
Arnott, Robert Fleming, B.E., 1895	Bennetts, Harold Graves, M.B., Ch.M.
Aspinall, Arthur Ashworth, B.A., 1889	Berne, Percy Witton, B.A., 1883
Atkins ( <i>née</i> Kennedy), Annie Augusta, B.A., 1893	Bertie, Charlotte Maud, B.A., 1896
Atkins, William L., B.A., 1893	Binney, Ed. Harold, M.B., Ch.M.
Ayres, Charles, B.A., 1882	Biffin, Harriett E., M.B., Ch.M.
Backhouse, Alfred P., M.A.†	Birch, William John, B.E., 1891
Bancroft, Peter, M.B., Ch.M.	Black, Reginald A. W., B.A., 1896
Barber, Richard, M.A.	Blackburn, Charles B., M.B., Ch.M.
Barbour, George Pitty, M.A.	Blacket, Arthur R., B.A., 1872
Barff, Henry E., M.A.*	Blacket, Cuthbert, B.A., 1891

\* Superior Officer.

† Fellow of the Senate.

¶ Public Teacher.

‡ Admitted *ad eundem gradum*.

‡ Examiner.

- Blair, John, M.D.  
 Blatchford, Torrington, B.A., 1894  
 Bloomfield, William John, B.A., 1896, LL.B.  
 Blumer, Charles, B.A., 1894  
 Blumer, George Alfred, M.A.  
 Board, Peter, M.A.  
 Bode, Arnold G. H., B.A., 1888  
 Bode, Frederick Francis Ormond, M.B., 1896  
 Boelke (*née* Robinson), Grace Fairley, M.B., Ch.M.  
 Boelke, Paul, M.B., Ch.M.  
 Böhrsmann, Rudolph H., M.B., Ch.M.  
 Booth, Mary, B.A., 1890  
 Bowden, John Ebenezer, M.A.  
 Bowker, Richard Ryther S., M.D.‡  
 Bowmaker, Ruth, M.A.  
 Bowmaker, Theophilus Robert, B.A., 1896  
 Bowman, Alexander, B.A., 1859  
 Bowman, Alexister 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.  
 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., 1896, M.B., Ch.M.  
 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  
 Broderick, Cecil Thomas Hawkes, B.A., 1896  
 Brodie, Isabella Esther, B.A., 1895  
 Brook, Henry Jas. Sidney, B.A., 1896  
 Broughton, Alfred, M.A.  
 Brown, Alfred, B.A., 1866  
 Brown, Mary E., B.A., 1885  
 Brown, Sophia, B.A., 1894  
 Brown, William Vernon, B.A., 1894  
 Browne, Wm. C., B.A., 1864  
 Bruce, Mary Jane, B.A., 1896  
 Buchanan, Chas. Arthur, B.A., 1889  
 Buckland, Thos., B.A., 1878  
 Bucknell, D'Arcy H., M.A.  
 Bucknell, Louis Geoffrey, B.E., 1891  
 Bundock, Charles W., B.A., 1878  
 Bundock, Francis F., B.A., 1877  
 Bunting, Edith Annie, B.A., 1896  
 Burdekin, Sydney, B.A., 1860  
 Burfitt, Walter F., B.A., 1894  
 Burkitt, Edmund Henry, M.B., 1896  
 Bushnell, Pollie, B.A., 1896  
 Butler, Spencer Joseph St. Clair, B.A., 1893, LL.B.  
 Butler, Thomas, B.A., 1876††  
 Butler, Francis J., B.A., 1882  
 Byrne, James Kevin, B.A., 1894  
 Byrne, William Edmund, B.A., 1892  
 Cadman, Enoch William, M.A.  
 Cahill, Annie Lucille, B.A., 1894  
 Cakebread, Wm. Jowers, B.A., 1894  
 Cameron, Archibald Peter, B.A., 1894  
 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.  
 Carlile-Thomas, Julia, M.B., Ch.M.  
 Carlisle, W. W., B.A., 1878  
 Carlos, Joseph, B.A., 1893‡  
 Caro, Hilda, B.A., 1896  
 Carruthers, Joseph H., M.A.  
 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.  
 Chapman, Alfred Ernest, B.A., 1893  
 Chisholm, Wm., B.A., 1875, M.D.‡†

† Fellow of the Senate.

‡ Examiner.

†† Public Teacher.

‡ Admitted *ad eundem gradum*.

- Chubb, Montague Charles Lyttel-  
 ton, B.A., 1896  
 Clarke, Francis W., B.A., 1884  
 Clines, Peter Joseph, 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.†  
 Clune, Michael J., M.A.  
 Cobbett, Pitt, M.A., D.C.L.††  
 Cocks (*née* Proctor), Lizzie, M.A.  
 Cocks, Nicholas John, M.A.  
 Coffey, Francis Louis Verhulst,  
 B.A., 1894, LL.B.  
 Coghlan, Charles A., M.A., LL.D.†  
 Coghlan, Iza Frances Josephine,  
 M.B., Ch.M.  
 Cohen, John J., M.A.  
 Collingwood, David, M.D.‡  
 Colyer, Moreton John Godden,  
 B.E., 1896  
 Combes, Jane Frances, B.A., 1895  
 Conlon, William Aloysius, B.A.,  
 1891, M.B., Ch.M.  
 Connellan, John, B.A., 1892  
 Connolly, John, B.A., 1894  
 Connor, Thomas John, B.A., 1895  
 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.  
 Copland, Frank Fawcett, B.A., 1894  
 Corbett, Wm. F., B.A., 1883  
 Corbin, Albert George, B.Sc., 1895  
 Corlette, Jas. Christian, M.A.  
 Corlette, Cyril E., M.D., Ch.M.  
 Cormack, Alex. John, M.A.  
 Cosh, James, M.A.‡  
 Cosh, James, jun., 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  
 Cox, James C., M.D.†  
 Coyle, William Thomas, B.A., 1891  
 Craig, Alex. Donald, B.A., 1893, B.E.  
 Craig, Charles, B.A., 1892  
 Craig, Robert Gordon, M.B., Ch.M.  
 Crane, Charles, B.A., 1882  
 Crane, John T., B.Sc., 1887  
 Crawford, Stella Maud C., B.A.,  
 1893  
 Crawley, Aubrey Joseph Clarence,  
 M.B., Ch.M.  
 Creagh, Albert J., B.A., 1889  
 Creagh, William John, B.A., 1892,  
 LL.B.  
 Cribb, John Geo., M.A.  
 Cripps, Esther Fischer, B.A., 1891  
 Crocker, Herbert D., M.A.  
 Crompton, William, M.A.  
 Cullen, Wm. P., M.A., LL.D.†  
 Cullinane, John Aloysius, B.A., 1895,  
 LL.B.  
 Cumming, Jennie, B.A., 1896  
 Curlewis, Herbert Raine, B.A., 1890,  
 LL.B.  
 Curnow, William Leslie, B.A., 1890  
 Curtis, William C., M.A.  
 Daley, Frank H., B.A., 1889  
 Dalmas, Lizzie, B.A., 1895  
 Dalton, Gerald T. A., M.A.  
 D'Arcy-Irvine, Malcolm Mervyn,  
 B.A., 1889  
 Dare, Henry H., M.E.  
 Dargin, Sydney, B.A., 1871  
 D'Arcy, George Synnott, B.A., 1895  
 D'Arcy, John Synnott, B.A., 1890  
 Dash, Ebenezer, B.A., 1894  
 David, T. W. Edgeworth, B.A.†  
 Davidson, Leslie G., M.B., Ch.M.  
 Davies, Arthur Bernard, B.A., 1894,  
 LL.B.  
 Davies, Wyndham John E., B.A.,  
 1893, LL.B.  
 Davis, Agnes Marianne Harrison,  
 B.A., 1896  
 Davis, Henry, B.A., 1890  
 Davison, Samuel Beaumont, B.A.,  
 1896  
 Dawson, Arthur F., M.A.  
 Deane, Hy., M.A.‡  
 Deane, William Smith, M.A.  
 De Lissa, Horace, B.A., 1896  
 Deck, George Henry Baring, M.B.,  
 1896

† Fellow of the Senate.

†† Public Teacher.

‡ Admitted *ad eundem gradum*.



- Delohery, Cornelius, M.A.  
 Dennis, James, M.A.  
 Dey, Robert, M.B., Ch.M.  
 Dick, James Adam, B.A., 1886  
 Dick, Robert, M.B., Ch.M.  
 Dick, William Thomas, B.A., 1890  
 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, William Richard Norton, B.A., 1893  
 Doust, Edith Lucy, M.A.  
 Dowe (*née* Molster), Eliza, B.A., 1893  
 Dowe, Philip William, B.A., 1893  
 Doyle, John, B.A., 1891‡  
 Drummond, Shafto L., B.A., 1893  
 Dudley, Joseph T., B.A., 1885  
 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.  
 Eames, Jane, B.A., 1895  
 Edmunds, John Michael, B.A., 1892  
 Edmunds, Walter, M.A., LL.B.  
 Edwards, David Sutherland, B.A., 1894, LL.B.  
 Edwards, Edwd. Samuel, M.A.  
 Edwards, J. Ross, M.A.  
 Edwards, John, B.A., 1891  
 Elder, Francis R., B.A., 1877  
 Elkin, Jonathan Bevan, B.A., 1895  
 Elliott, Millicent V., B.A., 1895  
 Ellis, Ethel, B.A., 1894  
 Ellis, Henry A., M.B., 1887‡  
 Ellis, Lawrence Edward, M.B., Ch.M.  
 Ellis, Mary, B.A., 1894  
 Elphinstone, James, B.A., 1881  
 Elphinstone, James Cooke, B.A., 1896, LL.B.  
 Emanuel, Nathaniel, B.A., 1867  
 England, Theo., B.A., 1885  
 England, Thos. H., B.A., 1885  
 Enright, Walter John, B.A., 1893  
 Evans, Ada Emily, B.A., 1895  
 Fairfax, Edward Wilfred, M.B., Ch.M.  
 Faithfull, Geo. Ernest, M.A.  
 Faithfull, Henry Montague, M.A.  
 Faithfull, Wm. Percy, M.A.  
 Farrell, Robert M., M.B., Ch.M.  
 Feez, Arthur H., B.A., 1880  
 Ferguson, David, B.A., 1886  
 Fiaschi, Thomas, M.D.‡  
 Fidler, Carleton B., B.A., 1888  
 Finn, William George, B.A., 1895  
 Finney, Charlotte, B.A., 1895  
 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.  
 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  
 Fleming, Howard G. T., B.A., 1894  
 Fletcher, Archibald William, B.A., 1886, B.Sc.  
 Fletcher, Chas. R., B.A., 1881  
 Fletcher, Frank E., M.A.  
 Fletcher, Joseph J., M.A.  
 Fletcher, Katherine Elizabeth, B.A., 1895  
 Fletcher, Michael Scott, B.A., 1893  
 Flint, Chas. 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

‡ Examiner.

† Public Teacher.

‡ Admitted *ad eundem gradum*.

- Foreman, Joseph, M.R.C.S.†  
 Forster, Charles E., B.A., 1876  
 Fosbery, Eustace E., M.A.  
 Fosbery, Vincent F., B.A., 1886  
 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  
 Freshney, Reg., M.B., Ch.M.  
 Fuller, George W., M.A.  
 Fullerton, Alexander Y., B.A., 1885  
 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.  
 Garra, Andrew, LL.D.  
 Garra, Robert R., M.A.  
 Geddes, Samuel, B.A., 1885  
 George, John, B.A., 1893  
 Gerber, Edward W. T., B.A., 1892, LL.B.  
 Gibbes, Alfred George, M.A.  
 Gibbes, William C. V., B.A., 1868  
 Gill, Alfred Chalmers, M.A., LL.B.  
 Gill, J. Macdonald, M.D.‡  
 Gillies, James, B.A., 1889  
 Goldsmid, Albert, M.B., 1895  
 Goode, Wm. H., M.A., M.D.†  
 Gordon, George Acheson, B.A., 1895  
 Gorman, John R., B.A., 1866  
 Graham, James, M.B., 1886‡†  
 Gray, Arthur St. J., M.A.‡  
 Green, Arthur V., LL.D.  
 Green, Terence Albert, M.B., 1893  
 Greenlees, Gavin, B.A., 1895  
 Greenway, Alfred R., B.A., 1876  
 Griffith, Alfred John, M.A.  
 Griffith, James Shaw, B.A., 1895  
 Griffith, Sir Samuel Walker, M.A.  
 Gurney, Theodore T., M.A.†  
 Hadley, Alfred Edward, B.A., 1893  
 Hall, Alfred Ernest, B.A., 1893  
 Hall, Edwin Cuthbert, M.B., 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, Henry, B.A., 1896  
 Halloran, Ida, B.A., 1893  
 Halloran (*née* Guérin), Bella, M.A.‡  
 Hammond, Alfred de Lisle, M.A.  
 Hammoud, John Harold, B.A., 1896, LL.B.  
 Handcock, Charles Lancelot, M.B., Ch.M.  
 Hardy, Caleb, B.A., 1893  
 Hargraves, Edward John, B.A., 1859  
 Harker, Constance Elizabeth, B.A., 1895  
 Harker, George, B.Sc.†  
 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, Matthew, B.A., 1863  
 Harris, William Henry, M.B., Ch.M.  
 Harvey, Revina, B.A., 1895  
 Harvey, William George, B.A., 1894  
 Haswell, William A., M.A., D.Sc.†  
 Hawker, Herbert †  
 Hayes, David John, B.A., 1894  
 Hayley, Percy Reginald, B.E., 1893  
 Healy, Patrick J., M.A.  
 Hedberg, John Alfred, B.A., 1896  
 Helsham, Chas. Howard, B.A., 1892  
 Henderson, G. Cockburn, B.A., 1893†  
 Henderson, John Niven, M.B., Ch.M.  
 Henderson, Robert Newburn, B.A., 1895  
 Henry, Arthur, M.B., Ch.M.  
 Henry, Arthur G., M.B., Ch.M.  
 Hester, Jeaffreson W., 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.

‡ Admitted *ad eundem gradum*.

† Examiner.

† Public Teacher.

- Hill, Evelyn M., B.A., 1895  
 Hill, George Arthur, M.A.  
 Hill, James P., B.Sc., F.L.S.†  
 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  
 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  
 Holme, Ernest Rudolph, B.A., 1891†  
 Holme, John Barton, B.A., 1893,  
 LL.B.  
 Holmes, William Fredk., B.A., 1894  
 Holt, Arthur Christian, B.A., 1895  
 Hood, Dannina, B.A., 1894  
 Hopkins, Francis Irvine, B.A., 1893  
 Hopman, John Henry, B.A., 1894  
 Horniman, Alex., B.A., 1866  
 Houston, Andrew, B.A., 1869  
 Houston, J., B.A., M.D.  
 Howard, John Bruton, B.A., 1895  
 Huggart, Alfred Theodore, B.A., 1892  
 Hughes, Charles Michael, B.A., 1886  
 Hughes, James O'Donoghue A.,  
 B.A., 1894  
 Hughes, Michael O'Gorman, B.A.,  
 1890, B.Sc., M.B.  
 Hungerford, Hedley Heber, B.A.,  
 1886  
 Hunt, Claude L. W., M.B., Ch.M.  
 Hunt, Digby St. Clair W., B.A.,  
 1895  
 Hunt, Edward, B.A., 1859  
 Hunt, Fanny E., B.Sc., 1888  
 Hunt, Harold W. G., B.A., 1888  
 Hunter, John, M.A.  
 Hunter, Mary Alison Miles, B.A.,  
 1895  
 Hurst, George, M.A.  
 Hynes, Sarah, B.A., 1891  
 Iceton, Edward Arthur, M.A.  
 Iceton, Thomas Henry, M.A.  
 Innes (*née* Lichtscheindl), Rosa,  
 B.A., 1894
- Jackson, Clements F. V., B.E., 1895  
 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, B.A., 1894  
 Jamieson, George Wellington, B.A.,  
 1893  
 Jamieson, Sydney, B.A., 1884  
 Jefferis, James, LL.D.  
 Jenkins, Charles J., B.A., 1887  
 Jenkins, Charles Warren B., B.E.,  
 1895  
 Jenkins, E. J., M.D.‡  
 Johnson, James Wm., M.A.  
 Johnson, Martin Luther, B.A., 1893  
 Johnston, Alex. W., M.A.  
 Johnston, John, B.A., 1887  
 Johnston, Mary Eleanor, B.A., 1896  
 Johnston, Stephen Jason, B.A., 1894  
 Johnstone, Henry T., B.A., 1885  
 Jones, Albert E., LL.B., 1889‡  
 Jones, Ernest Trevor, B.A., 1884  
 Jones, G. E. Russell, M.A.  
 Jones, P. Sydney, M.D.†‡  
 Jones, Rees Rutland, M.A.  
 Jones, Richard Theophilus, M.D.  
 Jones, Thomas, B.A., 1895  
 Jones, Thomas E., B.A., 1884  
 Joseph, Horace B., B.A., 1887  
 Kater, Norman William, M.B., Ch.M.  
 Kater, Henry Herman, B.A., 1894  
 Kay, Robert, M.A.  
 Kellett, Frederick, M.A.  
 Kelly, Thomas, B.A., 1890  
 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, Emily Clara, B.A., 1895

† Fellow of the Senate.

‡ Examiner.

†† Public Teacher.

Admitted *ad eundem gradum*.

- Kennedy, Philip, B.A., 1895  
 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  
 King, Cecil J., M.A.  
 King, Copland, M.A.  
 King, Frederick Hart, M.A.  
 King, George C., B.A., 1887  
 King, (née Russell), Lillian, B.A., 1891  
 King, R. W., B.A., 1884‡  
 King, Walter U. S., M.A.  
 Kinross, Rev.—John, D.D., B.A., 1869||  
 Kinross, Robert Menzies, B.A., 1889, M.B., Ch.M.  
 Knaggs, Saml. Thos., M.D.‡  
 Knox, Adrian, LL.B., 1895  
 Knox, Edward William†  
 Knibbs, George H., L.S.¶  
 Knight, Arthur, B.A., 1894  
 Lamrock, Arthur Stanton, B.A., 1891  
 Lancaster, Llewellyn Bentley, M.B., 1896  
 Lander, William H., M.A.  
 Lane, Frederick George, B.A., 1895  
 Lang, John Gavin, M.A.  
 Langton, Frederick W., B.A., 1887  
 Lasker, Samuel, B.A., 1892  
 Lawes, Charles Herbert Essery, M.B., Ch.M.  
 Layton, John Edward, B.A., 1893  
 Leahy, John Patrick Daunt, B.A., 1890, M.B., Ch.M.  
 Ledger, William Henry, B.E., 1893  
 Lee, Herbert Ernest, B.A., 1886  
 Lee, William, M.A.  
 Legge, J. Gordon, M.A., LL.B.  
 Leibius, G. Hugo, B.A., 1888  
 Lenthall, Ellen Melicent, B.A., 1893  
 Leverrier, Frank, B.A., 1884, B.Sc.¶  
 Levy, Daniel, B.A., 1893, LL.B.  
 Lewis, Henry Clyde, B.A., 1893  
 Liddell, Andrew Innes, M.A.  
 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, Frederick, B.A., 1890, LL.B.¶  
 Lloyd, Thomas, B.A., 1878  
 Lomer, Carrie, M.A.  
 Long, George Edward, M.A.  
 Loxton, Edward James, M.A.  
 Loyden, James, B.A., 1894  
 Ludowici, Edward, M.B., Ch.M.  
 Luker, Donald, M.B., Ch.M.  
 Lukin, Gresley W. H., M.A.  
 Lyden, Michael J., M.D.‡  
 Lynch, Michael D., B.A., 1870  
 Lynch, William, B.A., 1863  
 Lyon, Pearson, B.A., 1890  
 McAllister, John F., M.D.¶  
 Macansh, 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  
 McCormick, Alex., M.D.‡¶  
 McCoy, William Taylor, B.A., 1894  
 MacCreadie, John Laing M., 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.‡¶  
 McDonald (née Daly), May Edith, B.A., 1895  
 McDonnell, Aeneas J., M.D., Ch.M.

\* Fellow of the Senate.

† Examiner.

¶ Public Teacher.

‡ Admitted *ad eundem gradum*.

|| Head of College.

- McDonnell, Randal C. W., B.A., 1888  
 McDowall, James, B.A., 1896  
 McEvilly, Augustus, B.A., 1886  
 McEvilly, Ulric, B.A., 1883  
 McGuinn, Denis, B.A., 1884  
 McIntosh, Harold, B.A., 1889  
 McIntyre, William Donald, B.A., 1890  
 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., B.Sc., 1887, 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, John Gilbert, B.A., 1895  
 McLaughlin, Daniel, B.A., 1890  
 MacLaurin, Hon. Henry Normand M.A., M.D., LL.D.††  
 MacLean, Fredk. S., B.A., 1887  
 McLeod, James, B.A., 1879  
 McMahon, Gegan, B.A., 1896  
 MacManamey, James Frazer, B.A., 1881  
 MacManamey, John Frazer, B.A., 1889  
 MacManamey, William Frazer, B.A., 1892  
 MacMaster, Donald Eneas D., B.A., 1894, M.B., Ch.M.  
 MacMullen, Frank, B.A., 1894  
 McTaggart, 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  
 McMurray, Wahab, M.D.‡  
 Maffey, Reginald William H., B.A., 1896  
 Magarey, Frank W. A., M.B., 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  
 Mann, William J. G., M.A.  
 Mannell, Francis Worthington, B.A., 1892  
 Manning, Frederick Norton, M.D.†  
 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  
 Marrack, Jno. Rea M., M.A.  
 Martin, Charles James, M.B., D.Sc.†  
 Martin (*née* Johnston), Ella Russell, B.A., 1890  
 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  
 Mathison, Walter, B.A., 1880  
 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.

† Fellow of the Senate.

‡ Admitted *ad eundem gradum*.

‡ Examiner.

- 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.  
 Metcalfe, George, M.A.  
 Miles, James Albert, B.A., 1894  
 Milford, Frederick, M.D. § †  
 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 J., B.A., 1885  
 Mills, Arthur E., M.B., Ch.M.  
 Mills, Percy Harcourt, B.A., 1893, LL.B.  
 Mitchell, David Scott, M.A.  
 Mitchell, Ernest Meyer, B.A., 1896  
 Molineaux, Amy Atherton, B.A., 1891  
 Moloney, Thos. P., B.A., 1885  
 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  
 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. ¶  
 Morgan, Fredk. A., B.A., 1888  
 Morgan, Thos. H. D., B.A., 1892  
 Morrice, John, B.A., 1874  
 Morris, John James, B.A., 1895  
 Morris, Robt. N., B.A., LL.D.  
 Morrish, Francis, B.A., 1882  
 Mort, H. Wallace, M.A.  
 Morton, Gavin, M.B., Ch.M.  
 Morton, John, M.B., Ch.M. †  
 Morton, Selby, M.D.  
 Moulton, James E., B.A., 1892  
 Mullens, Arthur Frank Macquarie, B.A., 1896  
 Mullins, George Lane, M.D. §  
 Mullins, John Lane, M.A.  
 Munro, Wm. J., B.A., 1880  
 Munro, A. Watson, M.B., Ch.M. †  
 Murray, Charles Edward Robertson, M.A.  
 Murray, Donald, M.A.  
 Murray, Florence Jane, B.A., 1896  
 Murray, George Lathrop, M.B., Ch.M.  
 Myers, David M., B.A., 1866  
 Nardin, Ernest Willoughby, B.E., 1894  
 Nathan, Edw. Alleyne, M.A., LL.B.  
 Neill, Leopold Edward Flood, B.A., 1886, M.B., Ch.M.  
 Nelson, Duncan John, B.A., 1895  
 Nettleship, Edward, B.A., 1895  
 Newham, Arthur, B.A. ¶  
 Newman, George Hine, B.A., 1887  
 Newman, Kelsey Illidge, B.A., 1894  
 Newton, Alice Sarah, M.B., Ch.M.  
 Newton, Henry, B.A., 1889  
 Nicholls, William Hunt Ward, B.A., 1891  
 Noake, Reginald, B.A., 1877  
 Noble, Edmund Murray, M.A.  
 Nolan, Herbert Russell, M.B., 1890  
 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, The Hon. R. E., M.A. †  
 O'Connor, Broughton B., B.A., 1892, LL.B.  
 O'Donohue, John P. Markham, B.A., 1895  
 Oliver, Alexander, M.A. †  
 Oliver, James, M.A.  
 Oram, A. Murray, M.D. §  
 O'Keefe, John A., B.A., 1887  
 O'Mara, Michael, M.A.

† Fellow of the Senate.

¶ Public Teacher.

§ Admitted *ad eundem gradum*.

\* Superior officer.

¶ Head of College.

† Examiner.

O'Neill, James Bernard, B.A., 1895  
 O'Reilly, Hubert de Burgh, B.A., 1892, LL.B.  
 O'Reilly, Walter Wm. Joseph, M.D. §  
 Osborne, Henry Stuart, B.A., 1896  
 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  
 Parish, Walter G., M.A.  
 Park, Joseph, M.B., Ch.M.  
 Parker, William A., B.A., 1892, LL.B.  
 Paterson, Jas. Stewart, LL.D.  
 Paton, Arthur T., B.A., 1887  
 Pattinson, Anthony Walton, B.A., 1894  
 Peden, John B., B.A., 1892, LL.B.  
 Perkins, Alfred Edward, M.A., M.B., Ch.M.  
 Perkins, Joseph A. R., B.A., 1892  
 Perry, John, M.A.  
 Perske, Hermann, B.A., 1887  
 Phillips, Catherine Agnes, B.A., 1896  
 Philp, Richard, M.A. §  
 Pickburn, James P., B.A., 1892, LL.B.  
 Piddington, Albert Bathurst, B.A., 1883  
 Pike, George H., M.A.  
 Pilcher, Geo. de Vial, B.A., 1859  
 Pilcher, Chas. E., B.A., 1865  
 Pincombe, Torrington Hawke, B.A., 1890  
 Pittman, Edward F., A.R.S.M. ¶  
 Plomley, Francis James, M.A.  
 Plume, Henry, M.A. §  
 Pockley, F. Antill, M.B., 1888 § ¶  
 Pollock, James Arthur, B.Sc., 1889 ¶  
 Poolman, Arthur Edward, B.A., 1883  
 Pope, Roland J., B.A., 1885  
 Powell, Theodore, M.A.  
 Pratt, Frederick V., M.A.  
 Prentice, Arthur J., B.A., 1892  
 Pring, Robert Dorlow, M.A.  
 Pritchard, Alice, B.A., 1895  
 Pritchard, William Clowes, B.A., 1888

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, Helen Alice, B.A., 1894  
 Read, William Henry, M.B., Ch.M.  
 Redshaw, George, B.A., 1895  
 Reidy, John James Gralton, B.A., 1896  
 Rennie, Edw. Henry, M.A.  
 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  
 Rich, George E., M.A. ¶  
 Richards, Samuel J., M.B., Ch.M.  
 Richardson, Charles Noel Derwent, B.A., 1893  
 Richardson, Hy. A., B.A., 1867  
 Richardson, Robt., B.A., 1870  
 Rigg, Thomas, M.A.  
 Riley, Ernest Arthur, B.A., 1893  
 Riley, Patrick William, B.A., 1894  
 Riley, Valentine B., B.A., 1872  
 Roberts, Jas. W., B.E., 1892  
 Robertson, Joseph, M.A.  
 Robinson, Charles H. P., B.A., 1893  
 Robinson, George Frederick Greenwell, B.A., 1890  
 Robison, Erskine Hugh, B.Sc., M.B., Ch.M.  
 Robjohns, Henry T., M.A.  
 Robjohns, Leonard, B.A., 1894  
 Robson, Wm Elliott Veitch, B.A., 1889  
 Rofe, John F., M.A.  
 Roger, Robert, B.A., 1876  
 Rogers, Francis Edward, M.A., LL.B. †  
 Rolin, Tom, M.A.  
 Rooney, William J., B.A., 1892  
 Roseby, Gertrude Amy, B.A., 1895  
 Roseby, Minnie B.A., 1895

† Fellow of the Senate.

‡ Examiner.

¶ Public Teacher.

§ Admitted *ad eundem gradum*.

- Roseby, Thomas, M.A., LL.D.  
 Roseby, Thomas Ernest, B.A., 1890  
 Ross, Chisholm, M.D.¶  
 Ross, Colin John, B.E., 1891§  
 Ross, William John Clunies, B.Sc., 1891§  
 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  
 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.¶  
 Russell, John F. S., M.A.  
 Russell, William, M.A.  
 Rutledge, David Dunlop, M.A., M.B., Ch.M.  
 Rutledge, William F., B.A., 1871  
 Ryan, Gerald, B.A., 1893  
 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  
 Salting, George, B.A., 1857  
 Salting, William S., B.A., 1857  
 Salusbury, Frederic H.†  
 Sandes, Francis Percival, M.B., Ch.M.  
 Sands, Jno. Marshall, B.A., 1889  
 Saunders, Arthur, B.A., 1893  
 Sawkins, Frederick John T., M.B., Ch.M.¶  
 Sawyer, Basil, B.E., 1896  
 Saxby, George Campbell, B.A., 1891  
 Scarvell, Edrice 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.  
 Scott, Walter, M.A.¶  
 Scoular, David, B.A., 1895, LL.B.  
 Seale, Herbert Percy, B.E., 1894  
 Seaward, William T., B.A., 1892  
 Sellers, Richard P., B.A., 1890  
 Sendall, Alfred E., B.A., 1888  
 Serisier, Lavigne Ernest, B.A., 1891  
 Shand, Alexr. 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, Rev. Canon W. Hey, M.A.¶§  
 Sharpe, Ernest, B.A., 1865  
 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  
 Sherlock, John Bolt, B.A., 1895  
 Shewcroft, Alfred John, B.A., 1893  
 Shirley, John, B.Sc., 1887§  
 Shirlow, Wm. J., M.B., Ch.M.  
 Shirlow, Syd. S., M.B., Ch.M.  
 Simpson, Archd. H., M.A.†  
 Simpson, Edward S., B.E., 1895  
 Sinclair, Eric, M.D.†  
 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.  
 Smairl, Joseph Henry, 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, Patrick, M.D.  
 Smith, Robert, M.A.  
 Smith, William, B.A., 1893  
 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

‡ Examiner.

† Fellow of the Senate.

¶ Public Teacher.

§ Head of College.

‡ Admitted *ad eundem gradum*.



- Stack, John, M.A.  
 Stacy, Harold Skipton, M.B., Ch.M.  
 Stanley, George P., M.B., Ch.M.  
 Starkey (*née* Artlett), Ettie, B.A., 1888  
 Steel, Robert, M.A.  
 Stephen, Cecil Bedford, M.A.†  
 Stephen, Edward Milner, B.A., 1891  
 Stephens, Charles T., B.E., 1892  
 Stephenson, John Hunter, M.A.  
 Stewart, Alexander, B.A., 1890  
 Stewart, Charles, M.D.  
 Stewart, Donald Grant, B.A., 1896  
 Stobo (*née* Seldon), Florence Mary, B.A., 1894  
 Stokes, Edward S., M.B., Ch.M.  
 Stonham, John, M.A.  
 Stonham, Kathleen, B.A., 1895  
 Stonham (*née* Noakes), Mabel Alicia, B.A., 1896  
 Street, Charles James, B.A., 1894  
 Street, Philip Whistler, B.A., 1883  
 Stuart, T. P. Anderson, M.D.‡¶†  
 Studdy, Albert J., B.A., 1888  
 Studdy, Annie Avice Matilda, B.A., 1891  
 Studdy, William B., M.B., Ch.M.  
 Sulman, John, F.R.I.B.A.¶  
 Sullivan, Henry, B.A., 1872  
 Sullivan, James, B.A., 1894  
 Sullivan, James, B.A., 1867  
 Sullivan, Reginald, B.A., 1892  
 Sutherland, Constance A., M.A.  
 Sutherland, Elmina Louise, B.A., 1891  
 Sutherland, Peter, B.A., 1890  
 Swanson, Edmund Clement, B.A., 1893  
 Swanwick, Kenneth ffoulkes, B.A., 1896  
 Sweet, Geoffrey Bruton, M.B., 1893  
 Symny, William Frank, B.A., 1894  
 Symonds, Daisy, B.A., 1893  
 Tange, Charles L., B.A., 1880  
 Tarplee, W. F., B.A., 1884  
 Taylor, Charles, M.D.  
 Taylor, Elizabeth Ironside, M.A.  
 Taylor, Hugh W., M.A.  
 Taylor, James Wilson, M.A.‡  
 Taylor, John M., M.A., LL.B.  
 Taylor, Sarah, B.A., 1893  
 Teece, Richard, F.I.A., F.F.A.†  
 Telfer, James Barnett, B.A., 1893  
 Thallon, Jas. B., B.A., 1876  
 Thomas (*née* Waddell) Annie, B.A., 1895  
 Thomas, Richard Weld, B.A., 1893  
 Thompson, Alexander, B.A., 1895  
 Thompson, I. Florence, M.A.  
 Thompson, James A., M.A.  
 Thompson, J. Ashburton, M.D.‡  
 Thompson, Jos., M.A., LL.B.  
 Thompson, Robert Alfred, B.A., 1891  
 Thornton, Sydney A., B.A., 1887  
 Thompson, Wm. Mann, M.A., B.E.  
 Thomson, Alec., B.A., 1891, LL.B.  
 Thorburn, James Thomas, B.A., 1886  
 Thorne, George, B.A., 1865  
 Thornton, Septimus, B.A., 1896  
 Tidswell, Frank, M.B., Ch.M.  
 Tighe, William, B.A., 1892, LL.B.  
 Tole, Joseph, B.A., 1869, LL.B.  
 Tom, Wesley, B.A., 1860  
 Townley, Percy Langford, B.A., M.B., Ch.M.  
 Tracey, Fredk., M.A.  
 Trebeck, Tom Beal, M.A.  
 Trechmann, Emil J., M.A., Ph.D.¶  
 Trindall, Richard B., B.A., 1885, M.B., Ch.M.  
 Twynam, Henry, B.E., 1896  
 Uther, Allen Hammill, B.A., 1891, LL.B.  
 Uther, Jennie Bertha, B.A., 1894  
 Vallack, Arthur Styles, M.B., Ch.M.  
 Veech, Michael, M.B., Ch.M.  
 Veech, Louis Stanislaus, B.A., 1890, LL.B.  
 Vicars, James, M.E.  
 Vivers, Alfred James Lovell, B.A., 1895  
 Waddell, George Washington, B.A., 1896, LL.B.  
 Waddy, Percival Richard, B.A., 1891, LL.B.  
 Wade, Robert Blakeway, M.B., 1896  
 Waldron, Thomas W. King, B.A., 1893, LL.B.

† Fellow of the Senate.

‡ Examiner.

¶ Public Teacher.

‡ Admitted *ad eundem gradum*.

- Walker, James Ernest, B.A., 1894, LL.B.  
 Walker (*née* Bruce), Mary H., B.A., 1887  
 Walker, Samuel Herbert, B.A., 1894  
 Walker, William A., B.A., 1888  
 Wallace, Donald, M.A.  
 Wallace, F. Ernest, B.A., 1889, LL.B.  
 Walton, William Bain, M.B., Ch.M.  
 Walsh, William M. J., M.A.  
 Ward, Thomas W. C., B.A., 1884, B.E.  
 Wardrop, Gabriel, B.A., 1893  
 Warren, William Edward, M.D. §  
 Warren, William Henry, M.I.C.E. ¶  
 Wassell, Joseph Leathom, M.B., Ch.M.  
 Waterhouse, John, M.A.  
 Watkins, John Leo, M.A.  
 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  
 Wentworth, Fitzwilliam, M.A.  
 White, Charles Alfred, B.A., 1895  
 White, James Smith, M.A., LL.D.  
 White, Norman Frederick, B.E., 1894  
 White, W. Moore, LL.D. §  
 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, James L., B.A., 1892  
 Williams, John Alfred, B.A., 1894  
 Williams, William, B.A., 1891  
 Williams, William, B.A., 1895  
 Williams, William Henry, B.A., 1894  
 1894  
 Williamson, Mark A., B.A., 1879  
 Willis, Charles Savill, M.B., Ch.M.  
 Willis, Robert Spier, M.A.  
 Wilson, Ella, M.A.  
 Wilson, Frederick James, B.A., 1893  
 Wilson, Jas. T., M.B., Ch.M. ¶  
 Wilson, Roger, B.A., 1877  
 Wilson, Thos. George, M.B., Ch.M.  
 Windeyer, John Cadell, M.B., Ch.M.  
 Windeyer (*née* Robinson), Mabel Fuller, B.A., 1890  
 Windeyer, Richard, B.A., 1891  
 Windeyer, William Archibald, B.A., 1893  
 Wise, Bernhard R., B.A., 1885 §  
 Wolstenholme, Harry, B.A., 1890  
 Wood, Ebenezer C., M.A., B.E., B.Sc.  
 Wood (*née* Whitfeld), Eleanor Madeline, B.A., 1895  
 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  
 Woodthorpe, Robert A., M.A.  
 Woodward, Frederick P., B.A., 1892  
 Woolcock, John L., B.A., 1883  
 Woolnough, Geo., M.A.  
 Woolnough, Walter George, B.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, B.A., 1896  
 Yarrington, Clive T. L., M.A.  
 Yarrington, W. H. H., M.A., LL.B.  
 Yeomans, Allan, M.A.  
 Zlotkowski, Frederick Sobieski Wladimir, M.B., Ch.M.

¶ Public Teacher.

§ Admitted *a l'eundem gradum*.

## GRADUATES.

## MASTERS OF ARTS.

Anderson, Francis, 1890‡	Deane, Henry, 1893‡
Anderson, Henry C. L., 1878	Deane, William Smith, 1884
Backhouse, Alfred P., 1873	Delohery, Cornelius, 1888
Barber, Richard, 1889	Dennis, James, 1897
Barbour, George Pitty, 1889	Dillon, John T., 1876
Barff, Henry E., 1882	Döcker, Ernest B., 1865
Barlee, Frederick Rudolph, 1884	Doust, Edith Lucy, 1898
Barton, Edmund, 1870	Dunstan, Ephraim, 1870
Barton, H. Francis, 1878	Edmunds, Walter, 1879
Blumer, George Alfred, 1897	Edwards, J. Ross, 1884
Board, Peter, 1891	Edwards, Edwd. Samuel, 1898
Bowden, John E., 1863	Faithfull, George E., 1869
Bowmaker, Ruth, 1895	Faithfull, Henry M., 1871
Bowman, Andrew, 1864	Faithfull, William P., 1868
Bowman, Edward, 1864	Fisher, Donnelly, 1875
Brennan, Christopher J., 1897	Fitzgerald, Robert M., 1859
Brennan, Francis P., 1882	Fitzhardinge, Grantley H., 1869
Brennan, Sarah O., 1891	Fletcher, Frank E., 1883
Brierley, Frank Nunan, 1893	Fletcher, Joseph J., 1876
Broughton, Alfred, 1870	Flint, Charles Alfred, 1884
Bucknell, D'Arcy H., 1886	Flynn, John, 1879
Cadman, Enoch William, 1898	Flynn, Joseph A., 1881
Campbell, Edward, 1884	Fosbery, Eustace E., 1881
Campbell, Gerald R., 1885	Francis, Henry R., 1870
Campbell, Joseph, 1882	Freehill, Francis B., 1876
Cape, Alfred John, 1867	Fuller, George W., 1882
Carruthers, Joseph H., 1878	Gardiner, Andrew, 1888‡
Chalmers, Stephen Drummond, 1899	Garland, James R., 1862
Clune, Michael J., 1875	Garnsey, Arthur Henry, 1896
Cocks ( <i>née</i> Proctor), Lizzie, 1898	Garran, Robert Randolph, 1899
Cocks, Nicholas John, 1892	Garrick, Joseph H., 1871
Coghlan, Charles A., 1879	Gibbes, Alfred George, 1875
Cohen, John J., 1881	Gill, Alfred Chalmers, 1899
Cooper, David J., 1871	Gray, Arthur St. J., 1887‡
Cooper, Pope A., 1874	Griffith, Alfred John, 1896
Cormack, Alexander J., 1886	Griffith, Samuel W., 1870
Corlette, James Christian, 1880	Hall, William Hessel, 1890
Cosh, James, 1881‡	Halloran ( <i>née</i> Guérin), Bella, 1892‡
Cowlishaw, William Patten, 1862	Hammond, A. de Lisle, 1884
Cowper, Sedgwick S., 1870	Healy, Patrick J., 1877
Cribb, John George, 1893	Hill, George Arthur, 1899
Crocker, Herbert D., 1886	Hill, Thomas, 1878
Crompton, William, 1876	Hills, Henry H., 1880
Cullen, William P., 1882	Hodgson, Evelyn G., 1881‡
Curtis, William C., 1859	Hogg, James E., 1890‡
Dalton, Gerald T. A., 1882	Hunter, John, 1869
Dawson, Arthur F., 1877	Hurst, George, 1882

‡ Admitted *ad eundem gradum*.

- Iceton, Edward Arthur, 1870  
 Iceton, Thomas H., 1872  
 Jackson, Henry Latimer, 1886½  
 Jackson, Robert, 1880  
 Johnson, James W., 1859  
 Johnston, Alexander W., 1876  
 Jones, Griffith E. R., 1877  
 Jones, Rees R., 1872  
 Kay, Robert, 1876  
 Kellett, Frederick, 1895  
 Kemp, Richard E., 1873  
 Kent, Frederick D., 1874  
 Kent, Harry C., 1875  
 King, Cecil J., 1887  
 King, Copland, 1887  
 King, Frederick H., 1876  
 King, Walter Uther S., 1884  
 Lander, William H., 1882  
 Lang, John Gavin D., 1884  
 Lee, Edward, 1859  
 Lee, William, 1878  
 Legge, J. Gordon, 1887  
 Liddell, Andrew I., 1875  
 Lingen, John Taylor, 1881½  
 Lomer, Caroline, 1891  
 Long, George E., 1867  
 Loxton, Edward James, 1888  
 Lukin, Gresley W. H., 1891  
 MacDonald, Jas. M., 1879  
 Macdonald, Louisa, 1892½  
 Maclardy, J. D. St. Clair, 1883  
 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  
 Metcalfe, George, 1868  
 Millard, Godfrey William, 1896  
 Mitchell, David S., 1859  
 Monnington, Alfred, 1888½  
 Montague, James H., 1877  
 Moore, Samuel, 1882  
 Mort, H. Wallace, 1881½  
 Mullins, John L., 1879  
 Murray, Charles E. R., 1865  
 Murray, Donald, 1892  
 Nathan, Edward A., 1882  
 Noble, Edmund Murray, 1890  
 O'Brien, Francis, 1868  
 O'Connor, Richard E., 1873  
 O'Mara, Michael, 1877  
 Oliver, Alexander, 1869  
 Oliver, James, 1885  
 Parish, Walter G., 1866  
 Perkins, Alfred Edward, 1886  
 Perry, John, 1876  
 Philp, Richard, 1888½  
 Pike, George H., 1891  
 Plomley, Francis James, 1876  
 Powell, Theodore, 1876  
 Pring, Robert D., 1875  
 Purves, John M., 1873  
 Quaife, Frederick H., 1862  
 Ralston, Alexander G., 1883  
 Rennie, Edward H., 1876  
 Rich, George E., 1885  
 Rigg, Thomas, 1890  
 Robertson, Joseph, 1877  
 Robjohns, Henry T., 1891  
 Rofe, John F., 1885  
 Rogers, Francis E., 1863  
 Rolin, Tom, 1885  
 Roseby, Thomas, 1871  
 Russell, Edward, 1880  
 Russell, Frank A. A., 1894  
 Russell, Jane Foss, 1889  
 Russell, John Frazer S., 1896  
 Russell, William, 1882  
 Rutledge, David D., 1875  
 Rygate, Philip William, 1886  
 Sharp, William Hey, 1881½  
 Shaw, Henry Giles, 1894  
 Simpson, Archd. H., 1895½  
 Sly, George J., 1874  
 Sly, Joseph D., 1872  
 Sly, Richard M., 1876  
 Smail, Joseph Henry, 1896  
 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  
 Sutherland, Constance Adelaide, 1889

Taylor, Elizabeth Ironside, 1899  
 Taylor, Hugh W., 1884  
 Taylor, James Wilson, 1887½  
 Taylor, John Michael, 1891  
 Thompson, I. Florence, 1887  
 Thompson, James A., 1882  
 Thompson, Joseph, 1875  
 Thompson, William M., 1875  
 Tracey, Frederick, 1885  
 Trebeck, Tom Beal, 1884  
 Wallace, Donald, 1899  
 Walsh, Wm. 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  
 White, James Smith, 1871  
 Whitfield, Lewis, 1882  
 Wilkinson, Frederick Bushby, 1884  
 Williams, A. Lukyn, 1881½  
 Willis, Robert Spier, 1862  
 Wilson, Ella, 1895  
 Wood, Ebenezer Clarence, 1886  
 Woodthorpe, Robert A., 1890  
 Woolnough, George, 1873  
 Wyatt, Arthur H., 1869  
 Yarrington, Clive Tennyson L., 1895  
 Yarrington, William Henry H., 1880  
 Yeomans, Allan, 1871

## BACHELORS OF ARTS.

Abbott, George H., 1887  
 Abbott, Henry Palmer, 1893  
 Abbott, Thomas K., 1888  
 Abigail, Ernest Robert, 1896  
 Allan, Edith Jeannie, 1895  
 Allen, Arthur W., 1883½  
 Allen, George B., 1877  
 Allen, Reginald C., 1879  
 Amess, William, 1883  
 Anderson, Catherine, 1893  
 Anderson, Hugh Miller, 1890  
 Anderson (*née* Amos), Jeanie Cairns, 1890  
 Anderson, Maud Edith, 1896  
 Anderson, William Addison S., 1892  
 Andrews, Ernest Clayton, 1894  
 Anstey, George Webb, 1893  
 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  
 Aspinall, Arthur Ashworth, 1889  
 Atkins (*née* Kennedy), Annie A., 1893  
 Atkins, William Leonard, 1893  
 Auld, John Hay Goodlet, 1897  
 Ayres, Charles, 1882  
 Barker, Henry Auriol, 1881½  
 Barker, Thomas Charles, 1886  
 Barnes, Pearl Ella, 1897

Barnet, Donald McKay, 1890  
 Barracrough, Francis Egerton, 1895  
 Barry, Hugh de Barri, 1898  
 Barton, Joanna, 1893  
 Barton, John a'Beckett D., 1896  
 Bates (*née* Abigail), Eliza L., 1893  
 Bavin, Gertrude Lillian, 1898  
 Bavin, Thos. Rainsford, 1894  
 Baylis, Harold M., 1883  
 Beardmore, Ada, 1896  
 Beardmore, Emily Maud, 1894  
 Beardmore, Robert Henry, 1895  
 Beaumont, Annie Holloway, 1898  
 Beegling, Daniel, 1885  
 Beehag, Samuel Alfred, 1886  
 Bensusan (*née* De Lissa), Ethel Naida, 1898  
 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, William John, 1896  
 Blumer, Charles, 1894  
 Bode, Arnold G. H., 1888  
 Bonamy, Nellie Mildred Blanche, 1899  
 Booth, Mary, 1890

- Bowmaker, Theophilus Robert, 1896  
 Bowman, Arthur, 1880  
 Bowman, Ernest, 1880  
 Bowman, Alexander, 1859  
 Bowman, Alister S., 1873  
 Boxall, Nelson Leopold, 1896  
 Boyce, Francis Stewart, 1893  
 Brennand, Henry John W., 1896  
 Brereton, John LeGay, 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, 1898  
 Brown, Lizzie Sherwood, 1898  
 Brown, Mary Elizabeth, 1885  
 Brown, Sophia, 1894  
 Brown, William Vernon, 1894  
 Browne, William C., 1864  
 Bruce, Mary Jane, 1896  
 Buchanan, Charles Arthur, 1889  
 Buckland, Thomas, 1873  
 Bundock, Charles, 1878  
 Bundock, Francis F., 1877  
 Bunting, Edith Annie, 1896  
 Burdekin, Sydney, 1860  
 Burfitt, Walter F., 1894  
 Bushnell, Pollie, 1896  
 Butler, Francis J., 1882  
 Butler, Spencer Joseph St. C., 1893  
 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  
 Campbell, Allan, 1874  
 Campbell, Charles Robert, 1893  
 Campbell, George Polding, 1885  
 Canaway, Arthur P., 1894½  
 Cargill, John Sydney, 1889  
 Carlisle, William W., 1878  
 Carlos, Joseph, 1893½  
 Caro, Hilda, 1895  
 Carvosso, Albert B., 1884  
 Casey, Michael Alphonsus, 1896  
 Castling, James Robert, 1896  
 Chapman, Alfred Ernest, 1893  
 Chisholm, William, 1875  
 Chubb, Montague Charles Lyttelton, 1896  
 Clarke, Francis William, 1884  
 Clegg, William Carnegie, 1899  
 Clines, Peter Joseph, 1896  
 Clipsham, Gertrude Mary, 1899  
 Closs, Wm. John Leech, 1890  
 Clubb, Wallace, 1896  
 Coffey, Francis Louis Verhulst, 1894  
 Cole, Louisa, 1898  
 Combes, Jane Frances, 1895  
 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  
 Cordingley, Grace Marion, 1898  
 Cosh, James, 1891  
 Cowan, David, 1894  
 Cox, Harold, 1889  
 Coyle, William Thomas, 1891  
 Craig, Alexander Donald, 1893  
 Craig, Charles, 1892  
 Crane, Charles, 1882  
 Crawford, Stella Maud C., 1896  
 Creagh, Albert Jasper, 1889  
 Creagh, William John, 1892  
 Cribb, Estelle Muriel Bridson, 1899  
 Cripps, Esther Fischer, 1891  
 Cruise, Emily A., 1897  
 Cullinane, John Aloysius, 1895  
 Cumming, Jennie, 1896  
 Curlew, Harold Burnham, 1897  
 Curlew, Herbert Raine, 1890  
 Curnow, William Leslie, 1890  
 Curtis, William John, 1899  
 D'Arcy, George Synnott, 1895  
 D'Arcy, John Synnott, 1890  
 D'Arcy-Irvine, Malcolm M., 1889  
 Daley, Frank H., 1889  
 Dalmas, Lizzie, 1895

- d'Apice, Antoine William M., 1899  
 Dash, Ebenezer, 1894  
 Dargin, Sydney, 1871  
 Davidson, Colin George Watt, 1899  
 Davies, Arthur Bernard, 1894  
 Davies, Edith Warlow, 1899.  
 Davies, Wyndham John E., 1893  
 Davis, Agnes Marianne Harrison,  
 1896  
 Davis, Henry, 1890  
 Davison, Samuel Beaumont, 1896  
 Day, Leo Septimus, 1899  
 De Ljssa, Horace, 1896  
 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  
 Doig, Alexander John, 1895  
 Dove, William R. Norton, 1893  
 Dowe (*née* Molster), Eliza, 1893  
 Dowe, Philip William, 1893  
 Dowling, Frank Vincent, 1898  
 Doyle, John, 1891  
 Drummond, Shafto Landour, 1893  
 Dudley, Joseph T., 1885  
 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 E., 1895  
 Evans-Jones, David Pentland, 1898  
 Feez, Arthur H., 1880  
 Ferguson, David, 1886  
 Fidler, Carleton B., 1888  
 Fidler, Isabel Margaret, 1898  
 Finn, William George, 1895  
 Finney, Charlotte, 1895  
 Finney, Joseph, 1894  
 Fitzgerald, Edmund, 1866  
 Fitzgerald, John Timothy, 1890  
 Fitzhardinge, Maude Yeomans, 1898  
 Fitzpatrick, Bernard Joseph, 1897  
 Fitzpatrick, Thomas John A., 1893  
 Flannery, George Ernest, 1892  
 Flashman, James Froude, 1892  
 Flavelle, Lucy Isabel, 1896  
 Fleming, Howard George T., 1894  
 Fletcher, Archibald William, 1886  
 Fletcher, Charles R., 1881  
 Fletcher, J. A., 1879  
 Fletcher, Katherine Elizabeth, 1895  
 Fletcher, Michael Scott, 1893  
 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  
 Freeman, Ambrose William, 1896  
 Fullerton, Alex. Y., 1885  
 Galt, James, 1899  
 Garnsey, Edward R., 1885  
 Geddes, Samuel, 1885  
 George, John, 1893  
 Gerber, Edward William T., 1892  
 Gibbes, William C. V., 1868  
 Gillies, James, 1889  
 Gordon, Emily Isabel, 1898  
 Gordon, George Acheson, 1895  
 Gorman, John R., 1866  
 Grassick, Charles C., 1897  
 Greenlees, Gavin, 1895  
 Greenway, Alfred R., 1870  
 Gregson, William Hilder, 1898  
 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., 1894  
 Halloran, Aubrey, 1892  
 Halloran, Henry, 1896  
 Halloran, Ida, 1893  
 Hammond, John Harold, 1896  
 Hardy, Caleb, 1893  
 Hargraves, Edward John, 1859  
 Harker, Constance Elizabeth, 1895  
 Harriott, Charles Warre, 1889  
 Harriott, Georgina Jane, 1894  
 Harris, George, 1891  
 Harris, John, 1892  
 Harris, Marian, 1898  
 Harris, Matthew, 1863  
 Harvey, Revina, 1895  
 Harvey, William George, 1894  
 Harwood, Marian Fleming, 1898  
 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  
 Higgins, Michael A., 1879  
 Higgins, Percy Reginald, 1893  
 Hill, Evelyn M., 1895  
 Hilliard, Arthur Vaughan, 1890  
 Hinder, Robert John, 1889  
 Hipsley, Alice Ellen, 1898  
 Hobbs, Edwin, 1897  
 Hirst (*née* Hansard), Edith Hirst, 1897  
 Hobbs, John William, 1894  
 Hodge, Ernest Arthur, 1895  
 Hodgkins, Amy Alice, 1895  
 Hogg, Kate Emily, 1894  
 Holliday, Andrew, 1898  
 Holme, Ernest Rudolph, 1891  
 Holme, John Barton, 1893  
 Holmes, William Frederick, 1894  
 Holt, Arthur Christian, 1895  
 Holt, Wilfrid John, 1898  
 Hood, Dannina, 1894  
 Hopkins, Francis Irvine, 1893  
 Hopman, John Henry, 1894  
 Horder (*née* Bloomfield), Elsie  
     I'Anson, 1897  
 Horniman, Alexander, 1866  
 Houison, Andrew, 1869  
 Houison, James, 1863  
 Houison, Stephen James, 1898  
 Howard, John Bruton, 1895  
 Hudson, William, 1897  
 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, Edward, 1859  
 Hunt, Harold W. G., 1888  
 Hunt, Hugh Alton Stanislaus, 1897  
 Hunter, Mary Alison Miles, 1895  
 Hunter, Thomas Brown, 1898  
 Hynes, Sarah, 1891  
 Innes (*née* Lichtscheindl), Rosa, 1894  
 Jackson, Frederick Charles, 1897  
 Jacobs, James, 1894  
 James, Arthur Henry, 1893  
 James, Augustus G. F., 1888  
 James, George Alfred, 1893  
 James, William Edwin, 1894  
 James, Thomas, 1896  
 Jamieson, George Wellington, 1893  
 Jamieson, Sydney, 1884  
 Jarvie, Bennie, 1898  
 Jenkins, Charles J., 1887  
 Johnson, Martin Luther, 1893  
 Johnston, John, 1887  
 Johnston, Mary Eleanor, 1896  
 Johnston, Stephen Jason, 1894  
 Johnstone, Henry Thomas, 1885  
 Jones, Cortis Harry Fredk., 1897  
 Jones, Thomas, 1895  
 Jones, Thomas E., 1884  
 Jones, Ernest Trevor, 1884  
 Jones, Evan John, 1894  
 Joseph, Horace B., 1887  
 Kater, Henry Herman, 1894  
 Kelly, Thomas, 1890  
 Kelynack, Arthur James, 1889  
 Kelynack, Harold Leslie, 1893  
 Kemmis, William Henry, 1890  
 Kendall, Frank Louis, 1893  
 Kendall, Theodore M., 1876  
 Kenna, Patrick, 1882



- Kennedy, Emily Clara, 1895  
 Kennedy, Philip, 1895  
 Kershaw, Joseph Cuthbert, 1894  
 Kidston, Robert Matthew, 1892  
 Kilgour, Alexander James, 1894  
 King, George C., 1887  
 King (*née* Russell), Lillian, 1891  
 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  
 Lance, Elisabeth Ada, 1898  
 Lane, Frederick George, 1895  
 Langley, Isabella Edwardes, 1897  
 Langton, Frederick W., 1887  
 Lasker, Samuel, 1892  
 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  
 Leverrier, Frank, 1884  
 Levy, Daniel, 1893  
 Lewis, Henry Clyde, 1893  
 Liggins, Jessie Hunsdon, 1899  
 Linsley, William H., 1880  
 Littlejohn, Edward S., 1887  
 Lloyd, Frederick, 1890  
 Lloyd, Thomas, 1878  
 Louis, Philip Herbert, 1897  
 Loyden, James, 1894  
 Lynch, Michael D., 1870  
 Lynch, William, 1863  
 Lyon, Pearson, 1890  
 Macansh, Andrew W., 1885  
 Macarthy, Herbert T. S., 1860  
 McCarthy, Arthur W., 1881  
 McCook, Adam Stuart, 1895  
 McCoy, William Taylor, 1894  
 McCulloch, Percy V., 1881  
 McDermott, Vesian B., 1887  
 McDonagh, John M., 1879  
 Macdonald, Fannie Elizabeth, 1895  
 McDonald (*née* Daly), May Edith, 1895  
 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  
 McIntosh, Harold, 1889  
 McIntyre, Aug. T., 1879  
 McIntyre, Duncan A., 1888  
 McIntyre, William Donald, 1890  
 Mack, Sidney, 1890  
 McKay, James, 1896  
 Mackintosh, Bertha Adeline Hilda, 1899  
 McLaren, Alexander Duncan, 1898  
 McLaren, John Gilbert, 1895  
 McLaughlin, Daniel, 1890  
 MacLaurin, Henry Normand, 1899  
 MacLean, Frederick S., 1887  
 McLelland, Hugh, 1881  
 McLeod, James, 1879  
 McMahon, Gregan, 1896  
 MacManamey, James Fraser, 1881  
 MacManamey, John Fraser, 1889  
 MacManamey, William Fraser, 1892  
 MacMaster, Donald Æneas D., 1894  
 MacMullen, Frank, 1894  
 McNeil, Andrew, 1889  
 McNevin, Arthur Joseph, 1895  
 McNevin, Thomas Butler, 1893  
 MacPherson, Peter, 1889  
 Maffey, Reginald William H., 1896  
 Maher, Charles H., 1877  
 Maher, Matthew E., 1867  
 Maher, Thomas Francis, 1893  
 Main, John, 1892  
 Mallarky, Ethel May, 1895  
 Maloney, Andrew William, 1893  
 Maloney, John Thomas, 1899  
 Mannell, Francis Worthington, 1892  
 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 (*née* Johnston), Ella R., 1890  
 Martin, Lewis Ormsby, 1893  
 Martyn, Sydney Charles, 1889

‡ Admitted *ad eundem gradum*.

- Massie, Richard de Winton, 1886  
 Mate, William H., 1864  
 Mathews, Hamilton Bartlett, 1899  
 Mathison, Walter, 1880  
 Mayne, J. O'Neill, 1884  
 Maxwell, Henry Francis, 1895  
 Maynard, Ethel Margaret, 1894  
 Maze, William Archibald A., 1892  
 Meagher, Louis Felix, 1889  
 Meares, Hercules, 1893  
 Meillon, Joseph, 1863  
 Mell, Cecil Newton, 1894  
 Merewether, Edwd. 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, Sarah, 1897  
 Monaghan, John Graham, 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  
 Morrice, John, 1874  
 Morris, John James, 1895  
 Morris, Robert N., 1870  
 Morrish, Francis, 1882  
 Moulton, James Egan, 1892  
 Moustaka, Orea Emma Hellas, 1897  
 Mullens, Arthur Frank Macquarie, 1896  
 Munro, William J., 1880  
 Murray, Florence Jane, 1896  
 Murray, Mercy M. H., 1897  
 Musmann, Carl Ernst Gottlieb, 1897  
 Myers, David M., 1866  
 Neill, Leopold Edward Flood, 1886  
 Nelson, Duncan John, 1895  
 Nettleship, Edward, 1895  
 Newman, George Hine, 1887  
 Newman, Kelsey Illidge, 1894  
 Newton, Henry, 1889  
 Nicholls, William Hunt Ward, 1891  
 Nicholson, George Gibb, 1899  
 Noake, Reginald, 1877  
 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  
 Osborne, Henry Stuart, 1896  
 O'Sullivan, Daniel, 1897  
 Page, Arthur Ernest, 1899  
 Pain, Allan Franklyn, 1894  
 Pain, A. W., 1884§  
 Paine, Bennington Haille, 1893  
 Paine, George Henry, 1894  
 Paris, Jane Elizabeth, 1897  
 Parker, William Arthur, 1892  
 Parsons, Emily Waugh, 1899  
 Parsons, Joseph, 1899  
 Paton, Arthur T., 1887  
 Pattinson, Anthony Walton, 1894  
 Peden, John Beverley, 1892  
 Penman, John Edwards Foggon, 1897  
 Perkins, Frederick Thomas, 1899  
 Perkins, Joseph Abraham R., 1892  
 Perskè, Hermann, 1887  
 Phillips, Catherine Agnes, 1896  
 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  
 Poolman, Arthur Edward, 1883  
 Pope, Roland James, 1885  
 Potts, Cuthbert, 1898  
 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  
 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  
 Richardson, Robert, 1870  
 Riley, Ernest Arthur, 1893  
 Riley, Patrick William, 1894  
 Riley, Spencer George Birkenhead, 1897  
 Riley, Valentine B., 1872  
 Robinson, Charles H. P., 1893  
 Robinson, George Frederick G., 1890  
 Robjohns, Leonard, 1894  
 Robson, William Elliott V., 1889  
 Roger, Robert, 1876  
 Rooney, William James, 1892  
 Roseby, Gertrude Amy, 1895  
 Roseby, Minnie, 1895  
 Roseby, Thomas Ernest, 1890  
 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 A., 1887  
 Russell, Henry C., 1859  
 Rutledge, William F., 1871  
 Ryan, Gerald, 1893  
 Rygate, Charles D. H., 1883  
 Rygate, Henry Bertram, 1885  
 Saddington, Arthur G., 1887  
 Salting, George, 1857  
 Salting, William, 1857  
 Sands, John Marshall, 1889  
 Saunders, Arthur, 1893  
 Saunders, Eva Florence, 1897  
 Sawkins, Dansie Thomas, 1899  
 Saxby, George Campbell, 1891  
 Scarvell, Edric Sydney, 1893  
 Scoular, David, 1895  
 Seaward, William T., 1892  
 Sellors, Rich. Pickering, 1890  
 Sendall, Alfred E., 1888  
 Serisier, Lavigne Ernest, 1891  
 Shand, Alexr. B., 1884  
 Sharp, Walter Alex. Ramsay, 1897  
 Sharpe, Ernest, 1865  
 Sharpe, William George, 1897  
 Shaw, John A. K., 1885  
 Sheridan, John Patrick, 1890  
 Sheppard, Edmund Haslewood, 1882  
 Sheppard, George, 1873  
 Shewcroft, Alfred John, 1893  
 Sheridan, Francis B., 1874  
 Sherlock, John Bolt, 1895  
 Sinclair, Colin Archibald, 1899  
 Slack, Ida Leslie, 1899  
 Sloman, Charles Wansbrough, 1893  
 Sloman, John, 1872  
 Smith, Archibald, 1889  
 Smith, Emma Isabel, 1893  
 Smith, Norman, 1894  
 Smith, William, 1893  
 Somerville, George B., 1882  
 Squire, Hilton Bell, 1893  
 Stacy, Fitzroy Somerset, 1897  
 Starkey (*née* Artlett), Ettie, 1888  
 Stephen, Edward Milner, 1891  
 Stephen, John William Farish, 1897  
 Stewart, Alexander, 1896  
 Stewart, Donald Grant, 1896  
 Stobo (*née* Seldon), Florence Mary, 1894  
 Stoney, Edmund Haighton, 1898  
 Stonham, Kathleen, 1895  
 Stonham (*née* Noakes), Mabel Alicia, 1896  
 Street, Charles James, 1894  
 Street, Philip Whistler, 1883  
 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  
 Swanson, Edmund Clement, 1893  
 Swanwick, Kenneth Foulkes, 1896  
 Swyny, William Frank, 1894  
 Symonds, Bertha Violet, 1897  
 Symonds, Daisy, 1893  
 Tange, Charles L., 1880  
 Tarpsee, William F., 1884  
 Taylor, Sarah, 1893  
 Teece, Richard Clive, 1899  
 Telfer, James Barnet, 1893  
 Thallon, James B., 1876  
 Thomas (*née* Waddell), Annie, 1895  
 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  
 Tole, Joseph, 1868  
 Tom, Wesley, 1860  
 Townley, Percy L., 1886  
 Tozer, Seymour Darvall, 1899  
 Trindall, Richard B., 1885  
 Turner, Annie Elizabeth, 1899  
 Uther, Allen Hammill, 1891  
 Uther, Jennie Bertha, 1894  
 Veech, Louis Stanislaus, 1890  
 Verge, John, 1899  
 Vivers, Alfred James Lovell, 1895  
 Waddell, George Washington, 1896  
 Waddy, Percival Richard, 1891  
 Waldron, Thomas W. King, 1893  
 Walker, James Ernest, 1894  
 Walker (*née* Bruce), Mary H., 1887  
 Walker, Samuel Herbert, 1894  
 Walker, William A., 1888  
 Wallace, Frank Ernest, 1889  
 Walsh, John James, 1899  
 Walton, George Henry Montague, 1899  
 Ward, Ruby Estelle, 1897  
 Ward, Thomas W. C., 1884  
 Wardrop, Gabriel, 1893  
 Warren, Ernest William, 1898  
 Watt, Andrew Robert James, 1893  
 Watt, Charles Prosper, 1893  
 Watson, Robert S., 1857  
 Wearne, Amy Isabel, 1893  
 Wearne, Richard Arthur, 1895  
 Weigall, Harold Walter, 1895  
 White, Charles Alfred, 1895  
 Whitfield, Hubert Edwin, 1897  
 Whiting, Joseph, 1895  
 Wilkinson, Henry L., 1880  
 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, Roger, 1877  
 Windeyer (*née* Robinson), Mabel Fuller, 1890  
 Windeyer, Richard, 1891  
 Windeyer, William Archibald, 1893  
 Wise, Bernhard R., 1885‡  
 Withycombe, Ernest John, 1899  
 Wolstenholme, Harry, 1890  
 Wood, Frederick Ernest, 1890  
 Wood, Frederick William, 1894  
 Wood, Harrie Dalrymple, 1893  
 Wood (*née* Whitfield), Eleanor Made-line, 1895  
 Woodd, Henry A., 1887  
 Woodward, Frederick P., 1892  
 Woolcock, John L., 1883  
 Wootton, Ernest, 1892  
 Wright, Stewart, 1882  
 Yarnold, Alfred Henry, 1896  
 Yarnold, Isabel May, 1899  
 Yeates, Ainslie Arthur, 1898

## DOCTORS OF LAW.

- |                           |                          |
|---------------------------|--------------------------|
| Barry, Alfred, 1884‡      | Cullen, William P., 1887 |
| Coghlan, Charles A., 1885 | Donovan, John J., 1867   |

‡ Admitted *ad eundem gradum*.

Garran, Andrew, 1870  
 Green, Arthur V., 1887  
 Jefferis, James, 1885  
 Manning, J. Napoleon, 1892  
 Marden, John, 1890  
 Morris, Robert Newton, 1886  
 Paterson, James S., 1866

Roseby, Thomas, 1873  
 Sly, George J., 1878  
 Sly, Joseph D., 1873  
 Sly, Richard M., 1877  
 White, James Smith, 1874  
 White, W. Moore, 1882½

## BACHELORS OF LAW.

Abigail, Ernest Robert, 1899  
 Armstrong, Laurens F. M., 1890  
 Barraclough, Francis Egerton, 1899  
 Bavin, Thomas Rainsford, 1897  
 Bloomfield, William John, 1899  
 Boyce, Francis Stewart, 1896  
 Brierley, Frank Nunan, 1897  
 Butler, Spencer Joseph St. Clair, 1896  
 Clines, Peter Joseph, 1898  
 Coffey, Francis Louis Verhulst, 1896  
 Creagh, William John, 1897  
 Cullinane, John Aloysius, 1897  
 Curlewis, Herbert Raine, 1892  
 Davies, Arthur Bernard, 1897  
 Davies, Wyndham John E., 1895  
 Edmunds, Walter, 1881  
 Edwards, David Sutherland, 1899  
 Elphinstone, James Cooke, 1898  
 Flannery, George Ernest, 1894  
 Gerber, Edward W. T., 1894  
 Gill, Alfred Chalmers, 1895  
 Halloran, Aubrey, 1894  
 Hammond, John Harold, 1898  
 Harris, George, 1893  
 Higgins, Percy Reginald, 1895  
 Holme, John Barton, 1895  
 Jones, Albert E., 1889½  
 Kelynnack, Arthur James, 1892  
 Kershaw, Joseph Cuthbert, 1896  
 Knox, Adrian, 1895½  
 Legge, James Gordon, 1890  
 Levy, Daniel, 1895  
 Lloyd, Frederick, 1893  
 Mack, Sidney, 1892

Martin, Lewis Ormsby, 1895  
 Meares, Hercules, 1894  
 Meillon, John, 1892  
 Merewether, Hugh Hamilton Mitchell, 1898  
 Merewether, William David Mitchell, 1898  
 Mills, Percy Harcourt, 1897  
 Nathan, Edward Alleyne, 1891  
 O'Brien, Patrick Daniel, 1897  
 O'Connor, Broughton B., 1895  
 O'Reilly, Hubert de Burgh, 1894  
 Parker, William Arthur, 1898  
 Peden, John Beverley, 1898  
 Pickburn, James Prosper, 1894  
 Quick, John, 1881½  
 Rogers, Francis E., 1867  
 Scarvell, Edric Sydney, 1896  
 Scoular, David, 1899  
 Taylor, John Michael, 1893  
 Thompson, Joseph, 1869  
 Thomson, Alec., 1894  
 Tighe, William, 1894  
 Tole, Joseph, 1869  
 Uther, Allen Hammill, 1893  
 Veech, Louis Stanislaus, 1893  
 Waddell, George Washington, 1899  
 Waddy, Percival Richard, 1893  
 Waldron, Thomas W. King, 1895  
 Wallace, Frank Ernest, 1899  
 Walker, James Ernest, 1896  
 Watt, Andrew R. J., 1894  
 Wood, Harrie Dalrymple, 1896  
 Yarrington, W. H. H., 1887

## DOCTORS OF MEDICINE.

Bennet, Francis Alexander, 1896½  
 Barret, James, 1873  
 Belgrave, T. B., 1882½  
 Blair, John, 1877  
 Bowker, Richard Ryther S., 1881½

Chisholm, William, 1887½  
 Collingwood, David, 1886½  
 Corlette, Cyril Ernest, 1895  
 Flashman, James Froude, 1897  
 Houison, James, 1870

Jenkins, Edward Johnstone, 1886‡  
 Jones, Richard T., 1874  
 Knaggs, Samuel T., 1882‡  
 Lloyd, Frederick, 1872  
 Lyden, Michael John, 1892‡  
 McDonnell, Æneas J., 1896  
 McMurray, Wahab, 1892‡  
 Maher, W. Odillo, 1884‡  
 Milford, Frederick, 1882‡  
 Moore, George, 1872  
 Morton, Selby, 1877  
 Mullins, George Lane, 1890‡

Oram, Arthur Murray, 1882‡  
 O'Reilly, Walter William J., 1882‡  
 Ross, Chisholm, 1886  
 Rowan, Thomas, 1882  
 Smith, Grafton Elliott, 1895  
 Smith, Patrick, 1870  
 Stewart, Charles, 1872  
 Stuart, T. P. Anderson, 1889‡  
 Taylor, Charles, 1872  
 Warren, William Edward, 1882‡  
 Worrall, Ralph, 1888‡

## BACHELORS OF MEDICINE.

Abbott, George Henry, 1891  
 Affleck, Ada C., 1898  
 Andrews, William, 1887‡  
 Armstrong, William G., 1888  
 Bancroft, Peter, 1888  
 Barnes, Edmund Horatio, 1897  
 Bennetts, Harold Graves, 1896  
 Biffin, Harriett Eliza, 1898  
 Binney, Edward Harold, 1893  
 Blackburn, Charles Bickerton, 1899  
 Bode, Frederick F. O., 1896  
 Böhrsmann, Gustav Hall, 1898  
 Böhrsmann, Rudolph Hermann, 1894  
 Boelke (*née* Robinson), Grace Fairley, 1893  
 Boelke, Paul, 1893  
 Bowker, Cedric Victor, 1898  
 Brade, Gerald Francis, 1899  
 Brennand, Henry John Wolverton, 1899  
 Broinowski, Gracius Herbert, 1897  
 Burkitt, Edmund Henry, 1896  
 Cargill, William Duthie, 1899  
 Carlile-Thomas, Julia, 1898  
 Challands, Frederick, 1892  
 Chenhall, William Thomas, 1897‡  
 Coghlan, Iza Frances Josephine, 1893  
 Conlon, William Aloysius, 1896  
 Cooley, Percy Glover, 1898  
 Cope, Herbert Roger, 1898  
 Cosh, John Inglis Clark, 1897  
 Cox, Frederick Henry, 1895  
 Craig, Robert Gordon, 1894  
 Crawley, Aubrey Joseph C., 1896  
 Davidson, Leslie G., 1888  
 Deck, George Henry Baring, 1896  
 Delohery, Henry Charles, 1899

Dey, Robert, 1898  
 Dick, Robert, 1892  
 Dixon, Graham Patrick, 1897  
 Dunlop, Norman John, 1896  
 Ellis, Henry A., 1887‡  
 Ellis, Lawrence Edward, 1898  
 Fairfax, Edward Wilfred, 1899  
 Farrell, Robert Meredith, 1897  
 Fordyce, Henry St. Clair, 1895  
 Freshney, Reginald, 1892  
 Goldsmid, Albert, 1895  
 Graham, James, 1886‡  
 Green, Terence Albert, 1893  
 Hall, Edwin Cuthbert, 1898  
 Hall, George Reginald Percy, 1895  
 Halliday, John Charles W., 1896  
 Handcock, Charles Lancelot, 1894  
 Harris, Lawrence Herschell Levi, 1896  
 Harris, William Henry, 1897  
 Henderson, John Niven, 1893  
 Henry, Arthur, 1889  
 Henry, Arthur G., 1888  
 Hester, Jeaffreson W., 1889  
 Higgins, Frederick Charles, 1897  
 Hinder, Henry V. C., 1889  
 Hughes, Michael O'Gorman, 1895  
 Hunt, Claude Leopold W., 1891  
 Kater, Norman William, 1898  
 Kelly, Patrick J., 1889  
 Kinross, Robert Menzies, 1894  
 Jackson, John William, 1895  
 Lancaster, Llewellyn Bentley, 1896  
 Lawes, Charles H. E., 1892  
 Leahy, John P. D., 1892  
 Lipscomb, Thomas Walter, 1898  
 Litchfield, William Frederick, 1893

‡ Admitted *ad eundem gradum*.

- Lister, Henry, 1892  
 Ludowici, Edward, 1899  
 Luker, Donald, 1894  
 McClelland, Walter Cecil, 1896  
 MacCreadie, John Laing Martin, 1894  
 McKay, William John, 1891  
 Mackenzie, John, 1899  
 Mackinnon, Roger Robert S., 1894  
 MacMaster, Donald Aeneas Dunlop, 1899  
 MacPherson, John, 1898  
 Magarey, Frank William Ashley, 1899  
 Maitland, Herbert L., 1892  
 Menzies, Guy Dixon, 1896  
 Millard, Reginald Jeffrey, 1891  
 Mills, Arthur Edward, 1889  
 Morton, Gavin, 1890  
 Morton, John, 1890  
 Murray, George Lathrop, 1894  
 Neill, Leopold E. F., 1890  
 Newton, Alice Sarah, 1898  
 Nolan, Herbert Russell, 1890  
 Oakes, Arthur, 1881½  
 O'Connor, Arthur Charles, 1896  
 O'Keefe, John James, 1898  
 Pain, Ernest Maynard, 1897  
 Park, Joseph, 1892  
 Perkins, Alfred E., 1888  
 Pockley, Frank Antill, 1888½  
 Pulleine, Robert Henry, 1898  
 Purser, Cecil, 1890  
 Read, William Henry, 1898  
 Richards, Samuel J., 1893  
 Robison, Erskine Hugh, 1896  
 Rutledge, David D., 1888  
 Sandes, Francis Percival, 1899  
 Sawkins, Frederick John T., 1892  
 Scot-Skirving, Robert, 1888½  
 Scott, Edward Henry, 1893  
 Shaw, Frederick C. S., 1892  
 Sheldon, Herbert, 1898  
 Sheldon, Stratford, 1896  
 Sheppard, Arthur Murray, 1890  
 Shorter, Herbert Leopold Ashton, 1899  
 Spark, Ernest James T., 1895  
 Stacy, Harold Skipton, 1898  
 Stanley, George Percival, 1891  
 Stevens, William Woodburn, 1898  
 Stokes, Edward Sutherland, 1891  
 Studdy, William Bradridge, 1895  
 Sweet, Geoffrey Bruton, 1893  
 Terrey, Hedley, 1897  
 Tidswell, Frank, 1892  
 Throsby, Herbert Zouch, 1898  
 Townley, Percy Langford, 1890  
 Trindall, Richard B., 1889  
 Vallack, Arthur Styles, 1893  
 Veech, Michael, 1894  
 Wade, Robert Blakeway, 1896  
 Walton, William Bain, 1898  
 Wassell, Joseph Leathom, 1897  
 Windeyer, John Cadell, 1899  
 Willis, Charles Savill, 1899  
 Wilson, Thomas George, 1899  
 Zlotkowski, Frederic Sobieski Wladimir, 1896

## MASTERS OF SURGERY.

- Abbott, George Henry, 1891  
 Affleck, Ada C., 1898  
 Armstrong, William G., 1888  
 Bancroft, Peter, 1888  
 Barnes, Edmund Horatio, 1897  
 Bennetts, Harold Graves, 1896  
 Biffin, Harriett Eliza, 1898  
 Binney, Edward Harold, 1893  
 Blackburn, Charles Bickerton, 1899  
 Boelke (*née* Robinson), Grace Fairley, 1893  
 Boelke, Paul, 1893  
 Böhrsmann, Rudolph Hermann, 1894  
 Brennand, Henry John W., 1899  
 Cargill, William Duthie, 1899  
 Carlile-Thomas, Julia, 1898  
 Challands, Frederick, 1892  
 Coghlan, Iza Frances Josephine, 1893  
 Conlon, William Aloysius, 1898  
 Cooley, Percy Glover, 1898  
 Corlette, Cyril Ernest, 1892  
 Cosh, John Inglis Clark, 1897  
 Craig, Robert Gordon, 1894  
 Crawley, Aubrey Joseph C., 1896  
 Davidson, Leslie G., 1888  
 Dey, Robert, 1898  
 Dick, Robert, 1892

Dixon, Graham Patrick, 1897	Mills, Arthur Edward, 1889
Dunlop, Norman John, 1896	Morton, Gavin, 1890
Ellis, Lawrence Edward, 1898	Morton, John, 1890
Fairfax, Edward Wilfred, 1899	Murray, George Lathrop, 1894
Farrell, Robert Meredith, 1897	Neill, Leopold E. F., 1890
Flashman, James Froude, 1894	Newton, Alice Sarah, 1898
Fordyce, Henry St Clair, 1895	O'Connor, Arthur Charles, 1896
Freshney, Reginald, 1892	Pain, Ernest Maynard, 1897
Hall, Edwin Cuthbert, 1898	Park, Joseph, 1892
Hall, George R. P., 1895	Perkins, Alfred E., 1888
Halliday, John Charles W., 1896	Purser, Cecil, 1890
Handcock, Charles Lancelot, 1894	Read, William Henry, 1898
Harris, Lawrence Herschell L., 1896	Richards, Samuel J., 1896
Harris, William Henry, 1897	Robison, Erskine Hugh, 1896
Henderson, John Niven, 1893	Rutledge, David D., 1888
Henry, Arthur, 1889	Sandes, Francis Percival, 1899
Henry, Arthur G., 1888	Sawkins, Frederick John T., 1892
Hester, Jeaffreson W., 1889	Scott, Edward Henry, 1893
Higgins, Frederick Charles, 1897	Shaw, Frederick C. S., 1892
Hinder, Henry V. C., 1889	Sheldon, Herbert, 1898
Hunt, Claude Leopold W., 1891	Sheldon, Stratford, 1896
Jackson, John W., 1895	Sheppard, Arthur Murray, 1890
Kater, Norman William, 1898	Smith, Grafton Elliott, 1893
Kinross, Robert Menzies, 1894	Spark, Ernest J. T., 1895
Lawes, Charles H. E., 1892	Stacy, Harold Skipton, 1898
Leahy, John P. D., 1892	Stanley, George Percival, 1891
Lipscomb, Thomas Walter, 1898	Stokes, Edw. Sutherland, 1891
Ludowici, Edward, 1899	Studdy, William B., 1895
Luker, Donald, 1894	Sweet, Geoffrey Bruton, 1893
MacCreadie, John Laing Martin, 1894	Tidswell, Frank, 1892
McClelland, Walter Cecil, 1896	Townley, Percy Langford, 1890
McDonnell, Aeneas J., 1889	Trindall, Richard B., 1889
McKay, William John S., 1891	Vallack, Arthur Styles, 1893
Mackenzie, John, 1899	Veech, Michael, 1894
Mackinnon, Roger R. S., 1894	Walton, William Bain, 1898
MacMaster, Donald Aeneas D., 1899	Wassell, Joseph Leathom, 1897
MacPherson, John, 1898	Willis, Charles Savill, 1899
Magarey, Frank William A. 1899	Wilson, Thomas George, 1899
Maitland, Herbert L., 1892	Windeyer, John Cadell, 1899
Menzies, Guy Dixon, 1896	Zlotkowski, Frederic Sobieski Wladimir, 1896
Millard, Reginald Jeffrey, 1891	

## BACHELORS OF SCIENCE.

Bennett, Agnes Elizabeth L., 1894	Davis, Agnes Marianne Harrison, 1898
Brearley, Joseph Henry Draper, 1894	Dunlop, Norman John, 1895
Brennan, Sarah Octavia, 1895	Flashman, James Froude, 1893
Burfitt, Walter Fitzmaurice, 1898	Fletcher, Archibald W., 1888
Corbin, Albert George, 1895	Forde, James, 1893
Crane, John T., 1887	



Hall, George Reginald Percy, 1893	MacPherson, John, 1896
Harker, George, 1899	Pollock, James Arthur, 1889
Horton, Marion Charlotte, 1897	Robison, Erskine Hugh, 1894
Hughes, Michael O'Gorman, 1893	Ross, William John Clunies, 1891‡
Hunt, Fanny E., 1888	Sheldon, Stratford, 1894
Leverrier, Frank, 1885	Shirley, John, 1887‡
MacMaster, Donald Æneas Dunlop, 1897	Waterhouse, Gustavus Athol, 1899
McClelland, Walter Cecil, 1894	Watt, John Alexander, 1894
McKay, William J. S., 1887	Wood, E. Clarence, 1885
	Woolnough, Walter George, 1898

## MASTERS OF ENGINEERING.

Bradfield, John Job Crew, 1896	Dare, Henry Harvey, 1894
Cook, Walter Edmund, 1899‡	Vicars, James, 1892

## BACHELORS OF ENGINEERING.

*(Civil Engineering.)*

Amphlett, Edward Albin, 1889	Mathison, Walter Charter, 1899
Amphlett, Henry Martin, 1897	Merewether, Edward A. M., 1885
Arnott, Robert Fleming, 1895	Roberts, James Waller, 1892
Barracrough, Saml. Hy., 1892	Ross, Colin John, 1891‡
Beaver, William Richard, 1899	Rowlands, Harold Berkeley, 1897
Birch, William John, 1891	Rygate, Philip W., 1885
Bowman, Archer, 1889	Sawyer, Basil, 1896
Boyd, Robert James, 1898	Seale, Herbert Percy, 1894
Brearley, Joseph Henry D., 1895	Shortland, William Arthur, 1897
Bucknell, Louis Geoffrey, 1891	Smail, Herbert Stuart Inglis, 1897
Colyer, Moreton John Godden, 1896	Stephens, Charles Thomas, 1892
Craig, Alex. Donald, 1895	Strickland, Tom Percival, 1897
Deane, Henry James, 1897	Thompson, Wm. Mann, 1886
Doak, Walter James, 1895	Wallach, Bernard, 1897
Fitz, Norman V., 1888	Ward, Thos. Wm. Chapman, 1886
Hayley, Percy Reginald, 1893	Warren, Ernest William, 1897
Hole, William Francis, 1896	White, Norman Frederick, 1894
Jackson, Clements F. V., 1895	Wood, E. Clarence, 1885
Ledger, William Henry, 1893	Wood, James Patrick, 1895
McTaggart, Norman J. C., 1892	Woore, John Morris Simeon, 1896

*(Mining Engineering.)*

Black, Reginald Austin William, 1898	Palmer, Thomas Henry, 1898
Dixon, James Thomson, 1895	Piddington, Francis Llewellyn, 1898
Jack, Robert Lockhart, 1899	Reid, Norman, 1898
Jenkins, Charles Warren B., 1895	Simpson, Edward S., 1895
Morris, John Fossbrook, 1899	Twynam, Henry, 1896
Nardin, Ernest Willoughby, 1894	Weigall, Arthur Raymond, 1894
	Wilson, John Bowie, 1897

## UNDERGRADUATES.

## FACULTY OF ARTS.

## FIRST-YEAR.

Alexander, Maud Marion	Mackellar, Keith Kinnaird
Amos, Nellie Margaret	Mackenzie, Morrison
Armstrong, Helen Daphne Harvey	Mackness, Constance
Ballhausen, Frank Louis	Macrossan, Hugh Denis
Barton, Edward Maurice Darvall	Makin, William
Bolton, Barbara Marion	Massey-Makinson, Arthur
Boydell, William Guy Broughton	Milford, Gerald Douglas
Brownlie, Eveline Agnes	Moseley, Arthur Henry
Budden, Winnifred Martha	Mote, Arnold Rudolph
Caddy, James Pascoe	Murray-Prior, Mabel
Cahill, Cecil Byrnes	Osborne, Oliver Throsby
Campbell, John Stuart	Paton, Mary Paterson
Castleman, Arthur	Pitt, Arthur Gladstone Matchen
*Cooley, Bertha Glover	Phillips, Frederick George
Crisford, Hilda Nelsie Moore	Phillips, Reginald Bede
De Lambert, Aurèle William Labat	Powell, Sydney William Charles
Farran, Robert Arthur Lennox	Raffan, George
Ferguson, John Alexander	Reid, Violet Margaret
Fraser-Hill, Charlotte Elisabeth	Renton, William John
Fullerton, Lottie	Rentoul, James Buchan
Giblin, Norman Ernest	Reynolds, Edgar Hercules
Gibson, Robert Martin	Roberts, Spencer Alfred Cecil
Green, Henry Mackenzie	Roger, John Morrice
Hall, Ernest Kingsbury	Rutherford, Constance Muriel
Hammand, Kendall	Sandford, Blanche Vavasour
Harris, Herbert Theodore Rawson	Shiels, John Shepherd
Harris, Reginald Arthur	Simpson, Francis George McNeill
Heaslop, James William	Slattery, John Nagle
Henning, Cedric Thornton Biddulph	Smith, William
Henry, Ida Emily	Smith, William Michael
Hinton, William Samuel	Stoddart, Raymond
Hodge, Sydney Trevillian	Studdy, Marguerite Mary Elizabeth
Isaacs, Robert McIntosh	Taylor, Thomas Griffith
Jackson, Frederick Henry	Teece, Roy Noel
King-Kemp, Laura Mildred	Tivey, John Proctor
Larcombe, Ernest Richard	Verge, Arthur
Larkins, Frank Joseph Moore	Wall, Arthur Percy
Leslie, James Robert	Watkins, John James
Lord, Frank Colbran Turner	Welch, Leslie St. Vincent
Loudon, Bertha Winnifred	Wilshire, Hector
Love, James	Wheeler, Harold Charles Fearon
McCrae, Arthur Gordon	Woodburn, Joseph William
McEwen, Calveley Colleton	Woodcock, Lancelot Richard
McKelvey, John Lawrence	

## SECOND YEAR.

Anderson, Virginia  
 Armstrong, Ina Beatrice Harvey  
 Bowmaker, Jessie  
 Bruce, Annie  
 Bruce, Grace Mitchell  
 Crowley, Archibald  
 Fahey, Bartley Francis  
 Frank, Mathilde Johanna Hilda  
 Fry, Florence Mildred  
 Griffiths, Edward Percival Thomson  
 Heery, David James  
 Heery, Thomas  
 Hill, John Goodwin Watson  
 Holt, Edith Jane Katherine  
 Jarrett, Marjorie Kate  
 MacInnes, Angus  
 Maclean, Charles Hector Roderick  
 Marks, Reginald Arthur  
 Mills, Elsie Ada Harland

Noake, Reginald Robert  
 O'Sullivan, Eugene Francis  
 Palmer, Selina Elizabeth  
 Paxton, Betha  
 Petrie, Edith Maud  
 Power, Percy Horne  
 Reynolds, Reginald Blair  
 Rundle, George Walter  
 Ryan, James William  
 Stephenson, Anita Leila  
 Suttor, Frederick Australis  
 Taylor, Thomas Manning  
 Todd, Frederick Augustus  
 Vickery, Ebenezer Frank  
 Walker, Annie Letty  
 White, Alfrey Beecher Stewart  
 Wilson, David  
 Wilson, George Harry

## THIRD YEAR.

Bailey, Margaret Anne  
 Boyd, William Sprott  
 Brownlie, Elizabeth Alice Dalziel  
 Buchanan, Charles Pakenham  
 Butler, Stanley Wm. Beauchamp  
 Butler, Patrick James  
 Carlile-Thomas, Ella  
 Clark, Francis George  
 Crawford, Thomas Simpson  
 Cribb, Estelle Muriel Bridson, B.A.  
 Eldridge, Ada Maitland  
 Fell, Catherine Isabella  
 Gillam, Dora Alice  
 Henry, Ada  
 Hill, James Henry Fraser  
 Hutchison, George Thomas  
 Lehane, Thomas Joseph  
 McCook, William Henry  
 McLintock, William Colin Scott  
 McMahan, William Daniel  
 Manning, Henry Edward  
 Merrington, Ernest Northcroft  
 Mutton, Isaiah

Newsham, Alice Isabel  
 Poidevin, Leslie Oswald Sheridan  
 Pratt, Walter Henry  
 \*Riley, Percy Robert  
 Robson, Reginald Norman  
 Roseby, Sarah Mabel  
 Rutherford, Florence Marion  
 Rutherford, George Washington  
 Sadler, Alexander  
 Saywell, Thomas Stanley  
 Scrutton, Caroline Maude  
 Sheridan, Muriel Eulalie Bingham  
 Small, Ethel Ella  
 Smee, Reginald  
 Stephen, Henry Montagu  
 Turner, Emily May  
 Uther, Mary Handfield  
 Ward, Leonard Keith  
 West Edith Annie  
 Wilson, Gwendolene Lilian  
 Wilton, Edward Nowill  
 Young, James

## UNDERGRADUATES.

## EVENING STUDENTS.

## FIRST YEAR.

Artlett, William Langridge  
Campbell, Walter Charles  
Fletcher, William Arnold  
\*Giles, John Harris  
\*Gurney, Harold Brown  
Lindsay, William Carlrow

Little, Vivian Agincourt Spence  
\*McAlpine, Charles Fredrick  
\*Moors, Charles Frederic  
O'Reilly, Walter Cresswell  
Petersen-Schrader, Cyril Philip  
\*Simpson, William Wilkin

## SECOND YEAR.

Armitage, Charles Horsfall  
Browne, Joseph Alexander  
Chambers, George Alexander  
Chalmers, George  
DeLepervanche, Eustace Mézières  
Fetherstone, Leslie  
Freeman, William Addison

Graham, Albert Nelson  
\*Grieve, John Thomas  
\*Hall, William M. C.  
Neale, Charles Norman  
Stoyles, Herbert George  
Walsh, James Joseph

## THIRD YEAR.

Binns, William Johnstone  
Brown, George Edward, B.A.  
Damiano, Beatrice  
Gough, Norman John

Grieve, Robert Henry  
Nolan, John Henry Monteith  
Studds, Harold Augustus  
Walker, John William

## FACULTY OF LAW.

## SECOND YEAR.

Arnold, Austin Guerry de Lauret

Rogers, William Arnott Halse

## THIRD YEAR.

Buchanan, Charles Pakenham  
Butler, Patrick James  
Butler, Stanley Wm. Beauchamp  
Clark, Francis George  
Crawford, Thomas Simpson  
Dudley, Joseph Thomas, B.A.  
Finn, William George, B.A.  
Lehane, Thomas Joseph

Manning, Henry Edward  
Nicholson, George Gibb, B.A.  
Pratt, Walter Henry  
Rutherford, George Washington  
Saywell, Thomas Stanley  
Swanwick, Kenneth ffoulkes, B.A.  
Williamson, Percy Leyden, B.A.  
Young, James

## FOURTH YEAR.

Byrne, James Kevin, B.A.  
Clegg, William Carnegie, B.A.  
Davidson, Colin George Watt, B.A.  
Evans, Ada Emily, B.A.  
Evans-Jones, David Pentland, B.A.  
Holliday, Andrew, B.A.  
McLaren, Alexander Duncan, B.A.

Pilcher, Norman George Stafford,  
B.A.  
\*Sanders, J.  
Tozer, Seymour Darvall, B.A.  
Walton, George Henry Montague,  
B.A.

\* Unmatriculated.

## FIFTH YEAR.

Broderick, Cecil Thomas Hawkes, B.A.	Monahan, William Willis, B.A.
Craig, Charles, B.A.	Richardson, Charles Noel Derwent, B.A.
Forsyth, Walter George, B.A.	Sullivan, Reginald, B.A.
Mitchell, Ernest Meyer, B.A.	Warren, Ernest Wm., B.A., B.E.

## FACULTY OF MEDICINE.

## FIRST YEAR.

Adams, Frances Lucy	Johnson, Albert Francis
Benjafield, Vivian	Johnston, Langlosh Parker
Buchanan, George Arthur	Jones, Lincoln
Buchanan, Joseph David	Kay, Stuart
Browne, Claude Seccombe	*Lawrance, Stanley Norman
Clifford, James Percy	Lethbridge, Harold Octavius
Connolly, Thomas Patrick	McCarty, John Aloysius
Cook, John Philip	McEncroe, James Michael
Cook, Sydney Leicester, B.A.	Mansfield, Walter Charles
D'Arcy, Constance Elizabeth	Mawson, William
Dey, David Dewar	O'Reilly, Susannah Hennessy
Dight, Alfred Raworth	Perkins, Richard
Dight, Clarence Charles	Phillips, Arthur Bradridge
Ewing, Francis Peter	Quaife, Cyril
Fiaschi, Carlo Ferruccio	Riley, Spencer Birkenhead, B.A.
Fitzpatrick, Bernard Joseph, B.A.	+Robertson, James Robert
Fox, Louis Joseph	Sheehy, William
Gillespie, Arthur Paul	*Spence, John
Godsall, Robert Spencer	Stackpool, Patrick J.
Goergs, Karl Randolph Wilhelm	Thomson, Jean Graeme
Innes, Percival Selwyn Long	Ure, Sarah Louisa
*James, Charles	Withers, Oswald Edgar Bruce

## SECOND YEAR.

Adams, Francis Charles	Johnson, Frederick James
Aiken, Percy Norman	Jones, Horace Arnold
Bond, Lionel Wilfred	Kendall, Herbert William
*Cliff, John William	*Kenyon, Thomas Sherington Alex.
Clouston, Thomas Bennett	Latham, Oliver
Cowlishaw, Leslie	Le Fevre, John Speechley
Dansey, St. John Warburton	Marsh, Harold Seaward
Davis, James Shedden	Mason, Thomas William
Doyle, William Oscar	Newman, Ernest Ludlow
Finckh, Alfred Edmund	Osborne, John King
Finselbach, Friedrich Wilhelm August	Plomley, Morris James
Fox, Hedley Ebenezer	Rhode, Carl Ludwig
Higgins, Thomas Edward Charles	Sharp, Granville Gilbert
Hipsley, Percy Leslie	Smith, Stewart Arthur
	Stiles, Bernard Tarlton

\* Unmatriculated.

Suckling, Frank Martin  
Thomson, Jack Mowbray  
Vernon, Murray Menzies

Walton, John Francis  
Waugh, Richard  
Woolnough, Robert Edmund

## THIRD YEAR.

Blaney, Henry Patrick  
Bourne, Eleanor Elizabeth  
Cahill, John Hampton  
Carlile-Thomas, Ida Margaret  
Conroy, Lionel Bigoe Henzell  
Corfe, Anstruther John  
Curtis, Albert  
Dight, Wilfred Billingsley  
Elworthy, William Henry  
Fitzpatrick, Edward Bede Lucien  
Hansard, Norman William  
Horton, William Henry  
Holland, John Joseph  
Humphery, Esca Morris  
Langton, William Digah

Llewellyn, Rees Frank  
McDowall, St. Andrew Wm. Logan  
Miller, Robert Christy  
Muscio, Allan  
Page, Earle Christmas Grafton  
Rees, Walter Llewellyn  
Sadler, Henry Frank  
Seldon, William  
Tudor-Jones, Evan  
Ure, Edith  
Vivers, George Arthur  
Wallace, Donald, B.A.  
Watson, James Frederick  
White, Margaret Isabel

## FOURTH YEAR.

Anderson Arthur  
Anderson, Hugh Miller, B.A.  
Barling, James Eric Vernon  
Barton, John a'Beckett Darvall,  
B.A.  
Bell, Harry Charles Rikard  
Bridge, Norbert Henry  
Cameron, Donald Allan  
Clarke, Gother Robert Carlisle  
Combes, Edgar William Anthony  
Cox, Harrie  
Garde, Henry Lee  
Graham, Mabel Jessie  
Greenham, Eleanor Constance  
Grey, William Charles  
Griffiths, Frederick Guy, B.A.  
Gullett, Lucy Edith  
Hart, Basil Lloyd  
Heggaton, Rupert Dufty

Holt, Arthur Christian, B.A.  
Hunter, William Allen  
Jones, Philip Sydney  
Lee, Henry Herbert  
McCredie, Robert William  
Macintosh, Alexander Hay  
Maffey, Reginald William H., B.A.  
Oliver, William Reath  
Pritchard, Alice, B.A.  
Savage, Edward Joseph  
Savage, Vincent Wellesley  
Schwabe, James Harry  
Stephen, Edgar Horatio Milner  
Tange, Frank Septimus  
Tarleton, John Willington  
Thomas, George Bowen  
Verco, Clement Armour  
Verco, Sydney Manton  
Webb, Fritz William

## FIFTH YEAR.

Blue, Archibald Irwin  
Burfitt, Walter Fitzmaurice, B.A.,  
B.Sc.  
Burge, Stephen Bruce  
Busby, Hugh  
Chisholm, Edwin Claude  
Cleland, John Burton

Coen, Timothy Joseph  
Corbin, Albert George, B.Sc.  
Davies, Reginald Laidlaw  
Deck, John Northcote  
Durack, William Joseph  
Eichler, William Otto Heldmuth  
Farrelly, John Thomas

Flashman, Charles Ernest  
 Forster, Redmond Clarence  
 Hardman, Robert  
 Harris, Walter El  
 Holmes, Harry Glennie  
 King, Aubrey Arthur  
 Lees, Geoffery John  
 McEvoy, John Joseph Stuart  
 McLean, George  
 Marr, Gordon W. S.

Marsden, Ernest Ambrose  
 Newton, Wm. Thos. Joseph  
 Old, George Greensil  
 Paton, James Wright  
 Pockley, Eric Osbaldiston  
 Roe, James Morris  
 Roseby, Edmund Rupert  
 Taylor, Charles James  
 West, Francis William

## ATTENDING POST-GRADUATE COURSES.

Trindall, Richard Barzillai, M.B.

## FACULTY OF SCIENCE.

## FIRST YEAR.

Andrews, Ernest Clayton, B.A.  
 Jensen, Harald Ingemann

\*Jones, Basil Richard  
 \*Wilson, Mabel

## SECOND YEAR.

\*Couldery, Victor Carlton  
 Harris, Marian, B.A.  
 Heden, Ernest Charles, B.A.  
 Johnston, Stephen Jason, B.A.  
 Jordan, George Edward Gustavus  
 †Morson, Walter Jamieson

\*Meston, Leon Alexander  
 Mort, Harold Sutcliffe  
 Peterson, Arthur James  
 Petrie, James Matthew  
 Wilson, Richard Cunliffe  
 Weston, Percy Leonard

## THIRD YEAR.

d'Apice, John Edmund F.

| Madsen, John Percival Vissing

## DEPARTMENT OF ENGINEERING.

## FIRST YEAR.

## CIVIL ENGINEERING.

†Mackellar, Keith Kinnaird

| Platt, Cecil Percival

## MINING AND METALLURGY.

Armstrong, John Nicholas Fraser  
 \*Barton, Bernard Venour  
 Brooks, Harold Arthur  
 Caro, Phillip  
 †Clayton, Cyril Henry Joseph  
 Corlette, James Montagu Christian  
 Corfe, Duncan Bertram  
 Dart, Riverine Norman  
 Davies, Harry Warlow  
 Dight, Arthur Hilton  
 Docker, Alfred Brougham

\*Dunstan, Percy Ernest  
 Freeman, Charles Cuthbert  
 Garry, John Joseph Patrick  
 Gould, Hubert John  
 \*Lyne, John  
 Mack, Augustus Charles  
 Mawson, Douglas  
 †Neeld, William  
 Plomley, Reginald Clive  
 †Rose, Frederick William  
 Ross, Arthur William

\* Unmatriculated.

† Not passing through the regular course.

Skuthorpe, Garnett  
 Stanley, Frederick Vernon  
 Stewart, Alexander Hay  
 Thomas, David  
 Try, John Cowley  
 Verge, John

Vonwiller, Oscar Ulric  
 Walker, Hugh  
 Weigall, Henry Stuart  
 Whitfield, Hubert Edwin, B.A.  
 Williams, Leslie Ballesat, B.A.  
 Wood, Henry

## SECOND YEAR.

## CIVIL ENGINEERING.

Boyd, Arthur  
 Henning, Edmund Tregenna  
 Horn, William Rowatt

Hunt, Theodore William  
 Masterton, Albert  
 Myers, Harold Walter

## MINING AND METALLURGY.

Boyd, William Sprott  
 Cameron, Colin Bowman  
 Delohery, Ernest Cecil  
 Gorringe, Lloyd Septimus  
 Gregson, William Hilder, B.A.  
 Grut, Charles Frederick de Jersey

Heden, Ernest Charles, B.A.  
 \*Horsburgh, James  
 Moore, George Allan  
 Newman, James Malcolm  
 Potts, Cuthbert, B.A.  
 Spier, Reginald Vincent

## THIRD YEAR.

## CIVIL ENGINEERING.

Durack, Jerry Joseph E.

Hawken, Roger W.

## MINING AND METALLURGY.

Ball, Lionel Clive  
 Barker, Reginald Frederick  
 Jackson, Clements Frederick V.,  
 B.E.  
 Gibson, Charles George  
 Mort, Selwyn Robert

Poole, William  
 Slee, Richard Thilthorpe  
 †Walker, Charles  
 Waterhouse, Gustavus Athol, B.Sc.  
 Winton, Louis Joseph

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\* Unmatriculated.

† Not passing through the regular course.



## AFFILIATED COLLEGES.

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By the Act 18 Victoria, No. 37, 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.

J. B. Peden, B.A., LL.B.

LECTURER.

W. H. W. Nicholls, B.A.

BURSAR.

F. B. Wilkinson, M.A.

## FELLOWS.

Norton, Hon. J., M.L.C., LL.D.  
 Günther, Ven. Archdeacon, M.A.  
 Stephen, Hon. S. A., M.L.C.  
 Cox, Hon. G. H., M.L.C.  
 Weigall, A. B., M.A.  
 Jenkins, E. J., M.D.  
 Simpson, Mr. Justice A. H., M.A.  
 Chisholm, W., M.D.  
 Backhouse, His Hon. Judge, M.A.  
 Robson, E. I., M.A.

Abbott, Hon. Sir J. P., K.C.M.G.,  
 M.L.A.  
 Wilkinson, F. B., M.A.  
 Stanton, Right Rev. G. H., D.D.,  
 Bishop of Newcastle.  
 Abbott, Rev. T. K., M.A.  
 Millard, G. W., M.A.  
 Champion, Rev. A. H., M.A.  
 Carr Smith, Rev. W. I.  
 Corlette, Rev. Canon, D.D.

## M.A.

Rogers, F. E.  
 Cowlishaw, W. P.  
 Bowden, J. E.  
 Cowper, S. S.  
 Want, R. C.  
 Bowman, A.  
 Stephen, C. B.  
 Innes, G. A. C.  
 Long, G. E.  
 Manning, W. A.  
 Watson, W.  
 Faithfull, W. P.  
 Purves, J. M.  
 Faithfull, H. M.

Kemp, R. E.  
 Liddell, A. I.  
 Pring, R. D.  
 Powell, T.  
 Lee, W.  
 Dawson, A. F.  
 Taylor, Rev. H. W.  
 Campbell, Rev. J.  
 Hills, H.  
 Wilkinson, F. B.  
 Russell, F. A. A.  
 Millard, G. W.  
 Abbott, Rev. T. K.

## B.A.

Hargraves, E. J.  
 Hunt, E.  
 Sharpe, E.  
 Greenway, A. R.  
 Dargin, S.  
 Blacket, A. R.  
 Riley, V. B.  
 Campbell, A.  
 Morrice, J.  
 Thallon, J. B.  
 Wilson, Rev. R.  
 Noake, Rev. R.  
 Forster, C. E.  
 Bundock, F.  
 Buckland, T.  
 Elder, Rev. F. R.  
 Bundock, C. W.  
 Feez, A.  
 Tange, C.  
 Wilkinson, H. L.  
 Piddington, A. B.  
 Baylis, H. M.

Street, P. W.  
 Merewether, E. A. M.  
 Macaush, A. W.  
 Clarke, Rev. F. W.  
 Millard, A. C.  
 Trindall, R. B.  
 Jenkins, Rev. C. J.  
 Woodd, Rev. H. A.  
 Bode, Rev. A. G. H.  
 Britten, H. E.  
 Newton, Rev. H.  
 D'Arcy-Irvine, M. M.  
 McIntosh, H.  
 Roseby, T. E.  
 Blacket, Rev. C.  
 Uther, A. H.  
 Stephen, E. M.  
 Doak, F. W.  
 Windeyer, R.  
 Armstrong, T. de C.  
 Russell, C. T.  
 Peden, J. B.

NOTE.—The Warden will be glad to receive information tending to complete or correct the list of Graduates who have passed through the College.

Helsham, C. H.  
 Tighe, W.  
 Williams, J. L.  
 Abbott, H. P.  
 Dove, W. N.  
 Dowe, Rev. P. W.  
 Thomas, Rev. R. W.  
 Waldron, T. W. K.  
 Wood, H. D.  
 Merewether, H. H. M.  
 Cakebread, W. J.  
 Kater, H. H.  
 Rowland, N. de H.  
 Merewether, W. D. M.

Holt, A. C.  
 Maxwell, H. F.  
 Barton, J. A' B. D.  
 Castling, J. R.  
 Chubb, M. C. L.  
 Hobbs, E.  
 Blaxland, H. C.  
 Houston, S. J.  
 Gregson, W. H.  
 Pilcher, N. G. S.  
 Evans Jones, D. P.  
 Brown, G. E.  
 Perkins, F. T.  
 Verge, J.

## LL.B.

Uther, A. H.  
 Waldron, T. W. K.  
 Tighe, W.  
 Wood, H. D.

Peden, J. B.  
 Merewether, H. H. M.  
 Merewether, W. D. M.

## M.D.

Chisholm, W.

Corlette, C. E.

## M.B. and Ch.M.

Armstrong, W. G.  
 Bancroft, P.  
 Hester, J. W.  
 Hunt, C. L. W.  
 Millard, R. J.  
 Scott, E. H.  
 Spark, E. J. T. S.

Burkitt, E. H.  
 Bode, F. F. O.  
 Kater, N. W.  
 Ludowici, E.  
 Fairfax, E. W.  
 Wilson, T. G.

## B.E.

Merewether, E. A. M.

White, N. F.  
 Sawyer, B.

## B.Sc.

Crane, J. T.

McKay, W. J.

## STUDENTS.

Barton, E. M. D.  
 Green, H. M.  
 Harris, R. A.  
 Lethbridge, H. O.  
 Marsh, H. S.  
 Mutton, I.  
 Osborne, J. K.  
 Osborne, O. T.

Pilcher, N. G. S.\*  
 Rutherford, G. W.  
 Sharp, G. G.†  
 Simpson, F. G. M.  
 Skuthorpe, G.  
 Stephen, H. M.‡  
 Verge, A.  
 White, A. B. S.

\* Lithgow Scholarship, 1895; Frazer Scholarship, 1898; University Medal for Logic and Mental Philosophy, 1898; Wigorn Allen Scholarship, 1899.

† Morehead Exhibitioner. ‡ Salting Exhibitioner; Barker Scholarship No. 1, 1899.

## 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, and shall have been placed in the first class in the Annual College Examination in Divinity. 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.

3.—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 N. S. Wales.

4.—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.

5.—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.

6.—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.

7.—A Prize of books is given by the Council to the student who shows the greatest proficiency in the College Divinity Examination.

## 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 Eminence Cardinal Moran.

## THE PRESENT SOCIETY.

## RECTOR.

The Right Rev. Monsignor O'Brien.

## FELLOWS.

Clune, M. J., M.A.	Maher, W. Odillo, M.D.
Donovan, John J., LL.D.	Manning, Sir W. P.
Flynn, J. E., M.A.	Mort, L.
Freehill, F. B., M.A.	Mullins, J. L., M.A.
Gallagher, Very Rev. J.	Sheehy, The Very Rev. Dr., V.G.
Heydon, The Hon. C.	Slattery, Very Rev. P. A.
Healy, Very Rev., Dean	Slattery, T., K.C.S.G.
Kelly, T., B.A.	Toohy, J., K.C.S.G., M.L.C.
Le Rennetel, Very Rev. P., S.M.	

## M.D.

Maher, W. Odillo.

## M.B., Ch.M.

Crawley, A. J. C.

Newell, B. A.

Veech, M.

## M.B.

Lister, H.

## LL.D.

Coghlan, C. A.

## LL.B.

Coffey, F. L. V.

Edmunds, W.

Toole, J. A.

Veech, L.

Watt, A. R. J.

## M.A.

Brennan, F. P.

Coghlan, C. A.

Clune, M. J.

Dalton, G. T.

Flynn, J. E.

Flynn, J. A.

Freehill, F. B.

Healy, P. J.

Mullins, J. L.

O'Connor, Richard E.

O'Mara, M.

Quirk, Rev. D. P.

Walsh, W. M. J.

## B.A.

Browne, W. C.

Butler, T.

Butler, F. J.

Callachor, Rev. H. B.

Casey, M.

Connellan, J.

Corbett, W.

Coffey, F. L. V.

Cullinane, J. A.

Daley, F. H.

B.A.—*continued.*

Durack, J. J. E.  
 Enright, W. J.  
 Flynn, W. F.  
 Fitzpatrick, T. J. A.  
 Gorman, J. R.  
 Higgins, M. A.  
 Kelly, T.  
 Kenna, P. J.  
 Leverrier, F.  
 Leahy, J. P.  
 Lynch, W.  
 Lloyd, T.  
 Macnamara, P. B.  
 McNevin, T.  
 Maher, M. E.  
 Maher, C. H.  
 Mayne, J.  
 Mayne, W. M.  
 Mc'Donagh, J.

McEvilly, A.  
 McEvilly, U.  
 McGuinn, D.  
 Meagher, L. F.  
 Maillon, J.  
 Moloney, T. P.  
 Morris, J. M.  
 O'Brien, P. D.  
 O'Donohue, J. P. M.  
 O'Keefe, J. A.  
 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.

Blaney, H. P.  
 Clifford, J. P.  
 Connolly, T. P.  
 Durack, J. J.  
 Elworthy, W. H.  
 Fahey, B.  
 Farrelly, J. T.  
 Fitzpatrick, E. B.

Garry, J. J. P.  
 Godsall, R.  
 Johnson, A. F.  
 Lehane, T. J.  
 Macrossan, H. D.  
 McKelvey, J. L.  
 Marsden, E. A.  
 Power, P.

## LECTURERS.

SACRED SCRIPTURE	..	..	..	The Rev. the Rector.
LOGIC AND GEOLOGY	..	..	..	Rev. C. O'Connell, S.J.
CLASSICS	..	..	..	J. Carlos, B.A.
MATHEMATICS	..	..	..	Durack, J. J.

## ENDOWMENTS AND PRIZES.

The O'Connell Scholarship (value £42).—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.

McKelvey, J. L.

The Dunne Scholarship (value £42).—Donor—the late Very Rev. P. Dunne, D.D., of Hobart.

Macrossan, H. D.

## 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. William Marcus Dill Macky.

## PRINCIPAL.

The Rev. John Kinross, B.A., D.D. (Edin.).

## MATHEMATICAL LECTURER.

Wyndham J. E. Davies, B.A., LL.B.

## CLASSICAL LECTURER.

G. W. Waddell, B.A., LL.B.

## HON. TREASURER.

J. T. Walker.

## SECRETARY.

William Wood.

## COUNCILLORS.

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.

Cosh, Rev. J., M.A., D.D.

Dymock, D. L.

Fuller, G. W., M.A.

Garland, John, M.A., LL.B.

Goodlet, John Hay

Hay, John, LL.D.

Walker, J. T.

## TRUSTEES.

Anderson, H. C. L., M.A.

MacLaurin, Hon. H. N., M.D.,  
LL.D.

Bowman, Arthur, B.A.

Thomson, Dugald

Walker, J. T.

## 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.

Moore, Rev. S.

Perkins, A. E.

Ralston, A. G.

Rygate, P. W.

Smairl, J. H.

Steel, Rev. Robert

Thompson, J. A.

Waugh, Rev. Robert

## M.B. and Ch.M.

Davidson, Leslie G.  
 Dick, Robert  
 Freshney, Reginald  
 Henderson, J.  
 Hollis, Leslie T.  
 Kinross, R. M.

Perkins, A. E.  
 Purser, C.  
 Sheppard, A. M.  
 Stokes, Edward S.  
 Townley, Percy L.

## -LL.B.

Edwards, D. S.  
 Gill, A. C.

Waddell, G. W.  
 Walker, J. E.

## B.A.

Anderson, W. A. S.  
 Auld, J. H. G.  
 Barnet, Rev. Donald  
 Beegling, D. H.  
 Bowman, Alister S.  
 Bowman, Arthur  
 Bowman, Ernest  
 Campbell, C. R.  
 Cameron, A. P.  
 Copland, F. F.  
 Cosh, Rev. J., B.D.  
 Craig, A. D.  
 Crane, Rev. C.  
 Dettman, H. S.  
 Dick, J. A.  
 Dick, W. T.  
 Doig, A. J.  
 Dudley, J. T.  
 Edwards, J.  
 Edwards, D. S.  
 Edwards, E. E.  
 Elphinstone, James  
 Gill, A. C.  
 Gordon, G. A.  
 Halliday, G. C.  
 Hunt, Harold W. G.  
 Hunter, T. B.  
 Jamieson, S.  
 Kinross, R. M.  
 Linsley, W. H.  
 Lyon, Pearson  
 McCook, A. S.  
 McLelland, Hugh  
 Johnston, J.  
 McManamey, James F.

McNeil, A.  
 Manning, R. K.  
 Miller, Rev. R.  
 Moore, J.  
 Munro, W. J.  
 Nelson, D. J.  
 Paine, Bennington H.  
 Parker, W. A.  
 Perkins, J. A. R.  
 Perské, H.  
 Pope, Roland J.  
 Prentice, A. J.  
 Purser, Cecil  
 Quigley, J.  
 Ramsey, J. A.  
 Ralston, A. G.  
 Rygate, C. D. H.  
 Rygate, H. B.  
 Shand, A. B.  
 Sheppard, E. H.  
 Somerville, G. B.  
 Stacy, F. S.  
 Stewart, A.  
 Swanwick, K. ff.  
 Teece, R. Clive  
 Thornburn, Rev. J. T.  
 Townley, Percy L.  
 Tozer, S. D.  
 Waddell, G. W.  
 Walker, J. E.  
 Walker, S. H.  
 White, Rev. C. A.  
 Whitfeld, H. E.  
 Woodward, F. P.

## M.E.

Bradfield, John J. C.

## B.E.

Bowman, Archer  
 Jack, R. L.

Rowlands, H. B.



## STUDENTS IN RESIDENCE:

Auld, J. H. G., B.A. (Divinity)  
 Blue, A. I  
 Boyd, A.  
 Cameron, C. B.  
 Cameron, D. A.  
 Chalmers, G.  
 Crawford, T. S.  
 Davies, R. L.  
 Gibson, R. M.  
 Griffiths, F. G.  
 Heaslop, J. W.  
 Jones, H. A.  
 King, A. A.

Love, J.  
 McDowall, St. A. W. L.  
 Merrington, E. N.  
 Phillips, A. B.  
 Roberts, S. A. C.  
 Robson, R. N.  
 Rogers, J. M.  
 Savage, Vincent W.  
 Stanley, F. V.  
 Teece, R. Clive  
 Thomson, J. M.  
 Tozer, S. D., B.A. (Law)

## 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.

1899—John H. G. Auld, B.A. (Divinity).

2.—Frazer Scholarship.—In 1884, a sum of £1000 was bequeathed by the late Hon. John Frazer, M.L.C., for a Scholarship.

1899—James Love (1st Year).

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 (Second Year).

1899—R. N. Robson.

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.

1899—E. N. Merrington (3rd Year)

George Chalmers (2nd Year)

W. J. Rentoul (1st Year), non-resident.

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.

1899—S. D. Tozer, B.A. (Law)

T. S. Crawford (3rd Year)

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.

1899—A. Boyd (2nd Engineering)

Roy L. Teece (1st Year)

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.

9.—Cooerwull Scholarship.—£25 per annum to ex-students of Cooerwull Academy.

#### 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.

1899—J. M. Thomson.

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, Gordon, and Lawson are restricted to students for the Ministry of the Presbyterian Church. A first class in Classics or Mathematics, 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.

Cullen, Hon. W. P., LL.D. ( <i>ex officio</i> )	Renwick, Sir Arthur, B.A., M.D. ( <i>ex officio</i> )
Fairfax, Miss	Russell, Miss J. F., M.A.
Garran, R. R., B.A. (Hon. Sec.)	Scott, Professor, M.A. (Chairman)
Kater, Mrs. H. E.	Teece, R., F.I.A.
Macdonald, Miss, M.A. ( <i>Principal</i> )	Walker, J. T. (Hon. Treasurer)
Owen, Mrs. Langer	Wilson, Professor, M.B., Ch.M.
Rich, G. E., M.A.	Woolley, Miss

## B.A.

Anderson, Maud E.  
 Cordingley, Grace  
 Cribb, Estelle  
 Dunnicliff, Mary C.  
 Fitzhardinge, Maude Y.  
 Harker, Constance E.  
 Hill, Evelyn M.

Lance, E. A.  
 Montefiore, Hortense H.  
 Read, Elizabeth J.  
 Roseby, Minnie  
 Saunders, E. F.  
 Uther, J. B.  
 Whitfield, Eleanor M.

## B.Sc.

Horton, Marion C.

## UNDERGRADUATES IN RESIDENCE.

Armstrong, H. D. H.  
 Armstrong, I. B. H.  
 Bourne, Eleanor  
 Brownlie, E. A. D.  
 Brownlie, Eveline A.  
 Fell, Catherine  
 Greenham, Eleanor C.  
 Holt, Edith J. K.

Loudon, Bertha W.  
 Murray-Prior, Mabel  
 Rutherford, F. M.  
 Rutherford, Muriel  
 Stephenson, A. L.  
 Thomson, Jean G.  
 White, Margaret I.  
 Wilson, G. L.

## UNMATRICULATED.

Wark, F. H.

## 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 Lissa, Ethel N.

## GRACE FRAZER SCHOLARSHIP.

The Grace Frazer Scholarship, of the value of £30 (being the interest of £1,000 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—Whitfield, Eleanor Madeline  
 1895—Lance, Elisabeth A.

1898—Armstrong, Ina Beatrice H.  
 1899—Armstrong, H. D. H.

## 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.		1898—Bourne, Eleanor
1896—Dunncliff, Mary		1899—Stephenson, A. L.
1897—Read, E. J.		

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—Dunncliff, Mary		1898—Divided between Holt, E. J. K., and Stephenson, A. L.
1896—Read, Elizabeth J.		1899—Divided between Brownlie, E. A., and Loudon, B. W.
1897—Bourne, Eleanor 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.		1899—Loudon, B. W.



## 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 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 :

Her Majesty the Queen.  
 H.R.H. the Prince of Wales.  
 H.R.H. the Princess of Wales.  
 H.R.H. the Duke of Edinburgh.  
 H.R.H. the Duchess of Edinburgh.

## DIRECTORS.

The Chancellor of the University of Sydney.  
 The Dean of the Faculty of Medicine.

Sir James R. Fairfax	John Keep, Esq.
Dr. Alfred Shewen	The Hon. Dr. Mackellar, M.L.C.
John F. Hoare, Esq.	Dr. John Hay
Sir Edward Knox	C. B. Stephen, Esq.
Dr. James Graham, M.L.A.	Professor Jas. T. Wilson
The Hon. A. J. Gould	James T. Walker, Esq.
The Hon. H. E. Kater, M.L.C.	

*Honorary Treasurer* : Sir James R. Fairfax.

*Honorary Secretary* : Professor J. T. Wilson.

HONORARY CONSULTING PHYSICIANS.—P. Sydney Jones, M.D.  
 (Lond.), Alfred Shewen, M.D. (Lond.).

HONORARY CONSULTING SURGEON.—George T. Hankins, M.R.C.S.  
 (Eng.).

HONORARY CONSULTING GYNÆCOLOGIST.—Jos. Foreman, L.R.C.P.  
 (Edin.), M.R.C.S. (Eng.)

HONORARY PHYSICIANS.—James C. Cox, M.D. (Edin.); Robert  
 Scot-Skirving, M.B., Ch.M. (Edin.); Cecil Purser, B.A.,  
 M.B., Ch.M. (Syd.)

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.); John F. McAllister, M.D.,  
 B.S. (Melb.).

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.)

HONORARY ASSISTANT SURGEONS.—H. V. C. Hinder, M.B., Ch.M. (Syd.); Charles MacLaurin, M.B., Ch.M. (Edin.).

HONORARY ASSISTANT OPHTHALMIC SURGEON.—S. H. Hughes, F.R.C.S. (Eng.), L.R.C.P. (Lond.).

HONORARY PATHOLOGIST.—W. Camac Wilkinson, B.A. (Syd.); M.D. (Lond.)

MEDICAL TUTOR.—Edward Johnstone Jenkins, M.D. (Oxon.), M.R.C.P. (Lond.), M.R.C.S. (Eng.).

SURGICAL TUTOR.—H. V. C. Hinder, M.B., Ch.M. (Syd.).

MEDICAL SUPERINTENDENT.—E. Maynard Pain, M.B., Ch.M. (Syd.)

RESIDENT PATHOLOGIST.—J. I. C. Cosh, M.B., Ch.M. (Syd.); D.P.H. (Cantab)

ANÆSTHETIST AND REGISTRAR.—R. Dey, M.B., Ch.M. (Syd.).

RESIDENT MEDICAL OFFICERS.—C. B. Blackburn, M.B., Ch.M. (Syd.); F. W. A. Magarey, M.B., Ch.M. (Syd.); T. G. Wilson, M.B., Ch.M. (Syd.); E. Ludowici, M.B., Ch.M. (Syd.); E. W. Fairfax, M.B., Ch.M. (Syd.); F. P. Sandes, M.B., Ch.M. (Syd.)

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## 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.	Clinical Surgery Lectures (optional.)
B.	Surgical Ward Dressing. Clinical Surgery Lectures	Surgical Ward Dressing (optional.) Clinical Surgery Lectures.
C.	Casualty Dressing. Surgical Out Patients' Attendance.	Surgical Ward Dressing. Clinical Surgery Lectures.
D.	Surgical Ward Dressing. Clinical Surgery Lectures.	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, Gynæcological Ward. Medical Out Patients' Attendance.	Clinical Clerkship, General Medical Wards. Gynæcological Out Patients' Attendance
D.	Clinical Clerkship, General Medical Wards. Gynæcological Out Patients' Attendance	Clinical Clerkship, General Medical wards. Clinical Clerkship, Gynæcological Wards. Medical Out Patients' Attendance.

GROUP.	TRINITY TERM.	MICHAELMAS TERM.
A.	Clinical Clerkship, General Medical Wards. Clinical Clerkship, Gynæcological Ward. Medical Out Patients' Attendance.	Clinical Clerkship, General Medical Wards. Gynæcological Out Patients' Attendance.
B.	Clinical Clerkship, General Medical Wards. Gynæcological Out Patients' Attendance	Clinical Clerkship, General Medical Wards. Clinical Clerkship, Gynæcological Ward. Medical Out Patients' Attendance.
C.	Clinical Clerkship, General Medical Wards.	Attendance optional.
D.	Clinical Clerkship, General Medical Wards.	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.

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# BENEFACTIONS

## 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 Edwin Dalton, Esq. ..	200 0 0	<i>Annual Prize</i> —At Public Examinations.
		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.

Date.	Donor.	Amount.	Object of Foundation.
		£ s. d.	
1877	Andrew R. Cameron, Esq., M.D.	1,100 0 0	Scholarship—For General Proficiency.
	Mrs. Hovell, ...	6,000 0 0	Lectureship—Geology and Physical Geography.
1878	Hon. George Allen ...	1,000 0 0	Scholarship—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. ...	101 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.	100 0 0	Towards an Organ for the Great Hall.
	Sir P. A. Jennings	1,100 0 0	
	Sir A. Renwick, M.D. ...	125 0 0	For purchase of book, "Lepsius' Antiquities of Egypt and Ethiopia."
	Thomas S. Mort, Esq. ...	315 0 0	For a Travelling Fellowship.
	Thomas Walker, Esq.	700 0 0	Being the amount paid by him for the Library of the late Mr. Stenhouse, presented to the University.
	Freemasons under the English Constitution	1,000 0 0	Scholarship—For the sons of Freemasons.
1880	J. H. Challis, Esq. ...	250,000 0 0	Bequest—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	Bursary or Scholarship.
	Thomas Walker, Esq.	5,000 0 0	Bursaries.
1882	Sir G. W. Allen ...	1,000 0 0	Scholarship—For Law.
1883	John Struth, Esq. ...	1,000 0 0	Exhibition—For Medical Students.
1885	Thos. Fisher, Esq. ...	30,000 0 0	For establishing and maintaining a Library in the University.
1886	Subscribers to Testimonial to Rev. Dr. Norbert Quirk	143 12 6	Annual Prize—For Mathematics.
	Professor Smith ...	101 0 0	For Physics
1887	G. S. Caird, Esq. ...	1,000 0 0	Scholarship—For Chemistry.
	Subscribers to Memorial of Late Professor Badham.	1,000 0 0	Bursary.
	G. P. Slade, Esq.	250 0 0	For the Advancement of Science.
1888	William Roberts, Esq.	4,000 0 0	Scholarship—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 Medicine.
	Lady Renwick ...	202	0 0	For a Window in the Medical School, in memory of her late father.
1889	P. S. Jones, Esq., M.D.	220	0 0	} For Windows in the Medical School.
	G. Bennett, Esq., M.D.	140	0 0	
	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.
1890	F. J. Horner, Esq., M.A.	200	0 0	<i>Exhibition</i> —For Mathematics.
	The Trustees of the Will of the Hon. John Frazer, M.L.C.	2,000	0 0	<i>Scholarship</i> —For History.
	George Bennett, Esq., M.D.			John Gould's Works on Ornithology.
	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.
1898	Thomas Garton, Esq ...	2,050	0 0	<i>Scholarships</i> —For French and German.

# A LIST OF DONATIONS TO THE LIBRARY,

APRIL, 1898, TO MARCH, 1899.

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Twenty-three Specimens of Educational Publications by Messrs. Macmillan and Co., three by Messrs. Bell and Sons.

Calendars and other Publications by the following Universities, &c. :—

Aachen, Aberdeen, Allahabad, Auckland, Bendigo, Bombay, Calcutta, Canterbury College (Christchurch), Cape of Good Hope (Cape Town), Claudiopolis, Columbia (N. York), Cornell (Ithaca), Edinburgh, Glasgow, Graz, Grenoble, Harvard (Cambridge), Japan (Tokyo), Johns Hopkins (Baltimore), King's College (London), London, Lyon, McGill (Montreal), Madras, Melbourne, Nebraska, N. Wales (Bangor), Padua, Panjab (Lahore), Pennsylvania, Pisa, Princeton, R. College of Surgeons (London), St. Andrews, S. Wales (Cardiff), Tasmania (Hobart), Toronto, Trinity, College (Dublin), Union of Graduates in Music (London), Victoria (Manchester), Yale (New Haven).

Proceedings, Transactions, &c., from the following Societies, &c. :—

Academia Nacional de Ciencias (Cordoba), Australian Institute of Mining Engineers, Australian Museum, Biblioteca Nazionale Centrale di Firenze, British Museum, Cambridge Philosophical Society, Clinical Society of London, Institute of Civil Engineers (London), Johns Hopkins Hospital (Baltimore), Linnean Society of N. S. Wales, New Zealand Institute, Observatoire du Vatican, Public Libraries of N. S. Wales, S. Australia, Victoria; Royal Academy of Medicine (Dublin), Royal Colonial Institute (London), Royal Irish Academy (Dublin), Royal Societies of Canada, Dublin, London, N. S. Wales, Queensland, S. Australia, Victoria; St. Bartholomew's Hospital (London), Smithsonian Institution (Washington), S. African Philosophical Society.

Publications of the Meteorological Department and the Archæological Survey of India; Geological Survey of Canada; Department of Agriculture, Bureau of Education, Coast and Geodetic Survey, Geological Survey of United States; Reports and Bulletin of the Government Geologist of W. Australia.

Acts of the Parliament of Victoria, Report of the Minister of Public Instruction, by the Government of Victoria.

Proceedings and Acts of the Parliament of S. Australia, Debates in the Houses of Legislature, by the Government of S. Australia.

Appendix to the Journals of the House of Representatives, N.Z., by the Government of New Zealand.

Publications of the Government of N. S. Wales, by the Government of N. S. Wales.

Records of the Sydney Observatory, by the Government Astronomer.

Books, &c., were presented by John Tebbutt, Esq., Professor Liversidge, Sir Charles Nicholson, Bart., and the Rev. E. Reeves Palmer.

Books, &c., were presented to the Library in terms of the "Copyright Act, 1879," by Messrs. Angus & Robertson, C. E. Berglin, Miss S. Blackston, Messrs. Wm. Brooks & Co., T. G. Carey, W. Dymock, D. S. Ford, Gordon & Gotch, Hayes Bros., Israel & Morris, John Nicolas, W. H. Paling and Co., Geo. Robertson & Co., S. A. Rosa, John Sands, H. D. Shaw, J. Slater, A. Sturt, Turner & Henderson, and the Publishers of the Australasian Anthropological Journal, Australasian Art Review, Australasian Financial Adviser, Australasian Independent, Australasian Medical Gazette, Australasian United Service Gazette, Australian Economist, Australian Field, Australian Home Journal, Australian Pastoral Directory, Australian Photographic Journal, Children's Newspaper, Courier Australien, Dawn, Deutsch-Australische Post, New South Wales Educational Gazette, Nepean Times, New South Wales Railway Budget, Sands' Sydney and Suburban Directory, Sydney Daily Telegraph, Sydney Mail, Sydney Morning Herald, Sydney Sheep and Carnival Guide, Stock and Station Journal, Town and Country Journal, Trades Protective Institute Reports, Yachtsman and Canoeist, Year Book of Australia and N. S. Wales.

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# REPORT OF THE SENATE OF THE UNIVERSITY

FOR THE YEAR ENDED 31ST DECEMBER, 1898.

1. The Senate of the University of Sydney, in pursuance of the provisions of section 22 of the Act of Incorporation, 14 Victoria No. 31, has the honour to transmit the account of its proceedings during the year 1898, for the information of His Excellency the Governor and the Executive Council.

## *Matriculation.*

2. The number of persons who qualified themselves for Matriculation in 1898 by passing one of the various University Examinations was 228. Of these, 75 passed the ordinary Matriculation Examination, 83 the Junior Public Examination, 15 the Law Matriculation Examination, 47 the Senior Public Examination, and 8 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 106.

## *Annual University Examinations.*

3. The numbers of students who attended and passed the annual examinations in December, 1897, and March, 1898, after attending the prescribed courses of lectures, are shown in the following table:—

### FACULTY OF ARTS.

	Candidates.	Passed.
First Year Examination .. .. .	71	57
Second Year Examination .. .. .	45	37
Third Year Examination .. .. .	47	42

In addition to the students passing through the regular curriculum, 17 evening students and students of special subjects passed examinations in individual subjects.

### FACULTY OF LAW.

	Candidates.	Passed.
Intermediate Examination .. .. .	14	12
Final Examination .. .. .	10	7

## REPORT OF THE

## FACULTY OF MEDICINE.

	Candidates.	Passed.
First Year Examination .. .. .	25	19
Second Year Examination .. .. .	38	25
Third Year Examination .. .. .	23	16
Fourth Year Examination .. .. .	29	21
Fifth Year Examination .. .. .	23	22

## FACULTY OF SCIENCE.

First Year Examination .. .. .	1	.
Second Year Examination .. .. .	2	1
Third Year Examination .. .. .	3	3

## FACULTY OF SCIENCE—DEPARTMENT OF ENGINEERING.

First Year Examination .. .. .	9	7
Second Year Examination { Civil .. .. .	4	2
{ Mining .. .. .	5	3
Third Year Examination { Civil .. .. .	1	1
{ Mining .. .. .	4	4

In the Faculty of Science, 3 students of special subjects passed in the final examinations in their subjects.

*Attendance at Lectures.*

4. The following table shows the number of students attending lectures in the several Faculties:—

Faculty of Arts (day), 169; (evening), 40; total .. .. .	209
Faculty of Law .. .. .	34
Faculty of Medicine .. .. .	154
Faculty of Science .. .. .	27
Faculty of Science—Department of Engineering .. .. .	41
Total .. .. .	<u>465</u>

Included are 51 women who attended in the Faculty of Arts, 1 in Law, 10 in Medicine, 2 in Science; total, 64.

The above also includes 31 unmatriculated students.

*Degrees Conferred.*

5. The following degrees were conferred after examination:—

Master of Arts (M.A.):—Enoch William Cadman, B.A.; Lizzie Cocks, B.A.; Edith Lucy Doust, B.A.; Edward Samuel Edwards, B.A.

Bachelor of Arts (B.A.): Catherine Anderson, Hugh de Barri Barry, Gertrude Lillian Bavin, Annie Holloway Beaumont George Edward Brown, Lizzie Sherwood Brown, Louisa Cole, Sydney Leicester Cook, Grace Marion Cordingley, Ethel Naida de Lissa, Charlotte J. Dey, Frank Vincent Dowling, Nona Dumolo, Mary Clifton Dunnicliff, Edward

Evan Edwards, David Pentland Evans-Jones, Isabel Margaret Fidler, Maude Yeomans Fitzhardinge, Walter George Forsyth, Emily Isabel Gordon, William Hilder Gregson, Frederick Guy Griffiths, Marian Harris, Marian Fleming Harwood, Ernest Charles Heden, Alice Ellen Hipsley, Andrew Holliday, Wilfrid John Holt, Stephen James Houston, William Charles Huggart, Thomas Brown Hunter, Bennie Jarvie, Elizabeth Ada Lance, Rebecca Mary McGlynn, Alexander Duncan McLaren, Ethel Robertson Mitchell, Norman George Stafford Pilcher, Cuthbert Potts, Philip Francis Purcell, Florence Annie Rossiter, Edmund Haighton Stoney, Ernest William Warren, Alfred James Williams, Ainslie Arthur Yeates.

Bachelor of Laws (LL.B.): Peter Joseph Clines, B.A.; James Cook Elphinstone, B.A.; John Harold Hammond, B.A.; Hugh Hamilton Mitchell Merewether, B.A.; William David Mitchell Merewether, B.A.; William Arthur Parker, B.A.; John Beverley Peden, B.A.

Bachelor of Medicine (M.B.): Ada Affleck, Harriett Eliza Biffin, Gustav Hall Böhrsmann, Cedric V. Bowker, Julia Carlile-Thomas, Percy Glover Cooley, Hubert Roger Cope, Robert Dey, Lawrence Edward Ellis, Edwin Cuthbert Hall, Norman William Kater, Thomas Walter Lipscomb, John MacPherson, M.A., B.Sc.; Alice Sarah Newton, John James O'Keefe, Robert Henry Pulleine, William Henry Read, Herbert Sheldon, Harold Skipton Stacy, William Woodburn Stevens, Herbert Zouch Throsby, William Bain Walton.

Master of Surgery (Ch.M.):—Ada Affleck, Harriett Eliza Biffin, Gustav Hall Böhrsmann, Julia Carlile-Thomas, William Aloysius Coulon, Percy Glover Cooley, Robert Dey, Lawrence Edward Ellis, Edwin Cuthbert Hall, Norman William Kater, Thomas Walter Lipscomb, John MacPherson, M.A., B.Sc., Alice Sarah Newton, William Henry Read, Herbert Sheldon, Harold Skipton Stacy, William Bain Walton.

Bachelor of Science (B.Sc.):—Sarah Octavia Brennan, M.A.; Walter Fitzmaurice Burfitt, B.A.; Agnes Marianne Davis, B.A.; Walter George Woolnough.

Bachelor of Engineering (B.E.)—Civil Engineering:—Robert James Boyd. Mining Engineering:—Reginald Austin. William Black, B.A.; Thomas Henry Palmer, Francis Llewellyn Piddington, B.A.; Norman Reid.

6. The total number of degrees conferred during the year was thus 103, divided as follows:—M.A., 4; B.A., 44; LL.B., 7; M.B., 22; Ch.M., 17; B.Sc., 4; B.E., 5.

7. The degrees conferred by the University from its foundation to the end of 1898 are:—M.A., 263; B.A., 942; LL.D., 23; LL.B., 71; M.D., 38; M.B., 141; Ch.M., 100; B.Sc., 30; M.E., 3; B.E., 52. Total, 1,663.

*Honours at Degree Examinations.*

8. The following honours were awarded at Degree Examinations:—

FACULTY OF ARTS.

*M.A. Examination.*

MODERN HISTORY AND ENGLISH LITERATURE—Class II.:—Edith Lucy Doust, B.A.

MODERN HISTORY—Class II.:—Stephen Drummond Chalmers, B.A.; Edward Samuel Edwards, B.A.

*B.A. Examination.*

LATIN—Class I.:—Isabel M. Fidler; D. P. Evans-Jones (University Medal for Classics). Class III.:—Mary C. Dunncliff.

GREEK—Class I.:—D. P. Evans-Jones (University Medal for Classics).

FRENCH—Class I.:—Isabel M. Fidler. Class II.:—Ethel N. De Lissa and Marian F. Harwood, *æq.*; Charlotte J. Dey, B. Jarvie. Class III.:—Ethel R. Mitchell.

ENGLISH—Class I.:—Isabel M. Fidler. Class II.:—B. Jarvie.

GERMAN—Class II.:—Marian F. Harwood, Ethel N. De Lissa.

HISTORY—Class I.:—Elisabeth A. Lance and N. G. S. Pilcher, *æq.* Class II.:—Emily I. Gordon. Class III.:—Florence A. Rossiter.

MATHEMATICS—Class II.:—F. G. Griffiths. Class III.:—B. Jarvie.

LOGIC AND MENTAL PHILOSOPHY—Class I.:—N. G. S. Pilcher (University Medal); Ethel N. De Lissa. Class II.:—Gertrude L. Bavin, Nona Dumolo. Class III.:—E. E. Edwards.

GEOLOGY, &c.—Class II.:—E. C. Heden, C. Potts.

FACULTY OF LAW.

Class I.:—J. B. Peden, B.A. (University Medal). Class II.:—P. J. Clines, B.A.; J. H. Hammond, B.A.; W. A. Parker, B.A.

FACULTY OF MEDICINE.

Class I.:—J. MacPherson, M.A., B.Sc. (University Medal). Class II.:—E. C. Hall, N. W. Kater, H. Z. Throsby, L. E. Ellis.

## FACULTY OF SCIENCE.

BIOLOGY (Vertebrate Zoology)—Class II.:—Agnes M. H. Davis, B.A.

GEOLOGY—Class I.: W. G. Woolnough,\* W. Poole.

*Department of Engineering.*

CIVIL ENGINEERING AND SURVEYING—Class II.:—R. J. Boyd.

*Scholarships.*

9. The following Scholarships were awarded:—

(a) *At the Matriculation Examination.*

*Aitken* Scholarship for General Proficiency—F. A. Todd.

*Cooper* Scholarship, No. II., for Classics—P. H. Power; G. N. Wood and F. A. Todd, *prox. acc.*

*Barker* Scholarship, No. II., and *Horner* Exhibition for Mathematics—H. S. Mort.

*Lithgow* Scholarship for French and German—Ina B. H. Armstrong.

(b) *At the First Year Examination in Arts.*

*Cooper* Scholarship, No. III., for Classics—R. N. Robson.

*George Allen* Scholarship for Mathematics—W. S. Boyd.

(c) *At the Second Year Examination in Arts.*

*Cooper* Scholarship, No. I., for Classics—Gained by R. C. Teece, who was unable to retain it, being already the holder of two Scholarships. Not awarded.

*Barker* Scholarship, No. I., and *Norbert Quirk* Prize for Mathematics—D. T. Sawkins.

(d) *At the B.A. Examination*

*Frazer* Scholarship for History—Elisabeth A. Lance, N. G. S. Pilcher, *æq.*

(e) *At the Intermediate LL.B. Examination.*

*G. Wigram Allen* Scholarship for general proficiency—H. S. Dettmann, B.A.

(f) *At the First Year Examination in Medicine.*

*Renwick* Scholarship for general proficiency—A. Muscio.

(g) *At the Third Year Examination in Medicine.*

*John Harris* Scholarship for Anatomy and Physiology—W. F. Burfitt, B.A.

(h) *At the Second Year Examination in Science.*

*Caird* Scholarship for Chemistry and Physics—G. Harker.

(i) *At the First Year Examination in Engineering.*

*Levey* Scholarship for Chemistry and Physics—J. P. V. Madsen.

(j) *At the Second Year Examination in Engineering.*

*Deas-Thomson* Scholarship for Physics—J. J. E. Durack.

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\* Unmatriculated.

*Prize Compositions.*

10. The awards made for Prize Compositions were—

*Wentworth* Medals for English Essays—Subject: "The Origins of Mythology." Prize for Graduates—H. S. Dettmann, B.A.; prize for Undergraduates—G. G. Nicholson.

*First Classes at Annual Examinations.*

11. The following students were placed in the first class in Honours at the annual examinations, other than the final examinations for degrees :—

## FACULTY OF ARTS.

*First Year Examination.*

LATIN—R. N. Robson, I. Mutton.

GREEK—R. N. Robson.

JUNIOR FRENCH—N. J. Gough,\* Margaret A. Bailey, Mary H. Uther, Caroline M. Scrutton, Catherine I. Fell.

JUNIOR GERMAN—Florence M. Rutherford, Margaret A. Bailey.

MATHEMATICS—W. S. Boyd, W. R. Horn (Engineering), H. M. Stephen.

*Second Year Examination.*

LATIN—R. C. Teece.

GREEK—R. C. Teece.

SENIOR FRENCH—G. G. Nicholson.

SENIOR GERMAN—G. G. Nicholson.

MATHEMATICS—D. T. Sawkins.

HISTORY—R. C. Teece, Elizabeth J. Read.

LOGIC AND MENTAL PHILOSOPHY—G. G. Nicholson.

## FACULTY OF MEDICINE.

*First Year Examination.*

BIOLOGY—Eleanor E. Bourne, A. Muscio, D. Wallace, B.A.

CHEMISTRY—A. Muscio.

PHYSICS—A. Muscio, D. Wallace, B.A.

*Second Year Examination.*

ANATOMY AND PHYSIOLOGY—Passed with distinction, A. H. Macintosh.

ORGANIC CHEMISTRY—A. H. Macintosh, Mabel J. Graham, J. E. V. Barling.

*Third Year Examination.*

Passed with distinction—W. F. Burfitt, B.A.

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\* Evening student.

## FACULTY OF SCIENCE.

*Second Year Examination.*

CHEMISTRY—G. Harker.

## DEPARTMENT OF ENGINEERING.

*First Year Examination.*

APPLIED MECHANICS, GEOMETRICAL AND MECHANICAL DRAWING—L. J. Winton, J. P. V. Madsen.

PHYSICS—J. P. V. Madsen.

*Second Year Examination.*

PHYSICS—J. J. E. Durack.

GEOLOGY—G. A. Waterhouse, J. F. Morris.

*Annual Prizes.*

## 12. Annual Prizes were awarded as follows:—

*University Prize for Physiography*—Florence M. Rutherford, *prox. acc.*, I. Mutton.*Professor MacCallum's Prizes for English Essays*—First Year, N. J. Gough; Second Year, Elizabeth J. Read and E. J. Withycombe, *æq.*; Third Year (English), Isabel M. Fidler.*Professor Anderson's Prizes for Logic and Mental Philosophy*—Second Year, G. G. Nicholson; Third Year, N. G. S. Pilcher.*Professor Wood's Prize for History*—Second Year, R. C. Teece, *prox. acc.*, Elizabeth J. Read.*Professor Haswell's Prize for Zoology (Class Examination)*—Eleanor E. Bourne and A. Muscio, *æq.**Professor Haswell's Prize for Zoology (Laboratory Notes)*—A. Muscio.*Dr. Dizson's Prize for Materia Medica and Therapeutics*—G. McLean, *prox. acc.*, W. F. Burfitt, B.A.*Smith Prize for Physics*—L. K. Ward.*Stade Prize for Practical Chemistry*—L. J. Winton.*Stade Prize for Practical Physics*—J. P. V. Madsen.*Professor David's Prizes for Geology*—Second Year, G. A. Waterhouse; Third Year, W. G. Woolnough.*Collie Prize for Botany*—Eleanor E. Bourne.*Professor Liversidge's Prize for Chemistry amongst Evening students*—C. Quaife.*Bursaries.*

13. The following bursaries were awarded, each consisting of a payment to the student of £50 per annum, or in the case of

a half-bursary £25 per annum, for three years, together with exemption from the payment of lecture fees in the Faculty of Arts or that of pure Science :—

*Burdekin Bursary. Hunter-Baillie Bursary, No. I. Hunter-Baillie Bursary, No. II. (one half). Maurice Alexander Bursary. Walker Bursary No. II. (one half). Walker Bursary No. V. (one half). Watt Exhibitions (two).*

14. The number of students permitted to attend lectures without paying fees was 55, including 43 State bursars and holders of the University bursaries. The payments to bursars amounted to £778 15s. and to scholars £993.

Three students of State Training Schools attended at a reduced scale of fees.

#### *Public Examinations.*

15. The Junior Public Examination was held in June, in Sydney, and at the following local centres :—

NEW SOUTH WALES.—Albury, Araluen, Armidale, Ballina, Bathurst, Bega, Blackheath, Bombala, Bourke, Bowral, Braidwood, Broken Hill, Bungendore, Burrowa, Camden, Carcoar, Condobolin, Cootamundra, Cowra, Deniliquin, Goulburn, Grafton, Gundagai, Hay, Hillgrove, Hornsby Junction, West Kempsey, Lismore, Lithgow, West Maitland, Mount Victoria, Mudgee, Newcastle, Orange, Parkes, Parramatta, Queanbeyan, Richmond, Rylstone, Singleton, Tamworth, Taree, Temora, Wagga Wagga, Wellington, Wingham, Wollongong, Young.

QUEENSLAND. — Bowen, Brisbane, Bundaberg, Charters Towers, Ipswich, Mackay, Maryborough, Rockhampton, Southport, Toowoomba, Townsville, Warwick.

There were 1,079 candidates, and 698 passed.

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.—Bathurst, West Maitland, Wagga Wagga.

QUEENSLAND.—Brisbane, Ipswich, Rockhampton, Townsville.

There were 110 candidates, and 96 passed.



17. The prizes for general proficiency in the Senior and Junior Examinations were awarded as follows:—

*Seniors.*

*John West Medal and Grahame Prize Medal—*

Claude Seccombe Brownie ; Roy Noel Teece, *æq.*

*Fairfax Prize for Female Candidates—*

Marjory Knox.

*Juniors.*

*University Prize for Boys—*

Robert Smith Armstrong, Harry Ernest Neal, *æq.* ; *prox. acc.*,  
Edmund Harold Molesworth.

*Fairfax Prize for Girls—*

Stella Mabel Kellick (Edith Muriel L. Swain, over age), *æq.* ;  
*prox. acc.* (Blanche Vavasour Sandford, over age).

18. Three Law examinations were held, similar and equal to that prescribed for Matriculation, for candidates for Articles of Clerkship with Solicitors. At these there were 29 candidates, and 15 passed.

*Meetings of Senate.*

19. The Senate held eleven ordinary meetings, one adjourned meeting, in addition to the annual commemoration, and five meetings of the Conjoint Board, consisting of the Senate of the University and the Board of Directors of the Prince Alfred Hospital.

The attendances of the various Fellows were as follows:—

MacLaurin, the Hon. H. N., M.A., LL.D., M.D., M.L.C.,	
Chancellor .. .. .	18
Backhouse, His Honor Judge, M.A., Vice-Chancellor ..	16
Anderson, H. C. L., Esq., M.A. .. .. .	17
Barton, Edmund, Esq., M.A. .. .. .	3
Butler, Professor, B.A. .. .. .	13
*Cobbett, Professor, M.A., D.C.L. .. .. .	6
Cullen, the Hon. W. P., M.A., LL.D., M.L.C. .. .. .	14
*Jones, P. Sydney, Esq., M.D. .. .. .	—
Knox, E. W., Esq. .. .. .	16
Liversidge, Professor, M.A., LL.D., F.R.S. .. .. .	18
†MacCallum, Professor, M.A. .. .. .	6
O'Connor, His Honor Mr. Justice, M.A. .. .. .	6
Oliver, Alexander, Esq., M.A. .. .. .	9
Renwick, the Hon. Sir Arthur, B.A., M.D., M.L.C. ..	15
Rogers, His Honor Judge, M.A., LL.B., Q.C. .. .. .	7
Russell, H. C., Esq., B.A., C.M.G., F.R.S. .. .. .	16
Scott, Professor, M.A. (retired in September) .. ..	12
Simpson, His Honor Mr. Justice A. H., M.A. .. .. .	12
*Stephen, Cecil B., Esq., M.A. .. .. .	3
Stuart, Professor T. P. Anderson, M.D. .. .. .	14
Teece, Richard, Esq., F.I.A. .. .. .	17

\* Absent on leave. † Elected September 20, 1898.

20. Twenty-one meetings of Sub-Committees of the Senate for finance, grounds, and other matters, were held during the year, the attendance of members being as follows:—The Chancellor (the Hon. Dr. MacLaurin), 21; the Vice-Chancellor (His Honor Judge Backhouse), 20; Professor Butler, 2; the Hon. Dr. Cullen, 11; Edward W. Knox, Esq., 14; Professor Liversidge, 2; the Hon. Sir Arthur Renwick, 4; Professor Scott, 1; Cecil B. Stephen, Esq., 1; Professor Stuart, 4; Richard Teece, Esq., 9.

*Vice-Chancellor.*

21. The annual election to the office of Vice-Chancellor in the month of April resulted in the unanimous re-election of His Honor Judge Alfred Paxton Backhouse, M.A.

*Senate.*

22. In February leave of absence from the meetings of the Senate for twelve months was granted to P. Sydney Jones, Esq., M.D., and in April similar leave for nine months to C. B. Stephen, Esq., M.A., both of these gentlemen being about to visit Europe.

*Deans of Faculties.*

23. In accordance with the usual practice for the biennial election of Deans of Faculties, the Senate invited recommendations from the various Faculties as to the Branches of Learning the Professors of which should be *ex-officio* members of the Senate under the Act 24 Victoria No. 13, and should be elected to the office of Dean for a period of two years.

Acting upon the recommendations received, an amended by-law referring to *ex-officio* memberships was made and approved by the Governor in Council, and the following were appointed in November to be Deans of Faculties and *ex-officio* members of the Senate for a period of two years:—

Faculty of Arts—Professor MacCallum, M.A.

Faculty of Law—Professor Pitt Cobbett, M.A., D.C.L.

Faculty of Medicine—Professor Stuart, M.D.

Faculty of Science—Professor Liversidge, M.A., LL.D.

*Staff Appointments, &c.*

24. In the early part of the year leave of absence was granted to Professor Threlfall during Lent and Trinity Terms to enable him to prosecute certain inquiries concerning the methods of teaching electrical subjects and the appliances used in the most recently-fitted Laboratories of Physical Science.

Upon his return to Sydney in Michaelmas Term he resigned his office as Professor of Physics from the 31st of December, 1898, for certain reasons of a private nature which rendered it necessary for him to reside in England.

In accepting his resignation, the following resolution was unanimously passed:—"The Senate, in accepting the resignation of Richard Threlfall, Esq., M.A., of the Professorship of Physics in the University of Sydney, expresses its regret that family circumstances have caused him to resign his Chair, and desires to place on record its high appreciation of the ability and energy with which he has discharged the duties of his office during a period of twelve and a half years, of his eminent scientific attainments, and of the valuable services which he has rendered to the cause of education in the community of New South Wales."

In order to fill the vacancy created by this resignation, advertisements have been issued in Australia and in Great Britain inviting applications from qualified persons, and the following gentlemen have been requested to act as a Selection Committee in London, and to forward the names of the three applicants whose qualifications appear to be the best:—

Sir Daniel Cooper, Bart., Acting Agent-General for N.S.W.

Sir Charles Nicholson, Bart., D.C.L.

F. L. S. Merewether, Esq., B.A.

Lord Rayleigh, Royal Institution.

Professor J. J. Thomson, M.A., Cavendish Laboratory, Cambridge.

Professor P. G. Tait, M.A., D.Sc., University of Edinburgh.

Professor G. F. Fitzgerald, M.A., Sc.D., University of Dublin.

Professor Ayrton, City and Guilds Institution.

Professor Rücker, Royal College of Science, London.

Dr. P. Sydney Jones.

Pending a permanent appointment to the Professorship, the Senate has appointed J. A. Pollock, Esq., B.Sc., to be Acting Professor of Physics. This gentleman has acted efficiently as Demonstrator in Physics for the past eight years, and as Professor Threlfall's *locum tenens* during his leave of absence.

The vacancy existing at the end of 1897, in the office of Demonstrator in Physiology, was filled by the appointment of Herbert Hawker, Esq., late Demonstrator in Physiology in University College, London.

The vacant office of Surgical Tutor was filled by the appointment of H. V. Critchley Hinder, Esq., M.B., Ch.M.

The offices of Demonstrator in Geology and Lecturer in Metallurgy, rendered vacant at the end of 1897 by the resignation of W. F. Smeeth, Esq., M.A., B.E., were filled by the appointment of W. G. Woolnough, Esq., B.Sc., to the former office, and of J. Taylor, Esq., B.Sc., A.R.S.M., Government Metallurgist, to the Lectureship in Metallurgy, with the consent of the Public Service Board of New South Wales.

E. F. Pittman, Esq., A.R.S.M., was reappointed to the office of Lecturer in Mining.

In September the office of Demonstrator in Anatomy became vacant by the resignation of A. E. Mills, Esq., M.B., Ch.M., in consequence of his appointment as Honorary Assistant Physician at the Prince Alfred Hospital. The office was filled by the appointment of F. J. T. Sawkins, Esq., M.B., Ch.M.

The Junior Demonstratorship in Chemistry, resigned by J. M. Petrie, Esq., at the end of 1897, was held for two terms by C. Walker, Esq., and for the third term by G. Harker, Esq.

A. G. Corbin, Esq., B.Sc., acted as Junior Demonstrator in Biology during Lent Term, and J. J. E. Durack, Esq., as Demonstrator in Physics in Lent and Trinity Terms.

In the month of December J. C. Dibbs, Esq., was reappointed Auditor of the University for a period of two years.

#### *Leave of Absence.*

Leave of absence for Lent and Trinity Terms of 1899 has been granted to Professor G. Arnold Wood, M.A., Professor of History, to enable him to visit Europe. During his absence the duties of his office are to be performed by G. C. Henderson, Esq., B.A. This gentleman—a distinguished graduate of this University—gained the James King, of Irrawang, Travelling Scholarship, and he has had a distinguished career at Balliol College, Oxford, having been lately appointed to the first class of University Extension Lecturers under the Oxford Delegacy.

Leave has also been granted to Dr. W. Camac Wilkinson, Lecturer in Pathology, for the same period of 1899; and the duties of his office are to be performed by Dr. Sydney Jamieson.

Neither of these arrangements entails any additional expense to the University.

*P. N. Russell School of Engineering.*

25. The conditions of award of the P. N. Russell Gold Medal have been determined by the Senate, and published in the University Calendar. The Medal is to be awarded for the best thesis upon some engineering subject to a graduate of Engineering of not more than two years' standing.

*University Extension.*

26. The annual election of the University Extension Board took place in the month of December, and resulted in the following appointments:—

MEMBERS OF THE SENATE.—His Honor Judge Backhouse, M.A.; H. C. L. Anderson, Esq., M.A.; the Hon. W. P. Cullen, M.A., LL.D.; R. Teece, Esq., F.I.A.

MEMBERS OF THE TEACHING STAFF.—Professor Anderson, M.A.; Professor David, B.A.; Professor MacCallum, M.A.; Professor Scott, M.A.; Professor Wilson, M.B., Ch.M.; Professor Wood, M.A.

OTHER MEMBERS.—H. Goodere, Esq.; Rev. J. Hill, M.A.; A. W. Jose, Esq.; E. B. Taylor, Esq.

*Benefactions.*

27. (a) The Senate has to acknowledge thankfully the receipt of a bequest of £2,050 from the Executors of the late Thomas Garton, Esq., for the foundation of two Scholarships. The terms of the bequest were the following:—

Being desirous of showing my gratitude to the inhabitants of Sydney, New South Wales, for the large amount of happiness I enjoyed during the few—too few—short years I was a resident in their midst, and knowing of no more appropriate form the expression of it could assume than in the foundation of two Scholarships in the University of their beautiful city, I therefore, with that object, give and bequeath to Sir Saul Samuel, Agent-General in London for New South Wales, or to the Agent-General in London for New South Wales for the time being, the sum of £2,050 (free from all duties and taxes whatsoever) for transmission to Sydney (less expenses), to such of the authorities in the University authorised to receive the same, for the foundation of two Scholarships, the one for German and French Languages, the other for Ancient History, in the University of Sydney, New South Wales. Should, however, it be the opinion of the "Council" that the appropriation of the said sum of £2,050 to some other branch of Science or Literature would better promote the interests of the University, then in such case it is my pleasure to leave the matter entirely and unreservedly to the discretion of the Members of the Council.

As the subject of Ancient History is included with the ancient Classics, in which a number of Scholarships are provided, it has been determined to devote the Garton Scholarships for the present to French and German exclusively, and two Scholarships of the annual value of £30, tenable for one year, have been established, to be awarded at the First Year Examination, and the Second Year Examination respectively, in the Faculty of Arts.

(b) The fund bequeathed by the late Edwin Dalton, Esq., for Scholarships in memory of the late Dr. Woolley, is now being administered in London by George Slade, Esq., and Samuel Yardley, Esq., C.M.G., as trustees, and will continue to be so administered until the lapse of the present annuities chargeable to the estate. The income, however, is being transmitted to Sydney, and a Travelling Scholarship has been established from the fund under the following regulations:—

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 in 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.

(c) An admirable portrait of the late Sir William Windeyer, M.A., LL.D., formerly Vice-Chancellor and Chancellor of the University, executed by Arthur Foster, Esq., has been presented to the University by Lady Windeyer, and has been given a place on the northern wall of the Great Hall.

(d) A handsome bust in white marble of P. N. Russell, Esq., who generously endowed the School of Engineering by a gift of £50,000, has been presented by Mrs. Russell. It has also been placed in the Great Hall.

(e) A further valuable donation of books has been received from Sir Charles Nicholson, Bart., D.C.L., for the University Library, thus making an addition to his many previous benefactions, and illustrating the great interest which he still maintains in the University, in the foundation of which he was one of the most important actors.

*Nicholson Museum of Antiquities.*

28. A catalogue of the Greek and Etruscan vases, and of Greek and Roman lamps, in the Nicholson Museum, at the University, has been prepared by Miss Louisa Macdonald, M.A., Principal of the Women's College, and has been printed and distributed to kindred institutions and to persons engaged in archæological studies.

*The University Library.*

29. The great inconvenience existing through lack of space for the proper storage of books in the University Library has been somewhat relieved during the past year by the erection of a number of bookshelves in the ante-room to the Great Hall. This room, on the walls of which is stored the Stenhouse collection of books, has for many years been used as a lecture-room for History and Logic and Mental Philosophy, and for other classes. Space has had to be found in other rooms, at very great inconvenience, for the classes in these subjects. The present principal library or reading-room is most inconveniently crowded by readers during term-time, and many would-be readers are unable to gain admission at the times which are the most convenient. The Senate looks forward to the time when the present unsatisfactory condition of the University Library may be relieved by the erection of a suitable building, to form an extension of the present building, by the completion of the quadrangle originally designed.

Additional space is also required for the exhibits which belong to the Nicholson Museum, and it is hoped that at no distant date provision will be made to meet both these wants.

The rooms in the main building which would be set free by the transfer of books and museum specimens to the new building are urgently required as lecture-rooms in which to carry on the ordinary University teaching.

*Affiliation to the University of Cambridge.*

30. An application made by this University for affiliation to the University of Cambridge has been granted by that University.

The practical effect of this affiliation is to permit students who have completed two years of study in the University of Sydney to compete for Honours at the Tripos Examinations in the University of Cambridge after two years of study there, and to proceed in due course to the B.A. or LL.B. degree.

The University of Oxford accords a similar recognition to the University of Sydney.

*Science Research Scholarship.*

31. Her Majesty's Commissioners for the Exhibition of 1851 offered to the University the nomination to a Science Research Scholarship of the value of £150 per annum, for the year 1899, under the usual conditions.

As the Senate was unable on this occasion to nominate a candidate who had fulfilled all the required conditions, the Commissioners have been asked to renew their offer of a nomination for the year 1900.

*Naval Medical Staff.*

32. At the instance of His Excellency the Commander-in-Chief of the Australian Station, the Lords Commissioners of the Admiralty have been pleased to revise the regulations governing the entry into the Medical Branch of the Royal Navy, so as to include a regulation allowing the nomination by the University of Sydney of a Graduate in Medicine for appointment to the Medical Staff.

This privilege will enable Colonial Graduates to gain admission to that service without the necessity of attending the regular competitive examinations held in London.

*Army Medical Staff.*

33. The Secretary of State for War has been pleased to offer to the University of Sydney the nomination of a Graduate in Medicine for appointment to the Army Medical Staff for the



year 1900. The time allowed for the nomination, however, was so short that no candidate came forward; and a request has been made for the privilege of nomination to be extended to the next year.

*Accounts.*

34. The annual statements of receipts and expenditure, and statements showing the position of the various trust funds of the University at the 31st of December, duly certified by the auditor, J. C. Dibbs, Esq., are appended to this report.

H. E. BARFF,  
Registrar.

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**Dr.****GENERAL ACCOUNT.****RECEIPTS.**

	£	s.	d.	£	s.	d.
Received from the Government of New South Wales :—						
The Statutory Annual Endowment .....	5,000	0	0			
The Additional Endowment .....	4,000	0	0			
Towards Expenses of Evening and Extension Lectures .....	2,000	0	0			
For Carpenter's salary, &c., from vote for "additions, repairs and furniture" .....	200	0	0			
					11,200	0 0
Received Lecture Fees .....	£8,289	3	3			
Less paid to Professors and Lecturers .....	2,473	8	11			
				5,815	14	4
Received Matriculation Fees .....				448	2	6
" Degree Fees .....				673	15	0
" University Examination Fees .....				268	0	0
" Public Examination Fees .....				100	0	0
" General Purposes Fees .....				18	0	0
" Testing Fees .....				43	6	0
" Scholarship Examination Fees .....				3	0	0
					7,369	17 10
" for Pasturage .....					95	15 0
" Fines .....					0	10 0
" Fees for use of Microscopes .....					56	0 0
" for Medical Badges .....					2	5 0
" from Challis Fund, towards administration .....					1,166	17 3
" from Macleay Curatorship Fund, towards salary of the Curator of the Macleay Museum .....					179	8 0
" from Hovell Lectureship, towards salary of Lecturer in Geology and Physical Geography .....					165	7 4
Balance due Commercial Banking Co. of Sydney, 31st December, 1898 .....					1,409	8 4
					<u>£21,645</u>	<u>3 9</u>

JOHN C. DIBBS, Auditor.

**PUBLIC EXAMINATIONS ACCOUNT.****RECEIPTS.**

	£	s.	d.
Balance in Commercial Banking Co. of Sydney, 31st December, 1898 .....	127	11	7
Received Candidates' Fees, &c., Junior and Senior Public Examinations .....	1,240	8	7
	<u>£1,368</u>	<u>0</u>	<u>2</u>

JOHN C. DIBBS, Auditor.

OF SYDNEY FOR THE YEAR ENDING 31<sup>ST</sup> DECEMBER, 1898. 301

GENERAL ACCOUNT.

Gr.

EXPENDITURE.

	£	s.	d.	£	s.	d.
Balance due Commercial Banking Co. of Sydney, 31 <sup>st</sup> December, 1897.....				1,131	8	0
Paid Salaries .....	17,004	19	5			
„ Examiners .....	116	15	0			
„ Grant to University Extension Board .....	210	0	0			
				17,331	14	5
„ Printing and Stationery, including University Calendar .....	443	14	7			
„ Advertising .....	28	14	0			
„ Repairs to University Die .....	26	5	0			
„ Repairs and Alterations, Fittings, &c. ....	99	0	5			
„ Fuel and Lighting .....	105	5	1			
„ Fire Insurance Premiums .....	243	0	9			
„ Rent of Chambers .....	230	0	0			
„ Passage Money, Advertising, &c., Demonstratorship in Physiology .....	66	5	6			
„ Supervision at Examinations .....	27	11	3			
„ Uniforms .....	50	3	0			
„ Rent of Telephones .....	14	10	0			
„ Water and Sewerage Rates .....	248	17	0			
„ Cleaning .....	31	1	2			
„ Postages, bank exchanges, &c. ....	61	2	7			
„ Miscellaneous Charges .....	31	18	2			
				1,705	8	6
„ for Periodicals and Binding Books for Library .....				229	5	6
„ for Improvements of Grounds .....				104	17	1
„ for Tuning Organ .....				5	15	0
„ for University Prizes .....				8	4	0
„ for Maintenance of Scientific Departments, including Gas .....				1,128	11	3
				<u>£21,645</u>	<u>3</u>	<u>9</u>

ROBERT A. DALLEN, Accountant.

PUBLIC EXAMINATIONS ACCOUNT.

EXPENDITURE.

£ s. d.

Paid Examiners' Fees and all other Expenses in connection with the Examinations, and grants towards expenses of local Centres .....	1,353	8	2
Balance in Commercial Banking Co. of Sydney, 31 <sup>st</sup> December, 1898 .....	14	12	0
	<u>£1,368</u>	<u>0</u>	<u>2</u>

ROBERT A. DALLEN, Accountant.

**Dr.**

## PRIVATE FOUNDATIONS ACCOUNT.

## REVENUE ACCOUNT.

## RECEIPTS.

	£	s.	d.
Balance in Commercial Banking Company of Sydney, 31st December, 1897 ...	403	16	9
Received from the Executors of the late Thos. Garton, Esq., bequest for the establishment of Scholarships in French, German and Ancient History .....	2,086	14	0
,, from the Trustees of the Dalton Estate the cash balance in hand ...	687	6	8
Received from the following for annual prizes :—			
Professor Anderson, M.A. ....	20	0	0
Professor David, B.A. ....	10	0	0
Professor Haswell, M.A., D.Sc., F.R.S. ....	4	4	0
Professor Liversidge, M.A., LL.D. ....	3	3	0
Professor MacCallum, M.A. ....	17	10	0
Professor Wood, M.A. ....	5	0	0
T. Dixon, Esq., M.B., Ch.M. ....	2	2	10
W. C. Wilkinson, Esq., B.A., M.D. ....	3	3	0
			65 2 10
income from Investments on account of the following Foundations :—			
Levey Scholarship .....	34	7	6
Barker Scholarships .....	251	14	8
Deas-Thomson Scholarships .....	119	16	8
Wentworth Prize Medal .....	22	17	3
Cooper Scholarships .....	258	0	8
Salting Exhibition .....	37	12	6
Wentworth Fellowship .....	82	0	10
Lithgow Scholarship .....	81	6	0
Nicholson Medal .....	23	15	11
Belmore Medal .....	21	1	9
John Fairfax Prizes .....	32	10	0
Alexander Bursary .....	51	2	6
Levey and Alexander Bursary .....	54	0	0
John West Prize .....	9	15	11
E. M. Frazer Bursary .....	61	18	7
J. E. Frazer Bursary .....	57	11	6
W. C. Wentworth Bursary, No. 1 .....	50	0	0
Do. do. No. 2 .....	50	0	0
Do. do. No. 3 .....	32	14	0
Burdekin Bursary .....	48	14	7
Hunter-Baillie Bursary, No. 1 .....	51	9	7
Do. do. No. 2 .....	46	12	10
J. B. Watt Exhibitions .....	123	13	11
Renwick Scholarship .....	38	4	6
Bowman-Cameron Scholarship .....	50	0	0
Hovell Lectureship .....	165	7	4
George Allen Scholarship .....	33	4	8
Freemasons Scholarship .....	49	13	6
J. G. Raphael Foundation .....	2	12	9
James Aitken Scholarship .....	54	0	0
Thomas Walker Bursaries .....	161	4	0
G. Wigram Allen Scholarship .....	60	8	11
Struth Exhibition .....	45	19	7
Fisher Estate .....	533	11	0
Fisher Estate, Building Account .....	1,160	13	4
Norbert Quirk Prize .....	4	19	6
Smith Prize .....	5	0	0
Badham Bursary .....	32	10	0
Slade Prizes .....	9	11	2
Caird Scholarship .....	57	2	8
Carried forward .....	£4,072	0	1
	£3,243	0	3

## PRIVATE FOUNDATIONS ACCOUNT.

## REVENUE ACCOUNT.

## EXPENDITURE.

Gr.

Paid Scholarships, Bursaries, Prizes, &c., on account of the following Foundations:—

£ s. d.

	£	s.	d.
Levey Scholarship .....	40	0	0
Barker Scholarships .....	100	0	0
Deas-Thomson Scholarships .....	50	0	0
Wentworth Prize Medal .....	3	3	0
Cooper Scholarships .....	100	0	0
Salting Exhibition .....	25	0	0
Lithgow Scholarship .....	50	0	0
Nicholson Medal .....	10	0	0
John Fairfax Prizes .....	10	0	0
Alexander Bursary .....	50	0	0
Levey and Alexander Bursary .....	50	0	0
E. M. Frazer Bursary .....	50	0	0
J. E. Frazer Bursary .....	50	0	0
W. C. Wentworth Bursary, No. 1 .....	50	0	0
Do. do. No. 2 .....	50	0	0
Burdekin Bursary .....	50	0	0
Hunter-Baillie Bursary, No. 1 .....	50	0	0
Do. do. No. 2 .....	25	0	0
J. B. Watt Exhibitions .....	110	0	0
Renwick Scholarship .....	50	0	0
Bowman-Cameron Scholarship .....	50	0	0
George Allen Scholarship .....	50	0	0
Freemasons Scholarship .....	50	0	0
James Aitken Scholarship .....	50	0	0
Thomas Walker Bursaries .....	193	15	0
G. Wigram Allen Scholarship .....	50	0	0
Struth Exhibition .....	50	0	0
Norbert Quirk Prize .....	6	0	0
Smith Prize .....	7	5	0
Badham Bursary .....	40	0	0
Slade Prizes .....	10	0	0
Caird Scholarship .....	50	0	0
James King of Irrawang Travelling Scholarship .....	151	2	7
John Harris Scholarship .....	40	0	0
Horner Exhibition .....	8	0	0
Frazer Scholarships .....	80	0	0
Collie Prize .....	4	0	0
Anderson Prizes .....	18	4	0
David Prizes .....	10	0	0
Haswell Prizes .....	2	2	0
MacCallum Prizes .....	29	13	7
Dixson Prize .....	2	3	10
Wilkinson Prize .....	6	6	0
	1,931	15	0

Paid on account of the Fisher Library:—

Librarians' Salaries .....	320	15	2
Purchase of Books .....	549	8	9
Alterations to Library .....	76	16	4
	947	0	3

Paid on General Account, towards Salaries—Hovell Lectureship .....

165 7 4

" " " " " Macleay Curatorship .....

179 8 0

" " " " " .....

344 15 4

Carried forward ..... £3,223 10 7

**Dr.**

## PRIVATE FOUNDATIONS ACCOUNT—Continued.

## REVENUE ACCOUNT.

## RECEIPTS.

		£	s.	d.
	<i>Brought forward</i> .....	3,243	0	3
Received income from investments on account of the following	£ s. d.			
Foundations ( <i>continued</i> ).....	4,072	0	1	
James King of Irawang Travelling Scholarship	96	1	10	
Macleay Curatorship	179	8	0	
John Harris Scholarship	50	0	0	
Horner Exhibition	5	18	6	
Council of Education Scholarship	18	12	1	
Frazer Scholarship	72	4	4	
Grahame Prize Medal	5	0	0	
Collie Prize	3	13	8	
P. N. Russell Endowment	1,886	16	0	
Do. do. Sinking Fund	151	0	11	
		6,540	15	5
Balance due Commercial Banking Company of Sydney, 31st December, 1898		259	4	2
Total		£10,042	19	10

## INVESTMENT ACCOUNT.

## RECEIPTS.

	£	s.	d.	£	s.	d.
Received Principal sums of Debentures on account of:—						
Cooper Scholarships	100	0	0			
Alexander Bursary	100	0	0			
W. C. Wentworth Bursary, No. 1	600	0	0			
				800	0	0
„ Principal sums of Mortgages on account of:—						
Fisher Estate Building Account				100	0	0
„ Principal sums of Bank Deposits, on account of:—						
Barker Scholarships	161	5	0			
Burdekin Bursary	40	0	0			
Hunter-Baillie Bursary No. 1	40	0	0			
Hovell Lectureship	89	0	0			
				321	5	0
„ from Revenue Account for investment				4,624	13	5

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£5,845 18 5

JOHN C. DIBBS, Auditor.

Gr

## PRIVATE FOUNDATIONS ACCOUNT—Continued.

## REVENUE ACCOUNT.

## EXPENDITURE.

		£	s.	d.
	<i>Brought forward</i> .....	3,223	10	7
„ on account of P. N. Russell Endowment, Salaries, Scientific Apparatus, &c., as per detailed account annexed .....		1,788	10	4
„ for Repairs to Property, on account of:—				
Barker Scholarships .....	152	7	9	
Deas-Thomson Scholarships .....	26	10	0	
Cooper Scholarships .....	152	7	9	
			331	5 6
„ Premiums on Debentures purchased:—				
Alexander Bursary .....	7	10	0	
W. C. Wentworth Bursary, No. 1 .....	45	0	0	
James King of Irrawang Travelling Scholarship .....	3	15	0	
Fisher Estate Building Account .....	18	15	0	
			75	0 0
„ Investment Account for Investment .....			4,624	13 5
Total .....		£10,042	19	10

## INVESTMENT ACCOUNT.

## EXPENDITURE.

	£	s.	d.	£	s.	d.
<b>Paid for Debentures, on account of:—</b>						
Alexander Bursary .....	100	0	0			
W. C. Wentworth Bursary, No. 1 .....	600	0	0			
Fisher Estate Building Account .....	250	0	0			
James King of Irrawang Travelling Scholarship .....	50	0	0			
„ for Bank Deposits, on account of:—				1,000	0	0
Deas-Thomson Scholarships .....	106	5	0			
Wentworth Prize Medal .....	20	0	0			
Salting Exhibition .....	20	0	0			
Wentworth Fellowship .....	118	15	0			
Lithgow Scholarship .....	70	0	0			
Nicholson Medal .....	25	0	0			
Belmore Medal .....	45	0	0			
E. M. Frazer Bursary .....	21	5	0			
J. E. Frazer Bursary .....	25	0	0			
W. C. Wentworth Bursary, No. 3 .....	70	0	0			
J. B. Watt Exhibitions .....	30	0	0			
J. G. Raphael Foundation .....	10	0	0			
G. Wigram Allen Scholarship .....	20	0	0			
Slade Prizes .....	30	0	0			
Fisher Estate Building Account .....	925	0	0			
Caird Scholarship .....	25	0	0			
Horner Exhibition .....	25	0	0			
Council of Education Scholarship .....	25	0	0			
Frazer Scholarship .....	25	0	0			
Dalton Bequest .....	681	0	0			
P. N. Russell, Sinking Fund .....	144	13	5			
Garton Scholarship .....	2,080	0	0			
„ for Additions to Property on account of:—				4,510	18	5
Barker Scholarships .....	101	10	0			
Hovell Lectureship .....	100	0	0			
Cooper Scholarships .....	102	10	0			
				305	0	0
				£5,845	18	5

ROBERT A. DALLEN, Accountant.

**Dr.****P. N. RUSSELL ENDOWMENT.***(Included in previous Account.)*

	£	s.	d.
Received Interest on Funded Stock .....	1,866	16	0

**SINKING FUND.**

Received Interest on Investments .....	10	12	11
„ from Endowment Fund .....	140	8	0
	<u>£2,087</u>	<u>16</u>	<u>11</u>

**JOHN C. DIBBS, Auditor.****CHALLIS FUND ACCOUNT.****REVENUE ACCOUNT.**

	£	s.	d.
Balance in Commercial Bank, 31st December, 1897 .....	1,282	13	5
Received Interest on Investments :—			
Debentures .....	2,762	0	0
Bank Deposits .....	800	16	8
Mortgages .....	5,951	3	1
Rents of Properties .....	195	17	5
	<u>9,109</u>	<u>17</u>	<u>2</u>
„ from Challis Trustees, Interest, on Guarantee Fund after payment of Australian Annuity, &c. ....	771	16	11
	<u>9,881</u>	<u>14</u>	<u>1</u>
Less Transfer to Special Reserve Fund .....	1,518	19	5
	<u>8,362</u>	<u>14</u>	<u>8</u>
	<u>£9,645</u>	<u>8</u>	<u>1</u>

**INVESTMENT ACCOUNT.**

	£	s.	d.
Received principal of fixed deposit .....	4,350	0	0

**SPECIAL RESERVE FUND.****REVENUE ACCOUNT.**

	£	s.	d.
Balance in Commercial Bank, 31st December, 1897 ....	7	3	1
Received Interest on Investments .....	629	10	8
„ from Challis Fund, interest over 4 per cent. on Investments, for providing quinquennial increases to Professors and for equalising income from investments .....	1,518	19	5
	<u>£2,155</u>	<u>13</u>	<u>2</u>

**INVESTMENT ACCOUNT.**

	£	s.	d.
Received principal sum of mortgage .....	1,200	0	0
„ from revenue account for investment .....	1,250	0	0
	<u>£2,450</u>	<u>0</u>	<u>0</u>

**JOHN C. DIBBS, Auditor.**



P. N. RUSSELL ENDOWMENT.

(Included in previous Account.)

	£	s.	d.
Paid Salaries.....	1,275	0	0
„ for Scientific Apparatus.....	360	0	0
„ for Printing and Sundry Charges.....	13	2	4
„ third instalment towards Sinking Fund to defray premium on Funded Stock .....	140	8	0
SINKING FUND.			
Paid for Investment—Bank Deposit.....	144	13	5
	<u>£1,933</u>	<u>3</u>	<u>9</u>

ROBERT A. DALLEN, Accountant.

CHALLIS FUND ACCOUNT.

REVENUE ACCOUNT.

	£	s.	d.
Paid Salaries.....	6,900	0	0
„ General Account, towards administration expenses.....	1,168	17	3
„ Costs, Transfer of Property .....	59	4	0
„ Printing and general charges.....	31	7	0
Balance in Commercial Bank, 31st December, 1898.....	1,487	19	10

£9,645 8 1

INVESTMENT ACCOUNT.

	£	s.	d.
Paid in purchase of property .....	4,350	0	0

SPECIAL RESERVE FUND.

REVENUE ACCOUNT.

	£	s.	d.
Paid salaries—quinquennial increases.....	800	0	0
„ Premium on Funded Stock.....	140	0	0
„ Investment account for Investment .....	1,250	0	0
Balance in Commercial Bank, 31st December, 1898.....	5	13	2

£2,155 13 2

INVESTMENT ACCOUNT.

	£	s.	d.
Paid for Investments—Funded Stock .....	500	0	0
„ Bank Deposits .....	550	0	0
„ Property .....	1,400	0	0
	<u>£2,450</u>	<u>0</u>	<u>0</u>

ROBERT A. DALLEN, Accountant.

## Private Foundations.

Levey Scholarship .. .. .	..	..	..	..	..	..
Barker Scholarships .. .. .	..	..	..	..	..	..
Deas-Thomson Scholarships .. .. .	..	..	..	..	..	..
Wentworth Prize Medal .. .. .	..	..	..	..	..	..
Cooper Scholarships .. .. .	..	..	..	..	..	..
Salting Exhibition .. .. .	..	..	..	..	..	..
Wentworth Fellowship .. .. .	..	..	..	..	..	..
Lithgow Scholarship .. .. .	..	..	..	..	..	..
Nicholson Medal .. .. .	..	..	..	..	..	..
Earl Belmore Medal .. .. .	..	..	..	..	..	..
John Fairfax Prizes .. .. .	..	..	..	..	..	..
Alexander Bursary .. .. .	..	..	..	..	..	..
Levey and Alexander Bursary .. .. .	..	..	..	..	..	..
West Prize .. .. .	..	..	..	..	..	..
E. M. Frazer Bursary .. .. .	..	..	..	..	..	..
J. E. Frazer Bursary .. .. .	..	..	..	..	..	..
W. C. Wentworth Bursary, No. 1 .. .. .	..	..	..	..	..	..
W. C. Wentworth Bursary, No. 2 .. .. .	..	..	..	..	..	..
W. C. Wentworth Bursary, No. 3 .. .. .	..	..	..	..	..	..
Burdekin Bursary .. .. .	..	..	..	..	..	..
Hunter-Baillie Bursary, No. 1 .. .. .	..	..	..	..	..	..
Hunter-Baillie Bursary, No. 2 .. .. .	..	..	..	..	..	..
J. B. Watt Exhibitions .. .. .	..	..	..	..	..	..
Renwick Scholarship .. .. .	..	..	..	..	..	..
Bowman-Cameron Scholarship .. .. .	..	..	..	..	..	..
Hovell Lectureship .. .. .	..	..	..	..	..	..
George Allen Scholarship .. .. .	..	..	..	..	..	..
Freemasons Scholarship .. .. .	..	..	..	..	..	..
J. G. Raphael Foundation .. .. .	..	..	..	..	..	..
James Aitken Scholarship .. .. .	..	..	..	..	..	..
Thomas Walker Bursaries .. .. .	..	..	..	..	..	..
G. Wigram Allen Scholarship .. .. .	..	..	..	..	..	..
Struth Exhibition .. .. .	..	..	..	..	..	..
Fisher Estate .. .. .	..	..	..	..	..	..
Fisher Estate (Building Account) .. .. .	..	..	..	..	..	..
Norbert Quirk Prize .. .. .	..	..	..	..	..	..
Smith Prize .. .. .	..	..	..	..	..	..
Badham Bursary .. .. .	..	..	..	..	..	..
Slade Prizes .. .. .	..	..	..	..	..	..
Caird Scholarship .. .. .	..	..	..	..	..	..
James King of Irawang Travelling Scholarship .. .. .	..	..	..	..	..	..
Macleay Curatorship .. .. .	..	..	..	..	..	..
John Harris Scholarship .. .. .	..	..	..	..	..	..
Horner Exhibition .. .. .	..	..	..	..	..	..
Council of Education Scholarship .. .. .	..	..	..	..	..	..
Frazer Scholarships .. .. .	..	..	..	..	..	..
Grahame Prize Medal .. .. .	..	..	..	..	..	..
Collie Prize .. .. .	..	..	..	..	..	..
Dalton Estate .. .. .	..	..	..	..	..	..
P. N. Russell Endowment .. .. .	..	..	..	..	..	..
P. N. Russell Endowment Sinking Fund .. .. .	..	..	..	..	..	..
Garton Scholarships .. .. .	..	..	..	..	..	..
Challis Estate .. .. .	..	..	..	..	..	..
Challis Estate—Special Reserve Fund .. .. .	..	..	..	..	..	..

**SHOWING INVESTMENTS AT 31st DECEMBER, 1898. 309**

Ledge Account, Cr. Balance.	Investments.											
	Mortgages.			Buildings & Land.			Fixed Deposits.			Funded Stock & Debentures.		
£ s. d.	£	s.	d.	£			£	s.	d.	£	s.	d.
1,017 10 8	.....			.....			700.	0	0	325	0	0
2,495 5 5	100	0	0	1,360			70	0	0	1,070	0	0
2,462 17 6	25	0	0	1,036			395	0	0	1,030	0	0
548 8 0	100	0	0	.....			38	15	0	400	0	0
2,531 3 4	.....			1,360			131	5	0	1,220	0	0
810 2 2	.....			.....			50	0	0	755	0	0
2,062 4 11	180	0	0	.....			1,175	0	0	695	0	0
2,128 2 3	125	0	0	.....			355	0	0	1,630	0	0
599 19 5	.....			.....			193	15	0	400	0	0
583 15 8	.....			.....			170	0	0	415	7	3
571 3 1	50	0	0	.....			.....			500	0	0
1,122 3 6	25	0	0	.....			740	0	0	350	0	0
1,114 17 6	.....			.....			.....			1,100	0	0
223 7 9	15	0	0	.....			200	0	0	.....		
1,556 2 8	25	0	0	.....			40	0	0	1,495	0	0
1,459 1 6	.....			.....			25	0	0	1,430	0	0
1,000 0 0	.....			.....			.....			1,000	0	0
1,000 0 0	.....			.....			.....			1,000	0	0
928 17 2	50	0	0	.....			766	5	0	150	0	0
1,074 11 3	.....			.....			1,005	0	0	70	0	0
1,159 5 6	.....			.....			1,005	0	0	150	0	0
1,300 4 9	175	0	0	.....			512	10	0	585	0	0
3,853 8 1	85	0	0	.....			2,400	0	0	1,335	0	0
1,117 9 10	.....			.....			616	5	0	495	0	0
975 0 0	.....			.....			.....			1,000	0	0
6,025 0 0	525	0	0	4,500			725	0	0	275	0	0
1,069 12 3	.....			.....			951	5	0	120	0	0
1,273 5 9	25	0	0	.....			107	10	0	1,130	0	0
88 4 6	.....			.....			66	5	0	20	0	0
1,115 0 0	.....			.....			.....			1,100	0	0
5,163 19 4	.....			.....			4,890	0	0	375	0	0
1,641 11 6	.....			.....			837	10	0	795	0	0
1,226 4 11	400	0	0	.....			635	0	0	190	0	0
9,391 0 8	6,872	0	0	700			1,347	10	0	375	0	0
30,860 7 11	7,905	0	0	.....			17,869	18	9	5,130	0	0
157 4 8	.....			.....			112	10	0	40	0	0
109 9 7	100	0	0	.....			.....			.....		
981 4 1	.....			.....			750	0	0	250	0	0
302 1 2	25	0	0	.....			280	0	0	.....		
1,612 9 4	150	0	0	.....			985	0	0	475	0	0
4,381 8 11	50	0	0	.....			4,168	15	0	235	0	0
5,909 13 0	.....			.....			6,000	0	0	.....		
1,022 0 3	1,000	0	0	.....			.....			.....		
207 4 8	.....			.....			210	0	0	.....		
446 11 8	335	0	0	.....			50	0	0	45	0	0
2,316 9 4	50	0	0	.....			2,185	0	0	115	0	0
102 13 10	100	0	0	.....			.....			.....		
106 10 1	.....			.....			56	5	0	50	0	0
682 1 8	.....			.....			680	0	0	.....		
47,241 14 10	.....			.....			.....			47,170	0	0
433 19 0	.....			.....			429	13	5	.....		
2,086 14 0	.....			.....			2,080	0	0	.....		
221,997 19 10	127,660	0	0	4,350			23,900	0	0	64,600	0	0
16,505 13 2	3,200	0	0	1,400			10,300	0	0	1,600	0	0
398,152 11 10	149,352	0	0	14,706			90,205	17	2	142,690	7	3

ROBERT A. DALLEN, Accountant.

## UNIVERSITY CLUBS, ETC.

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### SYDNEY UNIVERSITY UNION.

The object of the Union is the promotion of the mental culture of its members by Debates, Readings, and such other means as may be determined upon. The meetings are held weekly on Fridays, at the University, or other place as arranged by the Executive Committee. The Professors, Lecturers, and Examiners of the Sydney University are *ex-officio* Honorary Members. All Graduates, Undergraduates, Superior officers, and all Graduates and Undergraduates of British and Colonial Universities, are eligible for ordinary membership. Except in the case of members of other Universities, the formality of an election is dispensed with. Subscription, 5s. per annum. Life Member's subscription, £1 10s.

### OFFICE BEARERS FOR 1899.

PRESIDENT—Professor Butler, B.A.

VICE-PRESIDENT—D. P. Evans-Jones, B.A.

HON. SECRETARY—G. H. Wilson.

HON. TREASURER—T. S. Crawford.

COMMITTEE—R. N. Robson, T. B. Clouston, F. A. Todd.

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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 1899.

PRESIDENT—H. J. W. Brennand, B.A., M.B., Ch.M.

VICE-PRESIDENTS—D. Æ. D. MacMaster, B.A., B.Sc., M.B., Ch.M.,  
E. M. Pain, M.B., Ch.M., L. E. Ellis, M.B., Ch.M., W. F. Burfitt, B.A.,  
B.Sc., W. E. Harris.

HON. SECRETARY—F. G. Griffiths, B.A.

HON. TREASURER—R. W. H. Maffey, B.A.

HON. LIBRARIAN—A. G. Corbin, B.Sc.

HON. AUDITORS—F. P. Sandes, M.B., Ch.M., G. G. Old.

EDITORIAL COMMITTEE OF THE SOCIETY'S JOURNAL—D. Æ. D. MacMaster,  
B.A., B.Sc., M.B., Ch.M., W. F. Burfitt, B.A., B.Sc., F. G. Griffiths, B.A.

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 is open to Graduates of this University and of other recognised Universities, and members of the University who have matriculated in accordance with the by-laws.

Annual Subscription—For active members, £2 2s.; ladies, £1 1s.; Honorary Members, £1 1s. Life Active Members, £15 15s.; Life Honorary Members, £10 10s.

## OFFICE BEARERS FOR 1899.

PATRON—His Excellency the Governor.

PRESIDENT—The Hon. H. N. MacLaurin, M.A., M.D., LL.D., Chancellor.

VICE-PRESIDENTS—Professor Scott, Professor Anderson, Professor Pollock, H. E. Barff, M.A., J. T. Walker, H. M. Faithfull, M.A., Hon. H. E. Kater, M.L.C., A. H. Uther, B.A., C. T. Russell, B.A., Judge Backhouse, M.A.

COMMITTEE—The Committee consists of Delegates from the constituent clubs.

HON. TREASURERS—H. F. Maxwell, B.A., H. M. Stephen, R. P. Hickson, G. B. Thomas.

HON. SECRETARY—F. W. West.

GROUNDS COMMITTEE—H. F. Maxwell, B.A., H. D. Wood, B.A., LL.B., H. M. Stephen.

## UNIVERSITY BOAT CLUB.

All members of the Sports Union are members of the Boat Club. The boat shed of the Club stands on the Western side of Woolloomooloo Bay, next to the Corporation baths.

## OFFICE BEARERS FOR 1899.

PATRON—His Excellency the Governor.

PRESIDENT—His Honor Judge Backhouse (Vice-Chancellor).

VICE-PRESIDENTS—Professor Scott, H. E. Barff, M.A., the Hon. H. E. Kater, M.L.C., A. Consett Stephen, T. Rolin, M.A., A. MacCormick, M.D., John Harris, A.C. Millard, B.A., W. H. Palmer, V. B. MacDermott, B.A.

CAPTAIN—C. H. Helsham, B.A.

VICE-CAPTAIN—H. W. Kendall.

HON. SECRETARY—J. E. F. d'Apice.

HON. TREASURER—A. G. de L. Arnold.

TRUSTEES—Professor Scott, R. Smith, M.A.

COMMITTEE—R. P. Hickson, E. M. Mitchell, B.A., F. G. Griffiths, B.A., H. M. Stephen, E. B. Fitzpatrick, A. G. Purves.

DELEGATES TO SPORTS UNION—A. G. de L. Arnold (*ex-officio*). C. H. Helsham, B.A.

DELEGATES TO N.S.W. R.A.—E. M. Mitchell, B.A., R. P. Hickson.

HON. MEDICAL OFFICER.—T. G. Wilson, 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 from October to April (inclusive) on the Oval.

Fourteen matches have been played between this University and that of Melbourne. Of these, nine have been won by Sydney.

## OFFICE BEARERS FOR 1899.

PRESIDENT—H. M. Faithfull, M.A.

VICE-PRESIDENTS—R. Teece, H. E. Barff, M.A., Theo. Powell, M.A., John Harris, Thomas Buckland, B.A., Professor Wood, M.A., Hon. E. Barton, M.A., N. F. White, B.E.

HON. SECRETARY—W. H. Gregson, B.A.

ASSISTANT HON. SECRETARIES—Second XI., W. B. Dight; Third XI., E. B. L. Fitzpatrick; Veteran XI., A. C. Gill, B.A., LL.B.

HON. TREASURER—G. R. C. Clarke.

DELEGATES TO S.U. SPORTS UNION—W. H. Gregson, B.A., G. R. C. Clarke (*ex-officio*).

COMMITTEE—H. D. Wood, B.A., LL.B., A. I. Blue, H. S. Stacy, M.B., Ch.M., L. O. S. Poidevin, T. W. Lipscomb, M.B., W. A. Shortland, B.E., H. M. Stephen, W. D. Cargill, M.B., Ch.M.

SELECTION COMMITTEES—First Eleven: G. R. C. Clarke, W. H. Gregson, B.A., L. O. S. Poidevin. Second Eleven: H. E. Manning, W. B. Dight, H. M. Stephen. Third Eleven: W. A. Cameron, T. B. Clouston, E. B. L. Fitzpatrick. Veteran Eleven: A. C. Gill, B.A., LL.B., H. D. Wood, B.A., LL.B., J. S. Cargill, B.A. Undergraduates' Eleven—W. H. Gregson, B.A., H. M. Stephen, L. O. S. Poidevin.

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### 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 1899.

PRESIDENT—Professor Wood, M.A.

VICE-PRESIDENTS—F. Lloyd, B.A., LL.B., H. E. Barff, M.A., Professor Wilson, E. Ludowici, M.B., Ch.M., G. W. Waddell, B.A., LL.B.

HON. SECRETARY—V. W. Savage.

HON. TREASURER—E. L. Newman.

COMMITTEE—C. B. Cameron, W. B. Dight, G. G. Sharp, H. M. Stephen, L. O. S. Poidevin, E. O. Pockley.

DELEGATES TO SPORTS UNION—E. L. Newman, W. B. Dight.

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### LADIES' TENNIS CLUB.

#### OFFICE BEARERS FOR 1899.

PATRONESS—Mrs. MacLaurin.

PRESIDENT—Mrs. Gurney.

VICE-PRESIDENTS—Mrs. MacCallum, Mrs. Trechmann.

HON. SECRETARY—Marian Harris, B.A.

HON. TREASURER—Jennie B. Uther, B.A.

COMMITTEE—Minnie Roseby, B.A., C. Maude Scrutton, Gwendolene Wilson, Grace M. Bruce, Florence M. Rutherford, Maud Alexander.

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### UNIVERSITY ATHLETIC CLUB.

#### OFFICE BEARERS FOR 1899.

PATRON—His Excellency the Governor.

PRESIDENT—Professor Anderson, M.A.

VICE-PRESIDENTS—J. T. Walker, H. E. Barff, M.A., H. D. Wood, B.A., LL.B., F. Lloyd, B.A., LL.B., A. H. Uther, B.A., Professor Henderson, B.A., Professor Pollock, B.Sc.

HON. GRADUATE SECRETARY—F. T. Perkins, B.A.

HON. UNDERGRADUATE SECRETARY—C. G. Gibson.

HON. TREASURER—F. G. Griffiths, B.A.

DELEGATES TO S.U. SPORTS UNION—F. G. Griffiths, B.A., J. A' B. D. Barton, B.A.

DELEGATES TO N.S.W. A.A.A.—A. H. Uther, B.A., F. T. Perkins, B.A.

GENERAL COMMITTEE—J. A' B. D. Barton, B.A., H. H. Lee, H. A. Jones, F. West, W. S. Boyd, H. Blaney, C. B. Cameron, W. B. Dight, C. Lethbridge.

### 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 1899.

PRESIDENT—The Hon H' N. MacLaurin, M.D., LL.D.

VICE-PRESIDENTS—H. E. Barff, M.A., L. E. F. Neill, M.B., Ch.M., H. P. Abbott, J. F. MacManamey, B.A., P. B. Colquhoun, H. B. Rowlands, B.E., J. J. Walsh, B.A.

GENERAL COMMITTEE—H. D. Wood, B.A., LL.B., W. A. Shortland, B.E., A. J. Corfe, H. P. Blaney, H. Marks, B.A.

SELECTION COMMITTEES—First XV.: W. A. Shortland, B.E., H. D. Wood, B.A., LL.B., H. Marks, B.A. Second XV.: B. L. Hart, C. B. Cameron, E. C. Delohery. Third XV.: A. R. Dight, T. B. Clouston.

HON. TREASURER—St. A. W. L. McDowall.

DELEGATE TO SPORTS UNION—H. D. Wood, B.A., LL.B.

DELEGATES TO RUGBY UNION—W. A. Shortland, B.E., E. M. Mitchell, B.A.

DELEGATE ON COMMITTEE OF METROPOLITAN UNION—H. D. Wood, B.A., LL.B.

HON. SECRETARIES—First XV.: H. A. Jones, S. D. Tozer. Second XV.: H. H. Lethbridge. Third XV.: T. B. Clouston, A. R. Dight.

### UNIVERSITY WOMEN'S SOCIETY.

The object of this Society is to help anyone requiring and deserving help, as far as lies in the power of the Society. 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.



## OFFICE BEARERS FOR 1899.

FOUNDRESS—The Countess of Jersey.

PATRONESS—The Vicountess Hampden.

PRESIDENT—Lady Manning.

VICE-PRESIDENTS—Lady Renwick, Mrs. MacCallum, Mrs. Anderson, Miss Macdonald, M.A., Mrs. Hey Sharp, Mrs. Haswell.

HON. SECRETARY—M. C. Larkins

HON. TREASURER—Alice Pritchard, B.A.

REPRESENTATIVES—Harrington Street Night School, Miss J. F. Russell, M.A.; Lewisham Hospital, L. S. Brown, B.A.; Newington Asylum, E. F. Cripps, B.A.; Prince Alfred Hospital, T. A. Britton, B.A.

MEMBERS OF COMMITTEE—R. Bowmaker, M.A., J. M. Liggins, B.A., M. Harris, B.A., C. I. Fell, E. E. Small, Georgina J. Harriott, B.A.

## 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 1899.

PRESIDENT—Miss J. F. Russell, M.A.

HON. SECRETARY—Miss T. A. Britton, B.A.

HON. TREASURER—Miss C. M. Scrutton.

COMMITTEE—Miss Macdonald, M.A., Miss C. Sutherland, M.A., Mrs. Windeyer, B.A., Past Presidents; R. Bowmaker, M.A., E. A. Russell, B.A., E. L. Sutherland, B.A., B. M. Bolton.

## SYDNEY UNIVERSITY UNDERGRADUATES' ASSOCIATION.

## OFFICE BEARERS FOR 1899.

PRESIDENT—F. G. Griffiths, B.A.

VICE-PRESIDENTS—H. E. Whitfeld, B.A., W. F. Burfitt, B.A., B.Sc., A. H. Macintosh.

HON. SECRETARIES—L. W. Bond, R. N. Robson.

HON. TREASURER—J. J. S. McEvoy.

COMMITTEE—E. N. Merrington, L. K. Ward, F. A. Todd, J. P. Power, E. H. Reynolds, W. S. V. Powell, H. E. Manning, W. E. Harris, E. Tudor-Jones, H. A. Jones, A. R. Dight, G. A. Waterhouse, B.Sc., J. P. V. Madsen, W. S. Boyd, N. J. Gough, C. N. Neale, W. L. Artlett.

## 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 by the Council of the Society. The subscription is 10s. 6d. per annum, payable before the beginning of May. This fee covers the cost of Proceedings.

## OFFICE BEARERS FOR 1899.

PRESIDENT—H. H. Dare, M.E.

PAST PRESIDENTS—Professor Warren, M.I.C.E., G. H. Knibbs, F.R.A.S., P. W. Rygate, M.A., B.E.

VICE-PRESIDENTS—W. M. Thompson, M.A., B.E., S. H. Barraclough, M.M.E., B.E., Assoc. M. Inst. C.E., J. J. C. Bradfield, M.E., J. W. Roberts, B.E.

COUNCIL—N. J. C. MacTaggart, B.E., H. Deane, B.E., J. P. V. Madsen, J. J. E. Durack, B.A., W. S. Boyd.

HON. TREASURER—R. F. Barker.

HON. SECRETARY—R. W. Hawken.

## SYDNEY UNIVERSITY CHRISTIAN UNION.

This Union was founded on May 19th, 1896. 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.”

Weekly meetings are held on Thursdays, at 4 or 8 p.m.; also Bible classes, missionary study classes, prayer meetings, &c., as arranged.

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 meeting the executive officers are elected to serve for one year. They take office at once.

## OFFICE BEARERS FOR 1899.

PRESIDENT—R. N. Robson.

VICE-PRESIDENTS—H. M. Stephen, Catherine I. Fell.

RECORDING SECRETARY—E. N. Merrington; Assistant, D. D. Day.

CORRESPONDING SECRETARIES—R. N. Teece, Sarah M. Roseby.

TREASURER—A. B. S. White.

WOMEN'S DEBATING UNION.

OFFICE BEARERS FOR 1899.

PRESIDENT—Miss F. M. Rutherford.

VICE-PRESIDENT—Miss Grace M. Bruce.

SECRETARY—Marjorie K. Jarrett.

COMMITTEE—Margaret A. Bailey, F. Mildred Fry, Susannah H. O'Reilly, H. D. Harvey-Armstrong.

UNIVERSITY WOMEN'S BOAT CLUB.

OFFICE BEARERS FOR 1899.

PRESIDENT—Mrs. Butler.

VICE-PRESIDENT—Miss Dickinson.

COMMITTEE—Mary H. Uther, Edith Holt, Ethel M. Maynard, B.A.

HON. TREASURER—Florence M. Rutherford.

HON. SECRETARY—Sarah L. Ure.

UNIVERSITY CITY CLUB.

OFFICE BEARERS FOR 1899.

PRESIDENT—Professor Wood, M.A.

VICE-PRESIDENT—E. M. Pain, M.B., Ch.M.

HON. SECRETARY—D. D. Dey.

HON. TREASURER—E. V. Barling.

COMMITTEE—E. Ludowici, M.B., Ch.M., E. W. Fairfax, M.B., Ch.M., J. L. P. Isbister, M.B., Ch.M., R. A. Harris, J. H. F. Hill, L. K. Ward, R. N. Teece.

SYDNEY UNIVERSITY AMATEUR DRAMATIC SOCIETY.

OFFICE BEARERS FOR 1899.

PATRON—His Excellency the Governor.

PRESIDENT—The Hon. H. N. MacLaurin, M.A., M.D., LL.D.

VICE-PRESIDENTS—Professor MacCallum, Professor Anderson, Professor Scott, Professor Pollock, Miss J. F. Russell, M.A., F. Lloyd, B.A., LL.B.

HON. SECRETARY—T. S. Crawford.

HON. TREASURERS—Miss A. Henry, W. J. Curtis, B.A.

COMMITTEE—R. N. Teece, G. Chalmers, L. Jones, Miss W. M. Eldridge, Miss C. M. Scrutton.

## APPENDIX.

# \* EXAMINATION PAPERS.

DECEMBER, 1898.

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## FACULTY OF ARTS.

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### FIRST YEAR EXAMINATION.

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#### ENGLISH.

*Not more than NINE questions to be answered.*

1. Discuss the results that follow from the mixed nature of the English vocabulary.
2. What are the advantages and disadvantages (*a*) of an antithetic, and (*b*) of a periodic style?
3. What systems of verse have prevailed in England, and what is their approximate chronological order?
4. To what abuses is the employment of metaphor and simile subject?
5. Translate, with notes on underlined words—
  - (*a*) And al the walles with coloures fyne  
were peynted bothe [with] text and glose  
of al the Romaunce of the Rose.
  - (*b*) For hit was on to beholde  
as thogh the erthe envye wolde  
to be gayer than the heven ;  
to have mo floures suche seven  
as in the welken sterres be.
  - (*c*) Mooder, with you I wolde chaunge my cheste,  
that in my chambre longe tyme hath be,

---

\*NOTE.—The time allowed for each paper is three hours, except where otherwise stated.

ye for an heyre clowt to wrappe me!  
 But yet to me she wol not do that grace,  
 for which ful pale and whelked is my face.

(d) Shal it be conseil? seyde the firste shrewe,

‘I graunte,’ quod that oother, ‘out of doute’  
 ‘that, by my trouthe, i shal the nat biwreye.

(e) Avycen  
 wroot never in no canoun ne in no fen  
 mo wonder signes of empoysoning.

(f) ‘Syre, th’ emperour Octovyen,  
 quod he, and ys her faste by.

6. Examine the grammar of—

(a) I was go walked fro my tre.

(b) ‘Now sires,’ quod he, ‘if that you be so leef  
 ‘to fynde Deeth

right ther ye shal him fynde.

(c) ther is no creature  
 that ete or dronke hath of this confiture

that he ne shal his life anon forlete.

Comment on the metre of—

(d) the mayster-hunte anoon fot-hot  
 with a gret horn blew thre mot.

(e) had made it suffre, and his sorwes.

(f) the pothecarie answerde and thou shalt have.

(g) Deeth shal be deed if that they may him hente.

7. Discuss the final *e* in Chaucerian English, with special reference to following passages—

(a) . . . leeve mooder leet me in!

(b) an oold man and a poure with hem mette.  
 This olde man ful mekely hem grette.

(c) . . . ech of hem at otheres synne lough.  
 Thise riotoures three, of whiche I telle

were set hem in a taverne for to drynke  
 and as they sat they herde a belle clynke.

(d) ful thikke of gras ful softe and swete  
with flourys fele, faire under fet.

8. "The worste of hem he spak the firste word."

What is the effect of this in the story. Describe the Pardoner's Tale, with special reference to Chaucer's skill in the telling of it.

9. "The Trial by Combat seems a preposterous way of deciding the points at issue between Mowbray and Bolingbroke."

Examine this.

10. Discuss the reasons of Richard II.'s failure in life.

11. Explain the following quotations—

(a) A partial slander sought I to avoid.

(b) (who can) wallow naked in December snow  
By thinking on fantastic summer's heat.

(c) Now He that made me knows I see thee ill;  
Ill in myself to see and in thee seeing ill.

(d) Thy state of law is bonds slave to the law.

(e) That blood already like the pelican  
Hast thou tapp'd out and drunkenly caroused.

(f) Thy very beadsmen learn to bend their bows  
Of double-fatal yew against thy state.

(g) *Duchess*: No word like 'pardon' for kings' mouths so meet.  
*York*: Speak it in French, King, say 'pardonne moi.'

12. Comment on the grammar of three of the following—

(a) Better far off than near, be ne'er the near.

(b) Rich men look sad and ruffians dance and leap,  
The one in fear to lose what they enjoy,  
The other to enjoy by rage and war.

(c) Me rather had, my heart might feel your love.

(d) Mine innocency and St. George to thrive.

and on the metre of three of the following—

(a) We have : whereupon the Earl of Worcester.

(b) No : I will to Ireland to his majesty.

(c) As near as I could sift him on that argument.

(d) "How far brought you high Hereford on his way?"  
"I brought high Hereford, if you call him so,  
But to the next highway, and there I left him."

## 13. Explain and paraphrase the following—

For sorrow's eye, glazed with blinding tears,  
 Divides one thing entire to many objects :  
 Like perspectives, which, rightly gazed upon  
 Show nothing but confusion, eyed awry  
 Distinguish form : so your sweet majesty,  
 Looking awry upon your lord's departure,  
 Find shapes of grief, more than himself, to wail ;  
 Which, look'd on as it is, is nought but shadows  
 Of what it is not.

## LATIN PROSE COMPOSITION AND UNSEEN TRANSLATION.

## PASS.

## 1. Translate into Latin—

After Sulla had left Rome the two consuls began to quarrel, one being on the side of Sulla, the other on the side of Marius. At last L. Cornelius Cinna, who was Marius' consul, gathered an army and brought Marius back. He had had many troubles in trying to escape from Italy. The sailors of a ship on which he wished to go to Africa persuaded him to land near Minturnæ, and then sailed away and left him. He was pursued and taken prisoner, though he had tried to hide himself by standing up to the chin in a marsh. He was put in prison at Minturnæ, and the magistrates sent a Gaulish slave to put him to death: but when the slave came to Marius the old man's eyes flashed so terribly through the dark prison as he said, "Fellow, darest thou kill Caius Marius?" that the man dropped his sword and ran away. Then the magistrates were ashamed, and let Marius go. He crossed over to Africa, but had no sooner landed than he was warned by the magistrates to go away.

(b) If I had received this information earlier I should have advised you to yield to the entreaties of your friends.

(c) So far was I from believing that he was innocent, that I was willing to lay a charge against him myself.

## 2. Translate into English—

Nondum Hannibal e castris exierat, cum pugnantium clamorem audivit. itaque excitus tumultu raptim ad hostem copias agit. iam primos occupaverat equestris terror;



peditum etiam prima legio et dextra ala proelium inibat; incompositi hostes, ut quemque aut pediti aut equiti casus obtulit, ita conserunt manus. crescit pugna subsidiiis et procurrentium ad certamen numero augetur; pugnantisque, quod nisi in vetere exercitu et duci veteri haud facile est, inter tumultum ac terrorem instruxisset Hannibal, ni cohortium ac manipulorum decurrentium per colles clamor ab tergo auditus metum, ne intercluderentur a castris, iniecisset. inde pavor incussus et fuga passim fieri coepta est. minorque caedes fuit, quia propinquitas castrorum brevior fugam percussis fecit. equites enim tergo inhaerebant; in transversa latera invaserant cohortes secundis collibus via nuda ac facili decurrentes. tamen supra octo milia hominum occisa, supra septingentos capti, signa militaria novem adempta.

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LATIN AUTHORS.

PASS.

1. Translate into English, extracts from Virgil, *Æneid*, XI. and XII.
2. Translate the following and comment on the words underlined—
  - (a) Ipse Mycenaeus magnorum ductor Achivum  
Coniugis infandae prima intra limina dextra  
Oppetiit.
  - (b) Hoc Venus, obscuro faciem circumdata nimbo,  
 Detulit; hoc fustum labris splendentibus annem  
Inficit.
3. Translate into English, extracts from Cicero pro Milone and pro Archia.
4. Translate and comment on the following passages—
  - (a) Quam ob rem uteretur eadem confessione T. Annius qua Opimius, qua Marius, qua nosmet ipsi.
  - (b) At enim Cn. Pompeius rogatione sua et de re et de causa iudicavit.
  - (c) Hic tu tabulas desideras Heracliensium publicas, quas Italico bello incenso tabulario interisse scimus omnes.

## GREEK—PRELIMINARY CLASS.—\*(FIRST YEAR PASS.)

## COMPOSITION AND TRANSLATION AT SIGHT.

## 1. Translate into English—

ἀλλ' ἐγὼ σοὶ φημι. ὦ Ἱέρων, πρὸς ἄλλους προστάτας πόλεων τὸν ἀγῶνα εἶναι, ὃν ἔαν σὺ εὐδαιμονεστάτην τὴν πόλιν, ἧς προστατεύεις, παρέχῃς, εὖ ἔσει νικῶν τῷ καλλίστῳ καὶ μεγαλοπρεπεστάτῳ ἐν ἀνθρώποις ἀγωνίσματι. καὶ πρῶτον μὲν εὐθύς κατειργασμένος ἂν εἴης τὸ φιλεῖσθαι ὑπὸ τῶν ἀρχομένων, οὐ δὴ σὺ ἐπιθυμῶν τυγχάνεις· ἐπεὶ δὲ τὴν σὴν νίκην οὐκ ἂν εἰς εἴη ὁ ἀνακηρύττων, ἀλλὰ πάντες ἄνθρωποι ὕμνοῖεν ἂν τὴν σὴν ἀρετὴν. ἀλλὰ θαρρῶν, ὦ Ἱέρων, πλούτιζε μὲν τοὺς φίλους· σαυτὸν γὰρ πλουτιεῖς· αὖτε δὲ τὴν πόλιν· σαυτῇ γὰρ δύναμιν περιάψεις· κτῶ δὲ αὐτῇ συμμάχους· νόμιζε δὲ τὴν μὲν πατρίδα οἶκον, τοὺς δὲ πολίτας ἐταίρους, τοὺς δὲ φίλους τέκνα σεαυτοῦ, τοὺς δὲ παῖδας ὅτιπερ τὴν σὴν ψυχὴν, καὶ τούτους πάντας περὶ νικᾶν εὖ ποιῶν. ἔαν γὰρ τοὺς φίλους κρατῇς εὖ ποιῶν, οὐ μὴ σοι δύνωνται ἀντέχειν οἱ πολέμοι. κἂν ταῦτα πάντα ποιῇς, εὖ ἴσθι πάντων τῶν ἐν ἀνθρώποις κάλλιστον καὶ μακαριώτατον κτῆμα κεκτήσει· εὐδαιμονῶν γὰρ οὐ φθονήσει.

## 2. Translate into Greek—

Men of Ardea, you have now opportunity to repay the benefits which you have received from the Roman people, and to win for yourselves great renown. These Gauls that are coming against you make a terrible show in battle, but yet are not hard to withstand. For consider what has befallen Rome. They took the city when all the gates lay open; but now the citadel, though it is guarded by a small company, they are not able to take. And now by reason of their late victory they are careless even beyond their wont. If then ye would keep your city safe, and would not have this whole land become a part of Gaul, take all of you your arms; follow me, and if I deliver them not into your hands to be slaughtered, then banish me even as the Romans banished me.

## GREEK—PRELIMINARY CLASS.—\*(FIRST YEAR PASS.)

## AUTHORS.

## 1. Translate extracts from Demosthenes, De Pace, 2nd and 3rd Philippics, and De Chersoneso.

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\* For First Year Honour papers see "Greek, Junior Class," under Second Year.

2. To what causes does Demosthenes, in the 3rd Philippic, attribute the successes of Philip, and the failure of Athens to check his advance?
3. Translate the following, and write notes on the grammatical construction or meaning of the underlined words:—

(a) ὦ παῖδες, εἰς μὲν πείραν ἤλθομεν φίλων·  
 ἦν δ' οὖν ποθ' ὑμῖν νόστος εἰς πάτραν φανῇ  
 καὶ δώματ' οἰκίσσῃτε καὶ τιμὰς πατρός,  
 σωτήρας αἰεὶ καὶ φίλους νομίζετε,  
 καὶ μή ποτ' εἰς γῆν ἐχθρὸν αἰρεσθαι δόρυ,  
 μεμνημένοι τῶνδ', ἀλλὰ φιλότατην πόλιν  
 πασῶν νομίζετ'.

What reference to events of Euripides' time is contained in these lines?

(b) εἰρήνη μὲν ἔμοιγ' ἀρέσκει·  
 σοὶ δ', ὦ κακόφρων ἀναξ,  
 λέγω· εἰ πόλιν ἤξεις,  
 οὐχ οὕτως ἂ δοκεῖς κυρήσεις.  
 οὐ σοὶ μόνῳ ἔγχος οὐδ'  
 ἰτέα κατάχαλκός ἐστιν.  
 ἀλλ', ὦ πολέμων ἐραστά,  
 μή μοι δορὶ συνταράξης  
 τὰν εὖ χαρίτων ἔχουσιν.  
 πόλιν, ἀλλ' ἀνάσχω.

(c) τί φήσομεν γάρ, εἰ πόλις μὲν ἀξιοῖ  
 κίνδυνον ἡμῶν οὐνεκ' αἰρεσθαι μέγαν,  
 αὐτοὶ δὲ προστιθέντες ἄλλοισιν πόνους,  
 παρὸν σεσῶσθαι, φευξόμεσθα μὴ θανεῖν;  
 οὐ δῆτ', ἐπεὶ τοι καὶ γέλωτος ἄξια,  
 στένειν μὲν ἱκέτας δαιμόνων καθημένους,  
 πατὴρ δ' ἐκείνου φύντας οὐ πεφύκαμεν,  
 κακοὺς ὁρᾶσθαι· ποῦ τὰδ' ἐν χρηστοῖς πρέπει;

(d) ὅπλων μὲν ἤδη τήνδ' ὄρας παντευχίαν,  
 φθάνοις δ' ἂν οὐκ ἂν τοῖσδε σὸν κρύπτων δέμας·  
 ὥς ἐγγὺς ἄγων, καὶ μάλιστ' Ἀρης στυγεῖ  
 μέλλοντας.

(e) ἐπεὶ δ' ἐκείνῳ δυσμένειαν ἡράμην  
 κᾶνων ἀγῶνα τόνδ' ἀγωνιούμενος,

πολλῶν σοφιστῆς πημάτων ἐγινόμεν  
 καὶ πόλλ' ἔτικτον νυκτὶ συνθακῶν αἰεὶ  
 ὅπως διώσας καὶ κατακτείνας ἑμούς  
 ἐχθροὺς τὸ λοιπὸν μὴ συνοικοίην φόβῳ,  
 εἰδὼς μὲν οὐκ ἀριθμὸν ἀλλ' ἐτητύμῳς  
 ἄνδρ' ὄντα τὸν σὸν παῖδα.

Mark the metre of the first two lines of (a).

### ARITHMETIC AND ALGEBRA.

TWO HOURS AND A HALF.

PASS.

1. If pure gold is worth £4 an ounce, and alloy 2s. an ounce, find the selling price of a chain weighing  $2\frac{1}{2}$  ounces made of 18 carat gold, when  $33\frac{1}{3}$  per cent. of the cost of the material is added on to allow for workmanship.
2. If  $a+b+c=0$  shew that  $a^3+b^3+c^3=3abc$ , and hence express  $(by+cz-2ax)^3+(cz+ax-2by)^3+(ax+by-2cz)^3$  as a product of three literal factors.
3. Solve the equations
  - (i.)  $(a+1)^2x^2+2x(a+1)=x^2-1$ .
  - (ii.)  $\sqrt{x+7}-\sqrt{x-6}=1$ .
4. Solve the simultaneous equations
  - (i.)  $\begin{cases} 3+4xy=5x \\ 5xy-6=9y \end{cases}$
  - (ii.)  $\begin{cases} x^2-2xy+3y^2=3 \\ xy+y^2=2 \end{cases}$
5. Simplify  $(1+a^{\frac{1}{2}}+a^{\frac{1}{4}})(1-a^{\frac{1}{2}}+a^{\frac{1}{4}})(1-a^{\frac{1}{4}}+a^{\frac{1}{2}})(1-a^{\frac{1}{2}}+a)$ .
6. The antecedent of a certain ratio is increased by half the consequent, and the consequent is decreased by half the antecedent; the resulting ratio is 7:3. Find the original ratio.
7. Find the square root of  $23+4\sqrt{15}$ .
8. The sum of the first and seventh terms of a G.P. is 130; the product of the third and fifth terms is 256. Find the series.

9. Prove that the arithmetic mean, the geometric mean and the harmonic mean between two given quantities are themselves in G.P.
10. B buys from A 60 acres more than one-sixth of the total area of a field, and C 55 acres more than one-quarter of the remainder. A has left 20 acres more than half the original area. Find the area of the field.

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TRIGONOMETRY.

TWO HOURS AND A HALF.

PASS.

1. If  $\cot A = 2.4$ , find  $\cos A$  and  $\operatorname{cosec} A$ .
2. Prove from a figure
  - (i.)  $\sin(A + 90^\circ) = \cos A$ ,
  - (ii.)  $\cos(A + B) = \cos A \cos B - \sin A \sin B$ .
3. Find  $\sin 60^\circ$ ,  $\sin 45^\circ$ ,  $\sin 75^\circ$ .
4. An upright post, 14 feet high, stands on level ground in the sunshine. A man, standing 8 feet distant from the post, can just see the sun over its top. If the man's eye is 5 feet from the ground, find the tangent of the sun's angular elevation.
5. Simplify
 
$$\frac{(\cos 5^\circ + \cos 9^\circ)(\sin 5^\circ + \sin 10^\circ)}{(\cos 4^\circ 30' + \cos 9^\circ 30')(\sin 5^\circ 30' + \sin 9^\circ 30')}.$$
6. Solve the equation
 
$$(\sqrt{3} + 1)(\cos^2 x - 2 \cos x) + 3 = (3 - \sqrt{3}) \sin^2 x.$$
7. In any triangle ABC prove the formulæ
  - (i.)  $a \cos B + b \cos A = c$ ,
  - (ii.)  $a^2 + b^2 - c^2 = 2ab \cos C$ ,
  - (iii.)  $\frac{\cos A}{a} + \frac{\cos B}{b} + \frac{\cos C}{c} = \frac{a^2 + b^2 + c^2}{2abc}.$
8. Find the third side in the following triangles, and notice any ambiguity,
  - (i.)  $a = 8$  feet,  $b = 3$  feet,  $C = 60^\circ$ .

(ii.)  $a=b=7$  feet,  $A=30^\circ$ .

(iii.)  $a=8$  feet,  $b=7$  feet,  $B=60^\circ$ .

9. A steamer observes two harbour lights both bearing S.E. After steaming 4 miles due South, the lights bear due East and N.E. respectively. Find the distance between the lights.
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### GEOMETRY AND MENSURATION.

TWO HOURS AND A HALF.

PASS.

1. Describe a parallelogram equal to a given rectilineal figure, and having an angle equal to a given rectilineal angle.
2. ABC is a triangle and D is the middle point of BC. Prove that the sum of the squares on AB and AC is double the sum of the squares on AD and BD.
3. Shew that a triangle is acute-angled, right-angled, or obtuse-angled at A according as the median AD is greater than, equal to, or less than half the base BC.
4. Inscribe a circle in a given triangle.
5. Shew that in the case of an equilateral triangle the radius of the circumscribing circle is double that of the inscribed circle.
6. If the vertical angle of a triangle be bisected by a straight line which cuts the base, the segments of the base shall have to one another the same ratio as the remaining sides of the triangle, and conversely.
7. ABC is a triangle right-angled at A, AD is perpendicular to BC, and DE, DF bisect the angles ADB, ADC, and meet AB, AC in E and F. Shew that, if EK is drawn parallel to AC meeting BC in K, then FK is parallel to AB.
8. The area of a circular field is 8 acres, and it is surrounded by a paling fence six feet high. Find the diameter of the field, and the surface of the fence.
9. If one cubic foot of sandstone weighs 150 lbs., find the weight of a conical column of sandstone, whose height is 72 feet and the diameter of its base 27 feet.

JUNIOR FRENCH PROSE COMPOSITION AND UNSEEN  
TRANSLATION.

## PASS.

## 1. Translate into French—

(a) The passion of playing for money was so universal, that in the crusade, in which all ranks of men were engaged, the Kings of England and France made the most stringent regulations to keep gambling within limits. No man in the army was to play at any kind of game for money, except Knights and the Clergy; and of these none was to lose more than twenty shillings in any one day. The men-at-arms, and others of the lower orders, who should be found playing without permission of their masters, were to be whipped: and if mariners, were to be plunged into the sea on three successive mornings, after the usage of sailors. These regulations were to prevent the quarrels that were the natural consequence of gambling at this period, and in most other periods, when force stood in the place of argument.

(b) The common fluency of speech in many men and most women, is owing to a scarcity of matter and scarcity of words: for whoever is a master of language, and hath a mind full of ideas, will be apt, in speaking, to hesitate upon the choice of both; whereas common speakers have only one set of ideas and one set of words to clothe them in, and these are always ready at the mouth. So people come faster out of church when it is almost empty, than when a crowd is at the door.

## 2. Translate into English (at sight)—

(a) Ah ! oui, il y a bien longtemps que vous n'étiez venu au pays, qu'on ne regardait plus fumer le château, qu'on n'entendait plus aboyer les chiens là-bas dans le grand jardin sous les tours, qu'on ne voyait plus passer les chevaux blancs qui portaient des dames et des messieurs dans les chemins à travers les prés ! Ma fille me disait : "Le pays est mort; il semble que la cloche pleure au lieu de carillonner." On disait aussi que vous ne reviendriez jamais; qu'il y avait eu du bruit là-bas; qu'on vous avait nommé un des rois de la république; et puis qu'on avait voulu vous mettre en prison ou en exil, comme sous la Terreur. Il est venu au printemps un colporteur

qui vendait des images de vous dans le pays, comme celle d'un grand de la république ; et puis il en est venu en automne qui vendaient des chansons contre vous. J'ai bien pleuré quand ma fille m'a raconté cela un dimanche en revenant de la messe. Et puis, quelques mois plus tard, on dit que ce n'était pas vrai ; et puis, on n'a plus rien dit du tout.—*Lamartine.*

(b)

## PROMENADE.

Le Soleil déclinait ; le soir prompt à le suivre  
Brunissait l'horizon. Sur la pierre d'un champ  
Un vieillard, qui n'a plus que peu de temps à vivre,  
S'était assis pensif, tourné vers le couchant.

C'était un vieux pasteur, berger dans la montagne,  
Qui jadis, jeune et pauvre, heureux, libre et sans lois,  
A l'heure où le mont fuit sous l'ombre qui le gagne,  
Faisait gaîment chanter sa flûte dans les bois.

Maintenant riche et vieux, l'âme du passé pleine,  
D'une grande famille aïeul laborieux,  
Tandis que ses troupeaux revenaient de la plaine,  
Détaché de la terre, il contemplait les cieux.

Le jour qui va finir vaut le jour qui commence.

Le vieux pasteur rêvait sous cet azur si beau.

L'océan devant lui se prolongeait, immense,  
Comme l'espoir du juste aux portes du tombeau.

O moment solennel ! les monts, la mer farouche,  
Les vents, faisaient silence et cessaient leur clameur.

Le vieillard regardait le soleil qui se couche ;

Le soleil regardait le vieillard qui se meurt.

—*V. Hugo.*

## JUNIOR FRENCH—AUTHORS.

## PASS.

- 1, 2 and 3. Translate into English, extracts from Ponsard, *Le Lion Amoureux*, Balzac, *Ursule Mirouët*; Scribe, *La Camaraderie*.
4. Translate into English for Honours, additional passages from Balzac, *Ursule Mirouët*.



JUNIOR GERMAN PROSE COMPOSITION AND UNSEEN  
TRANSLATION.

## PASS.

## 1. Translate into German—

While these three officers were thus deciding upon his fate in the Castle of Egra, Wallenstein was occupied in reading the stars with Seni. "The danger is not yet over," said the astrologer, with prophetic spirit. "It is," replied the duke, who would give the law even to heaven. "But," he continued, with equally prophetic spirit. "that thou, friend Seni, thyself shalt soon be thrown into prison; that also is written in the stars." The Astrologer had taken his leave, and Wallenstein had retired to bed, when Captain Devereux appeared before his residence with six halberdiers, and was immediately admitted by the guard, who were accustomed to see him visit the General at all hours. A page, who met him upon the stairs, and attempted to raise an alarm was run through the body with a pike. In the antechamber the assassins met a servant, who had just come out of the sleeping-room of his master, and had taken with him the key. Putting his finger upon his mouth, the terrified domestic made a sign to them to make no noise, as the duke was asleep. "Friend," cried Devereux, "it is time to awake him;" and with these words he rushed against the door, which was also bolted from within, and burst it open.

## 2. Translate into English (at sight)—

(a) Der Gang des Pferdes ist ruhig und gleichmässig, auf steilen Wegen nicht weniger sicher, als auf der Ebene; oft trägt es in den Gebirgsländern den Reiter auf schmalen Pfaden an jähnen Abgründen vorbei, wo der furchtsame Wanderer kaum zu gehen wagt. Eine Lenkung mit dem Zügel, ein Wink mit den Sporen, oft ein einziges Wort verkündet ihm den Willen seines Herren, und es kommt ihm augenblicklich nach. Es lernt sogar auf die militärischen Signale achten, und führt die dadurch angedeuteten Bewegungen aus.— Muthig stürzt es sich mit dem Reiter unter dem Wirbeln der Trommeln und dem Donner der Kanonen in das dichteste Schlachtgewühl und den schwärzesten Pulverdampf, als ob es von dem Wunsche beseelt wäre, mit

seinem Herrn zu siegen oder zu sterben. Ist aber die Schlacht verloren, und muss der Kämpfer in der Flucht sein Heil suchen, so gibt er seinem Ross die Sporen, und der treue Kampfgenosse ermüdet, oder vielleicht gar verwundet, springt über Gräben und Hecken, schwimmt durch reissende Ströme und bringt sich und den Reiter in Sicherheit.

(b) DIE BEIDEN SCHWALBEN.

Zwo Schwalben sangen um die Wette,  
Und sangen mit dem grössten Fleiss;  
Doch wenn die Eine schrie, dass sie den Vorzug hätte,  
Gab doch die Andre sich den Preis.  
Die Lerche kömmt. Sie soll den Streit entscheiden;  
Und Beide stimmen herzlich an.  
Nun, hiess es: sprich, wer von uns Beiden,  
Am meisterlichsten singen kann?  
"Das weiss ich nicht," sprach sie bescheiden,  
Und sah sie ganz mitleidig an,  
Und wollte sich nach ihrer Höhe schwingen.  
Doch nein, sie suchten ihr den Ausspruch abzuwingen.  
"So," sprach sie, "will ich's denn gestehen:  
Die kann so gut, als jene singen,  
Doch singt, so lang ihr wollt, es singt doch keine schön.  
Hört man das Lied geistreicher Nachtigallen,  
So kann uns eures nicht gefallen."—*Gellert.*

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JUNIOR GERMAN—AUTHORS.

PASS.

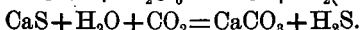
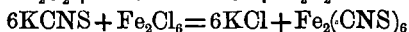
Translate into English, extracts from Freytag, Soll und Haben;  
Mendelssohn's Letters.

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CHEMISTRY—(INTRODUCTORY).

1. Briefly state the relations between pressure, temperature and the volume of gases. Why are these matters of importance in connection with the atomic weights of the elements?
2. Describe the structure of flame; what conditions affect the luminosity of flame? Describe the principles of the safety lamp.

3. What do you know about the solution of gases and solids in water? Describe the process of Dialysis.
4. How would you determine the composition (by volume) of hydrochloric acid and of ammonia?
5. Give a brief account of the chemical composition, preparation and properties of the following, viz.—Dextrose, glucose, starch, phenol, wood spirit, vinegar, wood vinegar and tartaric acid.
6. How does phosphorus occur in nature, and how is it prepared? Describe its properties and uses.
7. Give a general account of Silicon and of its chief compounds.
8. State exactly what information the following equations convey to you—



### PHYSIOGRAPHY.

*Six questions only to be attempted.*

1. Explain, and illustrate with sketches, Mollard Reade's theory as to the internal structure of the earth. How does this theory account for (a) normal faulting, and (b) volcanic action?
2. Explain and illustrate the various types of coral reef which may grow under the following conditions—(a) Foundation rising too rapidly to admit of reef-formers growing outwards as well as upwards. (b) Foundation stable. (c) Foundation subsiding too rapidly to admit of their out-growth as well as up-growth. (d) Foundation subsiding so slowly that considerable out-growth as well as up-growth takes place.
3. Draw a section, not less than six inches long, from the Jenolan Caves to the edge of the continental shelf, off Sydney, showing the geological relation of the Blue Mountains to the Main Dividing Range, and the general structure of the coal basin, within the above limits.

4. What is the present theory as to the cause of southerly "busters?"

Explain and illustrate the atmospheric conditions which precede and succeed them.

5. What was Darwin's theory as to the relation of Volcanic to Plutonic rocks? Quote examples, and mention any experiments which have confirmed his theory.

6. Who were the "Neolithic" (Iberian) races, and from whence did they probably come? In what parts of the world do they still survive?

7. Explain briefly the following:—"Persistent types," "recapitulation," "degeneration," pineal eye, variable star, lunar rills, sun-spots.

8. Explain and illustrate the structure and mode of origin of  
(a) Mineral Vein (fissure vein), (b) Contact Ore-deposits,  
(c) Stockworks.
-

## SECOND YEAR EXAMINATION.

## ENGLISH I.

*Not more than EIGHT questions to be attempted. Nos. 1 and 10 are compulsory.*

1. Paraphrase, adding explanatory and grammatical notes at discretion—

- (a) He waited after no pomp and reverence,  
 Ne maked him a spiced conscience,  
 But Criste's loore and his apostles twelve,  
 He taughte but first he folwed it himselve.
- (b) . . . for there is no theef without a lowke  
 That helpeth hym to wasten and to sowke  
 Of that he bribe kane or borwe may.
- (c) Whan told was al the lyf of Seint Cecile  
 Er we hadde riden fully fyve mile,  
 At Boghton-under-Blee us gan atake,  
 A man that clothed was in clothes blake  
 And undernethe he had a white surpys.
- (d) The streem of life now droppeth on the chymbe,  
 The sely tonge may wel rynge and chymbe,  
 Of wrecchednesse that passed is ful yooore.
- (e) Me were looth be likned, douteles,  
 To Muses that men clepe Pierides—  
 Methamorphosios woot wel what I mene,—  
 But natheless, I recche noght a bene,  
 Though I come after hym with hawebake;  
 I speke in prose, and lat hym rymes make.

2. "It is probable every one of the existing Canterbury Tales refers to the outward journey, and even that is not covered by them."

Explain.

3. "The plainness of the action, the self-consciousness of the characters, the excess of balance and symbolism in the play are all part of a deliberate conception of the historical matter and the traditional Richard III."

Discuss this theory.

4. "Henry VI. is the saint upon the throne."  
 "Henry VI. is Shakespeare's idea of the lowest ebb of kingship."  
 How much truth is in each of these views? Are they quite irreconcilable?
5. Discuss Swinburne's remarks on 2 and 3 Henry VI.—  
 "Marlowe was more or less concerned in the production and Shakespeare in the revision of these plays. But it is noticeable that the style of Marlowe appears more vividly in passages of the reformed than of the unreformed pieces."
6. Compare Marlowe's Edward II. and Ford's Perkin Warbeck as history plays, with reference to the standard of Shakespeare.
7. Compare the characters of Isabella (Edward II) and Margaret (Henry VI.).
8. "More's History of Richard III. was of very high value to Shakespeare, and was most freely used by him."  
 Discuss this.
9. Estimate Ford's indebtedness to Bacon's Henry VII.
10. Explain the following passages—
  - (a) But all this nothing no change made in the people which, alway after one, stode as they had been men amased, whereupon the duke rowned unto the mayer.
  - (b) The king himself remaining seated in the quire, the lord archbishop, upon the greece of the quire, made a long oration.
  - (c) And by the bark a canker creeps me up,  
 And gets into the highest bough of all;  
 The motto *Æque tandem*.
  - (d) My lord, when shall we go to Cheapside and take up commodities upon our bills?
  - (e) Wisdom and gravity are proper robes,  
 By which the sovereign is best distinguished  
 From zanies to his greatness.
  - (f) I call'd thee then poor shadow, painted queen;  
 The flattering index of a direful pageant.

Scan the following lines—

- (g) Go whither thou wilt seeing I have Gaveston.
- (h) An interest in the girl, then the king.
- (i) He caste his eyen upon Emelya,  
And therewithal he bleynte and cride, A!

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## ENGLISH II.

*Not more than EIGHT questions in all to be answered, and not more than FOUR from each part.*

### A

1. What metres are specially associated with the names of Chaucer, Skelton, Wyatt and Surrey respectively?
2. What general considerations enable us to conjecture the chronology of Chaucer's works?
3. Compare the influence of Chaucer with the influence of Wiclif on English Literature.
4. "Langland's conception of the Ploughman undergoes a development in the course of his poem, but it was only in its first phase that it exerted general influence."

Examine this.

5. Compare the positions of Pecoek in regard to the Lollards and of Hooker in regard to the Puritans.
  6. Compare the course of the Chaucerian tradition of poetry in England and in Scotland.
  7. Discuss the prose work and style of Sidney.
  8. "Allegorical poetry is the product rather of the understanding than of the imagination."
- Discuss this with special reference to the *Faery Queene*.

### B.

1. Trace the history of scenic representation in England till the emergence of the theatrical company and permanent play-house under Elizabeth.
2. Give some account of the Elizabethan plays that are most influenced by the classic drama.

3. "Neither Peele nor Greene was a born dramatist, but both did excellent work in the drama."

Discuss this statement.

4. Examine the evidence for the charges of blasphemy and immorality that have been brought against Marlowe.
5. "Shakespeare seems to have had the homage of his greatest rival and of the nation at large, though some of the minor dramatists may have failed to appreciate his sovereignty."

Explain and illustrate this.

6. Assuming the biographic character of Shakespeare's sonnets, to what period of his life may they most probably be assigned?
7. Trace the development of Shakespeare in Comedy.

#### LATIN PROSE COMPOSITION AND UNSEEN TRANSLATION.

1. Translate into Latin—

It was one of the peculiarities of Caius Cæsar that he hated the very existence of any excellence. He used to bully and insult the gods themselves, frowning even at the statues of Apollo and Jupiter of the Capitol. He thought of abolishing Homer, and ordered the works of Livy and Virgil to be removed from all libraries, because he could not bear that they should be praised. He ordered Julius Græcinus to be put to death for no other reason than this, "that he was a better man than it was expedient for a tyrant that any one should be;" for, as Pliny tells us, the Cæsars deliberately preferred that their people should be vicious than that they should be virtuous. It was hardly likely that such a man should view with equanimity the rising splendour of Seneca's reputation. Hitherto, the young man, who was thirty-five years old at the accession of Caius, had not written any of his philosophic works, but in all probability he had published his early, and no longer extant, treatises on earthquakes, on superstitions, and the books *On India*, and *On the Manners of Egypt*, which had been the fruit of his early travels.



## 2. Translate into English—

“Desiderarunt te,” inquit [populus Romanus], “oculi mei, cum tu esses Cyrenis. Me enim quam socios tua frui virtute malebam, et, quo plus intererat, eo plus aberat a me, cum te non videbam. Deinde sitientem me virtutis tuae deseruisti ac reliquisti. Coeperas enim petere tribunatum plebis temporibus iis, quæ istam eloquentiam et virtutem requirebant: quam petitionem cum reliquistes, si hoc indicasti, tanta in tempestate te gubernare non posse, de virtute tua dubitavi: si nolle, de voluntate. Sin, quod magis intellego, temporibus te aliis reservasti, ego vero te,” inquit populus Romanus, “ad ea tempora revocavi, ad quæ tu te ipse servaras. Pete igitur eum magistratum, in quo mihi magnæ utilitati esse possis: ædiles quicunque erunt, iidem mihi sunt ludi parati: tribuni plebis permagni interest qui sint. Quare aut redde mihi quod ostenderas, aut si quod mea minus interest, id te magis forte delectat, reddam tibi istam ædilitatem etiam negligenter petenti: sed amplissimos honores ut pro dignitate tua consequare, condiscas censeo mihi paulo diligentius supplicare.”

## LATIN AUTHORS.

## 1. Translate into English, extracts from Horace's Odes, II., III. and IV.

## 2. Translate and comment on—

(a) Juno, et deorum quisquis amicior  
Afris inulta cesserat impotens  
Tellure, victorum nepotes  
Rettulit inferias Jugurthæ.

(b) Non ego, pauperum  
Sanguis parentum, non ego quem vocas  
Dilecte Mæcenas, obibo.

(c) Laribus tuum  
Miscet numen, uti Græcia Castoris  
Et magni memor Herculis.

## 3. Translate into English extracts from Sallust, Jugurtha.

## 4. Translate and comment on—

- (a) Sed ex omnibus maxime Aemilius Scaurus, homo nobilis, impiger factiosus, avidus potentiae honoris divitiarum, ceterum vitia sua callide occultans.
- (b) Ita percussa nobilitate post multas tempestates novo homini consulatus mandatur.
- (c) Marius interea milites scribere, non more majorum neque ex classibus, sed uti cujusque lubido erat.

## ROMAN HISTORY.

## ONE HOUR AND A HALF.

Not more than FOUR questions to be answered.

1. Describe the constitution and powers of the *comitia centuriata*.
2. What were the causes of the decay of agriculture in Italy in the second century B.C.? Describe the attempts made to check that decay by legislation.
3. "What the Senate had been *de facto*, Sulla would make it *de jure*."

Explain this statement.

4. Describe the political conduct of Cicero from the beginning of his consulship to his governorship of Cilicia.
5. "The *quaestio perpetua de pecuniis repetundis* was a step to the formation of a criminal code: but the composition of the court soon became a political question, which impaired its judicial value."

Comment on this.

## GREEK—JUNIOR CLASS.

\*(FIRST YEAR HONOURS AND SECOND YEAR PASS.)

## TRANSLATION AT SIGHT.

Translate—

- (a) δοκεῖ δὲ ὁ δῆμος ὁ Ἀθηναίων καὶ ἐν τῷδε κακῶς βουλευέσθαι, ὅτι τοὺς συμμάχους ἀναγκάζουσι πλεῖν ἐπὶ δίκας Ἀθήναζε· οἱ δὲ ἀντιλογίζονται ὅσα ἐν τούτῳ ἐνὶ ἀγαθὰ τῇ δῆμῳ τῶν Ἀθη-

\* For Second Year Honours see "Greek—Senior Class," under Third Year.

ναίων. πρῶτον μὲν . . . οἶκοι καθήμενοι ἄνευ νεῶν ἔκπλου διοικοῦσι τὰς πόλεις τὰς συμμαχίδας, καὶ τοὺς μὲν τοῦ δήμου σῶζουσι, τοὺς δ' ἐναντίους ἀπολλύουσιν ἐν τοῖς δικαστηρίοις. εἰ δὲ οἶκοι εἶχον ἕκαστοι τὰς δίκας, ἅτε ἀχθόμενοι Ἀθηναίοις, τούτους ἂν σφῶν αὐτῶν ἀπώλλυσαν οἷτινες φίλοι μάλιστα ἦσαν Ἀθηναίων τῷ δήμῳ. . . . πρὸς δὲ τούτοις, εἰ μὲν μὴ ἐπὶ δίκας ἦσαν οἱ σύμμαχοι, τοὺς ἐκπλέοντας Ἀθηναίων ἐτίμων ἂν μόνους, τοὺς τε στρατηγούς καὶ τοὺς τριηράρχους καὶ πρέσβεις· νῦν δ' ἠνάγκασται τὸν δῆμον κολακεύειν τῶν Ἀθηναίων εἰς ἕκαστος τῶν συμμάχων, γινώσκων ὅτι δεῖ ἀφικόμενον Ἀθήναζε δίκην δοῦναι καὶ λαβεῖν οὐκ ἐν ἄλλοις τισὶν ἄλλ' ἐν τῷ δήμῳ, ὅς ἐστι δὴ νόμος Ἀθήνησι· καὶ ἀντιβολῆσαί ἀναγκάζεται ἐν τοῖς δικαστηρίοις καὶ εἰσιόντος του ἐπιλαμβάνεσθαι τῆς χειρός. διὰ τοῦτο οὖν οἱ σύμμαχοι δούλοι τοῦ δήμου τῶν Ἀθηναίων καθεστᾶσι μᾶλλον.

- (b) καὶ καταναυμαχήσας Φοινισσῶν νεῶν καὶ Κιλισσῶν βασιλικὸν στόλον ἀνεκτᾶτό τε τὰς ἐν κύκλῳ πόλεις καὶ τοὺς περὶ Αἴγυπτον ἐφῆρπρευεν, οὐδὲν μικρόν, ἀλλ' ὅλης ἐπινοῶν τῆς βασιλείας ἡγεμονίας κατάλυσιν, καὶ μάλιστα ὅτι τοῦ Θεμιστοκλέους ἐπυνθάνετο δόξαν εἶναι καὶ δύναμιν ἐν τοῖς βαρβάροις μεγάλην, μέλλοντος βασιλεῖ κινεῖν τὸν Ἑλληνικὸν πόλεμον στρατηγήσειν. Θεμιστοκλῆς μὲν οὖν οὐχ ἥκιστα λέγεται τὰς Ἑλληνικὰς πράξεις ἀπογονούς, ὥς οὐκ ἂν ὑπερβαλόμενος τὴν Κίμωνος εὐτυχίαν καὶ ἀρετήν, ἐκὼν τελευτῆσαι, Κίμων δὲ μεγάλων ἐπαιρόμενος ἀρχὰς ἀγώνων καὶ περὶ Κύπρον συνέχων τὸ ναυτικὸν ἐπεμψεν εἰς Ἀμμωνος ἄνδρας ἀπόρρητόν τινα μαντείαν ποιησομένους παρὰ τῷ θεῷ· γινώσκει γὰρ οὐδεὶς ὑπὲρ ὧν ἐπέμψθησαν, οὐδὲ χρησμὸν αὐτοῖς ὁ θεὸς ἐξήνεγκεν, ἀλλ' ἅμα τῷ προσελθεῖν ἐκέλευσεν ἀπιέναι τοὺς θεοπρόπους· αὐτὸν γὰρ ἦδη τὸν Κίμωνα παρ' ἑαυτῷ τυγχάνειν ὄντα. ταῦτα ἀκούσαντες οἱ θεοπρόποι κατέβαινον ἐπὶ θάλασσαν· γενόμενοι δὲ ἐν τῷ στρατοπέδῳ τῶν Ἑλλήνων, ὃ τότε περὶ Αἴγυπτον ἦν, ἐπύθοντο τεθνάναι τὸν Κίμωνα.

- (c) ANDROMACHE.

ἀτὰρ τί ταῦτ' ὀδύρομαι, τὰ δ' ἐν ποσὶν  
οὐκ ἐξικμάζω καὶ λογιζομαι κακά;  
ἦτις σφαγὰς μὲν Ἑκτορος τροχηλάτους  
κατείδον οἰκτρῶς τ' Ἴλιον πυρούμενον,  
αὐτὴ δὲ δούλη ναῦς ἐπ' Ἀργείων ἔβην,  
κόμης ἐπισπασθεῖς· ἐπεὶ δ' ἀφικόμην  
Φθίαν, φονεῦσιν Ἑκτορος νυμφεύομαι.

τί δῆτ' ἐμοὶ ζῆν ἡδύ; πρὸς τί χρὴ βλέπειν;  
 πρὸς τὰς παρούσας ἢ παρελθούσας τύχας;  
 εἰς παῖς ὁδ' ἦν μοι λοιπὸς ὀφθαλμὸς βίου  
 τοῦτον κτανεῖν μέλλουσιν οἷς δοκεῖ τάδε.  
 οὐ δῆτα τοῦμου γ' οὐνεκ' ἀθλίου βίου  
 ἐν τῷδε μὲν γὰρ ἐλπίς, εἰ σωθήσεται,  
 ἐμοὶ δ' ὄνειδος μὴ θανεῖν ὑπὲρ τέκνου.  
 ἰδοὺ προλείπω βωμὸν ἡδε χειρῖα  
 σφάζειν, φονεύειν, δεῖν, ἀπαρτῆσαι δέρην.  
 ὦ τέκνον, ἡ τεκούσά σ', ὥς σὺ μὴ θάνῃς,  
 στείχω πρὸς Ἀἰδην. ἦν δ' ὑπεκδράμῃς μόρον,  
 μέμνησο μητρὸς, οἷα τλᾶσ' ἀπωλόμην,  
 καὶ πατρὶ τῷ σῷ, διὰ φιλημάτων ἰὼν  
 δάκρυά τε λείβων καὶ περιπτύσσων χέρας,  
 λέγ' οἷ' ἐπραξα.

## GREEK—JUNIOR CLASS.

(FIRST YEAR HONOURS AND SECOND YEAR PASS.)

## AUTHORS.

- A. Translate extracts from Sophocles, Oedipus Tyrannus and Philoctetes, with short notes on points needing explanation.

Mark the metre of the last line of (a), and the last two lines of (e).

- B. Translate extracts from Thucydides I. and II., and write short notes explaining the historical references.

## GREEK HISTORY.

ONE HOUR AND A HALF.

*Not more than FOUR questions are to be answered.*

1. Discuss the relation between the society depicted in the Iliad and that indicated by the remains discovered at Mycaene.
2. "The existence of the Helots was at once the basis of the Spartan State and a perpetual menace to its existence."  
Explain this.
3. What were the real causes of the Peloponnesian war, and which side was the aggressor?

4. Contrast the descriptions of Athenian democracy given by Pericles (as reported by Thucydides) and by Aristophanes respectively. How far can either view be accepted as true to the facts?
5. Explain the causes which brought about internal dissension in Athens in the latter part of the Peloponnesian war, and describe the motives and aims of the oligarchic leaders.

## LOGARITHMS AND TRIGONOMETRY.

TWO HOURS.

PASS.

1. State and prove the rules relating to the characteristics of common logarithms.

Calculate  $(13.427)^{\frac{3}{5}} \div (.08431)^{\frac{1}{3}}$ .

2. What sum, accumulated at compound interest at the rate of 5 per cent. per annum, for five years, will amount to £1800?
3. Find the present value of an annuity of £325, to commence at the end of five years, and to continue for 16 years, compound interest being taken at  $3\frac{1}{2}$  per cent. per annum.

4. Shew that in any triangle

$$(i.) \cos A + \cos B + \cos C = 1 + \frac{2a \sin B \sin C}{a + b + c}$$

$$(ii.) (a^2 - b^2) \cot C + (b^2 - c^2) \cot A + (c^2 - a^2) \cot B = 0.$$

5. A statue standing on the top of a column subtends the same angle  $a$  at two points in the same horizontal plane through the base of the column, and distant from it  $a$  feet and  $b$  feet respectively. Shew that the height of the statue is  $(a + b) \tan a$  feet.
6. Find an expression for the radius of the circle circumscribing a given triangle. If  $O$  is the centre of the circum-circle of the triangle  $ABC$ , and  $AO$  is produced to meet  $BC$  in  $D$ , shew that  $BD : DC :: \sin 2C : \sin 2B$ .
7. The sides of a triangle are 54.436 feet, 42.639 feet and 46.509 feet respectively; find the angles, and the radius of the inscribed circle.

## STATICS.

TWO HOURS AND A HALF.

## PASS.

1. What is meant by a Resultant Force in Statics?

Without assuming the Parallelogram of Forces, find the resultant of three forces  $3P$ ,  $4P$  and  $4P$ , acting on a particle, so that each force is inclined to the other two at angles of  $120^\circ$ .

2. Enunciate and prove the theorem called the Triangle of Forces.
3. The sides of a triangle are 3, 4 and 5 feet in length, and along them, in order, act forces of 6, 7 and 8 lbs. respectively. Prove that the resultant is  $\frac{2}{5}\sqrt{5}$  lbs., acting parallel to the line which bisects the angle between the greatest and least sides of the triangle.
4. Find the resultant of two like parallel forces, and deduce the formula  $\bar{x} = \frac{\sum mx}{\sum m}$ , for the C.G. of a number of particles in a straight line.
5. Find the centre of gravity of a uniform wire bent into the shape of a capital **L**, the upright part being double the horizontal part in length.
6. Describe the system of pulleys in which each of  $n$  weightless pulleys hangs in the loop of a separate string, and find the ratio of the Power to the Weight.
7. Two smooth, unequally inclined planes have a common vertex, and two weights rest on them in equilibrium, being connected by means of a string which passes over a small pulley at the vertex. Find the relation between the weights and the inclinations.
8. Two equal uniform beams rest against each other symmetrically at their upper ends, the lower ends resting on the ground. Shew that the action of the ground on the beams is along lines which meet at a point directly over the upper junction, at double its height from the ground.
9. Describe and graduate the common steelyard.

## HYDROSTATICS.

TWO HOURS AND A HALF.

PASS.

1. What is meant by the equal transmission of fluid pressure? Describe an instrument in which this fact is turned to practical account.
2. Prove the following expression for the whole pressure of a fluid on a surface  $S \dots wSz$ . On a horizontal surface one square foot in area, at depth 40 feet, the whole pressure is 2560 lbs. What is the sp. gr. of the fluid?
3. Investigate the conditions of equilibrium of a body floating freely in fluid.  
A hollow sphere of volume 4 cubic feet floats with  $\frac{1}{6}$  of its volume immersed in water. What weight placed inside will just sink it level with the surface of the water? Find also the weight in air of metal of sp. gr. 7 that, fixed on outside to the lowest point, will just sink it.
4. Define Centre of Pressure. ABC is a triangle immersed with its base BC in the surface; shew that the depth of the centre of pressure is half the depth of A. If E, F are the middle points of AC and AB, find the depth of the centre of pressure of the triangle EFA.
5. To what depth in water must a cylindrical diving bell, of height 6 feet, be sunk so as to be two-thirds full of water? What will be the volume (at atmospheric pressure) of the air that will need to be forced in so that all the water may be driven out of the bell?  $H=33$  feet.
6. What is meant by the absolute zero of temperature?  
If a quantity of air occupying one cubic foot under atmospheric pressure  $\Pi$ , and temperature  $77^\circ$  Fah., is put into a receiver where the pressure is  $4\Pi$ , and the temperature  $50^\circ$  Fah., what volume will it then occupy?
7. Describe the construction and use of the mercurial barometer.  
When the height of the barometer is 30 inches a little air is passed into the vacuum above the mercury, and the reading is then found to be 25 inches. If the vacuum originally occupied a length of 3 inches of the tube, whose cross section is  $\frac{1}{100}$  square inch, find the volume (at atmospheric pressure) of air that was passed in.

8. Describe some form of condensing air pump. If the volume of the barrel is 80 cubic inches, and of the receiver 1000 cubic inches, how many strokes will be necessary to raise the pressure of the air from II to 4II?

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SENIOR FRENCH I.

PASS.

1. Translate into French—

REFLECTIONS IN INDIA.

The time will never arrive when the European and the native can amalgamate and fraternise; we shall remain as rulers, or we shall be driven out of India, but we can never become one people, in spite of our earnestness and goodwill towards our Indian subjects. This will always be our great difficulty, and it must increase as education advances.

In conversing with the upper classes of natives, I have frequently heard them complain of the coldness and contempt with which they are regarded by Europeans and by the English in particular. It is useless to explain how impossible it is for those who have no ideas in common to associate upon terms of intimacy. The native cannot understand this. As a rule he has no conversation except that concerning his own locality; his ladies do not appear in our society, and should they kindly receive the ladies of our own race, they may be sweet and obliging, but after a few minutes their conversation would be exhausted. With the kindest feelings towards them, it is simply impossible to regard them in the same light as our European friends. There is accordingly a gulf or barrier between us and themselves which, although deplorable, must always exist. The more advanced and highly intelligent natives, who have had a University education in England, are unfortunately nearly all extreme Radicals.  
—S. W. Baker.

- 2, 3. Translate passages from Lamartine, Jocelyn; and Lemerrier, Fredegonde et Brunehaut.



## FRENCH II.

- 1, 2, 3. Translate passages from Scribe and Legouvé, Adrienne Lecouvreur; Michaud. Histoire de la première Croisade; and Sainte-Beuve, Causeries du Lundi, Vol. II.
  4. (a) Describe the characteristics of the so-called literature of the Emigrés.
  - (b) Compare René and Obermann with the "Heroes of Melancholy" that preceded and followed them.
  - (c) "Those who have least sympathy with their speculative theories, must admit that J. de Maistre and Lamennais were pioneers of the modern view of society." Examine this.
  - (d) "French Romanticism is French Classicism in disguise." Discuss this epigram.
  - (e) "It was left for the French Romantic writers to discover the woman, the child, the people, the barbarian, the poet."
- Is this correct? Give illustrations of the sort of phenomenon in literature it is intended to indicate.

## 5. Translate (at sight) —

Au beau milieu du XVIII<sup>e</sup>. siècle, par une fraîche et rayonnante matinée, un gentilhomme de vingt ans s'abandonnait, aux alentours de Lunéville, au galop d'un cheval anglais, enivré par la course et par le parfum des bois. Une vingtaine de chiens de chasse de toutes formes et de toutes couleurs, éparpillés dans la vallée, se répondaient par de joyeux aboiements. Il les suivait du regard, sans s'inquiéter du dégât de leurs courses vagabondes. Qu'importe la moisson future, quand la fleur nous éblouit et nous enivre, quand on est heureux de toutes ses forces et de tout son cœur? Tout homme, une fois en sa jeunesse, une seule fois peut-être, a saisi au passage, dans une étreinte rapide, ce bonheur qui a sur le front un rayon printannier et sur les lèvres la rosée des primevères. Ce gentilhomme était le chevalier Stanislas de Boufflers, qui avait vécu jusque-là à la cour de Lunéville, sous les yeux de sa mère, la célèbre Marquise de Boufflers. Il avait vécu sans souci, étudiant en plein vent, assez mal gouverné par l'abbé Porquet, "qui ne savait pas son *Benedicite*," quoiqu'il fût aumônier

du roi de Pologne. Comme on voit, Boufflers avait eu, dans sa mère et dans son gouverneur, deux maîtres faciles à contenter, deux maîtres qui pardonnaient tout à l'esprit. Or, le jeune chevalier savait bien se faire pardonner.

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## SENIOR GERMAN I.

## PASS.

## 1. Translate into German—

Or perhaps we come nearer our meaning, if we say that in Goethe we discover by far the most striking instance, in our time, of a writer who is, in strict speech, what Philosophy can call a man. He is neither noble nor plebeian, neither liberal nor servile, nor infidel nor devotee; but the best excellence of all these, joined in pure union; "a clear and universal man." Goethe's poetry is no separate faculty, no mental handicraft; but the voice of the whole harmonious manhood; nay, it is the very harmony, the living and life-giving harmony of that rich manhood which forms his poetry. All good men may be called poets in act, or in word; all good poets are so in both. But Goethe besides appears to us as a person of that deep endowment, and gifted vision, of that experience also and sympathy in the ways of all men, which qualify him to stand forth, not only as a literary ornament, but in many respects too as the teacher and exemplar of his age. For, to say nothing of his natural gifts, he has cultivated himself and his art, he has studied how to live and to write, with a fidelity, an unwearied earnestness, of which there is no living instance; of which, among British poets especially, Wordsworth alone offers any resemblance.

- 2, 3, 4. Translate passages from Heine, *Romantische Schule*; Chamisso's *Poems*, and Freytag, *Die Journalisten*.
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## SENIOR GERMAN II.

1. Translate, with the necessary explanations, passages from Goethe, *Faust*, Part II.

2. What is the signification of (a) *Homunculus*, (b) the classical *Walpurgisnacht*, (c) *Lynceus*?
3. (a) Explain the meaning of the expression "*Romantic Irony*."  
 (b) Compare Tieck, Novalis, and Hoffmann as imaginative writers.  
 (c) Account for the large part that change of personality plays in the writers of the Romantic School, and give illustrations.  
 (d) What circumstances led to the formation of the school of writers known as *Young Germany*, and how did these affect the permanence of their fame?  
 (e) "*Ich war ein braver Soldat im Befreiungskrieg der Menschheit*." Discuss the claim that Heine makes for himself in these words.
4. Translate (at sight)—

Es gehört wenig Phantasie dazu, sich urplötzlich in die südamerikanischen Pampas versetzt zu wähnen, wenn ein Tabun halbwilder Steppenpferde mit donnerndem Hufschlag daherbraust, der Tränke zu, hinter ihnen drein kühne, dunkelhäutige Tartaren oder Zigeuner in der malerischsten Tracht der Zerrissenheit; voran der führende Hengst, den Kopf hoch, die Ohren gespitzt, mit weit aufgeblasenen Nüstern, als suche er herausfordernd die Gefahr, rechts und links in der bräunlichen Staubwolke lustig springende Füllen, zuweilen von ihrer Mutter mit strafendem Biss genöthigt, sich nicht zu weit von dem Trupp zu entfernen. Die wilden Augen, die langen, gewellten Mähnen, welche oft bis zu den Knien reichen, die schweren, verworrenen Schweife, die den Boden fegen, und die grosse Verschiedenheit in der Färbung der Thiere—obwohl das Fahle immer vorherrscht—vervollständigen den Eindruck, welchen die oft gelesene Beschreibung und die Catlin'schen Abbildungen der Mustang Herden hinterlassen haben. Und merkwürdig ist die Aehnlichkeit der Gebräuche, welche so weit von einander entfernte Völker sich zu einem und demselben Zwecke angeeignet haben. Wie der Gaucho oder Comanche den Lasso, so führt der Tartare und Kirgise den Arkan, die gefürchtete Riemenschlinge, die er mit unfehlbarer Sicherheit wirft und damit ein

bestimmtes Pferd aus der Mitte des Tabuns herausholt. Dann musz man die Thiere sehen, wenn der Arkan über ihren Häuptern schwirrt! Mit verzweifelnder Hast drängen sie hinweg von dem Opfer, bäumen sich, schlagen um Raum zu gewinnen, Wiehern und Angstgeschrei erfüllt ohrzerreissend die Luft, bis der zusammengeballte Knäuel sich gelöst hat, und nunmehr die Pferde nach allen Richtungen auseinander stieben.

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### LOGIC AND MENTAL PHILOSOPHY.

#### PASS.

*Not more than SEVEN questions to be attempted.*

#### A.

1. Explain what is meant by each of the following—*Dictum de omni et nullo*, *Dilemma*, *Plurality of Causes*.
2. State in your own words the method of *Concomitant Variations*. Give a concrete example.
3. Illustrate from actual scientific method the action and reaction of Deduction and Induction.
4. Describe and illustrate the modern scientific conception of Cause.
5. Give three examples of fallacious popular reasoning in connection with Federation, Free Trade or Woman's Rights. State precisely the nature of the fallacy in each case.

#### B.

6. Define *Perception*. What do you consider to be the best means of training the perceptive powers?
7. "The highest form of consciousness is self-consciousness."  
"All consciousness is self-consciousness."  
Write a critical note on each of these remarks.
8. Describe the function of association in the formation of habit.
9. Distinguish clearly—*Impulse*, *Desire*. Account for the use of the following phrases—*Conflict of motives*, *mixed motives*. What precisely do you understand by "motive" in each case?

LOGIC AND MENTAL PHILOSOPHY.

HONOURS I.

1. What are the chief elements in the conception of personal identity?
2. Show how *a priori* relations of thought enter into all the facts of experience.
3. "Such minor or limited universals (as the sense of honour) are necessary in every true organic view of society."

Explain and illustrate this remark.

4. Write a comment on each of the following quotations—
  - (a) "Psychology is a theoretic as distinguished from a practical science."—*Sully*.
  - (b) Art is a "portion of life seen through the medium of a temperament."—*Zola*.
  - (c) "The reverence of a man's self is, next religion, the chiefest bridle of all the vices."—*Bacon*.

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HISTORY I.

PASS.

You are recommended to answer SEVEN questions.

1. Discuss *shortly* the relative importance of Keltic, Roman, and Teutonic elements in the making of the English nation.
2. Show the influence of Christianity in bringing about the union of the English nation.
3. Describe the condition of England in the early part of the eleventh century, with a view to accounting for its conquest by the Normans.
4. Explain the nature of the controversies of St. Anselm with William II. and Henry I.
5. Sketch the history of the English possessions in France from 1066 to 1216, showing the influence of this history on the home politics of England.
6. Describe *shortly* the character of the reign of Stephen.
7. Explain the importance of *two* of the following:—The Salisbury Oath (1086); the Constitutions of Clarendon; the Provisions of Oxford.

8. Show the influence of the Franciscans in England in the thirteenth century.
9. Explain shortly the relations between England and Scotland to the death of Edward I.

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## HISTORY II.

### PASS.

*You are recommended to answer SEVEN questions.*

1. Describe the character of the reign of Edward II.
2. Estimate the influence of Wycliffe's teaching.
3. Explain the causes and the results of the fall of Richard II.
4. In what respects does Fortescue compare the condition of England to the condition of France?
5. Discuss the character and policy of Richard III.
6. Discuss the religious views and aims of Sir Thomas More.
7. Explain the importance of the rebellions of *two* of the following:—Cade, Kett, Wyatt.
8. Estimate Elizabeth's ability as a statesman.
9. What are the most interesting features of the career of Sir Walter Raleigh?

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## HISTORY I.

[THIS PAPER IS TO BE TAKEN ALSO BY THIRD YEAR HONOUR STUDENTS.]

### HONOURS.

*You are recommended to answer not less than FIVE, and not more than SEVEN questions.*

1. To what extent did "Feudalism" exist in England before the Norman Conquest?
2. Explain the nature of the influence of the Norman Conquest on the growth of the English Constitution.
3. Explain the most important features of the Charter of Henry I., and show its relation to the Magna Carta.
4. "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 this statement.

5. Trace the growth of the idea of "ministerial responsibility" during the Middle Ages.
6. Compare the views with regard to the Papacy of St. Anselm, Grosseteste, and Wycliffe.
7. The fifteenth century has been called "the golden age of the working classes."  
Discuss their condition at this time.
8. Discuss shortly what seem to you the essential characteristics of the Renaissance movement.
9. What were the nature and extent of the changes in the English Church, brought about by the Protestant Reformation during the reign of Henry VIII.?
10. Discuss the position of the Parliament in the reign of Elizabeth.
11. Discuss the position of the early Protestants in regard to the principle of religious toleration.
12. Compare the form taken by the Protestant movement in England and Scotland respectively.

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#### GEOLOGY.

The same paper as that set in the Second Year of Science.

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## THIRD YEAR EXAMINATION.

## ENGLISH I.

*Not more than FIVE questions to be answered from the first part, and not more than FOUR from the second.*

## A.

1. "The Dramatic History is a distinct species of composition, inferior, perhaps, to the regular tragedy as a panorama is inferior to a true tragic or epic picture; but at any rate different and not amenable to the same rules."

Discuss Shakespeare's conception of it, from the ethical point of view as well as from that of form.

How do 2 and 3 Henry VI. compare with the *Contention and True Tragedy*? Indicate the most reasonable theory as to their relationship.

3. "The personality of Richard III. is a study in heredity deformity and environment, and his career a study in Retribution."

Examine the grounds for such a theory.

4. "In *King John* after the death of Arthur all interest is at an end."

Discuss this criticism.

5. "Prince Hal's reformation is the low contrived trick of a most princely hypocrite. This after-glorification is a peace offering to national vanity, in which the judgment of the author has no share."

"Hal is Shakespeare's ideal of an honourable man and a great king."

Compare these views.

6. "Falstaff openly assumes the characters of liar, braggart, coward, glutton, &c., to show the humorous part of them, and we no more object to him in a moral point of view than we should think of bringing an excellent comedian who should represent him to the life before one of the police officers."

Discuss this.



7. (a) Note the conditions of the authorship problem in the case of Henry VIII. What appears the best solution of it?

Or,

- (b) How much of the "epilogue to the historical series" is there in Henry VIII.?

8. Discuss Shakespeare's treatment of womanly character in the history plays.

B.

1. (a) Point out any parallels and contrasts between *In Memoriam* and *Sartor Resartus*.

Or,

- (b) Explain Tennyson's remark: "(In *Memoriam*) is a very impersonal as well as a personal poem."

2. (a) "This our *Sartor Resartus*, which is properly a life and opinions of Herr Tenfelsdröckh." "Nothing in *Sartor* is true; symbolical myth all." Comment on these two sayings of Carlyle.

Or,

- (b) What is the gist of Carlyle's message in *Sartor*?

3. (a) Discuss the employment of separate monologues to convey the story of the *Ring and the Book*.

Or,

- (b) Compare the versions of the flight given by Guido and by Caponsacchi.

4. "Through very love of self himself he slew."  
How does Meredith work out this idea in the *Egoist*?

5. Discuss the following passages—

- (a) Methought I dwelt within a hall  
And maidens with me; distant hills  
From hidden summits fed with rills  
A river sliding by the wall.

- (b) My love involves the love before  
My love is vaster passion now.

- (c) If these brief lays of sorrow born,  
Were taken to be such as closed  
Grave doubts and answers here proposed,  
Then these were such as men might scorn.

- (d) The doctrine, which Swift with the keen forecast of genius dimly anticipated, will stand revealed in clearest light, that the Tailor is not only a Man, but something of a Creator or Divinity.
- (e) Will the whole Finance Ministers and Upholsterers and Confectioners of Modern Europe undertake in joint stock company, to make one Shoeblick happy?
- (f) Not our logical mensurative faculty but our imaginative one is King over us.
- (g) Such substance of me interfused the gold,  
Which, wrought into a shapely ring therewith,  
Hammered and filed, fingered and favoured, last  
Lay ready for the renovating wash  
Of water.
- (h) This is an episode  
In Burgess-life; why seek to aggrandize,  
Idealize, denaturalize the class?
- (i) Dutiful to the foolish parents first,  
Submissive next to the bad husband,—nay  
Tolerant of those meaner miserable  
That did his hests, eked out the dole of pain—  
Thou, patient thus, could'st rise from law to law.

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## ENGLISH II.

*Not more than THREE questions in A and FIVE in B to be answered.*

### A.

1. "Know thou, most mighty of men, that the Norns shall order all,  
And yet without thine helping, shall no whit of their will befall.  
Love thou the gods, and withstand them, lest thy fame should fail in the end,  
And thou be but their thrall and their bondsman, who wert born for their very friend."  
These lines have been described as containing the "essence of Northern Heathenism." Explain this.
2. "After a while the English found their ancestral stories less attractive than the Celtic legends of Arthur."  
Discuss this change and point out the difference in character between the two sets of fiction.

3. Describe the character and influence of Macpherson's *Ossian*.
4. What are Chaucer's debts to Dante? Compare the two poets as delineators of character.
5. King James extols the  
     Counsel of Philosophie  
     Compil't by that nobil senatour  
     Of Rome whilom that was the warldes floure,  
     And from estate by Fortune awhile  
     Foreinit was to povert in exile.  
     Explain this reference fully, and estimate the influence of  
     the "compilation" alluded to.

B.

1. "Macaulay's ideas were those of his average middle-class countrymen." Discuss this.
2. "Newman's *Apologia* is a masterpiece of psychological history, but not in the same style as the *Confessions* of Augustine or Rousseau." Comment on this.
3. Tennyson said to Browning: "A small vessel, built on fine lines, is likely to float further down the stream of time than a big raft."  
     Is that a correct representation of their respective styles in poetry?
4. Lytton speaks of Tennyson's poetry as a  
     Jingling medley of purloined conceits  
     Outbabying Wordsworth and outglittering Keats.  
     Is there any justice in this attack?
5. "Few great writers have written so many burlesques and parodies as Thackeray."  
     Illustrate this and explain its significance.
6. What were Matthew Arnold's chief principles in literary criticism?
7. "Swinburne is very far from a master of style, though that is his reputation, and he is much more than a mere stylist, though few perceive it." Examine this.
8. Discuss Morris's description of himself as "the idle singer of an empty day."

## LATIN AUTHORS.

## (PLINY AND UNSEEN TRANSLATION.)

1. Translate into English, extracts from Pliny's Letters.
2. Translate and write short notes upon—
  - (a) Vereor ne procedente tempore ex ipso remedio vitia nascantur. Est enim periculum, ne tacitis suffragiis impudentia inrepat.
  - (b) Animus tantum et spiritus viget Helvidio marito, Thræsea patre dignissimus.
  - (c) Cave ne eosdem libellos, quos tibi hendecasyllabi nostri blanditiis elicere non possunt, convicio scæzontes extorqueant.
  - (d) Optime facis quod bellum Dacicum scribere paras.
3. Translate into English—
 

Paucos intra dies, eodem agmine, Annaeus Mela, Cerialis Anicius, Rufius Crispinus ac Gaius Petronius cecidere, Mela et Crispinus equites Romani dignitate senatoria. nam hic quondam præfectus prætorii et consularibus insignibus donatus, ac nuper crimine coniurationis in Sardiniam exactus, accepto iussae mortis nuntio semet interfecit. Mela, quibus Gallio et Seneca, parentibus natus petitione honorum abstinuerat per ambitionem præposteram, ut eques Romanus consularibus potentia æquaretur; simul acquirendae pecuniae brevius iter credebat, per procuraciones administrandis principis negotiis. idem Annaeum Lucanum genuerat, grande adiumentum claritudinis. quo interfecto dum rem familiarem eius acriter requirit, accusatorem concivit Fabium Romenum, ex intimis Lucani amicis. mixta inter patrem filiumque coniurationis scientia fingitur, assimilatis Lucani litteris. quas inspectas Nero ferri ad eum iussit, opibus eius inhians. at Mela, quae tum promptissima mortis via, exsolvit venas, scriptis codicillis quibus grandem pecuniam in Tigellinum generumque eius Cosutianum Capitonem erogabat, quo cetera manerent. additur codicillis, tanquam de iniquitate exitii querens ita scripsisset, se quidem mori nullis supplicii causis, Rufium autem Crispinum et Anicium Cerialem vita frui infensos principi.

## LATIN AUTHORS—(JUVENAL AND TACITUS.)

1. Translate into English, extracts from Juvenal.
2. Translate and comment on—
  - (a) Sed periit postquam Cerdonibus esse timendus  
Coeperat : hoc nocuit Lamiarum caede madenti.
  - (b) Instruit ergo focum provincia, sumitur illinc  
Quod captator emat Laenas, Aurelia vendat.
  - (c) Ille [Paris] et militiae multis largitus honorem  
Semenstri digitos vatum circumligat auro.
  - (d) Ante pedes Domiti longum tu pone Thyestae  
Syrma vel Antigoniae seu personam Menalippes,  
Et de marmoreo citharam suspende colosso.
3. Translate into English, extracts from Tacitus, Annals I.  
and II.
4. Translate and comment on—
  - (a) Regnum in provinciam redactum est, fructibusque eius  
levari posse centesimae vectigal professus Caesar ducentisimam in posterum statuit.
  - (b) Nec patrum cognitionibus satiatu*s* iudiciis assidebat in  
cornu tribunalis, ne praetorem curuli depelleret; multaque  
eo coram adversus ambitum et potentium preces constituta.
  - (c) Tiberius cuncta per Consules incipiebat, tamquam vetere  
re publica et ambiguus imperandi.
  - (d) Audito fine Augusti, vernacula multitudo nuper acto in  
urbe delectu, lasciviae sueta, laborum intolerans, impellere  
ceterorum rudes animos.

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GENERAL LATIN PAPER.

1. "Augustus gradually engrossed more and more of the senatorial, magisterial and legislative (or comitial) functions."  
Explain this statement.
2. Describe the career of Sejanus.

3. "Philosophy had become under the Earlier Empire, for the first time in Roman history, a real power in common life."  
Comment on this.
4. Discuss the opinion that there was a moral decline in the first century of the Empire.
5. "The old Roman religion was too cold and meagre for men's wants and was supplemented by exotic creeds and rites."  
Comment on this.
6. "The civic organisation which it was the great work of the Earlier Empire to spread throughout the provinces is the basis of our municipal institutions and our corporate social life."  
Explain this.
7. Describe the characteristics of Juvenal as a satirist.
8. "The object of Tacitus, conceived in the patrician school to which he had attached himself, is to show that the supremacy of Rome depends on the pre-eminence of an oligarchy, with which all her glories and successes are closely entwined."  
Discuss this.

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GREEK—SENIOR CLASS.

(SECOND YEAR HONOURS AND THIRD YEAR PASS.)

TRANSLATION AT SIGHT.

Translate—

- (a) ἔν δὲ τὸ κάλλιστον Χίος ἔειπεν ἀνὴρ·  
 "οἷη περ φύλλων γενεή, τοίη δὲ καὶ ἀνδρῶν."  
 παῦροι μὲν θνητῶν οὐασι δεξάμενοι  
 στέρνοις ἐγκατέθεντο· πάρεστι γὰρ ἐλπίς ἐκάστω,  
 ἀνδρῶν ἦτε νέων στήθεσιν ἐμφύεται.  
 θνητῶν δ' ὄφρα τις ἄνθος ἔχῃ πολυήρατον ἥβης,  
 κοῦφον ἔχων θυμὸν πόλλ' ἀτέλεστα νοεῖ·  
 οὔτε γὰρ ἐλπίδ' ἔχει γηρησέμεν οὔτε θανεῖσθαι,  
 οὐδ', ὕγις ὅταν ἦ, φροντίδ' ἔχει καμάτου.
- (b) δοκεῖτε πηδᾶν τὰδικήματ' εἰς θεοὺς  
 πτεροῖσι, κάπειτ' ἐν Διὸς δέλτου πτυχαῖς

γράφειν τιν' αὐτά, Ζῆνα δ' εἰσορῶντά νιν  
 θνητοῖς δικάζειν; οὐδ' ὁ πᾶς ἄν οὐρανὸς  
 Διὸς γράφοντος τὰς βροτῶν ἀμαρτίας  
 ἐξαρκέσειεν, οὐδ' ἐκεῖνος ἄν σκοπῶν  
 πέμπειν ἐκάστω ζημίαν· ἀλλ' ἡ Δίκη  
 ἐνταῦθά ποῦστιν ἐγγύς, εἰ βούλεσθ' ὁρᾶν.

- (c) III. Οὐδὲν γὰρ, ὦ Σώκρατες, οἶσθα τῶν καλῶν περὶ τοῦτο. εἰ γὰρ εἰδείης ὅσον ἀργύριον εἵργασμαι ἐγώ, θαυμάσαις ἄν. καὶ τὰ μὲν ἄλλα ἐῷ· ἀφικόμενος δέ ποτε εἰς Σικελίαν, Πρωταγόρου αὐτόθι ἐπιδημοῦντος καὶ εὐδοκιμοῦντος καὶ πρεσβυτέρου ὄντος καὶ πολὺ νεώτερος ὢν ἐν ὀλίγῳ χρόνῳ πάνυ πλέον ἢ πεντήκοντα καὶ ἑκατὸν μνᾶς εἵργασάμην. . . . καὶ σχεδὸν τι οἶμαι ἐμὲ πλείω χρήματα εἵργασθαι ἢ ἄλλους σύνδου οὐστίνας βούλει τῶν σοφιστῶν.

ΣΩ. Καλὸν γε, ὦ Ἰππία, λέγεις καὶ μέγα τεκμήριον σοφίας τῆς τε σεαυτοῦ καὶ τῶν νῦν ἀνθρώπων πρὸς τοὺς ἀρχαίους ὅσον διαφέρουσι. τῶν γὰρ προτέρων πολλὴ ἀμαθία κατὰ τὸν σὸν λόγον. τοῖναντίον γὰρ Ἀναξαγόρα φασὶ συμβῆναι ἢ ὑμῖν· καταλειφθέντων γὰρ αὐτῷ πολλῶν χρημάτων καταμελῆσαι καὶ ἀπολέσαι πάντα· οὕτως αὐτὸν ἀνόητα σοφίζεσθαι. λέγουσι δὲ καὶ περὶ ἄλλων τῶν παλαιῶν ἕτερα τοιαῦτα. τοῦτο μὲν οὖν μοι δοκεῖ καλὸν τεκμήριον ἀποφαίνειν περὶ σοφίας τῶν νῦν πρὸς τοὺς προτέρους, καὶ πολλοῖς συνδοκεῖ, ὅτι τὸν σοφὸν αὐτὸν αὐτῷ μάλιστα δεῖ σοφὸν εἶναι· τούτου δ' ὅρος ἐστὶν ἄρα, ὅς ἂν πλείστον ἀργύριον ἐργάσθαι.

- (d) τῶν δὲ τοιούτων λόγων, δι' οὓς ἄνθρωποι εὐδαιμονοῦσι καὶ κρείττους καὶ σωφρονέστεροι γίνονται καὶ βέλτιον οἰκεῖν δύνανται τὰς πόλεις, οὐ πολλάκις ἀκηκόατε· οὐ βούλομαι γὰρ εἰπεῖν, ἀνήκοοί ἐστε. καὶ τοῦτο ἴσως οὐ δι' ὑμᾶς· δηλώσετε δέ, ἂν ἀνάσχησθε τήμερον· ἀλλὰ μᾶλλον παρὰ τοὺς καλουμένους φιλοσόφους. οἱ μὲν γὰρ αὐτῶν ὅλως εἰς πλήθος οὐκ ἴασι· οὐδὲ θέλουσι διακινδυνεύειν, ἀπεγνωκότες ἴσως τὸ βελτίους ἂν ποιῆσαι τοὺς πολλούς· οἱ δ' ἐν τοῖς καλουμένοις ἀκροατηρίοις φωνασκοῦσιν, ἐνσπόνδους λαβόντες ἀκροατὰς καὶ χειροῦθεις ἑαυτοῖς. . . . ἄνδρα δὲ λαβεῖν καθαρῶς καὶ ἀδόλως παρρησιαζόμενον, καὶ μήτε δόξης χάριν μήτ' ἐπ' ἀργυρίῳ προσποιούμενον, ἀλλ' ἐπὶ εὐνοίᾳ καὶ κηδεμονίᾳ τῶν ἄλλων, ἔτοιμον, εἰ δέοι, καὶ καταγελᾶσθαι, καὶ ἀταξίαν πλήθους ἐνεγκεῖν καὶ θόρυβον, οὐ ῥᾶδιον, ἀλλὰ καὶ πάνυ εὐτυχοῦς πόλεως, ἐν τοσαύτῃ σπάνει γενναίων καὶ ἐλευθέρων ἀνδρῶν, ἀφθονία δὲ κολάκων καὶ γοήτων καὶ σοφιστῶν.

## GREEK—SENIOR CLASS.

(SECOND YEAR HONOURS AND THIRD YEAR PASS.)

## AUTHORS.

## A.—ARISTOTLE, POLITICS, I. TO V.

Translate and comment on the following:—

- (a) τοῖς δὲ (δοκεῖ) παρὰ φύσιν (εἶναι) τὸ δεσπόζειν. νόμῳ γὰρ τὸν μὲν δούλον εἶναι τὸν δ' ἐλεύθερον, φύσει δ' οὐθὲν διαφέρειν. διόπερ οὐδὲ δίκαιον· βίαιον γάρ.
- (b) εὐπρόσωπος μὲν οὖν ἡ τοιαύτη νομοθεσία καὶ φιλόανθρωπος ἂν εἶναι δόξειεν· ὁ γὰρ ἀκροώμενος ἄσμενος ἀποδέχεται, νομίζων ἔσεσθαι φιλίαν τινὰ θαυμαστὴν πᾶσι πρὸς ἅπαντας, ἄλλως τε καὶ ὅταν κατηγορῇ τις τῶν νῦν ὑπαρχόντων ἐν ταῖς πολιτείαις κακῶν ὡς γιγνομένων διὰ τὸ μὴ κοινὴν εἶναι τὴν οὐσίαν· ὦν οὐδὲν γίνεται διὰ τὴν ἀκοινωνησίαν, ἀλλὰ διὰ τὴν μοχθηρίαν.
- (c) διὸ καὶ τὰς πολιτικὰς ἀρχάς, ὅταν ἡ (ἡ πόλις) κατ' ἰσότητά τῶν πολιτῶν συνεσθηκῇ καὶ καθ' ὁμοιότητα, κατὰ μέρος ἀξιούσιν ἀρχειν, πρότερον μὲν, ἢ πέφυκεν, ἀξιούντες ἐν μέρει λειτουργεῖν, καὶ σκοπεῖν τινὰ πάλιν τὸ αὐτοῦ ἀγαθόν, ὥσπερ πρότερον αὐτὸς ἀρχῶν ἐσκόπει τὸ ἐκείνου συμφέρον. νῦν δὲ διὰ τὰς ὠφελείας τὰς ἀπὸ τῶν κοινῶν καὶ τὰς ἐκ τῆς ἀρχῆς βούλονται συνεχῶς ἀρχειν.
- (d) φανερόν τοίνυν ὅτι ἡ πόλις οὐκ ἔστι κοινωνία τόπου καὶ τοῦ μὴ ἀδικεῖν σφᾶς αὐτοὺς καὶ τῆς μεταδόσεως χάριν· ἀλλὰ ταῦτα μὲν ἀναγκαιοὶ ὑπάρχειν, εἴπερ ἔσται πόλις, οὐ μὴν οὐδ' ὑπαρχόντων τούτων ἀπάντων ἤδη πόλις.
- (e) καὶ γὰρ δὴ καὶ πρὸς τοὺς κατ' ἀρετὴν ἀξιούντας κυρίους εἶναι τοῦ πολιτεύματος, ὁμοίως δὲ καὶ τοὺς κατὰ πλοῦτον, ἔχοιεν ἂν λέγειν τὰ πλήθη λόγον τινὰ δίκαιον· οὐδὲν γὰρ κωλύει ποτέ τὸ πλήθος εἶναι βέλτιον τῶν ὀλίγων καὶ πλουσιώτερον, οὐχ ὡς καθ' ἕκαστον ἀλλ' ὡς ἀθροῦς.
- (f) ὅτι δὲ δεῖ τὸν νομοθέτην μᾶλλον σπουδάζειν ὅπως καὶ τὴν περὶ τὰ πολεμικὰ καὶ τὴν ἄλλην νομοθεσίαν τοῦ σχολάζειν ἔνεκεν τάξῃ καὶ τῆς εἰρήνης, μαρτυρεῖ τὰ γινόμενα τοῖς λόγοις· αἱ γὰρ πλείους τῶν τοιούτων πόλεων πολεμοῦσαι μὲν σώζονται, κατακτησάμεναι δὲ τὴν ἀρχὴν ἀπόλλυνται. τὴν γὰρ βαφὴν ἀφιάσιν, ὥσπερ ὁ σῖδηρος, εἰρήνην ἄγοντες. αἴτιος δ' ὁ νομοθέτης οὐ παιδεύσας δύνασθαι σχολάζειν.



(g) ἐπεὶ δ' ἐν τὸ τέλος τῇ πόλει πάσῃ, φανερόν ὅτι καὶ τὴν παιδείαν μίαν καὶ τὴν αὐτὴν ἀναγκαῖον εἶναι πάντων, καὶ ταύτης τὴν ἐπιμέλειαν εἶναι κοινὴν καὶ μὴ κατ' ἰδίαν, ὃν τρόπον νῦν ἕκαστος ἐπιμελεῖται τῶν αὐτοῦ τέκνων ἰδίᾳ τε καὶ μάθησιν ἰδίαν, ἣν ἂν δόξῃ, διδάσκων. δεῖ δὲ τῶν κοινῶν κοινὴν ποιεῖσθαι καὶ τὴν ἀσκήσιν.

(h) ἔχει δὲ πολλὴν διαφορὰν καὶ τὸ τίνας χάριν πράττει τις ἢ μανθάνει· αὐτοῦ μὲν γὰρ χάριν ἢ φίλων ἢ δι' ἀρετὴν οὐκ ἀνελεύθερον, ὃ δὲ αὐτὸ τοῦτο πράττων δι' ἄλλους πολλάκις θητικὸν καὶ δουλικὸν δόξειεν ἂν πράττειν.

- B. Translate extracts from Æschylus, Prometheus Vincetus, and Sophocles, Œdipus Tyrannus, with short notes on points needing explanation.

Mark the metre of the last line of (a), and the last two lines of (e).

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GREEK—SENIOR CLASS.

(SECOND YEAR HONOURS AND THIRD YEAR PASS.)

GENERAL QUESTIONS.

1. Describe and contrast the ideals of life presented in Homer and Hesiod.
2. "The Zeus of the Prometheus Vincetus is a tyrant." Compare the view of the divine government given in this play with that presented elsewhere by Aeschylus. How may the apparent contradiction be reconciled?
3. "All human laws draw their sustenance from the one divine law."—(*Heraclitus*.)  
Trace the development of this thought in later Greek writers.
4. "It is hopeless to attempt to find in Sophocles a poetical justice measuring out sorrow and joy to everyone according to his deeds; and such 'poetical justice' would be unworthy of so great a poet, because it is out of harmony with the facts of human life."  
Explain and comment on this.
5. "Do you really think that, as people are fond of saying, our youth are corrupted by the sophists, or that private

teachers corrupt them to any degree worth speaking of? Are not the public who say these things the greatest of all sophists?"—(*Plato, Republic.*)

Comment on this.

6. What, according to Aristotle, were the chief merits and defects of the Spartan institutions?
7. Describe the life-history of an individual citizen in Aristotle's ideal city.
8. Explain and criticise Aristotle's distinction between "natural" and "unnatural" acquisition of wealth.
9. "Plato and Aristotle still make the city-state their social limit."

Show how their political and ethical doctrines are affected by this limitation.

10. "Aristotle makes it the aim of politics to provide the 'good life' for some, but not for all."

Explain and discuss this.

11. "Virtue lies in the mean." But how is the right "mean" to be ascertained?
12. "In so far as the Stoics set themselves to efface and extinguish impressions and desires, instead of enforcing the need of selecting, guiding, and utilising them to the best end, they narrowed and weakened the scope of their morality."

How far are the leaders of Stoicism open to this criticism?

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### DYNAMICS.

TWO HOURS AND A HALF.

1. Prove the formula

$$(i.) v = u + ft,$$

$$(ii.) s = ut + \frac{1}{2}ft^2.$$

P, Q are points which start simultaneously along rectangular axes with initial velocities  $u$ ,  $v$ , and move with uniform accelerations  $f$ ,  $g$ . Prove that the velocity of P relative to Q at any time  $t$  is parallel to the position of the line PQ at the time  $2t$ .

2. Explain in what sense a point may be said to have two co-existing velocities, and prove the parallelogram of velocities.
3. Enunciate the three laws of motion, and give a brief statement of the evidence in their favour.
4. A body moving with velocity  $v$  under the action of no external forces suddenly breaks into four equal fragments in consequence of an internal explosion, which generates in them equal momenta in four directions along two mutually perpendicular lines. If one of the fragments is thus brought to rest, find the velocity of each of the others, and prove that the kinetic energy of the body is doubled by the explosion.
5. Find the range of a projectile on an inclined plane passing through the point of projection, and the time of flight.  
If  $\theta$ ,  $\phi$  be the elevations on leaving and again meeting the plane, the angle of which is  $\alpha$ , prove that  $\tan \theta + \tan \phi = 2 \tan \alpha$ .
6. A and B are equal masses, fastened at the ends of a light string which is hung over a fixed pulley C. To B is attached a small pulley D, over which passes another string, fastened at one end E to the ground, and carrying another equal mass F at the other end. Assuming that the inertia and friction of the pulleys may be neglected, find the accelerations of A and F.
7. Investigate the effects of an oblique collision between two elastic spheres.  
A ball at rest is struck by an equal ball moving at  $45^\circ$  inclination to the line which joins their centres at the instant of impact. Prove that the new lines of motion are inclined at an angle the cotangent of which is  $\frac{1-e}{2}$ .
8. Find the velocity gained by a particle which slides down a smooth curve under the action of gravity.  
A particle moves round inside a smooth tube, fixed in a vertical plane, and circular in form, the velocity being just sufficient to take it over the highest point of the tube. At what point does the radial pressure vanish?
9. Find the time of oscillation of a simple pendulum.

## DIFFERENTIAL CALCULUS.

TWO HOURS.

PASS.

1. Define a differential coefficient, and differentiate by first principles  $x^n$  and  $\sin x$ .
2. Differentiate with regard to
  - (i.)  $\tan^{-1} \sqrt{1-x^2}$ ,
  - (ii.)  $\sqrt{1-\tan^2 x} \times \log \tan x$ .
3. Find the limit when  $x=0$ , of
 
$$\frac{x \sin x - 2\sqrt{1-x^2} + 2}{3x^2 - x \tan x}$$
4. State and prove Leibnitz Theorem.  
If  $y=e^{ax} \sin bx$  prove that
 
$$\frac{d^2y}{dx^2} - 2a \frac{dy}{dx} + (a^2 + b^2)y = 0.$$
5. Prove rules for determining when a function of one independent variable is a maximum or a minimum.  
Find the maximum and minimum values of
 
$$x^3 - 5x^2 + 8x - 1.$$
6. Find the asymptotes of the curve
 
$$x^2y + xy^2 + 2x + y = 3.$$
7. Trace the curves
  - (i.)  $(y-b)^2 = (x-a)(x-c)$ ,
  - (ii.)  $r \cos 3\theta = a$ .
8. Find the angle between the radius vector and the tangent in the case of the curve
 
$$r^n \cos n\theta = a^n.$$

## INTEGRAL CALCULUS.

TWO HOURS.

PASS.

1. Integrate with respect to  $x$

$$\frac{\tan \sqrt{x}}{\sqrt{x}}, \quad \frac{1}{\sqrt{x^2+x}}, \quad \frac{1}{1+e \cos x}.$$

2. Prove the formula for Integration by Parts.

Find  $\int_a^b \log x dx$ ,  $\int (a^2x^2 + 2) \cos ax dx$ ,  $\int e^x \sin x \cos x dx$ .

3. Break into partial fractions, and integrate

$$\frac{2x^2 - 5x - 13}{(x+1)(x-2)(x+3)}.$$

4. Find the mass of a rod of length  $l$  whose density at any distance  $x$  from one end is  $\mu x^3$ . Find also at what point the rod must be broken so that the two pieces may be of equal mass.

5. In the catenary  $y = \frac{c}{2} \left( e^{\frac{x}{c}} + e^{-\frac{x}{c}} \right)$ , shew that the length  $s$  of

the arc from  $x = -c$  to  $x = +c$  is  $c \left( e - \frac{1}{e} \right)$ . Shew also that the area between this arc, the axis of  $x$ , and the ordinates at the two terminal points  $= cs$ .

6. Trace the curve  $y^2(a-x) = x^2(a+x)$ . If this curve rotate about the axis of  $x$ , find the volume swept out by the loop.

### ANALYTICAL GEOMETRY.

TWO HOURS.

PASS.

1. Express the area of a triangle in terms of the coordinates of its angular points.

Find the area of the triangle contained by the lines  $x+y=1$ ,  $2y+3x=1$ ,  $7x+5y=1$ .

2. Find the angle between two straight lines whose equations are given in rectangular coordinates.

Find the angle between the diagonals of the rectangle formed by the lines  $x-3y=4$ ,  $x-3y+4=0$ ,  $3x+y=4$ ,  $3x+y+4=0$ .

3. A circle cuts off given lengths  $2a$ ,  $2b$  from two given perpendicular straight lines. Find the locus of its centre.

1.

## THIRD YEAR IN ARTS.

4. Prove that the straight line  $y = mx + a + \frac{a^2}{m}$  touches the parabola  $(y-a)^2 = 4ax$  for all values of  $m$ .
5. Prove that the locus of the middle points of a system of parallel chords of a parabola is a straight line.
6. Shew that the two conic sections  $\frac{x^2}{16} + \frac{y^2}{9} = 1$ ,  $\frac{x^2}{63} - \frac{y^2}{112} = \frac{1}{25}$  intersect at the point  $x=y=\frac{12}{5}$ ; and find at what angle they intersect.
7. Trace the curves
  - (i.)  $6x^2 + 5xy - 6y^2 - 2x + 10y - 4 = 0$ ,
  - (ii.)  $(y+3)^2 = -16(x-1)$ ,
  - (iii.)  $x^2 + 9y^2 - 6x + 18y = 0$ .

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 SENIOR FRENCH I. AND II.

The same papers as those set in the Second Year, with additional passages from Feuillet, Roman d'un jeune homme pauvre.

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 SENIOR GERMAN I. AND II.

The same papers as those set in the Second Year, with additional passages from Immerman, Der Oberhof.

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 LOGIC AND MENTAL PHILOSOPHY.

## PASS.

Not more than six questions to be attempted.

## A.

1. *Happiness, Duty, Freedom.* Write a note on the place of each of the foregoing conceptions in a system of ethics.
2. Examine briefly the basis of Hedonism as ethical theory.
3. Discuss the nature of the "contract" element in Family and State.
4. Explain what is meant by each of the following—*Legal, Real and Nominal Sovereignty.*

B.

5. In what respects did Aristotle supplement or correct the teaching of Plato?
6. Mention any modern problems anticipated in Plato's Republic. State the Platonic solution in each case.
7. Contrast the feudal organization with the organization of the modern democratic state.
8. Illustrate the relation of philosophy to history by reference to each of the following—Spinoza, Rousseau, Stoicism.

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LOGIC AND MENTAL PHILOSOPHY.

HONOURS I.

1. "The spirit of education is nothing more than an endeavour to liberate, by means of a free man, the ideal human being which lies concealed in every child."—*Richter*.

Write a short essay on this thesis, with special reference to Plato's scheme of education.

2. Test the value of comparisons between ancient and modern democracies.
3. Discuss the value and limitations of Kant's ethical ideal.

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HISTORY I.

PASS.

*You are recommended to answer SEVEN questions.*

1. "I will govern according to the common weal, but not according to the common will."

Explain shortly James I.'s meaning.

2. "The Earl of Strafford has traitorously endeavoured to subvert the fundamental laws and government of the realms of England and Ireland."

Explain the view taken by the Commons of Strafford's policy.

3. "We have looked so long upon the blaze that Zuinglius and Calvin hath beacons up to us, that we are stark blind."

Explain Milton's meaning.

4. Discuss *shortly* Cromwell's policy between the battle of Naseby and the execution of the King.
5. Describe *shortly* the events that led to the publication of the "Instrument of Government," and show what were the chief objects the authors of that constitution hoped to secure.
6. To what extent did the Restoration of 1660 undo the work of the Long Parliament and of the Protectorate?
7. Explain the position of the Latitudinarians, and show their importance in the seventeenth and eighteenth centuries.
8. Sketch the relations between England and Holland from 1649 to 1712.
9. Shortly describe the character of political government in England under the first two Georges.

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## HISTORY II.

### PASS.

*You are recommended to answer SEVEN questions.*

1. "The true contest is between the electors of the Kingdom and the Crown; the Crown acting by an instrumental House of Commons."  
Explain Burke's meaning.
2. Trace the growth of the democratic movement in English politics during the eighteenth century.
3. Explain shortly the economic and social results of the improvements in machinery towards the end of last century.
4. Compare the distribution of landed property in the seventeenth century and the nineteenth. Account for the change that has taken place, and explain its economic consequences.
5. What were the chief reasons for the agitation that led to the Reform Act of 1832?
6. "Don't be deceived by the middle classes again. You helped them to get their votes. But where are the fine promises they made you? They want to get the Corn Laws repealed—not for your benefit, but for their own."



Don't listen to their cant and humbug. Stick to your Charter."

Explain this Chartist criticism of the Cobdenites.

7. Discuss *shortly* Carlyle's views on "the condition of England question."
8. Examine the home policy of the Tory or Conservative party during the present century.
9. Explain the chief features of the teaching of Matthew Arnold in social affairs.
10. "We are all Socialists to-day."  
Examine this statement.
11. Discuss the political views of the Earl of Beaconsfield.

#### \* HISTORY I.

#### HONOURS.

*You are recommended to answer not less than FIVE questions, and not more than SEVEN.*

1. How do you account for the fact that, in the conflict between King and Parliament, both sides appealed to the law of the constitution?
2. Discuss the *political* views of Milton, showing especially why he supported the government of Cromwell.
3. Sketch the growth of the idea of Government by Party during the eighteenth century.
4. "As the Legislature of the Kingdom is entrusted to three distinct powers, *entirely independent* of each other, . . . there can be no inconvenience attempted by either of the two branches but will be withstood by one of the other two; *each branch being armed with a negative power sufficient to repel any innovation which it shall think inexpedient or dangerous.*"—(STEPHENS.)

Discuss this view of the English Constitution with special reference to the words in italics.

5. "The Americans thought they were copying the English Constitution, but they were contriving a contrast to it."  
Discuss.

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\*Third Year students are required to take also the paper set for Second Year students in Honours.

6. "The first step must be to rid our minds of the idea that there are any such things as abstract rights."

Discuss.

7. What are the most important differences between writers on political economy of the earlier and later half of the present century?

8. "The Nineteenth Century is essentially an age of destruction and negation."

Discuss this statement with reference to religion.

9. "For Forms of Government let fools contest;  
What'er is best administered is best."

Discuss.

10. "All Socialism is slavery."—(SPENCER.)

Discuss.

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#### GEOLOGY AND PALÆONTOLOGY.

The same paper as that set in the Third Year of Science.

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# FACULTY OF MEDICINE.

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## FIRST YEAR EXAMINATION.

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### CHEMISTRY—(INTRODUCTORY).

The same paper as that set in the First Year in Arts.

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### CHEMISTRY—(METALS).

1. Give an account of the metals of the alkalis, and describe two manufacturing processes for the preparation of sodium.
2. Give a brief account of the chemical composition of meteorites.
3. Give an account of the tetragonal and hexagonal systems of crystals, and mention the names of some substances, assuming forms belonging to them.
4. How is iron converted into steel? Give the outlines of as many processes as you can; point out clearly what chemical changes take place in each case.
5. Give a general account of the chemical composition and manufacture of glass.
6. How does lead occur in nature, and how is it extracted from its ores? Why is it dangerous to use lead pipes for a domestic water supply?
7. How would you detect the presence of the following in a mixture, viz.:—Ag, Cu, Cd, Mn, Sr, and Ca, HF,  $\text{H}_2\text{SO}_4$  and  $\text{HNO}_3$ . Both dry and wet tests are required.
8. Give a general account of the electrolysis of chemical compounds. What information does it afford with respect to active and latent atomicities?

FACULTY OF MEDICINE.

PRACTICAL CHEMISTRY—PASS—Three Hours.  
HONOURS—Four Hours.

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PHYSICS.

PASS, HONOURS, AND SCHOLARSHIP.

*Only SEVEN questions are to be answered.*

1. Describe a Lippmann electrometer, and show how the relation between the equilibrium position of the mercury in the fine tube and the Potential difference of the terminals of the instrument may be determined.
- Or,*
- Show graphically how to determine the motion resulting from the composition of two simple harmonic motions at right angles of the same period and amplitude.
  2. Describe an experiment showing the transformation of mechanical into heat energy. Explain how the amount of mechanical energy expended and the amount of heat energy produced may be ascertained.
  3. Explain how the presence of a substance in solution may be inferred by optical means.
  4. Define in terms of the Undulatory theory of Light the exact conditions to be fulfilled so that a given point may be the "image" of another given point. Show that a double convex lens, when constructed with spherical surfaces, can never give a perfect image of a point source of light.
  5. Draw and describe exactly (i.) the arrangement of apparatus requisite to produce a pure spectrum on a screen, (ii.) a direct vision spectroscope, (iii.) an achromatic system of lenses.
  6. Explain why the resolving power of a telescope depends on the aperture of the object glass and is independent of the magnifying power.
  7. Given an account of the method adopted for measuring the horizontal component of the earth's magnetic field by means of the "earth inductor." How would you, with the aid of this instrument, determine the relation between the total force of the earth's field and the vertical component if the angle of dip was known?
  8. Describe and explain the action of some instrument having for its purpose the comparison of two electric currents.

9. Give as complete an account as possible of the action of an ordinary induction coil.
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## BOTANY.

*Illustrate your answers by means of drawings.*

1. Give a brief account of each of the following Algae :—  
(i.) *Volvox*, (ii.) *Edogonium*, (iii.) *Vaucheria*.
  2. Describe *Penicillium*.
  3. Explain what is meant by holozoic, holophytic, and saprophytic nutrition.
  4. Give a general account of the Cycads. Point out in what principal features they differ from the Conifers.
  5. Describe the structure of the ovule and the development of the embryo in *Pinus*.
  6. Give an account of the phenomena of Geotropism.
  7. Give a general account of *Transpiration*, the part which it plays in the life of the plant, and the conditions by which it is affected.
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## PRACTICAL BOTANY—Three Hours.

## ZOOLOGY.

*Illustrate your answers by means of drawings.*

1. Give an account of *Monocystis* or some other Sporozoan.
  2. Compare the structure of a zooid of *Obelia* with that of a Sea-anemone.
  3. Describe the life-history of the Liver-fluke.
  4. Describe the nervous system and organs of special sense of *Palinurus*.
  5. Give an account of the general arrangement of the parts of the brain in the *Craniata*.
  6. Describe the arrangement of the carpal and tarsal elements  
(a) in a typical pentadactyle Craniate, (b) in a Bird, (c) in a Mammal.
  7. Compare the heart of a Fish with that of a Mammal.
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## PRACTICAL ZOOLOGY—Three Hours.

## SECOND YEAR EXAMINATION.

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ANATOMY.

1. Describe the scaphoid or navicular bone of the foot, and the ligaments attached thereto.
2. Tell what you know of the anatomical connections which may constitute a path for the conduction of a (conscious) sensory impression from the foot.
3. Describe the arrangement of the superficial glands of the groin, and state what areas are drained by them.
4. Describe fully the arterial system of either the hand or the foot.
5. Tell what you know of the development and structural constitution of the visceral arches and clefts, and briefly indicate the fate of each of them.

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PHYSIOLOGY.

*Five questions only to be attempted.*

1. (a) What is meant by the term "blood pressure?" (b) How does the blood pressure vary in different parts of the circulation? (c) Describe briefly the arrangements you have seen for determining and recording variations in arterial blood-pressure.
2. (a) Write a short account of the clotting of blood, referring to simple experiments which throw some light upon the nature of the process. (b) What useful purpose is served by this property of blood to coagulate?
3. (a) Mention the principal food constituents in bread, meat, butter, and potatoes. (b) Explain briefly where each constituent is digested. Refer to simple experiments in proof of your answer.
4. (a) Describe the minute anatomy and vascular arrangements of the kidney, and make illustrative sketches. (b) Refer briefly to any facts you may know which point to a particular function of any part of the excretory tubules.

5. Describe carefully the minute anatomy of the skin and contained structures, with especial reference to variations in their structure in different parts of the body.
  6. (a) Describe the cycle of the heart's action, stating the relative duration of the different stages and the events that occur in each stage. (b) State carefully the exact time in relation to other events at which the different valves open and close.
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## CHEMISTRY—(CARBON COMPOUNDS).

1. Give a general account of the methods used in proximate analysis of carbon compounds.
  2. How is nitrogen detected and estimated in such?
  3. Give a general account of the aldehydes, and of their methods of preparation.
  4. Classify the sugars; describe the general properties of dextrose, levulose, and sucrose. What is known about their constitution?
  5. How are benzene and naphthalene obtained? What are their principal properties and uses? Give their graphic formulæ.
  6. Briefly state what you know about formic, oleic, oxalic, citric, benzoic and gallic acids. How are the aromatic acids classified?
  7. What are the principal properties of pyridine and quinoline? How are they obtained, and how are they related to one another?
  8. What are the aromatic sulphonic acids? How are they prepared, and what are their chief properties?
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## THIRD YEAR EXAMINATION.

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ANATOMY.

1. Give an account of the distribution of the mandibular division of the fifth cranial nerve.
2. State the origin, course, and distribution of the sciatic artery, and the dissection required to expose it in the gluteal region.
3. Describe the structure of the testicle and its appendages as far as that can be ascertained by naked eye dissection.
4. The Eustachian tube: Give an account of its constitution, its position, and its chief relations.
5. Describe the muscular constitution of the tongue, and the nervous and vascular supply of the organ.
6. A. State the approximate dates of eruption of the permanent molar teeth. How would you attempt to distinguish upper from lower molars?  
B. What regions are drained by the following lymphatic glands?—
  - (a) Superficial inguinal.      (d) Posterior nuchal.
  - (b) Anterior mediastinal.    (e) Lumbar.
  - (c) Submaxillary.

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PHYSIOLOGY.

*Five questions only to be attempted.*

1. (a) Give an account of the processes concerned in the transference of oxygen from the air in the alveoli to the cells of the tissues. (A detailed description of the circulation is not required.)  
(b) It is found that human existence is impossible at altitudes of 25,000 feet. Give a physiological explanation of this.
2. (a) Describe with diagrams the nervous mechanism concerned in the regulation of the beat of the heart. (b) Give the experimental evidence in proof of the anatomical arrangement you describe.



3. (a) Describe with diagrams the structure of a mixed salivary gland. (b) Explain how the secretion of the gland is normally evoked. Give the evidence for your answer.
  4. (a) What is meant by "muscular-sense"? (b) Explain as far as you can how one maintains one's equilibrium in walking.
  5. (a) Write an account of the condition of the larynx when
    - (i.) whispering,
    - (ii.) swallowing,
    - (iii.) defaecating.(b) Explain by what muscles the variations from the position of rest is brought about, and mention their nerve supply.
  6. (a) Contrast the condition as regards molecular arrangement in which carbon and nitrogen enter and leave the body. (b) Explain the nature of the gain to the organism by such alteration in molecular arrangement.
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## MATERIA MEDICA AND THERAPEUTICS.

1. How may medicaments be applied directly to the bronchial mucous membrane?  
Indicate the advantages or disadvantages of each method.  
Illustrate your answer by examples.
2. What are the official preparations of Camphor? Give in each case the active ingredients and the average dose (if any).  
Write out a prescription (in the ordinary and also in the metric form) containing Benzoin for oral administration; there must be at least one other active ingredient present, the directions to the chemist being in full in Latin, and those for the patient in English.
3. Hydrocyanic acid: What do you know about its action and uses in medicine?
4. What detrimental effects may attend the administration of Morphia for therapeutic purposes?
5. Describe the effects which are liable to be produced within the mouth during or soon after the administration of Lead, Arsenic, Atropine, Pilocarpine and Mercury respectively. Explain the cause of these effects in each case, and state the treatment you consider best suited to remove them.

## FOURTH YEAR EXAMINATION.

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PATHOLOGY.

1. Thrombosis. What is meant by the term? Under what conditions does it occur? Describe the changes that occur in the process of organisation of a thrombus.
2. Chronic Interstitial Nephritis. What are the causes thereof? Describe the naked eye and microscopic appearances found in this condition.
3. Pneumonia. What are its varieties and causes? Describe the naked eye and microscopic appearances of the lung in Croupous Pneumonia. How does the disease terminate, and what complications may occur?
4. Describe the various forms of Cancer of the Uterus.
5. Discuss the pathology of bubonic plague, and give the characters of the plague bacillus.
6. Briefly state the methods of testing the degree and nature of the acidity of the contents of the stomach, and indicate their value in various diseases of the stomach.

Or,

SPECIAL QUESTION FOR PRIZE.

Discuss the nature of Fevers.

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## SURGICAL ANATOMY AND OPERATIVE SURGERY.

1. Describe the arrangement and connections of the deep cervical fascia. Describe the appearance of a transverse section of the neck about the level of the lower border of the fourth cervical vertebra.
2. Describe the articular surfaces which enter into the formation of the wrist joint.  
What is Lister's Method of Excision of this joint?
3. Name in order, from the surface inwards, the structures which must be removed in the dissection of the posterior tibio-fibular region, in order to expose the deep layer of muscles. Name these muscles, their origins and insertions. Describe the operations for ligature of the posterior tibial artery in its middle third.

## FIFTH YEAR EXAMINATION.

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MEDICINE.

1. Give an account of Epidemic Cerebro-Spinal Fever, and describe a typical case, stating what complications are likely to occur, and the possible sequelae.
2. Under what circumstances does acute endocarditis usually occur; what are its symptoms, physical signs, and common sequelae; and in what respect does it differ from what is known as Ulcerative Endocarditis?
3. Give the symptoms of a typical case of Progressive Muscular Atrophy, and how should such a case be treated.
4. Prescribe suitable remedies for a case of Sycosis non-parasitica.

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SURGERY.

1. Discuss the treatment of a case of compound fracture of the skull. What are the immediate and remote dangers of such an injury?
2. In a case of intestinal obstruction what are the points which would lead you to infer that the seat of obstruction was in the large, rather than in the small intestine? Describe your treatment of a case of "acute intestinal obstruction."
3. State the etiology, pathology, symptoms and treatment of "varicose veins."
4. Describe the chief varieties of "Nævus" with which you are acquainted, and the methods of treatment appropriate for each.

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MIDWIFERY.

## TWO HOURS.

1. Describe the mechanism of labour in a normal case, and state what variations may occur in the mechanism.  
(a) In a flat pelvis,

(b) In an uniformly contracted pelvis (*aquabiliter justo minor*).

How would you conduct a labour in the above forms of abnormal pelves ?

2. State the signs and symptoms of Pregnancy during the fifth month of utero gestation, and estimate the relative importance of each of them.
3. Describe the diagnosis and treatment of Uterine Inertia. State the chief causes that operate in producing it.

### GYNÆCOLOGY.

TWO HOURS.

1. Describe the various pathological changes that may follow the retention of a fertilized ovum in the Fallopian tube.
2. Give the causes, physical signs, differential diagnosis, and treatment of chronic inversion of the uterus.
3. What is the difference between Menorrhagia and Metrorrhagia. Give the various causes of each with appropriate treatment.
4. Give the signs, symptoms and treatment of Fibroids, their varieties and their differential diagnosis from Pregnancy, Ovarian tumours, Broad Ligament cysts and collections of fluid in the peritoneal cavity.

### OPHTHALMIC MEDICINE AND SURGERY.

TWO HOURS.

1. State the symptoms, prognosis, and treatment of Acute Glaucoma. How do you distinguish between Acute Glaucoma and Acute Iritis ?
2. Give the causes, progress, prognosis and treatment of Sympathetic Ophthalmia. Under what circumstances would you enucleate the "exciting eye" ?
3. Of what diseases is diminution of the field of vision (for form or colours) especially symptomatic ? What form does the defect usually assume in each of these diseases ?

## DECEMBER EXAMINATION.

lxv.

4. Describe the symptoms, signs, diagnosis, prognosis and treatment of a case of Gonorrhoeal conjunctivitis in an adult. What complications, and immediate sequelae, are prone to occur? How would you guard against these, or treat them should they arise?
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## MEDICAL JURISPRUDENCE AND PUBLIC HEALTH.

TWO HOURS.

1. Describe the condition of the lungs before and after respiration.
  2. What is the fatal dose of strychnine? How may the presence of this poison be detected?
  3. How are *post mortem* stains distinguished from bruises made during life?
  4. Name the different sources of supply of water for drinking purposes; class them with reference to (a) purity, and (b) palatability.
  5. Name the principal conditions and diseases which render the flesh of cattle unsuitable or unfit for human consumption.
  6. Describe a method of disinfecting a room and its contained articles after vacation by a case of scarlet fever.
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## PSYCHOLOGICAL MEDICINE.

TWO HOURS.

1. Differentiate fully between Acute Mania and Acute Delirious Mania (Typhomania), and give the prognosis and treatment of the latter condition.
2. What is meant by Epileptic Insanity? Describe this condition in detail, especially as regards care and treatment.
3. Give the symptoms, prognosis, and treatment of Lactational Insanity.

4. On what ground would you conclude that a patient's testamentary capacity was good, and how would this capacity be best ascertained?
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CLINICAL MEDICINE AND CLINICAL SURGERY.

An examination in the wards of a recognised Hospital.

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# FACULTY OF SCIENCE.

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## FIRST YEAR EXAMINATION.

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**BOTANY AND ZOOLOGY**, as in the First Year of Medicine, with practical Examinations of three hours each.

**CHEMISTRY**, as in the First Year of Medicine, with a practical Examination of four hours.

**PHYSICS**, as in the First Year of Medicine.

**PHYSIOGRAPHY**, as in the First Year of Arts.

**MATHEMATICS**, as in the First Year of Arts, with an additional paper on Geometrical and Analytical Conics.

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## GEOMETRICAL AND ANALYTICAL CONICS.

TWO HOURS AND A HALF.

PASS.

1. Define a conic, and shew from your definition that a conic is symmetrical about its principal axis.
2. Each of the two tangents which can be drawn to a conic from any point on its directrix subtends a right angle at the focus.
3. The locus of the middle points of a system of parallel chords in a parabola is a straight line parallel to the axis, and meeting the directrix in the point where it is met by the perpendicular from the focus on the system of chords.
4. The tangent at any point of a central conic makes equal angles with the focal distances of the point.
5. Find the coordinates of the point which is equidistant from the three points  $(2, -3)$ ,  $(-1, 1)$  and  $(6, 0)$ .

6. Prove that the equation  $ax+by+c=0$  represents a straight line.

Through the point  $(1, -3)$  two lines are drawn equally inclined at an angle  $60^\circ$  to the axis of  $x$ . Find their equations.

7. Trace the line  $x+y\sqrt{3}=4$ , and find the length of the perpendicular drawn from the origin on this line, and the angle this perpendicular makes with the axis of  $x$ .
8. Find the centre and radius of each of the circles
- (i.)  $x^2-4x+y^2=0$ .
  - (ii.)  $x^2+y^2-x+8y+14=0$ .
9. A tangent to the circle  $x^2+y^2=1$  makes an intercept 2 on the axis of  $x$ . Find the coordinates of the point of contact.
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## SECOND YEAR EXAMINATION.

## GEOLOGY.

## PASS AND HONOURS.

1. What is the geological horizon of the following, and what fossils might they be expected to yield?—  
(a) Parara limestone at Ardrossan, St. Vincent's Gulf, South Australia; (b) Upper Marine Series, Wollongong, New South Wales; (c) Buchan and Bindi Limestones, Victoria; (d) Limestones and Shales, Yass, New South Wales; (e) Wianamatta Shales, New South Wales; (f) Table Cape Beds, Tasmania.
2. Explain and illustrate with sketches Reyer's statement—"Eruptiv-gebiete sind hebungs-gebiete in Senkungsfelder;" and classify and describe briefly the different shapes assumed by intrusive masses of eruptive rock.
3. Explain and illustrate the structure of the following, and their relation to surrounding formations, and mention any of their characteristic fossils—Leigh's Creek Coal-measures, South Australia; Ipswich Coal-measures, Queensland; Mount Wingen Coal-measures, near Murrurundi, New South Wales.
4. Explain and illustrate with sketches the following:—Overthrust, *Auswaschung*, *Kuppe*, *Nachschube*. What objections are there to the doctrine of *Auswaschung*?
5. Describe the chemical composition, mineral constitution, and mode of origin and occurrence of the following:—hexahedrite, kerosene shale, dolomite, glauconite, laterite, Fontainebleau Sandstone.
6. Summarise the physical and palæontological characteristics of the Jurassic rocks of the Northern Hemisphere, and mention any localities in Australia where the existence of Jurassic rocks and fossils have been proved.
7. Draw a sketch map of Australia, not less than five inches in width, showing the trend of the chief earth folds which have determined the outline of the Australian Continent.

What evidence is there for the statement that the Eastern Cordillera of Australia, in New South Wales and Queensland, is of later age than the Carboniferous Period?

8. What are the chief evidences of past glacial action in Australia, and in what localities are they chiefly developed?

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STATICS, as in the Second Year of Arts.

DYNAMICS, DIFFERENTIAL AND INTEGRAL CALCULUS, as in the Third Year of Arts.

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THIRD YEAR EXAMINATION.

CHEMISTRY—(INORGANIC).

*In all cases where possible illustrate your answer with sketches and equations.*

1. What do you understand by the terms (a) Exothermic and (b) Endothermic change, (c) heat of solution and (d) heat of neutralisation?
2. Compare the properties of the oxides and oxyacids of Sulphur, Selenium and Tellurium.
3. Give an account of the Phosphorus acids.
4. What do you know about  $\text{CS}_2$ , CS,  $\text{H}_2\text{CS}_3$ , COS and  $\text{CSCl}_2$ ?
5. How does Aluminium occur in nature? How is it extracted? What are the chief properties and uses of the metal, and of its principal salts?
6. What do you know about the modern methods for the liquefaction of gases?  
Mention some of the properties of liquid oxygen, hydrogen, fluorine, and other difficultly liquefied gases.
7. Give an account of Vanadium and some of its principal compounds.
8. How do Pt. Ir. Os. Pd. Rh. and Ru. occur in nature? How are Pt. Ir. and Os. separated from the others?

CHEMISTRY—(CARBON COMPOUNDS).

*In all cases where possible illustrate your answer with sketches and equations.*

1. Give an account of the general methods used for the separation and purification of carbon compounds.
2. Describe freezing point and boiling point methods for determining molecular weights.
3. Give the principal general processes for the preparation of the Acetylene series.
4. Classify the carbohydrates. What do you know about the synthesis of the sugars?

5. Give a general account of the glycols and their derivatives.
6. How are the Quinones prepared? What are their general properties, and what is known about their constitution?
7. Give a general account of Anthracene (*a*) its preparation commercially, (*b*) synthesis, (*c*) compare its constitution with that of Phenanthrene. Show how Alizarin can be produced from Anthracene.
8. Give an account of the tri-hydric alcohols and their principal derivatives. How are the Allyl compounds related to them?

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CHEMISTRY—(HISTORY AND PHILOSOPHY).

PAPER No. 3.

*In all cases give equations and sketches where possible.*

1. What is known about the absolute size of molecules?
2. Give a brief account of modern ideas with respect to the solution of solids in liquids.
3. What are abnormal vapour densities? Give instances of dissociation.
4. Give a brief history of the use and progress of photography, with special reference to the chemistry of the subject.
5. Give a summary of the contributions to Chemistry by Paracelsus, van Helmont and Glauber.
6. Give an account of the Phlogiston theory. How did the theory come to be relinquished?
7. Mention some of the work done by Wöhler, Frankland, Kekulé and Baeyer upon the constitution of carbon compounds.
8. Give a brief account of the development of (*a*) sulphuric acid, (*b*) soda, (*c*) coal tar industries.

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GEOLOGY AND PALÆONTOLOGY.

PASS AND HONOURS.

1. Describe, and illustrate with sketches, a typical articulate brachiopod, such as *Terebratula*, and its shell.

2. Describe, and illustrate with sketches, any structures in the Blastoidea, Echinoidea, or Trilobita connected with organs for breathing air dissolved in water.
  3. Describe, and illustrate with sketches, *Clymenia*, *Goniatites*, *Ceratites*, and *Ammonites*, with special reference to any characteristic internal structures.
  4. Classify the following shells, mention their chief characteristics, and refer them to their proper geological horizons: *Dreissena*, *Pteronites*, *Spondylus*, *Crassatella*, *Mya*, *Diceras*.
  5. Describe briefly and illustrate with sketches the shell of *Balanus* with the animal in position, and the animal of *Patella* with the shell in position.
  6. Refer the following to their proper palæontological positions and geological horizons—*Encrinurus*, *Beyrichia*, *Tentaculites*, *Belemnites*, *Pleurotomaria*, *Clypeaster*, *Arenicolites*, *Lingulocaris*, *Ephemera*, *Lunulites*, *Discina*, *Palæaster*.
  7. Explain the theory of Suess with regard to the interpretation of the phenomena of "raised beaches." Quote arguments for and against this theory.
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DEPARTMENT OF ENGINEERING.

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CIVIL AND MECHANICAL ENGINEERING.

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FIRST YEAR EXAMINATION.

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CHEMISTRY, as in the First Year of Medicine.

CHEMISTRY, PRACTICAL, six hours.

MATHEMATICS, as in the First Year of Science.

PHYSICS, as in the First Year of Medicine.

PHYSIOGRAPHY, as in the First Year of Arts.

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SECOND YEAR EXAMINATION.

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## PHYSICS I.

1. If a rigid body rotate round any axis, show that the centrifugal forces are reducible to a single force perpendicular to the axis of rotation, and to a couple having its axis parallel to the line of this force. Deduce the condition which the axis must fulfil; (*a*) so that the couple may vanish; (*b*) so that both couple and force may vanish.
2. Criticise the statement "*ut tensio sic vis*."
3. Give full theoretical and practical detail of the method of determining the coefficient of rigidity of a wire.
4. Deduce the consequences which would ensue when a direct acting engine drives a reversible engine in the reverse way if the direct acting engine had a greater efficiency than the reversible engine; 1st, when the compound engine does no external work; 2nd, when it does external work.

5. Show that the pressure of a vapour in contact with its liquid, everything being in equilibrium, depends on the curvature of the surface of contact. Deduce a value for the equilibrium pressure in terms of the radii of curvature of the surface.
  6. Show geometrically the conditions which determine whether the specific heat of a saturated vapour is positive or negative.
  7. Give a short account of the present position with regard to accurate thermometry.
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## PHYSICS II.

1. Give an account of the experiments of Fairbairn and Tate on the density of saturated steam. Is the method completely satisfactory? How may the density of saturated steam be determined indirectly?
2. Show that if saturated steam is allowed to expand in a vessel impervious to heat some condensation will take place.
3. Describe with all theoretical and practical detail *one* of the following experiments:—

The determination of the relation between the magnetic force and the magnetic induction in a closed iron ring; the determination of the Dip, or the determination of the Horizontal Component of the earth's magnetic field.
4. Describe the experiment you would use as a basis to calculate a formula for the magnetic force at any point on the axis of a circular coil. Show how the formula is obtained.
5. Describe and explain (making use of your last result) an experiment having for its object the determination of the electrochemical equivalent of silver; and the E. M. F. of a Clark cell.
6. How would you measure (a) the capacity of a condenser, (b) the sensitiveness of a sensitive galvanometer?
7. Give an account of the rise of a current in an inductive circuit and explain how you would measure the "power" of an alternate current circuit.

## MATHEMATICS.

The same papers as those set in the Second Year of Science.

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## GEOLOGY.

The same paper as that set in the Second Year of Science.

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## THIRD YEAR EXAMINATION.

## HISTORY OF ARCHITECTURE.

*Six questions only to be attempted.*

1. Of what types were the principal buildings in
  - (a) Egypt,
  - (b) Assyria,and of what materials were they erected?
2. Give a rough sketch of the Orders used by the Greeks; describe their proportions and features, and define their chronological sequence.
3. Distinguish between Roman constructive architecture and Roman applied architecture.
4. Sketch and describe a typical Roman building.
5. Compare early Romanesque with Byzantine architecture, and sketch or describe a characteristic building in each style.
6. Name the various phases of later Romanesque, and indicate in a few words the characteristic features of each.
7. Give a short sketch of the origin of Saracenic architecture. the countries to which it spread, and its specially characteristic features.
8. Shortly describe the origin and reasons for the general use of the pointed arch.
9. Distinguish between 13th, 14th and 15th century work in English ecclesiastical architecture.



10. Describe shortly the origin of what is known as the Renaissance in Architecture, and more fully one of its phases, with the most important examples, and their authors if known.
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## BUILDING CONTRUCTION.

*Six questions only to be attempted.*

1. Sketch and describe the different modes of forming foundations of walls respectively on
  - (a) Rock,
  - (b) Shale,
  - (c) Clay,
  - (d) Silt.
2. Describe "English" and "Flemish" Bond, and the respective advantages and disadvantages of each.
3. Sketch and describe the various constructive modes of rendering brick walls rain and damp proof.
4. Describe the different kinds of stonewalling in general use, and the points needing special attention to secure sound work.
5. What is meant by the terms "bed," "joint," "joggle," "dowel" and "cramp"?
6. Sketch and describe the timbers and joints used in flooring a room 20 feet x 15 feet, with a fireplace at one end.
7. Sketch and describe the details of a queen post roof of 40 feet span, 30° pitch (slate covered), figure the sizes of each piece of timber, and mark the same C or T to indicate Compression or Tension.
8. What precautions should be taken in Building to prevent the ravages of white ants?
9. Sketch and describe in detail a four panelled moulded door, with jamb linings and architraves complete. Give the thicknesses, names, and joints of the various portions.
10. Sketch and describe in detail
  - (a) An iron trough gutter,
  - (b) A lead secret gutter,
  - (c) A lead ridge,
  - (d) A lead apron.

MATHEMATICS.

The same papers as those set in the Third Year of Arts, and Spherical Trigonometry.

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DEPARTMENT OF MINING ENGINEERING.

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SECOND YEAR EXAMINATION.

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MATHEMATICS AND GEOLOGY.

The same papers as those set in the Second Year of Civil and Mechanical Engineering.

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CHEMISTRY.

*In all cases give equations and sketches where possible*

1. Describe briefly the methods used for the determination of the atomic weights of elements. Point out their relative importance in various cases.
2. What do you know about the theory of the internal constitution of gases? What phenomena does this theory explain?
3. Describe a method for the quantitative analysis of a cement.
4. Give a brief account of Argon and Helium.
5. What are the principal ores of Copper? Describe two wet methods for the extraction of Copper from its ores.
6. How much anthracite, containing 90 per cent. carbon, would be required to reduce 10 kilograms of zinc oxide to metallic zinc? What volume of gas would be produced at 819°C. and 720 m.m. pressure?  $H=1, O=16, Zn.=65, C=12$ , 1 Litre of H weighs .09 grammes.
7. How would you estimate small quantities of arsenic and antimony in copper?
8. What common impurities in water are liable to be injurious to steam boilers? State how they act, how they can be detected, and how they can be removed.

## MINERALOGY.

A practical examination of three hours.

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## THIRD YEAR EXAMINATION.

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MINING I.

1. Give the latest classification of ore deposits by Professor Louis (Phillips' and Louis' treatise), and briefly describe each class.
  2. Describe the different tenures under which land can be held in this colony for Mining purposes.
  3. Describe fully the following terms—(i.) *Capel*, (ii.) *Gossan*, (iii.) *Spalling*, (iv.) *Tutwork*, (v.) *Vadose circulation*, (vi.) *Placer*, (vii.) *Ore against ore*, (viii.) *Stempel*.
  4. Under what conditions are diamonds found in different parts of the world? Give your views as to the origin of the gem.
  5. What are the principal differences in the methods of work followed in opening up a Metalliferous mine and a Colliery respectively, and what are the conditions which necessitate these differences? Give a sketch of the underground workings in each case to illustrate your remarks.
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## MINING II.

1. Mention five classes into which the various kinds of ground met with in mining operations may be divided, and enumerate the different implements used for "*breaking ground*" in each class.
2. Give a clear description of the old Davy lamp, and illustrate your description by a sketch. Explain how the lamp acted as a *safety* lamp under the conditions which formerly existed in fiery mines, and give reasons why such a lamp would fail in collieries now working. Describe the improvements of some modern form of safety lamp.

3. Describe in detail the method of excavating and timbering a drive in extremely wet or *running* ground. Illustrate by sketches.
  4. Discuss the question of travelling in shafts; describe the ancient as well as the modern methods adopted for conveying miners to their work. What were the chief considerations which led up to the methods now most generally employed?
  5. What are the chief principles as laid down by Lührig for the economical reduction and concentration of ores. Describe the most effective method, in your opinion, for dealing with an ore consisting of argentiferous galena, and auriferous pyrites disseminated through a quartz gangue.
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## METALLURGY I.

1. Describe three different types of calcining furnace, and point out their special advantages and defects.
2. Describe some method of making producer gas, and show how to apply it to a furnace with regenerator attached.
3. What considerations would influence you in deciding as to the suitability of a gold ore for—
  - (a) Amalgamation, with or without concentration.
  - (b) Chlorination.
  - (c) Cyanidation?

Describe a plant suitable for one of these processes, and state approximately its capacity.

4. An amalgamated copper plate has been out of use for some time; it is required to strip it completely of accumulated gold, and to prepare the plate for work again. How would you treat the plate?
  5. Describe the Von Patera-Russell process for the extraction of silver from its ores, and the limitations of the process.
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## METALLURGY II.

1. What is meant by the calorific power of a fuel, and how would you determine it in the case of a sample of coal?

- 2 (a) State approximately, in degrees, the temperatures commonly employed in workshop practice as standards of reference.  
(b) Arrange eight common metals in the order of their fusibility.
  3. How would you ascertain the suitability of a clay for the manufacture of refractory bricks? What should be approximately the composition of such clay, and what are the more desirable qualities of such bricks?
  4. In copper smelting what is meant by "best selected" copper, and how is it produced?
  5. Describe Manhès' process for Bessemerising copper matte.
  6. Describe the production of silver from argentiferous lead of no great purity by means of the zinc process.
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# \* EXAMINATION PAPERS.

MARCH, 1899.

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## FACULTY OF ARTS.

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### FIRST YEAR EXAMINATION.

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#### LATIN PROSE COMPOSITION AND UNSEEN TRANSLATION. HONOURS.

##### 1. Translate into English—

(a) "Te exorabo profecto, ut mihi quoque et Catulo tuæ suavitatis aliquid impertias; sin tibi id minus licebit, non te urgebo neque committam, ut, dum vereare tu ne sis ineptus, me esse iudices." tum ille "ego mehercule" inquit, "Cæsar ex omnibus Latinis verbis huius verbi vim vel maximam semper putavi; quem enim nos ineptum vocamus, is mihi videtur ab hoc nomen habere ductum, quod non sit aptus, idque in sermonis nostri consuetudine perlate patet; nam qui aut tempus quid postulet non videt aut plura loquitur aut se ostentat aut eorum, quibuscum est, vel dignitatis vel commodi rationem non habet aut denique in aliquo genere aut inconcinuus aut multus est, is ineptus esse dicitur. hoc vitio cumulata est eruditissima illa Graecorum natio; itaque quod vim huius mali Graeci non vident, ne nomen quidem ei vitio imposuerunt; ut enim quaeras omnia, quo modo Graeci ineptum appellent, non reperies. omnium autem ineptiarum, quae sunt innumerabiles, haud scio an nulla sit maior, quam, ut illi solent, quocumque in loco quoscumque inter homines visum est, de rebus aut difficillimis aut non necessariis argutissime disputare. hoc nos ab istis adulescentibus facere inviti et recusantes heri coacti sumus."

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\*NOTE.—The time allowed for each paper is three hours, except where otherwise stated.

(b) Gratum est, quod patriae civem populoque dedisti,  
Si facis, ut patriae sit idoneus, utilis agris,  
Utilis et bellorum et pacis rebus agendis.  
Plurimum enim intererit, quibus artibus et quibus hunc tu  
Moribus instituas. Serpente ciconia pullos  
Nutrit et inventa per devia rura lacerta :  
Illi eadem sumptis quaerunt animalia pinnis.  
Vultur, jumento et canibus crucibusque relictis,  
Ad fetus properat, partemque cadaveris adfert.  
Hic est ergo cibus magni quoque vulturis et se  
Pascentis, propria cum jam facit arbore nidos.  
Sed leporem aut capream famulae Jovis et generosae  
In saltu venantur aves ; hinc praeda cubili  
Ponitur : inde autem cum se matura levabit  
Progenies stimulante fame, festinat ad illam,  
Quam primum praedam rupto gustaverat ovo.

2. Translate into Latin—

It was clearly for the good of mankind that Hannibal should be conquered ; his triumph would have stopped the progress of the world. For great men can only act permanently by forming great nations ; and no one man, even though it were Hannibal himself, can in one generation effect such a work. But where the nation has been merely enkindled for a while by a great man's spirit, the light passes away with him who communicated it ; and the nation, when he is gone, is like a dead body, to which magic power had for a moment given an unnatural life ; when the charm has ceased, the body lies cold and stiff as before. He who grieves over the battle of Zama should carry on his thoughts to a period thirty years later, when Hannibal must, in the course of nature, have been dead, and consider how that isolated Phœnician city of Carthage was fitted to receive and to consolidate the civilization of Greece, or by its laws and institutions to bind together barbarians of every race and language into an organised empire, and prepare them for becoming, when that empire was dissolved, the free members of the commonwealth of Christian Europe.

LATIN AUTHORS.

HONOURS.

1. Translate into English extracts from Cicero de Claris Oratoribus.
2. Translate and comment on—
  - (a) *Judicia populi, quibus aderat Carbo, jam magis patrum desiderabant tabella data.*
  - (b) *Ut semel e Piraeo eloquentia evecta est, omnes peragravit insulas atque ita peregrinata tota Asia est, ut se externis oblineret moribus omnemque illam salubritatem Atticae dictionis et quasi sanitatem perderet ac loqui paene dedisceret.*
  - (c) *Equidem in quibusdam risum vix tenebam cum Attico Lysiae Catonem nostrum comparabas.*
  - (d) *Hortensius et Crasso vivo dicere solebat et magis jam etiam vigeat Antonio et cum Philippo jam sene pro Cn. Pompeii bonis dicens in illa causa, adulescens cum esset, princeps fuit.*
3. Translate into English extracts from Virgil, *Æneid VII., VIII., IX., X.*
4. Translate and comment on—
  - (a) *Respicit ignarus rerum ingratusque salutis.*
  - (b) *Aeneia puppis  
Prima tenet, rostro Phrygios subjuncta leones.*
  - (c) *His fretus non legatos neque prima per artem  
Temptamenta tui pepigi.*
  - (d) *Discessu mugire boves, atque omne querellis  
Impleri nemus, et colles clamore relinqui.*
  - (e) *Promissi dea facta potens, ubi sanguine bellum  
Imbuit, et primae commisit funera pugnae.*
5. Scan the following lines, with any comments you think called for—
  - (a) *Inclusum buxo aut Oricia terebintho.*
  - (b) *Cum refluit campis et jam se condidit alveo.*
  - (c) *Antiquom in Buten (hic Dardanio Anchisae  
Armiger ante fuit, fidusque ad limina custos).*
  - (d) *Praeferimus manibus vittas ac verba precantia.*



MARCH EXAMINATION.

lxxxv.

ROMAN HISTORY.

HONOURS.

1. "Primitive Rome was essentially a Latin Town."

Discuss this.

2. Explain the meaning of the terms "Patricians" and "Plebeians;" and describe the privileges of the former, and the disabilities of the latter at the beginning of the Republic.

3. "Libertatis originem inde magis, quia annum imperium consulare factum est, quam quod deminutum quicquam sit ex regia potestate, numeres."—*Livy*.

Comment on this.

4. Describe the constitutional reforms effected by the Valerio-Horatian laws of 449 B.C.

5. Describe the settlement of Latium after the Latin War of 340 B.C.

6. "The influx of wealth derived from the provinces gradually altered the whole structure of Roman Society by destroying the equality and homogeneity which had once been its chief characteristics."

Explain this statement.

7. "M. Porcius Cato, the type for all time to come of the old-fashioned Roman citizen."

Comment on this.

8. "In the earlier part of the second century B.C., at home the oligarchy masqueraded as a republic; in Italy despotism masqueraded as alliance."

Comment on this.

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GREEK COMPOSITION.—JUNIOR.

HONOURS.

Translate into Greek—

- (a) Leave America divided into thirteen, or, if you please, into three or four independent governments, what armies could they raise and pay, what fleets could they ever hope to have? If one was attacked, would the others fly to its

succour, and spend their blood and money in its defence? Would there be no danger of their being flattered into neutrality by specious promises, or seduced by a too great fondness for peace to decline hazarding their tranquillity and present safety for the sake of neighbours, of whom perhaps they have been jealous, and whose importance they are content to see diminished? Although such conduct would not be wise, it would nevertheless be natural. The history of the States of Greece, and of other countries, abounds with such instances; and it is not improbable that what has so often happened would, under similar circumstances, happen again.

- (b) My dear friend, either you or Society must yield; and it is better that you should suffer, if need be, than that you should batten on Society. National progress must not be impeded; the happiness and prosperity of the nation must not be sacrificed for the interests of a class. You, my friend, must find a new channel for your activities. If you have any regard for your country, you will not oppose a reform so essential to its welfare.

#### GREEK TRANSLATION AT SIGHT.—JUNIOR.

#### HONOURS.

Translate—

1. Αἴαν, παῖ Τελαμῶνος ἀνύμονος, οὐκ ἄρ' ἔμελλες  
οὐδὲ θανῶν λήσεσθαι ἐμοὶ χόλον εἵνεκα τευχέων  
οὐλομένων; τὰ δὲ πῆμα θεοὶ θέσαν Ἀργείοισι,  
τοῖος γάρ σφιν πύργος ἀπώλεο· σέω δ' Ἀχαιοὶ  
ἴσον Ἀχιλλῆος κεφαλῇ Πηληϊάδαο  
ἀχνύμεθα φθιμένοιο διαμπερές· οὐδέ τις ἄλλος  
αἴτιος, ἀλλὰ Ζεὺς Δαναῶν στρατὸν αἰχμητῶν  
ἐκπάγλως ἤχθηρε, τὲν δ' ἐπὶ μοῖραν ἔθηκεν.  
ἀλλ' ἄγε δέυρο, ἀναξ, ἵν' ἔπος καὶ μῦθον ἀκούσῃς  
ἡμέτερον· δάμασον δὲ μένος καὶ ἀγήνορα θυμόν.
2. *Polynices pleads his cause against his brother.*  
ἀπλοῦς ὁ μῦθος τῆς ἀληθείας ἔφυ,  
κοῦ ποικίλων δεῖ τᾶνδιχ' ἑρμηνευμάτων·  
ἔχει γὰρ αὐτὰ κῦρος· ὃ δ' ἀδικὸς λόγος

νοσῶν ἐν αὐτῷ φαρμάκων δέεται σοφῶν.  
 ἐγὼ δὲ πατρός δωμάτων προνυμφάμην,  
 τοῦμόν τε καὶ τοῦδ' ἐκφυγεῖν χρήζων ἄρ' αὖ  
 ἄς Οἰδίπους ἐφθέγγατ' εἰς ἡμᾶς ποτε,  
 δοὺς τῷδ' ἀνάσσειν πατρίδος ἐνιαυτοῦ κύκλον,  
 ὥστ' αὐτὸς ἀρχὴν αὖθις ἀνὰ μέρος λαβεῖν  
 καὶ μὴ δι' ἔχθρας τῷδε καὶ φόνον μολεῖν.  
 ὁ δ' αἰνέσας ταῦθ' ὀρκίους τε δοὺς θεούς,  
 ἔδρασεν οὐδὲν ὧν ὑπέσχετ', ἀλλ' ἔχει  
 τυραννίδ' αὐτὸς καὶ δόμων ἑμὸν μέρος.  
 καὶ νῦν ἔτοιμός εἰμι τάμαντοῦ λαβὼν  
 στρατὸν μὲν ἔξω τῆσδ' ἀποστεῖλαι χθονός,  
 οἰκεῖν δὲ τὸν ἑμὸν οἶκον ἀνὰ μέρος λαβὼν  
 καὶ τῷδ' ἐφεῖναι τὸν ἴσον αὖθις αὖ χρόνον,  
 καὶ μήτε πορθεῖν πατρίδα μήτε προσφέρειν  
 πύργοισι πηκτῶν κλιμάκων προσαμβάσεις,  
 ἃ μὴ κυρήσας τῆς δίκης πειράσομαι  
 δρᾶν. μάρτυρας δὲ τῶνδε δαίμονας καλῶ,  
 ὥς πάντα πράσσωσιν σὺν δίκῃ, δίκης ἄτερ  
 ἀποστεροῦμαι πατρίδος ἀνοσιώτατα.

### 3. *The battle of Mantinea.*

ἐπεὶ δὲ ξυνιέναι ἔμελλον ἤδη, ἐνταῦθα καὶ παραινέσεις καθ' ἑκασ-  
 τούς ὑπὸ τῶν οἰκείων στρατηγῶν τοιαῦτε ἐγίνοντο, Μαντινεῦσι  
 μὲν ὅτι ὑπὲρ τε πατρίδος ἢ μάχῃ ἔσται καὶ ὑπὲρ ἀρχῆς ἅμα καὶ  
 δουλείας, τὴν μὲν μὴ πειρασμένους ἀφαιρεθῆναι, τῆς δὲ μὴ  
 αὖθις πειρᾶσθαι. Ἀργείοις δὲ ὑπὲρ τῆς τε παλαιᾶς ἡγεμονίας,  
 καὶ τῆς ἐν Πελοποννήσῳ ποτὲ ἰσομοιρίας μὴ διὰ πάντος στερισ-  
 κομένους ἀνέχεσθαι, καὶ ἄνδρας ἅμα ἐχθροὺς καὶ ἀστυγείτονας  
 ὑπὲρ πολλῶν ἀδικημάτων ἀμύνασθαι. τοῖς δὲ Ἀθηναίοις καλὸν  
 εἶναι μετὰ πολλῶν καὶ ἀγαθῶν ξυμμάχων ἀγωνιζομένους μηδεὶς  
 λείπεσθαι, καὶ ὅτι ἐν Πελοποννήσῳ Λακεδαιμονίους νικήσαντες  
 τὴν τε ἀρχὴν βεβαιωτέραν καὶ μείζω ἔξουσιν, καὶ οὐ μὴ ποτὲ τις  
 αὐτοῖς ἄλλος ἐς τὴν γῆν ἔλθῃ.

4. ἀκούετε, ὦ ἄνδρες Ἀθηναῖοι, περὶ τῶν τοιούτων ἀνθρώπων οἱ αὖ  
 Σόλων λέγει, καὶ περὶ τῶν θεῶν, οὓς φησι τὴν πόλιν σῶζειν.  
 ἐγὼ δ' αἰεὶ μὲν ἀληθῆ τὸν λόγον τοῦτον ἡγοῦμαι καὶ βούλομαι,  
 ὥς ἄρ' οἱ θεοὶ σῶζουσιν ἡμῶν τὴν πόλιν. τρόπον δὲ τινα ἡγοῦ-  
 μαι καὶ τὰ νῦν συμβεβηκότα πάντ' ἐπὶ ταῖς εὐθύναις ταυταισὶ  
 δαιμονίας τινὸς εὐνοίας ἔνδειγμα τῇ πόλει γεγενῆσθαι. σκοπεῖτε  
 γάρ. ἀνθρώπος πολλὰ καὶ δεινὰ πρεσβεύσας, καὶ χώρας ἐκδεδω-

κὼς ἐν αἷς τοὺς θεοὺς ὑφ' ὧν καὶ τῶν συμμάχων τιμᾶσθαι προσήκεν, ἡτίμωσεν ὑπακούσαντά τιν' αὐτοῦ κατήγορον. ἵνα τί; ἵνα μήτε ἐλέου μήτε συγγνώμης ἐφ' οἷς αὐτὸς ἡδίκηκε τύχη. ἀλλὰ καὶ κατηγορῶν ἐκείνου κακῶς λέγειν προείλετο ἐμὲ, καὶ πάλιν ἐν τῷ δήμῳ γραφὰς ἀποίσειν καὶ τοιαῦτ' ἡπείλει. ἵνα τί; ἵν' ὥς μετὰ πλείστης συγγνώμης παρ' ὧν ὁ τὰ τούτου πονηρεύματ' ἀκριβέστατα εἰδὼς ἐγὼ καὶ παρηκολουθηκὼς ἅπασιν κατηγορῶ.

## FRENCH PROSE COMPOSITION AND UNSEEN TRANSLATION.

## JUNIOR.

## HONOURS.

## 1. Translate into French—

## SEEN FROM A TRAIN.

Our American sunrise had ushered in a noble summer's day. There was not a cloud; the sunshine was baking; yet in the woody river valleys among which we wound our way the atmosphere preserved a sparkling freshness till late in the afternoon. It had an inland sweetness and variety to one newly from the sea; it smelt of woods, rivers, and the delfed earth. These, though in so far a country, were airs from home. I stood on the platform by the hour; and as I saw, one after another, pleasant villages, carts upon the highway and fishers by the stream, and heard cock-crows and cheery voices in the distance, and beheld the sun, no longer shining blankly on the plains of ocean, but striking among shapely hills and his light dispersed and coloured by a thousand accidents of form and surface, I began to exult within myself upon this rise in life like a man who had come into a rich estate. And when I had asked the name of a river, and heard that it was called the Susquehanna, the beauty of the name seemed to be part and parcel of the beauty of the land. As when Adam with divine fitness named the creatures, so this word Susquehanna was at once accepted by the fancy. That was the name, as no other could be, for that shining river and desirable valley.

—R. L. Stevenson.

## 2. Translate (at sight)—

## MIRABEAU.

Mirabeau venait de mourir. L'instinct du peuple le portait à se presser en foule autour de la maison de son tribun, comme pour demander encore des inspirations à son cercueil ; mais Mirabeau même vivant n'en aurait plus eu à donner. Son génie avait pâli devant celui de la Révolution ; entraîné à un précipice inévitable par le char même qu'il avait lancé, il se cramponnait en vain à la tribune. Les derniers mémoires qu'il adressait au roi, et que l'armoire de fer nous a livrés avec le secret de sa venalité, témoignent de l'affaissement et du découragement de son intelligence. Ses conseils sont versatiles, incohérents, presque puérils. Tantôt il arrêtera la Révolution avec un grain de sable. Tantôt il place le salut de la monarchie dans une proclamation de la couronne et dans une cérémonie royale propre à populariser le roi. Tantôt il veut acheter les applaudissements des tribunes et croit que la nation lui sera rendue avec eux. La petitesse des moyens de salut contraste avec l'immensité croissante des périls. Le désordre est dans ses idées. On sent qu'il a eu la main forcée par les passions soulevées, et que, ne pouvant plus les diriger, il les trahit, mais sans pouvoir les perdre. Ce grand agitateur n'est plus qu'un courtisan effrayé qui se réfugie sous le trône, et qui, balbutiant encore les mots terribles de nation et de liberté, qui sont dans son rôle, a déjà contracté dans son âme toute petitesse et toute la vanité des pensées de cour.

## 3. French Grammar—

- (a) (i.) Sketch the history of the *lingua romana rustica* from the earliest times to the period of its first appearance in written documents. (ii.) Mention and give examples of the chief phonetic changes which took place in Vulgar Latin.
- (b) Distinguish "free" and "impeded" or "stopped" vowels. Show how a "stopped" vowel has a different development from that of the same vowel when "free."
- (c) Give a history of the termination of the Imperfect Indicative and Subjunctive in French.
- (d) Exemplify the influence of Analogy in the declension of nouns in French.

(e) Remark on the italicised words in the following—

- (i.) Dans les propos qu'il tient on ne voit jamais *goutte*.
- (ii.) Si le roi m'avait donné Paris sa *grand 'ville*,  
Et qu'il me fallût quitter l'amour de *ma mie*.
- (iii.) Je n'ai jamais *ouï* de vers si bien tournés.
- (iv.) Et l'on y sait médire et du *tiers* et du *quart*.

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#### FRENCH AUTHORS—JUNIOR.

##### HONOURS.

- 1 and 2. Translate into English extracts from Lamartine, Jocelyn; and Lemer cier, Fredegonde and Brunehaut.
3. Give a brief account of N. Lemer cier and his works, and characterise his dramas. Show where he departs from history in *Fredegonde et Brunehaut*.

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#### GERMAN PROSE COMPOSITION AND UNSEEN TRANSLATION.

##### JUNIOR.

##### HONOURS.

1. Translate into German—

##### JOHN BULL.

Though really a good-hearted, good-tempered old fellow at bottom, yet he is singularly fond of being in the midst of contention. It is one of his peculiarities, however, that he only relishes the beginning of a fray; he always goes into a fight with alacrity, but comes out of it grumbling, even when victorious; and though no one fights with more obstinacy to carry a contested point, yet, when the battle is over, and he comes to the reconciliation, he is so much taken up with the mere shaking of hands, that he is apt to let his antagonist pocket all that they have been quarrelling about. It is not, therefore, fighting that he ought so much to be on his guard against, as making friends. It is difficult to cudgel him out of a farthing; but put him in a good humour, and you may bargain him out of all the money in his pocket. He is like a stout

ship, which will weather the roughest storm uninjured, but roll its masts overboard in the succeeding calm.—

*W. Irving.*

2. Translate (at sight)—

DIE LAWINE.

Mit rasender Eile, immer furchtbarer Wucht und dröhnendem Gepolter stürzt der Hauptstrom der Tiefe zu, hat schon die Holzregion als breite, hochgetürmte Sturmflut erreicht, reisst Steine, Büsche mit sich und bricht krachend in den Wald. Du siehst nichts als donnernde und sprühende Nebel; unendliche Schneestaubwolken verhüllen den Gang des Stromes, dessen ganze Bahn raucht; aber die Bäume krachen, das Felsgestell bebt, die Zinnen hallen im Donner des Sturmes lange, bange Minuten nach—noch ein Schlag und zitterndes, knirschendes, dumpfes, unaussprechliches Gepolter—dann ist es stille. Ein schneidender Luftzug hat den stolzen Gang der Lawine begleitet. Du schaust ihr nach; gerade aus, über zwei Stunden lang, Hunderte von Schritten breit, liegt ihr frisches Kanalbett durch Alpenweiden, Wälder, Wiesen bis an den Bach tief unten im Thal; noch rollen einzelne Ballen und rutschen kleine Stürze nach, noch schwankt der durchbrochene Hochwald im Winde der Verheererin. Vom Thale aus gesehen ist der Sturz malerischer: doch entdeckt man selten die Anfänge. Der sich ausbreitende, mit Riesenkräften wachsende, wasserfallgleich über die Felswände stürzende, hochaufräuchende Strom, wie er sich oft teilt und wieder vereinigt, die Seitenarme aufnimmt, ein wallendes, flutendes, glänzendes Meer im pfeilschnellen Schusse mit allen weitreichenden Seitenwirkungen, gewährt ein unaussprechlich grossartiges Bild.—*F. V. Tschudi.*

3. German Grammar—

(a) Show, in a table, the action of the First and Second *Lautverschiebung*, giving examples.

(b) Exemplify the action of Verner's Law in the conjugation of verbs (*Grammatischer Wechsel*).

(c) Explain what is meant by *Ablaut*, and show what are its causes.

- (d) Trace the influences of the French language upon German.
- (e) Shew that the following contain remnants of an older system of declension—*Vaterherz, Weihnachten, Bürge-meister, Sonnenlicht, Kälbersbach.*
- (f) Explain the origin of *der* as a relative pronoun.

## GERMAN AUTHORS—JUNIOR.

## HONOURS.

1. Translate into English extracts from Heine, *Romantische Schule*; and Chamisso, *Gedichte*.

## ALGEBRA.

## HONOURS.

1. A watch has the hour, minute and second hands set on the same axis. Shew that all three cannot point in the same direction except at 12 o'clock.
2. The equation  $ax^2 + 3bx^2 + 3cx + d = 0$  has a pair of roots, each  $a$ . Prove that  $a$  is also a root of the equations  $ax^2 + 2bx + c = 0$ , and  $bx^2 + 2cx + d = 0$ . Hence, or otherwise, shew that
- $$(bc - ad)^2 = 4(ac - b^2)(bd - c^2).$$
3. Solve the equations
- (i.)  $a^4(x^4 + a^2x^3 + 2ax^2 + 2x) + 4 = 0$ .
- (ii.) 
$$\left. \begin{aligned} x^3 + y^3 + z^3 &= 3xyz \\ 2c + a + x &= 2a + b + y = 2b + c + z \end{aligned} \right\}$$
4. Prove the expansion of  $\log_e(1+x)$  in ascending powers of  $x$ . Shew that

$$\frac{1}{1.2.3} + \frac{1}{3.4.5} + \frac{1}{5.6.7} + \dots = \log_e 2 - \frac{1}{2}.$$

5. Shew that the number of homogeneous products of  $r$  dimensions that can be formed out of the  $n$  letters  $a, b, c, d, \dots$  and their powers is  $\frac{(n+r-1)!}{r!(n-1)!}$



How many different throws can be made with one cast of three ordinary dice, a throw of 1.1.4 being counted as different from one of 1.2.3 ?

6. An infinite series is convergent if from and after any fixed term the ratio of each term to the preceding term is numerically less than some quantity which is itself numerically less than unity.

Examine the following series for convergency or divergency

(i.)  $\frac{1}{2^2} + \frac{2}{3^2} + \frac{3}{4^2} + \dots$

(ii.)  $\frac{1}{2.5} + \frac{1}{8.11} + \frac{1}{14.17} + \frac{1}{20.23} + \dots$

7. Find the sum to  $n$  terms of the series

(i.)  $1.2.3 + 2.3.4 + 3.4.5 + \dots$

(ii.)  $1.2.3^2 + 2.3.4^2 + 3.4.5^2 + \dots$

(iii.)  $1 + 5 + 15 + 35 + \dots + \frac{(n+3)!}{(n-1)!4!}$

8. Prove that the numerators of any two consecutive convergents of a continued fraction are prime to each other; so also are the denominators.

9. A match of five games is arranged between two players A and B, all games to be played out, and the first winner of three games to win the match. A's chance of winning any particular game is  $\frac{4}{7}$ . Prove that the odds in favour of A's winning the match are 10624:6183. If the first game is won by B, shew that the odds become 1377:1024 against A.

10. In the recurring series

$$4 - 14x - 8x^2 - 110x^3 - 176x^4 - 854x^5 \dots$$

find the generating function, and the coefficient of  $x^n$ .

## GEOMETRY AND TRIGONOMETRY.

### HONOURS.

1. If two tangents be drawn to a circle, and their points of contact be joined, and if perpendiculars be drawn to these three lines from any point on the circumference, then the

square of the perpendicular on the chord is equal to the rectangle contained by the perpendiculars on the tangents.

2. If three perpendiculars are drawn to the sides of a triangle from any point on the circumcircle, prove that the feet of these perpendiculars are collinear.
3. A complete quadrangle ABCD, consisting of six lines, may be considered as a triangle ABC, and a trilinear pencil DA, DB, DC. Shew how to construct a second quadrangle, forming a second triangle and pencil, such that the sides of the first triangle shall be parallel to the lines of the second pencil, and conversely.
4. Three equal non-intersecting chords of a circle are produced to form a triangle. Prove that the incircle of this triangle is concentric with the original circle.

Also if the ends of the equal chords are joined by three non-intersecting, unequal chords, and if these unequal chords are produced to form a second triangle, prove that the rectangle contained by the produced portions of one of the unequal chords is equal to the square on one of the equal chords.

5. AD is drawn perpendicular to BC in the triangle ABC. Prove that  $AD^2 = BD \cdot DC = 2 \cot A \times \text{area of } ABC$ .
6. Given  $\sin(A+x) \cdot \sin(B+x) = \sin(C+x) \cdot \sin(D+x)$ , where  $A+B+C+D=\pi$ , prove that  

$$\cos 2x = -\cos(B+C) \cdot \cos(C+A) \cdot \sec(A+B)$$
7. Give reasons for the statement that the sine of an angle, and its radian measurement, vanish in a ratio of equality. The angles of ABC are  $60^\circ 1'$ ,  $60^\circ 2'$ , and  $59^\circ 57'$  respectively. Prove that approximately

$$b-a:b-c:a-c=1:5:4.$$

8. If  $p$  and  $q$  are positive fractions such that  $p+q=1$ , and if the smallest positive value is taken for each angle of the following series, prove that

$$\cot^{-1} \frac{1+p}{q} + \cot^{-1} \frac{1+p^3}{pq} + \cot^{-1} \frac{1+p^5}{p^2q} + \dots \text{ to infinity } = \frac{\pi}{4}.$$

9. Find the area of a triangle in terms of the sides. The sides of a triangular block of ground ABC are 13, 20 and 21

chains respectively, and a straight road, 1 chain in width, cuts the longer sides, so that the distances from A to the nearer points of intersection are each 10 chains. Find the area of the road within the triangle.

10. Define the Brocard points of a triangle ABC, and prove that the Brocard angle  $\omega$  is given by  $\cot \omega = \cot A + \cot B + \cot C$ .

AL, BM, CN are drawn to meet the sides in L, M, N, and crossing each other in P, Q, R. Also  $\angle CAL = \angle ABM = \angle BCN = \theta$ . Prove that the triangle PQR is similar to ABC, that corresponding sides are as  $\sin(\omega - \theta) : \sin \omega$ , and that they have a common Brocard point.

### CONIC SECTIONS.

#### HONOURS.

1. Shew how to find any number of points on a conic whose focus, directrix and eccentricity are given.

If a circle passes through a fixed point, and cuts a fixed straight line at a given angle, shew that its centre lies on a fixed hyperbola.

2. If TP, TP' be any two tangents to a parabola whose focus is S, the triangles PST, TSP' are similar and  $SP \cdot SP' = ST^2$ .

If from any point on the axis of a parabola two tangents are drawn, shew that these tangents cut any other tangent in points equidistant from the focus.

3. Shew that the sum of the focal distances of any point on an ellipse is constant.

If two ellipses have the same auxiliary circle, and one passes through the foci of the other, then the second will pass through the foci of the first.

4. If Y, Y' be the feet of the perpendiculars drawn from the foci to the tangent at any point P of an ellipse, shew that Y, Y' lie on the auxiliary circle, and that  $\angle SY \cdot SY' = CB^2$ .

If PN be the ordinate at P, shew also that PN bisects the angle YNY'.

5. The portion of any tangent to a hyperbola intercepted between the asymptotes is bisected at the point of contact.

- Two tangents to a hyperbola cut the asymptotes in  $K, K', L, L'$ , respectively shew that  $KL', K'L$  are parallel to the chord of contact and equidistant from it.
6. Find the coordinates of the point which divides in a given ratio the line joining two given points.  
A straight line is drawn through a given point  $(a, 0)$  and a perpendicular is drawn to it from the origin. Find the locus of the point dividing this perpendicular in a given ratio.
7. Find the perpendicular distance of a given point from a given straight line.  
Determine the area of the parallelogram contained by the straight lines  $3x+4y=0$ ,  $x+y=0$ ,  $3x+4y+6=0$ ,  $x+y+6=0$ .
8. Tangents are drawn to a circle from any point, find the equation of their chord of contact.  
If tangents are drawn to a circle from points lying on a given straight line, shew that their chords of contact all pass through a given point.
9. Obtain the equation to the normal to a parabola at any point.  
Normals are drawn to a parabola from the extremities of a focal chord. Shew that the ordinate of their point of intersection is half the algebraical sum of the ordinates of the points from which they are drawn, and that the abscissa of their point of intersection is equal to the sum of the abscissæ of these points and one quarter of the latus rectum.
10. Find the equation to the tangent at any point of an ellipse.  
Prove that the locus of the point of intersection of tangents at points whose eccentric angles differ by a right angle is an ellipse whose axes are to those of the original ellipse as  $\sqrt{2}:1$ .

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### DIFFERENTIAL CALCULUS.

#### HONOURS,

See the paper set for Second Year Honours.

## SECOND YEAR EXAMINATION.

## LATIN PROSE COMPOSITION AND UNSEEN TRANSLATION.

## HONOURS.

The same paper as that set in the Third Year Examination.

## LATIN AUTHORS.

## HONOURS.

1. Translate, with short notes, extracts from Tyrrell's Cicero's Letters, Vol. I.
2. Translate and comment on—
  - (a) Primum cognoscito equites, pauci enim sunt, deinde appetito: multo enim facilius illa adolescentulorum ad amicitiam aetas adjungitur.
  - (b) Ne absens censeare, curabo edicendum et proponendum locis omnibus. Sub lustrum autem censi germani negotiatoris est.
  - (c) Est enim illud senatus consultum summa pedariorum voluntate, nullius nostrum auctoritate factum.
  - (d) Prognostica mea cum oratiunculis quotidie exspecta.
  - (e) Aut fortiter resistendum est legi agrariae in quo est quaedam dimicatio, sed plena laudis, aut quiescendum, quod est non dissimile atque ire in Solonium aut Antium, aut etiam adjuvandum, quod a me aiunt Caesarem sic exspectare, ut non dubitet.
3. Translate into English an extract from Terence's Phormio.
4. Translate into English an extract from Catullus.
5. Explain the allusions and discuss the readings in the following—
  - (a) Caesaris visens monumenta magni,  
Gallicum Rhenum horribilesque ultimosque Britannos.

- (b) *Per consulatum perjerat Vatinius.*  
 (c) *Gaudete vosque, o Lydiae lacus undae.*  
 (d) *Nam quo me referam? quali spe perdita nitar?*  
*Idoneosne petam montes?*
6. Scan the following lines, with such comments as you think called for—
- (a) *Quod quom audierit, quod ejus remedium inveniam iracundiae?*  
*Loquar? incendam: Taceam? instigem? purgem me? laterem lavem.*
- (b) *Abi, Phaedria, eum require atque adduce huc. Ph. Eo: recta via quidem illuc. Ge. Nempe ad Pamphilam.*
- (c) *Quid rei gerit? Ge. Sic, tenuiter. Da. Non multum habet*  
*Quod det fortasse? Ge. Immo nil nisi spem meram.*
- (d) *Mitte brachiolum teres,*  
*Praetextate, puellulae.*
- (e) *Malest, Cornifici, tuo Catullo,*  
*Malest, mehercule, et laboriose.*
- (f) *Vix mi ipse credens Thyniam atque Bithynos*  
*Liquisse campos et videre te in tuto.*

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### LATIN TRANSLATION AT SIGHT.

#### HONOURS.

The same paper as that set in the Third Year Examination.

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### ROMAN HISTORY.

#### HONOURS.

ONE HOUR AND A HALF.

1. Discuss Mommsen's view that Cicero was a political trimmer.
2. "The enfranchisement of the allies, just and necessary though it was, added to the difficulties which beset the old republican constitution."—*Pelham.*  
 Comment on this statement.

3. How did Cæsar deal with "the greatest problem which he was called upon to solve"—the establishment of a satisfactory government for the empire?
4. "Pompey's own career, in its quiet defiance of all the established rules of the constitution, did almost more than the direct attacks of others to render the republic impossible."—*Pelham*.

Comment on this.

5. "*Concilium Plebis*, or simply *Concilium*, is employed to denote the *Comitia Tributa*, because that assembly consisted originally of plebeians only, and the term having been once recognised, remained in use after the *Comitia Tributa* included all classes."

Criticise this statement of Ramsay's.

## GREEK COMPOSITION—SENIOR.

### HONOURS.

Translate into Greek—

This virtue of quietness, meekness, and peaceableness, the ἀπραγμοσύνη of the Athenians, is often claimed as the characteristic excellence of an antipopular party. But it is extraordinary that any should have regarded this ἀπραγμοσύνη as a rare virtue, and praised the meekness of those who, being themselves well off, and having all their own desires contented, do not trouble themselves about the evils which they do not feel. Show me a population painfully struggling for existence, toiling hard and scarcely able to obtain necessary food, and seeing others around them in the enjoyment of every luxury, and this population repelling all agitation, and going on peaceably and patiently under a system in which they and they alone are suffering; and I will yield to no man in my admiration for such self-denying resignation. For there is not a living man on whom hunger and cold do not press heavily, if he has to bear them; and he who endures these is truly patient. But are all men keenly alive to abuses which do not touch them? To injustice from which others only are the sufferers? Or are our minds so enthusiastic, that our most dangerous tendency

is to forget our own private and personal concerns, to crave after abstract changes in church and state, and to rail against existing institutions with the certainty of meeting as our reward poverty and reproach? Generally, then, there is no merit in the acquiescence in existing things shown by the mass of the population whose physical comforts are not touched, nor their personal feelings insulted.

### GREEK TRANSLATION AT SIGHT—SENIOR.

#### HONOURS.

Translate—

1. εἴη μή ποτέ μοι τοιοῦτον ἦθος, Ζεῦ πάτερ, ἀλλὰ κελεύθοις ἀπλόαις ζωῆς ἐφαπτοίμαν, θανὼν ὡς παισὶ κλέος μὴ τὸ δύσφαμον προσάψω. χρυσὸν εὐχονται, πεδίον δ' ἔτεροι ἀπέραντον· ἐγὼ δ' ἀστοῖς ἀδῶν καὶ χθονὶ γυῖα καλύψαιμ', αἰνέων αἰνητά, μομφὰν δ' ἐπισπείρων ἀλιτροῖς. αὕξεται δ' ἀρετά, χλωραῖς ἐέρσαις ὡς ὅτε δένδρεον [οἶνας], ἐν σοφοῖς ἀνδρῶν ἀερθεῖσ' ἐν δικαίοις τε, πρὸς ὕγρον αἰθέρα.
2. αἰνῶ δ' ὃς ἡμῖν βίον ἐκ πεφυρμένου καὶ θηριῶδους θεῶν διεσταθμήσατο, πρῶτον μὲν ἐνθεῖς σίνεσιν, εἴτα δ' ἄγγελον γλῶσσαν λόγων δούς, ὥστε γινώσκειν ὅπα, τροφήν τε καρποῦ, τῇ τροφῇ τ' ἀπ' οὐρανοῦ σταγόνας ὕδρηλας, ὡς τὰ τ' ἐκ γαίας τρέφῃ ἄρρη τε νηδύν· πρὸς δὲ τοῖσι χείματος προβλήματ', αἰθὼν τ' ἐξαμύνασθαι θεοῦ, πόντου τε ναυστολήμαθ', ὡς διαλλαγὰς ἔχοιμεν ἀλλήλοισιν ὧν πένοιτο γῆ. ἃ δ' ἔστ' ἄσσημα κοῦ σαφῶς γινώσκουμεν, ἐς πῦρ βλέποντες καὶ κατὰ σπλάγχχνων πτύχας μάντεϊς προσημαίνουσιν οἰωνῶν τ' ἄπο. ἄρ' οὐ τρυφῶμεν, θεοῦ κατασκευὴν βίῳ δόντος τοιαύτην, οἷσιν οὐκ ἀρκεῖ τάδε; ἀλλ' ἢ φρόνησις τοῦ θεοῦ μείζον σθένειν ζητεῖ, τὸ γαῦρον δ' ἐν φρεσὶν κεκτημένοι δοκοῦμεν εἶναι δαιμόνων σοφώτεροι.
3. ΑΘ. Τίς οὖν ἡ μεγίστη δικαίως ἂν λέγοιτο ἀμαθία; σκοπεῖτε, εἰ συνδόςζει καὶ σφῶν λεγόμενον· ἐγὼ μὲν δὴ τὴν τοιάνδε τίθεμαι.



ΚΛ. Ποίαν; 'ΑΘ. Τὴν ὅταν τῷ τι δόξαν καλὸν ἢ ἀγαθὸν εἶναι μὴ φιλῇ τοῦτο ἀλλὰ μισῇ, τὸ δὲ πονηρὸν καὶ ἄδικον δοκοῦν εἶναι φιλῇ τε καὶ ἀσπάζεται. ταύτην τὴν διαφωνίαν λύπης τε καὶ ἡδονῆς πρὸς τὴν κατὰ λόγον δόξαν ἀμαθίαν φημὶ εἶναι τὴν ἐσχάτην, μεγίστην δὲ, ὅτι τοῦ πλήθους ἐστὶ τῆς ψυχῆς· τὸ γὰρ λυπούμενον καὶ ἡδόμενον αὐτῆς ὅπερ δῆμὸς τε καὶ πλῆθος πόλεώς ἐστιν. ὅταν οὖν ἐπιστήμας ἢ δόξαις ἢ λόγῳ ἐναντιῶται, τοῖς φύσει ἀρχικοῖς, ἢ ψυχῇ, τοῦτο ἄνοιαν προσαγορεύω, πόλεώς τε, ὅταν ἄρχουσι καὶ νόμοις μὴ πείθεται τὸ πλῆθος, ταῦτόν καὶ δὴ καὶ ἐνὸς ἀνδρός, ὅπότεν καλοὶ ἐν ψυχῇ λόγοι ἐνόντες μηδὲν ποιῶσι πλέον, ἀλλὰ δὴ τούτοις πᾶν τὸνναντίον. ταύτας πάσας ἀμαθίας τὰς πλημμελεστάτας ἔγωγ' ἂν θείην πόλεώς τε καὶ ἐνὸς ἐκάστου τῶν πολιτῶν, ἀλλ' οὐ τὰς τῶν δημιουργῶν, εἰ ἄρα μου καταμανθάνετε, ὦ ξένοι, ὃ λέγω. ΚΛ. Μανθάνομέν τε, ὦ φίλε, καὶ συγχωροῦμεν ἃ λέγεις. 'ΑΘ. Τοῦτο μὲν τοίνυν οὕτω κείσθω δεδογμένον καὶ λεγόμενον, ὥς τοῖς ταύτ' ἀμαθαίνουσι τῶν πολιτῶν οὐδὲν ἐπιτρεπτόν ἀρχῆς ἐχόμενον καὶ ὥς ἀμαθέσιν ὀνειδιστέον, ἂν καὶ πάντα λογιστικοί τε ὦσι καὶ πάντα τὰ κομψὰ καὶ ὅσα πρὸς τάχος τῆς ψυχῆς πεφυκότα διαπεπονημένοι ἅπαντα, τοὺς δὲ τὸνναντίον ἔχοντας τούτων ὥς σοφοὺς τε προσρητέον, ἂν καί, τὸ λεγόμενον, μήτε γράμματα μήτε νείν ἐπιστῶνται, καὶ τὰς ἀρχὰς δοτέον ὥς ἐμφοροῖ.

4. ἐπεὶ δὲ περὶ ἐκείνων διήλθομεν λέγοντες τὸ φαινόμενον ἡμῖν, λοιπὸν περὶ τῆς ζωικῆς φύσεως εἰπεῖν, μηδὲν παραλιπόντας εἰς δύναμιν μήτε ἀτιμότερον μήτε τιμώτερον. καὶ γὰρ ἐν τοῖς μὴ κεχαρισμένοις αὐτῶν πρὸς τὴν αἴσθησιν κατὰ τὴν θεωρίαν ὁμῶς ἢ δημιουργήσασα φύσις ἀμηχάνους ἡδονὰς παρέχει τοῖς δυναμένοισι τὰς αἰτίας γνωρίζειν καὶ φύσει φιλοσόφοις. καὶ γὰρ ἂν εἴη παράλογον καὶ ἄτοπον, εἰ τὰς μὲν εἰκόνας αὐτῶν θεωροῦντες χαίρομεν ὅτι τὴν δημιουργήσασαν τέχνην συνθεωροῦμεν, οἷον τὴν γραφικὴν ἢ τὴν πλαστικὴν, αὐτῶν δὲ τῶν φύσει συνεστῶτων μὴ μᾶλλον ἀγαπῶμεν τὴν θεωρίαν, δυνάμενοί γε τὰς αἰτίας καθορᾶν. διὸ δὲ μὴ δυσχεραίνειν παιδικῶς τὴν περὶ τῶν ἀτιμωτέρων ζῶων ἐπισκοπὴν. ἐν πᾶσι γὰρ τοῖς φυσικοῖς ἐνεστὶ τὴ θανυμάστον κα καθάρτην Ἡράκλειτος λέγεται πρὸς τοὺς ξένους εἰπεῖν τοὺς βουλομένους ἐντυχεῖν αὐτῷ, οἱ ἐπειδὴ προσιόντες εἶδον αὐτὸν θερόμενον πρὸς τῷ ἵπῳ ἔστησαν (ἐκέλευε γὰρ αὐτοὺς εἰσιέναι θαρροῦντας· εἶναι γὰρ καὶ ἐνταῦθα θεός), οὕτω καὶ πρὸς τὴν ζήτησιν περὶ ἐκάστου τῶν ζῴων προσιέναι δεῖ μὴ δυσωπούμενον, ὥς ἐν ἅσασιν ὄντος τινὸς φυσικοῦ καὶ καλοῦ. τὸ γὰρ μὴ τυχόντως ἀλλ' ἐνεκά τινος ἐν τοῖς τῆς φύσεως ἔργοις ἐστὶ κα μάλιστα· οὐ δ' ἐνεκα συνέστηκεν ἢ γέγονε τέλους, τὴν τοῦ καλοῦ χώραν εἴληφεν.

## ENGLISH I.

## HONOURS.

1. Translate, with brief notes where required, extracts from Cook's First Book in Old English.
2. Comment on the Grammar of the underlined words in,—
  - (a) Sēo fōr pā mid mē to onfōnne minum cynerice.
  - (b) Dryhten, hwonne gesāwe wē ðē hungrigne and wē ðe gereordedon?
  - (c) Wæs ðā geworden aefen and mergen se siexta dæg.
  - (d) Ðā-ðā ðaet maeden gehiærde ðaet hiere was aliæfed fram hiere faeder ðaet hēo aēr hiere self gedōn wolde, ðā cwæð hēo to Apollonio: "Apolloni, soðlice ðū eart ūre."
3. Translate (at sight)—  
 Nū smēað sum undēopðancol mann, hū God mæge bēon aēghwaēr aetgædere, and nāhwaēr tō-daæled. Beheald pās sunnan hū hēage hēo astihð, and hū hēo āsent hiere lēoman geond ealne middangeard, and hū hēo onliht ealle ðās eorðan ðe mancynn on eardað. Swā hraðe swā hēo up-āsprincð on aērne mergen, hēo scīnð on Hierusalem and on Rōmebyrig, and on ðisum earde, and on eallum eardum aetgædere; and hwæðere hēo is gesceaft, and gaēð be Godes dihte. Hwæt wēnst ðū hū micle swiðor is Godes andweardnes, and his miht and his nēosung aēghwaēr.
4. Render into Old English—
  - (a) May I ask you something? Ask what you will.
  - (b) Sing your pretty songs all day.
  - (c) He suffered shipwreck, but great whales bore him to the land, and there the black king gave him his daughter to wife.
  - (d) This thing is very green.

## ENGLISH II.

## HONOURS.

1. Explain fully the following passages—
  - (a) *Jeffates Wife*. Heare are cockes, kitte, croes, Rookes, ravens, many roes,

Cuckoes, curlues, who ever knows,  
 Iche one in his kinde ;  
 Heare are doves, digges, drackes,  
 Red-shonckes roninge through the lackes,  
 And ech fowl that leden makes,  
 In this shippe nowe maye finde.

- (b) *Primus Pastor*. Lord, what these weders are cold, and  
 I am ill happyd.  
 I am nere hand dold, so long have I nappyd;  
 My legys thay fold, my fingers ar chappyd,  
 It is not as I wold for I am al lappyd  
 In sorrow.

We ar so hamyd,  
 For-taxed and ramyd,  
 We are mayde hand tamyd,  
 Withe these gentlery men.

It is a marvelle to nevyn thus to be skard.

*Primus Pastor*. What grace we have fun.  
*Secundus Pastor*. Come furthe now as we won.  
*Tertius Pastor*. To syng ar we bun :  
 Let take on loft.

- (c) Threwthe sseyth she hath evyr be than,  
 I grant it wel she hath be so,  
 And thou sayst endlesly that mercy thou hast kept for  
 man.

Than, mercyable lord, kepe us bothe to,  
 Thu seyst *veritas mea et misericordia mea cum ipso*,  
 Suffyr not thi sowlys than in sorwe to slepe,  
 That helle hownde that hatyth the byddyth hym ho,  
 Thi love, man, no lengere lete hym kepe.

- (d) I am the word, worthiest that ever God wrowth,  
 And also I am the prymatt portatur  
 Next hevyn yf the trewth be sowth,—  
 And that I jugge me to skryptur ;—

- (e) Baynely in my blyssyng I bid at here be  
 A blys al-beledande abowte me ;  
 In the whilke blys I byde at be here  
 Nyen ordres of aungels ful clere,

In lovyng ay lastande at lowte me.

Mankynde of moulde will I make ;  
But fyrste wille I fourme him before,  
All thyng that sall hym restore,  
To whilke that his talents will take.

(f) *Ysaac*. . . be me trowthe wer I at home  
I wold never gon owt under that forme.

2. Rewrite in modern English, with notes on underlined words—

(a) A sely crysme my hed hath cawth,  
That I tok at myn crystenynge ;  
Certes I have no more.

(b) *Beaute*. I cross out all this ! adewe by saynt Johan !  
I take my tappe in my lappe, and am gone.

(c) Though ye prolle ay, ye shul it nevere fynde.  
Ye been as boold as is Bayard the blynde  
That blondreth forth and peril casteth noon.

For though ye looken never so brode, and stare,  
Ye shal nat wynne a myte on that chaffare,  
But wasten al that ye may rape and renne.

(d) A colfox ful of sly iniquitee,  
That in the grove had wonned yeres three,  
By heigh ymaginacioun forn-cast,  
The same nyght thurgh-out the hegges brast.

(e) . . . . . shal nat be toold for me  
. . . . . how Arcite is brent to asshen colde,  
Ne how that lychewake was yholde  
Al thilke nyght.

(f) It nas aretted hym no vileynye ;  
Ther may no man clepen it cowardye.

(g) That oon of hem gan callen to his knave :  
“Go bet,” quod he, “and axe redily  
What cors is this that passeth heer forby.”

3. Note briefly the dialectal and metrical characteristics of the following specimens, making reference to their origins.

- (a) Ich haue sippen poled and wist  
 Hot and cold, hunger and prist :  
 Man hap don me shame inoh  
 With word and dede in here woh ;  
 He nomen me wipouten sake,  
 Bounden min hondon to mi bake  
 He beten me, pat I ran on blode,—  
 Demden me to deȝe on rode.
- (b) Owe ! certes ! what I am worthely wroghte with wyrshyp  
 i-wys !  
 For in a glorious gle my gleterying it glemes,  
 I am so mightly made my mirth may noghte mys,  
 Ay sall I byde in this blys thorowe brightnes of bemes.  
 Me nedes noght of noy for to neven,  
 All welth in my welde have I weledande,  
 Abowne yhit sall I be beeldand,  
 On heghte in the hyeste of hewven.
- (c) Thow thou be never so jentyll and good,  
 Yyt had I lever thow schedyst thi blood,  
 Iwysse, scheppe, than I.  
 Loo ! fader, I have browt here ful smerte,  
 Thys jentyll scheppe,  
 And hym to yow I giffe.  
 But Lord, God, I thanke the with all my hart  
 For I am glad that I shall leve,  
 And kys onys my dere mooder.

4. What stages in the development of the modern drama appear exemplified by the "Mysterium Resurrectionis D. N. Jhesu Christi," the "Ludus Super Iconia Sancti Nicolai," the earliest extant English piece, and the play of "The Salutation and Conception" (*Coventry Cycle*)?

5. (a) Discuss the employment of humorous relief in the English Miracles.

or,

(b) Describe and compare the Interludes of "The Pardoner and the Frere" and "Thersytes."

*The Host says to the Clerk—*

6. "Speketh so pleyn at this tyme, I yow preye"  
 "That we may understonde what ye seye."

Discuss the "popular tone" of the Canterbury Tales.

## FRENCH I.

## HONOURS.

## 1. Translate into French—

(a) Some enemies, and among them a woman, fought to the last moment, and allowed themselves to be killed on the rampart, while the others were taking to flight. On the side opposite to that which we were attacking a gate led to a little bridge, thrown over a brook which flows behind the redoubt and feeds the muddy trench. There the greater part escaped; they disappeared under the wood, the density of which defied all pursuit. Not a single enemy was taken alive.

(b) I defy the noble lord to point to a single action of my life, in which the popularity of the times ever had the smallest influence on my determinations. I thank God, I have a more permanent and steady rule for my conduct, the dictates of my own breast. Those who have foregone that pleasing adviser, and given up their mind to be the slave of every popular impulse, I sincerely pity: I pity them still more, if their vanity leads them to mistake the shouts of a mob for the trumpet of fame. Experience might inform them that many who have been saluted with the huzzas of a crowd one day, have received their execrations the next: and many who by the popularity of their times have been held up as spotless patriots, have nevertheless appeared upon the historian's page, when truth has triumphed over delusion, the assassins of liberty. Why then the noble lord can think I am ambitious of present popularity, that echo of folly and shadow of renown, I am at a loss to determine.

(c) Look here upon this picture and upon this,  
 The counterfeit presentment of two brothers.  
 See what a grace was seated on this brow;  
 Hyperion's curls; the front of Jove himself;  
 An eye like Mars, to threaten and command;  
 A station like the herald Mercury  
 New-lighted on a heaven-kissing hill;  
 A combination and a form indeed,  
 Where every god did seem to set his seal,  
 To give the world assurance of a man:

This was your husband. Look you now, what follows :  
 Here is your husband, like a mildew'd ear,  
 Blasting his wholesome brother.

2. Translate into English (at sight)—

(a) Mon village peut avoir soixante maisons en un tas ; il y en a qui ont un étage ; ce sont les plus hautes. On en compte trois pourtant qui ont un grenier par-dessus ; ce luxe déceit la demeure des gros du pays. Tout cela forme un fouillis de rues et de ruelles, de cours et de courtils, dont le centre est la grand' place. Elle est bien nommée : car elle a vingt pas de large sur quarante de long.

Il sepe lotonne frileusement sur le penchant d'une colline qui se chauffe en plein midi. A ses pieds, une étroite vallée où une ligne sinueuse de saules et de peupliers révèle et cache une petite rivière. Sur sa tête, un vaste plateau où le regard file en tous sens à perte de vue. Il a bien su ce qu'il faisait en se blottissant à mi-côte, mon village. En bas, les brouillards d'automne qui noient tout sous leurs vagues floconneuses ; en haut, le vent qui, les jours de tempête, balaye tout de son souffle impérieux. Mais à lui les caresses du soleil et de la brise, sans compter la vue du versant d'en face, où grimpent pêle-mêle prés, champs, bouquets de bois, maisons éparses, étalant la riche harmonie de leurs couleurs sous les masses énormes d'une forêt qui couronne le coteau.

(b) Seul et triste au milieu des chants des matelots,  
 Le soir, sous la falaise, à cette heure où les flots,  
 S'ouvrant et se fermant comme autant de narines,  
 Mêlent au vent des cieux mille haleines marines,  
 Où l'on entend dans l'air d'ineffables échos,  
 Qui viennent de la terre ou qui viennent des eaux,  
 Ainsi je songe !—à vous, enfants, maison, famille,  
 A la table qui rit, au foyer qui pétille,  
 A tous les soins pieux que répandent sur vous  
 Votre mère si tendre et votre aïeul si doux ;  
 Et tandis qu'à mes pieds s'étend, couvert de voiles,  
 Le limpide océan, ce miroir des étoiles,  
 Tandis que les nochers laissent errer leurs yeux  
 De l'infini des mers à l'infini des cieux,  
 Mo, irévant à vous seuls, je contemple et je sonde

L'amour que j'ai pour vous dans mon âme profonde,  
Amour doux et puissant qui toujours m'est resté,  
Et cette grande mer est petite à côté!

- (c) L'Épître en forme de ballade que fait Villon pour luy et ses compagnons, s'attendant estre pendu avec eulx.

Frères humains, qui après nous vivez  
N'ayez les cœurs contre nous endurciz,  
Car, si pitié de nous pœvres avez,  
Dieu en aura plustot de vous merciz.  
Vous nous voyez cy attachez, cinq, six :  
Quant de la chair, que trop avons nourrie,  
Elle est pièce dévorée et pourrie,  
Et nous, les os, devenons cendre et pouldre.  
De nostre mal, personne ne s'en rie ;  
Mais priez Dieu, que tous nous vueille absouldre !

3. (a) Sketch the life and literary career of Marot.  
(b) Describe and explain the Quest of the Dive Bouteille.  
(c) Compare and contrast the educational ideals of Rabelais and Montaigne.  
(d) Sketch the plan of the *Satyre Ménippée*, and discuss its significance.  
(e) What innovations were made during the 16th Century  
(a) in versification, and (b) in the kinds of literary composition?

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FRENCH II.

HONOURS.

1. Translate, adding explanatory comments when necessary, extracts from Darmesteter et Hatzfeld *Le XVI.<sup>e</sup> Siècle*; Montaigne, *Extraits*, ed. Julléville.

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GERMAN PROSE COMPOSITION AND UNSEEN TRANSLATION.

HONOURS.

1. Translate into German—

Respecting most of the phenomena, as displayed by a nation at large, only dim apprehensions are possible; and how untrustworthy they are is shown by every parliamentary debate, by every day's newspapers, and by



every evening's conversations; which severally disclose quite conflicting estimates. See how various are the statements made respecting any nation in its character and actions by each traveller visiting it. There is a story, apt if not true, of a Frenchman who, having been three weeks here, proposed to write a book on England; who after three months found that he was not quite ready; and who, after three years, concluded that he knew nothing about it. And every one who looks back and compares his early impressions respecting states of things in his own society with the impressions he now has, will see how erroneous were the beliefs once so decided, and how probable it is that even his revised beliefs are but partially true. On remembering how wrong he was in his preconceptions of the people and the life in some unvisited part of the kingdom; on remembering how different from those he had imagined were the characters he actually found in certain alien classes and along with certain alien creeds, he will see how greatly this wide diffusion of social facts impedes true appreciation of them.—*H. Spencer.*

2. Translate (at sight)—

HEINE'S IRONIE.

Die Deutschen, oder sagen wir sehr viele Deutsche, können oder wollen nicht begreifen, das der französische Witz keineswegs das Gemüt ausschliesst, sondern nur aus Scheu vor der Lächerlichkeit, die den Rittern von der traurigen Gestalt anhaftet, und aus Abscheu vor dem gleissnerischen Tugendschein, den das Zurschautragen edler Gefühle auf die Gesichter wirft, die Gemütlichkeit verleugnet oder verhüllt. Wenn Lessing den Europäern überhaupt den Vorwurf macht, dass sie ihre Rührung nicht durch Thränen auszudrücken wagen, so gilt seine Behauptung weit unbedingter von den Franzosen als von den Deutschen. Und darin ist Heine nicht 'pudeldeutsch,' sondern Stockfranzose. Aus Angst, für den gemütseligen Schwaben erkannt zu werden, der er im Herzensgrunde ist, pflegt er den Spöttern dadurch zuvorzukommen, dass er seine Rührung selbst ins Lächerliche zieht. Eine gewisse Eitelkeit macht ihn von der öffentlichen Meinung abhängig, er spielt vor ihr eine Rolle, nicht um sich für

besser auszugeben, als er ist; nein, mit einer Art kindischer Grossmannssucht verschlechtert er sich, verzerrt er sein Gesicht mit mephistophelischem Grinsen, um ja nicht für einen Thoren zu gelten, der sich von seinem Herzen naseführen lässt. Daraus erwächst ihm nebenbei ein anderer Vorteil: er erregt Aufsehen, er verblüfft die Philister. Nach Studentenart wirft er Fensterscheiben ein, so dass die erschrockenen Bürger die Köpfe herausstrecken, alle Hunde der Nachbarschaft ein wütendes Gebell anstimmen und der Nachtwächter mit der Laterne in der Hand, und bewaffnet mit der mittelalterlichen Hellebarde, den trägen Schritt beschleunigt.—*C. Sigwalt.*

3. German Literature—

(a) What are the characteristic features of German literature in the 16th century as compared with that of the 17th century?

(b) What place does Luther hold in the history of German literature?

(c) Point out some of the literary errors committed by Opitz and his school.

Has Andreas Gryphius any claims to the title of "Father of the German Drama?" Compare *Peter Squentz* with the clown episode in the *Midsummer Night's Dream*.

(e) Give an account of Joh. Fischart and his works.

(f) What were the points of the dispute between the Leipzigers and the Swiss? Did Gottsched deserve the severe criticism of Lessing?

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GERMAN AUTHORS.

HONOURS.

1. Translate into English extracts from Hans Sachs, Vol. II., Goedeke and Tittmann; A. Gryphius, *Dramatische Werke*, Goedeke and Tittmann.

## DIFFERENTIAL CALCULUS.

## HONOURS.

Three hours for Second Year students; one hour and a half for First Year students.

1. Differentiate with respect to  $x$  the following

$$x, \left( \log \tan^{-1} \frac{x}{\sqrt{1-x^2}} \right)^{\frac{1}{3}}, \tan \left( \frac{1}{2} \sin^{-1} \frac{4x}{4x^2+1} \right),$$

and find the differential coefficient of this last expression with respect to  $\sin^{-1}\{\sin x.(4\cos^2 x - 1)\}$ .

2. Find the value of

$$\frac{d^n}{dx^n} \sin ax, \frac{d^n}{dx^n} (x^n \log x), \left( a^2 + \frac{d}{dx} + \frac{d^2}{dx^2} \right)^n \sin ax.$$

3. If  $f(x)$  and its differential coefficients up to the  $n^{\text{th}}$  are continuous and finite between the values  $x=a$  and  $x=a+h$ , then the remainder after  $n$  terms of the expansion of  $f(a+h)$  in ascending powers of  $h$  is  $\frac{h^n}{n!} f^n(a+\theta h)$  where  $\theta$  is  $>0$  and  $<1$ .

4. Expand  $\sin^{-1}x$  in ascending powers of  $x$ ; also  $\log(x + \sqrt{1+x^2})$ .

5. Prove that  $\frac{\delta^2 u}{\delta x \delta y} = \frac{\delta^2 u}{\delta y \delta x}$ , and prove Euler's Theorem for a homogeneous function of the  $n^{\text{th}}$  degree of two variables

$$\left( x \frac{\delta}{\delta x} + y \frac{\delta}{\delta y} \right)^n u = n(n-1) \dots (n-r+1) \bar{u}.$$

6. Find the limit when  $x=0$  of  $\frac{g}{x^2} \log \frac{e^{xt} + e^{-xt}}{2}$ .

The following questions are intended for Second Year Students only:—

7. Prove that  $\rho = \frac{ds}{d\psi}$ , and deduce the value or otherwise shew

$$\text{that } \rho = r \frac{dr}{dp}.$$

If a continuous curve has maximum or minimum curvature at any point, the evolute will have a cusp at the corresponding point.

8. Compare the four curves

$$(i.) y = (x-a)(x-b)(x-c)(x-d)$$

$$(ii.) y^2 = (x-a)^2(x-c)(x-d)$$

$$(iii.) y = (x-a)^2(x-c)^2$$

$$(iv.) y^2 = (x-a)^3(x-d)$$

9. Trace the curve

$$x^2y^2 = (a+y)^2(b^2-y^2).$$

Examine the three cases when  $a$  is less than, equal to or greater than  $b$ .

10. If  $Ax^2 + By^2 + Cz^2 = 1$  and  $lx + my + nz = 0$ , then the maximum and minimum values of  $r^2 \equiv x^2 + y^2 + z^2$  are the roots of the equation

$$\frac{l^2}{1-Ar^2} + \frac{m^2}{1-Br^2} + \frac{n^2}{1-Cr^2} = 0.$$

11. If circles are described on the chords of a parabola  $y^2 = 4ax$  drawn through the vertex as diameters, shew that the envelope of these circles is

$$x(x^2 + y^2) + ay^2 = 0.$$

## INTEGRAL CALCULUS AND DIFFERENTIAL EQUATIONS.

### HONOURS.

See the paper set for Third Year Honours.

## ANALYTICAL GEOMETRY.

### HONOURS.

1. What are the loci corresponding to the following equations?

$$(i.) x^4 - y^4 = c^4 - 2c^2y^2,$$

$$(ii.) (x+y)^3 = c^3,$$

$$(iii.) r^2 - ra(\cos \theta + \sec \theta) + a^2 = 0.$$

2. Find the equation to the tangent at any point on a circle, and deduce the equation to the polar.

A point is so situated on the radical axis of two equal circles that its polar with regard to each circle touches the other. Prove that its distance from either centre is  $a \sim c^2/2a$ , where  $a$  is the radius and  $c$  the distance between the centres.

3. In an ellipse, PN is the ordinate, PT the tangent and CA the semi-major axis. Prove that  $CN \cdot CT = CA^2$ , and shew that the area of the triangle CPN varies as the cotangent of the angle CPT.

4. Two angular points of a triangle are fixed, and the third moves along a fixed straight line. Prove that the locus of the orthocentre is a hyperbola.

5. Find the equation to the normal to a parabola in the form  $y = m(x - 2a) - m^2a$ , and shew that, if the three normals drawn from a point to a parabola make angles with the axis the sum of which is constant, then the locus of the point is a straight line through the focus. If, however, the sum of two only of the angles is constant, then the locus is a parabola.

6. A and P are a fixed and a movable point on a given ellipse; B and Q are conjugate to them; AP, BQ intersect in R. Prove that the locus of R is a similar ellipse.

7. Find the lengths and position of the axes of the conic

$$ax^2 + 2hxy + by^2 = 1.$$

8. The pencil obtained by joining four fixed points on a conic to a variable point on the same conic has a constant cross ratio.

PAB and QABR are two fixed conics. PAQ, PBR, ASR, BSQ are straight lines. Shew that S moves in a fixed conic which passes through the fixed points A and B.

9. Prove that confocal conics cut each other at right angles.

The rectangular hyperbola confocal with a given ellipse cuts it on the diagonals of the rectangle formed by the tangents parallel to its axes.

10. Interpret the equation,  $uv=kxy$  where  $u$  and  $v$  are linear functions of  $x$  and  $y$ .

The locus of the centre of a conic through four fixed points is another conic.

11. Two points move with uniform velocities along two fixed lines. Prove that the line joining them envelopes a parabola.

### STATICS AND DYNAMICS.

#### HONOURS.

1. Shew that the resolved part in any direction of the resultant of two forces acting on a particle is equal to the sum of the resolved parts of the forces.

Shew that the resultant of three forces  $P, Q, R$ , acting on a particle, is equal to

$$\sqrt{P^2 + Q^2 + R^2 + 2PQ \cos \alpha + 2QR \cos \beta + 2RP \cos \gamma}$$

where  $\alpha, \beta, \gamma$  are the angles between  $P$  and  $Q$ ,  $Q$  and  $R$ ,  $R$  and  $P$  respectively.

2. Find the resultant of  $n$  forces acting on a particle at  $O$ , and represented in magnitude and direction by  $m_1.OA_1, m_2.OA_2$ , etc.

3. Two particles of weights  $2W$  and  $W$  rest on the convex side of a smooth vertical circle, and are connected by a string which lies along the circle and subtends  $2a$  at its centre. Shew that, in the position of equilibrium, the radius bisecting the angle between the radii drawn to the particles makes, with the vertical, an angle  $\tan^{-1}\{\frac{1}{3} \tan \alpha\}$ . Find also the tension of the string and the pressures of the particles on the circle.

4. Find the centre of gravity of a spherical body in which there is a spherical cavity of known size and position.

A spherical body of radius  $a$  is known to have a spherical cavity in it such that it weighs three-quarters of what it would weigh if solid. It is hung up from a point  $A$  in its surface, and the diameter through  $A$  is vertical. It is hung up from another point  $B$  in its surface, and the diameter through  $B$  is inclined at an angle  $\alpha$  to the

vertical. If AB subtends an angle  $\beta$  at the centre of the sphere, find the distance between the centre of the cavity and the centre of the body.

5. A horizontal rod AB of weight W rests between two planes inclined at  $45^\circ$  to the horizon. A fine string is attached to the rod at A, passes over a small pulley at the summit of one plane, and carries a weight P. If P be the smallest weight which will cause the rod to move, shew that  $P = \frac{\mu\sqrt{2}}{1+\mu}W$ , where  $\mu$  is the coefficient of friction.

6. State Newton's Laws of Motion, and give a brief account of the evidence by which they may be supported.

A gun of mass M can recoil along a smooth plane inclined at an angle  $\beta$  to the horizon, and a shot of mass  $m$  is fired from it at elevation  $\alpha$ . If the gun recoils a distance  $l$  up the inclined plane, shew that the velocity with which the shot left the gun was

$$\frac{M}{m} \sec(\alpha + \beta) \sqrt{2lg \sin \beta}$$

7. Describe Atwood's Machine, and determine the acceleration of the weights, and the tension of the string.

In the system of pulleys, whose weight and size can be neglected, in which one string passes round all the sheaves, and there are  $n$  portions of string at the lower block, the power weighs  $m$  lbs. and the weight M lbs. Prove that the weight will move downwards with acceleration

$$\left( \frac{M - mn}{M + mn^2} \right) g, \text{ and that the tension of the string will be } \frac{Mm(1+n)g}{M + mn^2}.$$

8. Find the range of a projectile up an inclined plane passing through the point of projection.

It is found that, when a gun is given elevation  $\alpha$  or  $\beta$ , the projectile strikes an inclined plane of angle  $\theta$  passing through the gun, at the same spot.

$$\text{Shew that } \alpha + \beta - \theta = \frac{\pi}{2}.$$

9. Find the velocity and direction of motion of a particle just after oblique collision with a smooth fixed plane.

A particle slides from rest down a length  $l$  of a smooth plane inclined at angle  $\alpha$  to the horizon, and impinges upon a smooth horizontal plane passing through the foot of the inclined plane. If it next strike the horizontal plane at a distance  $l$  from the foot of the inclined plane, shew that the coefficient of elasticity  $= \frac{1}{2 \sin \alpha \cdot \sin 2\alpha}$ .

10. Shew that, if a particle is describing a circle of radius  $a$  with velocity  $v$ , its acceleration towards the centre is equal to  $\frac{v^2}{a}$ .

A particle is hanging at rest by a string of length  $a$ , when it is struck horizontally by an inelastic body of twice its mass, moving horizontally with velocity due to a fall through  $2a$  under gravity. Find to what height the particle will rise, and the tension of the string at any point.

## LOGIC AND MENTAL PHILOSOPHY.

### HONOURS II.

THREE questions to be selected from each section.

#### A.

1. Examine the relation of Mill's methods to the law of universal causation.
2. "Mill himself denies the universal validity of the law of causation by the limitation which he sets to it."—*Sigwart*. Discuss this criticism.
3. Explain the nature of analogical evidence, and compare it with inductive evidence.
4. Discuss the applicability of inductive methods to social science.
5. What do you understand by "true causes?" Distinguish between *Law* and *Cause*.

#### B.

6. Discuss the difficulties which lie in the way of a general theory of pleasure and pain.



7. What do you understand by qualitative distinctions between feelings?
8. Make a psychological analysis of "common sense."
9. Give a psychological analysis of the elements involved in self-control.
10. Describe, from a psychological point of view, the nature and function of conscience.

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## HISTORY II.

### HONOURS.

*This paper is to be taken also for Third Year Honours.*

*Candidates are recommended to answer not less than FIVE and not more than SEVEN questions.*

1. "The most signal instance of the fusion of Roman and Teutonic elements in modern civilization."  
Discuss this description of the Holy Roman Empire.
  2. Compare the empire of Charles the Great with the empire of Otto I., and explain shortly the causes of the changes that had taken place.
  3. Explain shortly the importance of the Papacy of Gregory VII.
  4. Explain shortly the historical significance of the papacies of two of the following—Silvester II.; Pascal II.; Calixtus II.
  5. Compare the views and aims of Frederick I. and Frederick II.
  6. Compare the First Crusade and the Fourth (1204).
  7. How do you account for the permanence of the Byzantine Empire?
  8. What principles appear during the Middle Ages in antagonism to the theory of the Papacy?
  9. How do you account for the absence of any strong movement towards national union in Italy during the Middle Ages?
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## THIRD YEAR EXAMINATION.

## LATIN PROSE COMPOSITION AND UNSEEN TRANSLATION.

## HONOURS.

Translate into Latin—

Simulation, policy, ambiguity were but too familiar to his lips, but *then* at least there is ever the unmistakable ring of sincerity in his words, when he celebrates the glories of science and the triumphs it is destined to achieve. In that placid nature, that cold and unimpassioned heart, a stranger to human tenderness, and in which even religion woke no sentiment but that of a rational conviction, there was one emotion—the love of knowledge, which kindled into a fervour more intense than love or patriotism or devotion in other men. Wealth, place, preferment, the gauds and shows of the world, he had sought; but the deepest place in his heart after all was not for them. And when these failed him, when the edifice of worldly greatness he had laboriously reared lay crumbling around his feet, when, in age and sickness and disappointment, all the joy seemed gone from life, he turned with an almost new-born youthful avidity, to find in study and investigation a still unfailing source of interest and delight. As we close our review of a career, lofty and splendid indeed, but whose splendour is shadowed and softened by an almost pathetic human interest, may I venture to express the hope that, though remote from the experience of any of us may be either the perilous greatness of the path he trod, or the temptations to which even his great spirit succumbed, we may at least catch some spark of intellectual ardour from the inspiration of his genius, some touch of sympathy with that indomitable devotion to truth and knowledge which, despite of all anomalies and imperfections, has made his an immortal name.

## LATIN AUTHORS,

## HONOURS.

1. Translate, with short notes, extracts from Tacitus, *Annals* III., IV., V., VI.

2. Translate and comment on—

(a) Acriora ex eo vincla, inditi custodes et lege Papia Poppaea praemiis inducti, ut, si a privilegiis parentum cessaretur, velut parens omnium populus vacantia teneret.

(b) Tiberius vim principatus sibi firmans, imaginem antiquitatis senatui praebebat, postulata provinciarum ad disquisitionem patrum mittendo.

(c) Precante reo brevem moram, dum accusator consulatu abiret, adversatus est Cæsar: solitum quippe magistratibus diem privatis dicere.

(d) Vis tu quidem istum intra locum sistere: sed illi magistratus et primores qui te invitum perrumpunt omnibusque de rebus consulunt, excessisse jam pridem equestre fastigium longæque antisse patris mei amicitias non occulti ferunt.

(e) Id ego, a scriptoribus annalium non traditum, repperi in commentariis Agrippinae filiae.

3. and 4. Translate, with short notes, extracts from Lucretius and Lucan.

5. Translate and comment on—

(a) Massiliaeque suae donatur libera Phocis.

(b) Hesperiae clades et flebilis unda Pachyni  
Et Mutina et Leucas puros fecere Philippos.

(c) Semperque potentis  
Detrahere in cladem fato damnata maritos  
Innupsit tepido paelex Cornelia busto.

(d) Qualis erat populi facies, clamorque faventis,  
Olim cum juvenis primique aetate triumphi,  
Vespere pacato, pura venerabilis aequè  
Quam currus ornante toga . . . . sedit.

## LATIN TRANSLATION AT SIGHT.

## HONOURS.

Translate into English—

1. "Libertate opus est : non hac, ut quisque Velina  
 Publius emeruit, scabiosum tesserula far  
 possidet. heu steriles veri, quibus una Quiritem  
 vertigo facit ! hic Dama est non tresis agaso,  
 vappa lippus et in tenui farragine mendax :  
 verterit hunc dominus, momento turbinis exit  
 Marcus Dama. papae ! Marco spondente recusas  
 credere tu nummos ? Marco sub iudice palles ?  
 Marcus dixit : ita est ; adsigna, Marce, tabellas.  
 haec mera libertas ! hoc nobis pillea donant !  
 "An quisquam est alius liber, nisi ducere vitam  
 cui licet, ut voluit ? licet ut volo vivere : non sum  
 liberior Bruto ?" "Mendose colligis," inquit  
 stoicus hic aurem mordaci lotus aceto.  
 "haec reliqua accipio ; *licet* illud et *ut volo* tolle."  
 "Vindicta postquam meus a praetore recessi,  
 cur mihi non liceat, iussit quodcumque voluntas,  
 excepto si quid Masuri rubrica vetavit ?"
2. Archetypis vetuli nihil est odiosius Eucti  
 —Ficta Saguntino cymbia malo luto—,  
 Argenti fumosa sui cum stemmata narrat  
 Garrulus et verbis mucida vina facit.  
 "Laomedontae fuerant haec pocula mensae :  
 Ferret ut haec, muros struxit Apollo lyra.  
 Hoc cratere ferox commisit praelia Rhoecus.  
 Cum Lapithis : pugna debile cernis opus.  
 Hi duo longaevo censentur Nestore fundi :  
 Pollice de Pylio trita columba nitet.  
 Hic scyphus est, in quo misceri iussit amicis  
 Largius Aeacides vividiusque merum.  
 Hac propinavit Bitiae pulcherrima Dido  
 In patera, Phrygio cum data cena viro est."  
 Miratus fueris cum prisca toreumata multum,  
 In Priami calathis Astyanacta bibes.
3. Quae vero et quam varia genera bestiarum vel cicurum  
 vel ferarum ! qui volucrum lapsus atque cantus ! qui  
 pecudum pastus ! quae vita silvestrium ! Quid iam de  
 hominum genere dicam ? qui quasi cultores terrae con-

stituti non patiuntur eam nec immanitate beluarum efferari nec stirpium asperitate vastari, quorumque operibus agri, insulae litoraque collucent distincta tectis et urbibus. Quae si, ut animis, sic oculis videre possemus, nemo cunctam intuens terram de divina ratione dubitaret. At vero quanta maris est pulchritudo! quae species universi! quae multitudo et varietas insularum! quae amoenitates orarum ac litorum! quot genera quamque disparia partim submersarum, partim fluitantium et innantium beluarum, partim ad saxa nativis testis inhaerentium! Ipsum autem mare sic terram appetens litoribus alludit, ut una ex duabus naturis conflata videatur. Exin mari finitimus aër die et nocte distinguitur, isque tum fusus et extenuatus sublime fertur, tum autem concretus in nubes cogitur umoremque colligens terram augeat imbris, tum effluens huc et illuc ventos efficit. Idem annuas frigorum et calorum facit varietates, idemque et volatus alitum sustinet et spiritu ductus alit et sustentat animantes.

4. Sed mirum, quam inter diversi generis ordinis, aetatis sexus, dites pauperes taciturnitate omnia cohibita sint, donec proditio coepit e domo Scaevini; qui pridie insidiarum multo sermone cum Antonio Natale, dein regressus domum testamentum obsignavit, promptum vagina pugionem, de quo supra rettuli, vetustate obtusum increpans asperari saxo et in mucronem ardescere iussit eamque curam liberto Milicho mandavit. Simul affluentius solito convivium initum, servorum carissimi libertate et alii pecunia donati; atque ipse maestus et magnae cogitationis manifestus erat, quamvis laetitiam vagis sermonibus simularet. Postremo vulneribus ligamenta, quibusque sistitur sanguis, parare eundem Milichum monet, sive gnarum coniurationis et illuc usque fidum, seu nescium et tunc primum arreptis suspicionibus, ut plerique tradidere. Nam cum secum servilis animus praemia perfidiae reputavit, simulque immensa pecunia et potentia obversabantur, cessit fas et salus patroni et acceptae libertatis memoria. Etenim uxoris quoque consilium adsumpserat, muliebre ac deterius: quippe ultro metum intentabat, multosque astitisse liberos ac servos, qui eadem viderint; nihil profuturum unius silentium; at praemia penes unum fore, qui indicio praevenisset.

LATIN GENERAL PAPER.

HONOURS.

1. "Utterly unlike as Tiberius was to Augustus, yet, as the ruler of a great empire, he justified the latter's choice of a successor, and his deliberate opinion that the virtues of his adopted son outweighed his vices."—*Pelham*.

Discuss this.

2. Describe the political organisation, the economic condition, and the intellectual culture of Asia Minor under the Early Empire.
3. "The Government did not confine itself to leaving with the Celts their cantonal organisation; it left, or rather gave, to them also a national constitution, so far as such a constitution was compatible with Roman supremacy."

—*Mommsen*.

Explain this statement.

4. "The Roman Senate and the Roman rulers soon came to be drawn from any other region of the Empire just as much as from Italy."—*Mommsen*.

Comment on this.

5. Describe the symptoms of weakness that appeared in the Roman Empire in the latter part of the second century.
6. "With the policy of assimilation, initiated by Julius and revived by the Flavian Emperors, Augustus had little sympathy."—*Pelham*.

Comment on this.

7. "Of the corps of knights Augustus formed a second order, even more closely dependent upon himself than the Senatorial."—*Pelham*.

Explain this statement.

8. Describe the chief excellences and defects of the Pharsalia.

SENIOR GREEK—COMPOSITION AND TRANSLATION AT SIGHT.

HONOURS.

The same paper as that set in the Second Year Examination.

## GREEK AUTHORS.

## HONOURS.

1. Translate and comment on the following extracts from Aristotle, Politics.
2. Translate and write short notes on the following extracts from Euripides, Ion and Phoenissae; Aristophanes, Clouds and Frogs.

## GREEK—GENERAL QUESTIONS.

## HONOURS.

*Not more than EIGHT questions are to be answered.*

1. Discuss the treatment of the popular religion by Euripides, as illustrated by the Ion.
2. What are the special characteristics of the drama of Euripides, as represented in the Frogs of Aristophanes? How far is the criticism valid?
3. "The drama is a fine one as regards scenic effect; but it contains superfluous and irrelevant episodes. The scene in which Antigone looks out from the walls has no connection with the plot; the entrance of Polynices under safe-conduct serves no purpose; and the lyrical passage at the end, in which Oedipus talks idly on his way to exile, is a meaningless appendage." (Hypothesis of the Phoenissæ.)

Discuss this criticism.

4. "Socrates had set himself the difficult task of attempting to reform the faults of the sophistic or sceptical spirit of his time from within, instead of merely decrying it."

Comment on this.

5. Where, according to Plato's Socrates, is "knowledge of the good" to be found, and by what means is it to be sought?
6. "In democracies of the more extreme type there has arisen a false idea of freedom which is contradictory to the true interests of the state. Men think . . . that freedom and equality mean the doing what a man likes. In such democracies everyone lives as he pleases."

Discuss the relation between democracy and individual liberty.

7. Describe and discuss Aristotle's attitude towards (a) foreign conquest and dominion, and (b) commerce, as aims of state policy.
8. Explain and discuss Aristotle's conception of the life of *σχολή*.
9. "What is the best form of constitution *that is generally attainable?*"  
Explain the meaning of this question as asked by Aristotle, and give the substance of his answer.
10. "In Plato and Aristotle, the notion of a gradual progress or evolution of political society from less to more perfect forms is absent."  
How does this affect their political theories?
11. How far does *φιλία* enter into the ethical and political systems of Plato and Aristotle?
12. "In the post-Aristotelian or post-Alexandrian schools, the civic basis of morality is abandoned for the individualist and universal."  
Comment on this.

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FRENCH AND GERMAN.

HONOURS.

The same papers as those set in the Second Year Examination.

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ENGLISH I.

HONOURS.

1. Translate and explain extracts from Cynewulf's *Elene*.
2. Translate extracts from *Exodus* and *Daniel*.
3. Translate (at sight)—  

Ðā Drihten Hælend Crīst cwæð tō Andrēa his apostole,  
mid þi þe hē wæs in Achāia pām lande and pær lǣrde  
his discipuli, hē cwæð, 'Gang on Marmadonia ceastre,  
and ālaēð þanon Mathēum þinne brōþor of pām carcerne,  
for þon þe nū gīt prý dagas tō lāfe syndon, þæt hie hine  
willað ācwellan and him tō mete gedōn.' 'Sē hāliga  
Andrēas him andswarode, and hē cwæð, 'Min Drihten  
Hælend Crīst, hū mæg ic hit on prīm dagum gefaran?  
Ac mā wēn is þæt þū onsende þinne engel sē hit mæg



hrædlicor gefaran, for þon, mīn Drihten, þū wāst þæt ic eam flæsclic man, and ic hit ne maæg hrædlice gefaran, for þon þe, mīn Drihten, sē siðfæt ist pider tō lang, and ic pone weg ne can.' Drihten him tō cwæð, "Andrēas, gehēr mē, for þon þe ic þe geworhte, and ic þinne sið gestapelode and getrymede. Gang nū tō þæs saes waroðe mid þinum discipulum, and þū þær gemetest scip on þām waroðe; and āstīg on þæt mid þinum discipulum.' And mid þy þe hē pis cwæð, Drihten Hælend ðā gīt wæs sprecende and cwæð, 'Sib mid þe and mid eallum þinum discipulum.' And hē āstāg on heofonas.

4. Translate into Anglo-Saxon—

"The legends of the saints, got from the Latin and Greek books, were the favourite reading of the early Englishmen after their conversion. They were soon done into English, and the monks who were poetically endowed made them the subjects of their own verses. If Caedmon was more drawn to the Scripture, Cynewulf preferred the Acts of the Saints. He has left many thousand lines in which, with warm and true feeling, he celebrates the spiritual achievements of these heroes of the religious life."

5. Indicate any traces of the old national heathenism in the Christian Anglo-Saxon poetry you have read.

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ENGLISH II.

HONOURS.

Translate passages from MacLean's Old and Middle English Reader, with comments, literary, grammatical and textual.

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SOLID GEOMETRY.

HONOURS.

1. Find the equations to a straight line in the symmetrical form. Two lines, so defined, are cut by a third line, the direction cosines of which are  $\lambda$ ,  $\mu$ ,  $\nu$ ; prove that the length intercepted on the first line is

$$\left| \begin{array}{ccc} \alpha' - a & l' & \lambda \\ \beta' - \beta & m' & \mu \\ \gamma' - \gamma & n' & \nu \end{array} \right| \div \left| \begin{array}{ccc} l & l' & \lambda \\ m & m' & \mu \\ n & n' & \nu \end{array} \right|$$

2. A plane triangle ABC is placed so that the middle points of its sides are situated on three rectangular axes. Prove that the lengths ( $l, m, n$ ) intercepted on the axes are given by  $l^2 = \frac{1}{3}(b^2 + c^2 - a^2)$ , etc., and that the coordinates of the angular points are  $(-l, +m, +n)$ , etc.

3. Interpret

$$c^2(x^2 + y^2 + z^2) + (ax + by)(bx - ay) = 0,$$

and prove that its planes of circular section are at right angles to each other.

Also find the direction cosines of its axes.

4. Prove that two systems of straight lines lie on the surface of a hyperboloid of one sheet, and shew that each line of one system intersects every line of the other system.

Prove that a generator of  $\frac{x^2}{a^2} + \frac{y^2}{b^2} - \frac{z^2}{c^2} = 1$  is parallel to  $l, m, n$ ,

$$\text{provided } \frac{l^2}{a^2} + \frac{m^2}{b^2} = \frac{n^2}{c^2}.$$

5. Find the centre of the section of the surface  $\frac{y^2}{b} + \frac{z^2}{c} = x$ , made

by the plane  $lx + my + nz = p$ , and hence shew that all diameters of this quadric are parallel to each other.

If the plane moves so that its intercept on the  $x$  axis is a constant  $k$ , prove that the locus of the centre of its section is

$$\frac{y^2}{b} + \frac{z^2}{c} = \frac{x - k}{2}.$$

6. Find the equation to the normal at any point P on an ellipsoid.

If the coordinates of P are  $x, y, z$ , and if OM is drawn perpendicular to the normal from the centre O, prove that the direction cosines of MP are  $\frac{x}{a^2} \cdot \text{PM}$ ,  $\frac{y}{b^2} \cdot \text{PM}$  and  $\frac{z}{c^2} \cdot \text{PM}$  respectively.

If Q be taken on the normal so that the rectangle PM.PQ is constant, find the locus of Q.

7. Define the Polar Plane of a given point with respect to an Ellipsoid, and find its equation.

Prove that the Polars of all points on a straight line PQ pass through another straight line RS, and that this relation is mutual.

8. P is a variable point on a fixed straight line (the axis of  $x$ ), and P' the point where that line cuts the polar plane of P with respect to a given quadric. Prove that P, P', etc., form a system in involution.
9. A cylindrical surface, the generators of which have the constant direction  $l, m, n$ , cuts the  $yz$  plane in the curve  $f(y, z) = 0$ . Find the curve in which it cuts the  $xz$  plane, and prove that the middle points of the intercepted portions of the generators lie on another plane.

Also shew that the three areas cut off on the coordinate planes are inversely as  $l, m, n$ .

10. A right circular helix is described about the axis of  $z$ , and the tangent to the curve at any point Q cuts the  $xy$  plane in P. Prove that to the locus of R, the middle point of PQ, lies on a hyperboloid of revolution.
11. Define the osculating plane at a point on a curve, and find its direction cosines.  
Shew geometrically that, if the tangent at a variable point P on a curve cut a fixed surface in the point Q, and if the osculating plane at P cut the surface in the curve RS, then the locus of Q is the envelope of RS.
12. Find the umbilici on an ellipsoid, assuming that they lie in a principal plane.

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### NEWTON.

ONE HOUR AND A HALF.

### HONOURS.

1. State and prove Lemma I.

Shew the limit of  $\frac{1^p + 2^p + 3^p + \dots + n^p}{n^{p+1}}$  when  $n$  becomes in-

definitely large is  $\frac{1}{p+1}$ .

2. Enunciate and prove Lemma XI.

Shew that if the chord of curvature at a point P of an ellipse drawn through the focus is bisected by the focus, then P must coincide with B or B', the extremities of the minor axis.

Given a circle PQR and a chord PQ in it, describe an ellipse passing through P, with one focus at the middle point S of PQ, and having the given circle as its circle of curvature at P.

3. Every body, which moves in any curved line described in a plane, and describes areas proportional to the times of describing them about a point either fixed or moving uniformly in a straight line by radii drawn to that point, is acted on by a centripetal force tending to that point.
  4. A parabola is described with uniform velocity under the action of two equal forces, one of which tends to the focus; prove that either force varies inversely as the focal distance.
  5. If a body revolve in an equiangular spiral, find the law of centripetal force to the pole of the spiral; and shew that the angular velocity of the perpendicular on the tangent is equal to that of the radius.
  6. Find the law of force to a focus under which an ellipse can be described, and find expressions for the periodic time and for the velocity at any point.
- A particle P is moving in an ellipse about the focus S, and at P it receives a normal impulse, so that the angle through which the direction of motion is deflected is  $\tan^{-1} \frac{SP}{OD}$ ; shew that the velocity generated by this normal impulse is equal to the velocity at the end of the minor axis.

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#### ANALYTICAL STATICS AND DYNAMICS.

##### HONOURS.

1. Shew that any system of forces can be reduced to a force acting along a certain straight line, and a couple whose axis lies along that straight line.

Shew also that any system of forces can be reduced to two forces, one of which acts along an arbitrary straight line:

2. Find formulæ for determining the position of the centre of gravity of a rigid body.

Find the centre of gravity of (a) a quadrant of a circle, (b) a hemisphere.

3. A heavy uniform string is suspended from two given points A and B, and is in equilibrium in a vertical plane. Find the equation of the curve in which it hangs.

A heavy string of length  $2l$  is fixed to two pegs A and B in a horizontal line, and  $2a$  apart. Shew that the tangent at A or B to the catenary in which the string hangs is inclined to the horizon at an angle given by the equation

$$\cot \alpha \log(\tan \alpha + \sec \alpha) = \frac{a}{l}.$$

4. Two rings of weight  $2W$  and  $W$  respectively are strung on a smooth circular wire, fixed in a vertical plane, and are connected directly by a weightless elastic string. The modulus of elasticity of the string is  $(\sqrt{3}+1)W$ , and its unstretched length is equal to the radius of the circle. Shew that the system will be in equilibrium when the radii drawn to the rings make angles of  $30^\circ$  and  $90^\circ$  with the uppermost radius, on opposite sides of it, and that the tension of the string is equal to  $2W$ . Find also the pressures of the rings on the circle.

5. Enunciate the principle of virtual work.

Assuming this principle to be true for forces in one plane, deduce the equations  $\Sigma(X)=0$ ,  $\Sigma(Y)=0$ ,  $\Sigma(Yx - Xy)=0$ .

Three equal heavy bars AB, BC, CD, each of weight  $W$ , are freely jointed at B and C, and are placed in a vertical plane with A, D in contact with a smooth horizontal plane. A weight  $W$  is hung on BC at a distance from B equal to one quarter of BC. The angles ABC and BCD are each  $120^\circ$ , and the system is kept rigid by a string joining the middle points of AB and CD. Find the tension of this string, and the actions at B and C.

6.  $Ox$ ,  $Oy$  are two straight lines at right angles to one another, and a particle moves under the action of an attraction directly towards  $Oy$  and proportional to its distance from  $Ox$ . If the particle is initially at  $O$ , and moving with velocity  $v$  in direction  $Oy$ , shew that its path will be the curve  $6v^2x + \mu y^3 = 0$ , where  $\mu$  is the attraction at unit distance from  $Ox$  per unit mass.

7. Find the differential equation to the path of a particle describing an orbit round a centre of attractive force.  
Find the attraction to the origin under the action of which the circle  $x^2 + y^2 - 2ax = 0$  can be described.
8. Define an apse, and shew that any apsidal line divides a central orbit symmetrically, and hence that there can only be two different apsidal distances.  
A particle of mass  $m$  moves under a central attraction  $= \frac{m\mu}{r^5}$ . Shew that  $\mu = Hh^2$  where  $h$  is twice the area described in unit time, and  $H$  is the harmonic mean between the squares of the apsidal distances.
9. Determine the motion of a body moving about a fixed horizontal axis, and acted on by gravity only. Shew also that the centres of suspension and oscillation of a pendulum are convertible.  
A solid homogeneous sphere oscillates under gravity about a horizontal tangent line. Find the length of the simple equivalent pendulum and the time of a small oscillation.
10. A uniform circular cylinder rolls down a perfectly rough inclined plane. Shew that the acceleration of its centre down the plane is two-thirds that of a particle sliding down a smooth plane of the same inclination to the horizon.

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SPHERICAL TRIGONOMETRY AND ASTRONOMY.  
HONOURS.

1. Find the area of a spherical triangle in terms of the angles.  
If the measure of a solid angle be the surface cut off from a sphere of unit radius having its centre at the vertex of the angle, prove that, in any tetrahedron, twice the sum of the six edge-angles exceeds the sum of the four corner-angles by  $4\pi$ .
2. Given the base and the sum of the base-angles of a spherical triangle; prove that each of the arcs bisecting the angles at the vertex passes through a fixed point.
3. Prove the formula  
$$\cot a \sin b = \cos b \cos C + \sin C \cot A.$$

If  $d$  be the arc which is drawn from  $C$  to the side  $c$  bisecting the angle  $C$ , prove that  $2 \cot d \cos \frac{1}{2}C = \cot a + \cot b$ .

Deduce the corresponding formula in plano.

4. Prove the formulæ

$$\cos \frac{1}{2}(A-B) \sin \frac{c}{2} = \sin \frac{1}{2}(a+b) \sin \frac{C}{2}.$$

$$\tan \left( \frac{A}{2} - \frac{E}{4} \right) \tan \left( \frac{B}{2} - \frac{E}{4} \right) = \tan \frac{a+b-c}{4} \cot \frac{a+b+c}{4}.$$

5.  $ABC$  is a spherical triangle;  $AD$ ,  $BE$ ,  $CF$  are arcs drawn to meet the sides and intersecting each other at the point  $P$ . Project this figure radially on the plane touching the sphere at  $P$ , and hence shew that

$$\tan PD / (\tan PD + \tan AD) + \text{etc.} = 1.$$

6. Shew how to find the latitude by observations made on the prime vertical; and prove that, the nearer the star passes to the zenith, the less will be the effect of an error in noting the time of transit across the prime vertical.
7. Explain the variation in the length of daytime throughout the year.

Prove that the difference in hours between the shortest and longest daytimes at a place on either tropic is

$$24 - \frac{4}{15} \cos^{-1}(\tan^2 \omega).$$

Also shew that if the sun's centre be above the horizon for two months at midsummer at a place within the arctic circle, then the latitude of the place is  $\cos^{-1} \left( \frac{\sqrt{3}}{2} \sin \omega \right)$ , the eccentricity of the earth's orbit being neglected.

8. Define Apparent Solar Time, Mean Solar Time, and Sidereal Time.

Shew how, given the mean solar time at a given meridian, to find the corresponding sidereal time.

The R.A. of a star on the equator is  $\alpha$ ; at sidereal time  $s$  its altitude is equal to the latitude  $l$  of the place of observation, shew that  $\cos(\alpha - s) = \tan l$ .

9. Shew that refraction diminishes the dip and increases the distance of the visible horizon.

Prove that the true azimuth of the sun at sunrise is  $\cos^{-1} \frac{\sin \delta}{\cos l'}$  and if  $r$  is the vertical refraction, then the point of rising is shifted by refraction in azimuth through an angle of  $\frac{180r \sin l}{\pi \sqrt{\cos^2 l - \sin^2 \delta}}$  degrees.

10. Shew that the moon's orbit is everywhere concave to the sun, having given that the masses of the sun and earth are as 315,000 to 1, and the distances of the sun and moon from the earth are as 369 to 1.

Find the length of the sidereal period of the moon, having given the synodic period and the length of the sidereal year.

## INTEGRAL CALCULUS AND DIFFERENTIAL EQUATIONS.

### HONOURS.

*Three hours for Third Year students, one hour and a half for Second Year students.*

NOTE.—Questions 1-5 are intended for Second Year Students. Third Year Students are not to do questions 1 and 3.

1. Evaluate the integrals—

$$(i.) \int \frac{(x-2)dx}{\sqrt{x^2-4x+13}}$$

$$(ii.) \int \frac{dx}{\cot x - \tan x}$$

$$(iii.) \int_0^{\pi} x \sin x dx$$

2. Evaluate the integrals

$$(i.) \int \frac{\sin^3 x dx}{\cos x (a - 2a \cos^2 x + b \cos^4 x)}$$

$$(ii.) \int \frac{(5x^2 + ax)dx}{x^4 - a^4}$$

$$(iii.) \int \frac{dx}{x \sqrt{a^3 + x^3}}$$

$$(iv.) \int x^4 (\log x)^3 dx$$



3. Find a formula of reduction for  $\int_0^{\frac{\pi}{2}} \sin^m x \cos^n x dx$ .

Prove that  $\int_0^a x^2(a^2 - x^2)^{\frac{5}{2}} dx = \frac{15\pi a^8}{2^5 \cdot 4!}$

4. Prove that the definite integral  $\int_a^b f(x) dx$  may be regarded as the sum of a certain series.

Find the limit when  $n$  is made infinite of the series

$$\frac{1}{n} + \frac{1}{\sqrt{n^2+1}} + \frac{1}{\sqrt{n^2+2^2}} + \dots + \frac{1}{\sqrt{n^2+(n-1)^2}}$$

5. Prove formulæ for the volume and surface of a solid of revolution.

Trace the curve  $y^2(2a-x)=x^3$  and find its area and the volume described by its revolution round the axis of  $x$ .

6. Find the intrinsic equation to the catenary  $y = \frac{c}{2}(e^{\frac{x}{c}} + e^{-\frac{x}{c}})$ .

7. A certain territory is rectangular, and its sides are respectively  $2a$  miles and  $a\sqrt{3}$  miles in length. A site is to be selected in the territory for a town, and is equally likely to be in any direction from  $S$ , the middle point of one of the longer sides, but must be at least  $b$  miles distant therefrom. Shew that the mean distance of all available sites from  $S$  is

$$\frac{[8\sqrt{3} + 2(1+3\sqrt{3})\log(\sqrt{3}+2) - 3\sqrt{3}\log 3]a^3 - 2\pi b^3}{3(4a^2\sqrt{3} - \pi b^2)}$$

8. What is a differential equation, also the solution of a differential equation? Shew from geometrical considerations that the general solution of a differential equation of the first order contains one and only one arbitrary constant.

Find the differential equation of all rectangular hyperbolas which pass through the origin  $O$  and have their real axis along  $Ox$ .

9. Shew how to integrate the equation  $\phi\left(x, \frac{dy}{dx}\right) = 0$ , the variable  $y$  being absent.

Solve the equation  $x^2 + p^2 = 2axp$ .

10. The equation of a system of equiangular spirals is  $r = ae^{\theta \cot \alpha}$ ,  $a$  being the parameter. Shew that the trajectory cutting this system at an angle  $\beta$  is another equiangular spiral whose angle is  $\alpha \pm \beta$ .
11. Shew how to integrate an equation of the form

$$\frac{d^2y}{dx^2} = f(y).$$

If a particle moves from rest under a constant acceleration  $f$  through a medium such that the resistance is  $\frac{n^2}{f} \times$  the square of the velocity, shew that the space described is equal to

$$\frac{f}{n^2} \log \frac{e^{nt} + e^{-nt}}{2}.$$

12. Solve the equations

- (i.)  $m(x - yp) = n(y - xp)$ .
- (ii.)  $x^2 \frac{d^2y}{dx^2} - x \frac{dy}{dx} + y = x^n$ .
- (iii.)  $y = 2px + y^2p^3$ .
- (iv.)  $(1 - x + x^2)D^3y + (6x - 3)D^2y + 6Dy = x$

## LOGIC AND MENTAL PHILOSOPHY.

### HONOURS II.

Compare the methods applied by Locke and Kant to the solution of the problem regarding the nature and limits of knowledge.

2. State and discuss Spencer's doctrine with regard to one of the following—
- (a) The origin of the principles of morals.
- (b) The doctrine of an absolute ethics.
- (c) The relation between justice and beneficence.
3. Estimate the comparative value of the theories of duty of Kant and Spencer.
4. "A man is free when he has found himself in his moral environment."—*Bosanquet*. "Physical necessity is the only necessity, and moral necessity is freedom."—*Hutchinson Stirling*.

Discuss these remarks, and summarise Green's teaching with regard to the freedom of the will.

5. Estimate the comparative advantages of "parliamentary" and "non-parliamentary" government.
6. Describe the function of industrialism in the advance of civilisation. How may its limitations be supplemented?
7. Examine the following objections to the introduction of the referendum :—
  - (a) That it would lower the importance of Parliament.
  - (b) That it would be an appeal from a higher to a lower class.

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## HISTORY II.

### HONOURS.

*Candidates are recommended to answer not less than FIVE and not more than SEVEN questions*

1. "Without Rousseau there would have been no French Revolution." (Napoleon I.) Discuss.
  2. Explain and illustrate the principles of Burke's criticism of the French Revolution.
  3. "Napoleon I. neither had nor valued original ideas, but he was a 'virtuoso' in the art of availing himself of the new ideas which he found current." Discuss.
  4. To what extent did the Restoration of 1815 destroy the work of the French Revolution?
  5. Sketch the career of Metternich, and explain his policy.
  6. Explain the policy of the Great Powers of Europe with regard to the War of Greek Independence.
  7. "Distinct as the ideas of national independence and of constitutional liberty are in themselves, they were not distinct in their operation over a large part of Europe in 1848." Explain.
  8. Discuss the relation of Napoleon III. to the movement for Italian unity.
  9. Discuss Bismarck's views and aims in matters of home politics.
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## FACULTY OF LAW.

## INTERMEDIATE EXAMINATION.

## ROMAN LAW.

Candidates are not to attempt more than SEVEN questions ; but these must include  
Nos. I., III. and VIII.

I. Translate and comment briefly on each of the following passages, giving illustrations where necessary—

- (1) *Sed adgnationis quidem ius omnibus modis capitis diminutione plerumque perimitur ; nam adgnatio iuris est nomen. cognationis vero ius non omnibus modis commutatur, quia civilis ratio civilia quidem iura corrumpere potest, naturalia vero non utique (I. 15, 3).*
- (2) *Tamen nos eandem observationem corrigentes et, quod ab illis suasum est, in legis necessitatem transferentes ad imitationem pristini familiae emptoris merito nec heredi, qui imaginem vetustissimi familiae emptoris optinet, nec aliis personis, quae ei ut dictum est conjunctae sunt, licentiam concedimus sibi quodammodo testimonia praestare : ideoque nec ejus modi veterem constitutionem nostro codici inseri permisimus (II. 10, 10).*
- (3) *In his autem quae scriptura conficiuntur, non aliter perfectam esse emptionem et venditionem constituimus, nisi et instrumenta emptionis fuerint conscripta vel manu propria contrahentium vel ab alio quidem scripta, a contrahente autem subscripta et, si per tabellionem fiunt, nisi et completiones acceperint et fuerint partibus absoluta (III. 23, pr.).*
- (4) *Ex quibusdam tamen causis repeti non potest, quod per errorem non debitum solutum sit. sic namque definiverunt veteres : ex quibus causis infitiando lis crescit, ex his causis non debitum solutum repeti non posse . . . (III. 27, 7).*

II. Give a brief account of the "*Corpus juris civilis*;" explaining (so far as you can from your text book) (1) its external arrangement, (2) the general nature and object of its constituent parts, and (3) when and by whom each of these parts was composed?

- III. A, a Roman paterfamilias, being about to undertake a journey, desires before setting out—(1) To emancipate his son, B; (2) to give another son, C, in adoption to D, a maternal uncle; and (3) to manumit a favourite slave, E, then about 22 years of age. Advise A as to the legal requirements necessary to the carrying out of these transactions, and generally as to their legal effect, under the law as *finally* settled by Justinian.
- IV. Explain and illustrate, carefully, the requisites of a valid *traditio*. Mention any real or apparent exceptions to the rule—“*Traditio nihil amplius transferre potest, ad eum qui accepit, quam est apud eum qui tradit.*”
- V. Distinguish briefly between the following:—(1) *res extra patrimonium* and *res extra commercium*; (2) *universitas personarum*, *universitas rerum* and *universitas juris*; (3) *specificatio*, *confusio* and *commixtio*; and (4) *res communes* and *res publicae*. What rights did the public enjoy under the Roman Law in (1) the seashore, (2) rivers, and (3) the banks of rivers?
- VI. What were the different classes of heirs known to Roman Law? Describe the position of each class with respect to the payment of debts and legacies (in cases where these exceeded or might exceed the value of the estate) (1) before, and (2) after the introduction of the *beneficium inventarii*.
- VII. Explain and illustrate (1) the different meanings, and (2) the different sources, of “*obligatio*,” under the Roman Law. Can you justify the inclusion of obligations under *Jus Rerum*?
- VIII. Discuss, in *technical language*, the legal relations and remedies which would arise out of the following transactions:—
- (1) A and B have each an ox; they agree that each shall have the use of the other's ox in alternate months. A, after having had the use of B's ox, refuses to hand over his own.
  - (2) A deposits a gold ring with B. Some time afterwards C, by means of a forged letter purporting to come from A, induces B to hand over the ring to him.
  - (3) A and B enter into a partnership agreement on the terms that A shall take two-thirds and B one-third of the

profits, and that A shall bear one-third and B two-thirds of the losses. On the completion of the transaction, disputes arise between A and B as to the validity and construction of the agreement.

(4) During A's absence from home a fire breaks out. By the exertions of B, his neighbour, however, the bulk of A's property is saved and stored in B's house until A's return.

(5) A sells 10 casks of wine to B on two months' credit. At the expiration of this time B fails to pay for the wine, but avers that he was really acting in the purchase on behalf of C, who has had the wine but refuses to pay for it.

IX. State accurately what kinds of criminal offences were dealt with under the following *leges* :—

(1) The *Lex Julia de vi publica et privata* ;

(2) The *Lex Julia majestatis* ; and

(3) The *Lex Julia peculatus, et de sacrilegiis et de residuis*.

X. Write a short explanatory note on each of the following :—

(1) *Tutor fiduciarius* ; (2) *Longissimi temporis prescriptio* ;

(3) *Usucapio libertatis* ; (4) *Querela inofficiosi testamenti* ;

(5) *Correi debendi* ; and (6) *Manus injectio*.

# JURISPRUDENCE.

*Candidates are not to attempt more than EIGHT questions, but these must include Nos. I., V., and VI.*

I. Discuss the possibilities of a particular Science of Jurisprudence.

II. How does Austin explain the relation of Custom and Law ? State and examine the objections that have been taken to this view.

III. "The greatest function of the Law of Nature was discharged in giving birth to modern International Law and to the modern law of War."—*Maine*.

Explain and illustrate this statement.

IV. Give a brief account of Austin's theory of Sovereignty. Illustrate its application to Australia under the proposed Commonwealth Bill.

V. Distinguish briefly between the following, giving illustrations and adding comment where necessary :—

- (1) *Essentialia, naturalia, and accidentalia negotii.*
- (2) Absolute and relative duties.
- (3) Remedial rights and adjective law.
- (4) Law and particular command.
- (5) Constitutional and administrative law.
- (6) Legal and doctrinal interpretation.

VI. Examine the juridical nature of the rights arising out of the following transactions, stating in each case where such rights would be treated of in an analytical classification :—

- (1) A keeps a reservoir on his premises. It bursts, and the water sweeps away the house of B, an adjoining owner.
- (2) A maliciously induces B, who has entered into a contract of service with C, to break his contract.
- (3) A deserts his wife.
- (4) A, the owner of Blackacre, grants a right of way to B, the owner of Greenacre.
- (5) A assaults and robs B.
- (6) A buys a ticket from the B Railway Co. for a journey from London to Bristol. On the journey he is injured by the negligence of the Company's servants.

VII. Illustrate and account for the prominence of Procedure in early systems of law.

VIII. "One might almost say, inverting Rousseau's famous phrase, 'Woman was born in chains, and behold, now on every side she is free.'" What evidence do you find of the truth of this statement in the history of either English or Roman law?

IX. Discuss the advantages and disadvantages of Statute and Judge-made law.

X. State and criticise the various distinctions that have been drawn between Crime and Civil Wrong. What general arrangement would you suggest as a basis for the codification of the Criminal Law?

Give illustrations under each department.

XI. "Possession is nine-tenths of the Law." How far is this statement legally true? Explain why possession as distinct from ownership has been protected in various legal systems.

XII. Write a short note on :—

- |                          |                     |
|--------------------------|---------------------|
| (1) Negative servitudes. | (4) Malice.         |
| (2) Juristic person.     | (5) Legal fictions. |
| (3) Emphyteusis.         |                     |
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### THEORY OF LEGISLATION.

*Candidates are not to attempt more than EIGHT questions, but those should include  
VII., IX., and X.*

- I. What do you understand by the theory of legislation? Give a brief sketch of its subject matter, aims, and methods. In what relation does it stand to (1) the science of politics; and (2) the study of law?
- II. Discuss the nature and relative importance of what Bentham calls "the subordinate ends of civil legislation." What reason does he give for not including "liberty" in this category?
- III. "The means of acquiring rights to services—that is, the causes which determine the legislature to create obligations—may be referred to three heads." Explain and illustrate this statement of Bentham's.
- IV. On what principles does Bentham estimate the amount of evil flowing from an offence? To what extent is the evil flowing from an offence affected by (1) the motive, (2) the inherent difficulty of detection, (3) the intention, and (4) the character of the offender?
- V. Give a short account of the value and limits of what Bentham calls "vindictive satisfaction," as an element in punishment.
- VI. Mention at least three of the measures advocated by Bentham for "indirectly" preventing the commission of offences, giving illustrations in each case.
- VII. "The socialistic interference for which, in the present chapter, I propose to offer a theoretical justification, is conceived by me as a supplementary and subordinate element in a system mainly individualistic." (*Sidgwick*). Indicate shortly the nature and limits of the supplementary intervention here referred to, and state the justification on which it rests.



- VIII. Examine the meaning or meanings of the following terms:  
(1) Justice; (2) Equality; (3) Democracy.
- IX. Discuss, generally, the principles upon which the State is justified in interfering with,—and in restricting the freedom of private dealings in—"special trades which are not monopolies;" giving illustrations.
- X. What estimate have you formed of the difficulties of adopting "compulsory arbitration" as a method of settling industrial disputes?
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## CONSTITUTIONAL LAW.

*Candidates are not to attempt more than 8 questions; but of these 3 should be selected from Section I., and 5 from Section II.*

## SECTION I.—GENERAL.

- I. Distinguish between a parliamentary and a non-parliamentary executive, giving two examples of each type. What do you consider to be the special merits and defects of each system?
- II. "When we say that the supremacy or rule of the law is a characteristic of the English constitution, we generally include under one expression at least three distinct though kindred conceptions."—(*Dicey*.) Explain this statement, mentioning the three meanings here referred to, and illustrating their application from the decisions or action of the Courts.
- III. Give a brief sketch of the organisation of British India for the purposes of government, with special reference to (1) the exercise of Imperial control, and (2) the conduct of both the central and provincial governments of that dependency.
- IV. Contrast the provisions of the constitutions of (1) the United States of America, (2) the Dominion of Canada, and (3) the Swiss Confederation, with those of the Commonwealth Bill (as recently amended) on each of the following points:—  
(1) The distribution of powers between the Federal Government and the States; and (2) the methods of amending the Federal Constitution.

V. What points were decided in the following cases :—

- (1) *Bradlaugh v. Gossett* (12 Q.B.D., 271).
- (2) *Fabrigas v. Mostyn* (Cowp. 161).
- (3) *Fray v. Blackburn* (3 B. & S., 576).
- (4) *Powell v. The Apollo Candle Co.* (10 Ap. Ca. 282).
- (5) *Gipps v. McElhone* (2 N.S.W.R. 18).
- (6) *Ex parte Wallace & Co.* (13 N.S.W.R. 1).

## SECTION II.—NEW SOUTH WALES.

VI. Sketch briefly the attempts made by the British Government prior to 1855—(1) To establish in the Colony a scheme of local government; and (2) To establish a general or central authority, as between the various Australian Colonies. How do you account for the failure of these attempts?

VII. How far are the so-called rights of “freedom of speech” and “public meeting” affected, in New South Wales, by the provisions of the Criminal Law?

VIII. State in substance the more important provisions of the “Immigration Restriction Act, 1898.” Has the Executive Government any legal right to exclude aliens from landing in the Colony (1) apart from statute; and (2) under the local statutes, in cases where the intending immigrant has complied with their provisions?

IX. “The law in New South Wales may, with respect to its origin, be distributed into three elements, viz., English law, Imperial law, and Colonial law.” Explain and illustrate this statement, fully.

X. To what extent is the Colony still subject to Imperial control in respect of (1) its *legislation*, (2) its *administration*, and (3) its *judicature*? State precisely in each case the legal basis on which such right of control rests.

XI. Trace briefly the procedure to be followed upon the assembling of the new parliament—from the date of return of the writs after the general election to the conclusion of the debate on the address. What securities, direct and indirect, exist under the constitution, for ensuring the annual meeting of Parliament?

XII. To what extent is the holding of an office of profit under the Crown a disqualification for sitting and voting in the Legislative Assembly? Examine the origin, and discuss the expediency of this disqualification.

## INTERNATIONAL LAW.

*Candidates are not to attempt more than SEVEN questions, but these must include Nos. I., III., and VI.*

I. What do you understand by Private International Law? Illustrate, briefly, its application in N. S. Wales as regards—

- (1) The validity of contracts ;
- (2) The validity of marriage ; and
- (3) The administration of estates of deceased persons.

What topics are common to Public and Private International Law ?

II. Discuss from the point of view of International Law—

- (1) The present position of the Soudan ; and
- (2) The proposal on the part of the Government of the United States to construct and exercise exclusive jurisdiction over the Nicaragua Canal.

III. Examine, briefly, the jurisdiction exercisable, according to current usage, by a State over its *private* vessels—

- (1) Whilst on the high seas ; and
- (2) Whilst in the territorial waters of another State.

The “ Moa ” is a British vessel trading between Sydney and San Francisco. During the voyage, X (a British subject) and Y (a citizen of the United States) feloniously assault Z (a French citizen) who dies of his injuries at sea. Advise as to the jurisdiction to which X and Y are amenable, and where they should be tried.

IV. Discuss, briefly, the legal character and results of a military occupation by a belligerent of the enemy's territory.

V. State, shortly, the rules by which the question of the enemy character of (1) ships, and (2) goods, is determined in time of war.

VI. Write a short explanatory note on each of the following :—

- (1) The doctrine of “ *Hinterland* ;”
- (2) The liability of domiciled aliens to be called on to render military service ;
- (3) The effect of a cession of territory on the nationality of its inhabitants ;
- (4) The right of asylum ; and
- (5) The right of expatriation.

VII. Define Neutrality. Specify shortly the more important duties of a neutral state in time of war.

VIII. Define contraband of war.

*"L'idée de la contrebande est une idée complexe, variable selon les temps et les circonstances, et qu'il est difficile de déterminer d'une manière absolue et constante . . ."*—(Heffter.)

Compare this view of contraband with that put forward by the British Admiralty.

IX. How far will (1) the penalty attaching to a ship for breach of blockade extend to the cargo; and (2) the penalty attaching to the carriage of contraband cargo affect either the ship or innocent cargo? Cite authority for your answer.

X. Explain and illustrate briefly the more important rules that have been laid down with respect to the interpretation of Treaties.

XI. Explain and illustrate the nature of a commercial blockade. What justification can you find for the practice either in principle or in usage?

XII. Discuss any two of the more important questions of International Law arising out of the recent Spanish-American War.

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## FINAL EXAMINATION.

## THE LAW OF CONTRACT AND MERCANTILE LAW.

*Candidates are not to attempt more than EIGHT questions, but these should include No. VII. and THREE questions at least from Section II.*

## SECTION I.

- I. "No action shall be brought whereby to charge the defendant upon any special promise to answer for the debt, default or miscarriage of any other person; or . . . upon any contract or sale of lands, tenements or hereditaments or any interest in or concerning them . . . ."

Illustrate, briefly, from decided cases, the interpretation which has been placed upon these provisions of Section 4 of the Statute of Frauds.

- II. What restrictions attach to the contracts of (1) Corporations, and (2) Joint Stock Companies, with respect to either (a) the form, or (b) the scope, of such contracts?

- III. Explain carefully the distinction between (1) void, (2) voidable, and (3) unenforceable contracts; illustrating your answer by reference to decided cases.

- IV. In what cases is extrinsic evidence admissible to explain, add to, or vary a written contract?

- V. A and B enter into a written contract involving obligations on either side. What principles would you suggest for determining how far (if at all) A will be discharged from his obligations by *failure of performance* on the part of B? Cite authority for your answer.

- VI. Discuss the nature and extent of the liability of a principal for the fraud of his agent.

- VII. Discuss the following cases, stating the principles involved:—

- (1) A and B are traders having mutual dealings with each other. A on one occasion being indebted to B in the sum of £100, sends B a cheque for the amount, drawn on the C Bank, through the post. The cheque is stolen in

transit, and despite its having been made payable to order and crossed, the thief (by opening an account at a branch bank) succeeds in cashing it. Upon whom will the loss fall?

- (2) A makes a bet with B on a horse race. B loses, and gives A a P/N for £10. A transfers the P/N to X, who sues B upon it. B pleads illegal consideration.
- (3) A at B's request agrees to subscribe £5 towards a presentation of plate to X. B, on the faith of this and other subscriptions, purchases a service of plate, which is presented to X. A subsequently refuses to pay.
- (4) A has been in the habit of supplying goods to the firm of B and C. B retires from the firm and D takes his place. A then supplies fresh goods to the firm, but without knowledge of B's retirement. What are A's remedies in the event of nonpayment?

## SECTION II.

- VIII. What conditions or terms are implied in a contract of affreightment on the part of the shipper or merchant? What exceptions are there to the rule that "no freight becomes due unless the carriage of the goods be completely performed?"
- IX. Give a brief summary of the rules laid down by the Partnership Act, 1892, for determining the existence of a contract of partnership?
- X. What powers of disposition with respect to goods were conferred on factors by the Advances to Agents Act, 1866? In what respects did this Act alter the common law?
- XI. A draws a B/X on B in favour of C or order. What is the effect of the death (1) of C, after acceptance by B, but before endorsement; (2) of B, before acceptance; and (3) of A, before acceptance?
- XII. Distinguish between (1) a Maritime Lien and a Mortgage over a ship; (2) General and Particular Average; (3) "Joint" and "Joint and Several" liability; (4) a "Restrictive" and a "Special" endorsement; (5) "Debenture" and "Debenture Stock."

## THE LAW OF TORTS AND CRIMES.

THREE HOURS AND A HALF.

## I.—TORTS.

- I. Discuss the doctrine of "natural and probable consequences," as applied to the law of negligence.
- II. To what extent may the locality of the commission of a wrongful act affect the remedy in our courts?
- III. Discuss the nature of the defence of "fair comment" in an action of defamation.
- IV. A bought from B certain goods which remained in B's possession until after he had committed an act of bankruptcy. B then assigned the goods to C for value, C having no notice of the act of bankruptcy. B was adjudicated bankrupt and A took possession of the goods. C subsequently took the goods out of A's possession. A sues C for conversion of the goods.

Discuss the case.

- V. A let a house to B for a term of years. A, before the execution of the lease, said that he would perfect the drainage, and subsequently told B that he had put the drainage into perfect order. The lease subsequently executed was silent as to the state of the drainage. B, alleging that he was induced to accept the lease by A's statement that he had put the drainage in perfect order, sues A to recover damages in respect of an illness caused by the defective state of the drains.

Discuss the case, citing authority.

- VI. A occupied a house abutting on a street, under a lease from B. Projecting from the front wall over the footway was a lamp, which A had employed a contractor to repair. Afterwards another contractor was employed by A to examine the lamp and placed a ladder against the bracket which joined the lamp to the wall. The weight of the ladder and the rotten state of the bracket caused the lamp to fall, injuring C. What are the liabilities (if any) of A and B, respectively, towards C in respect of the injuries sustained by him.

II.—CRIMINAL LAW.

- I. Define Arson, Burglary, Larceny, Embezzlement and False Pretences.
- II. How far may (1) coverture, and (2) necessity, be pleaded in answer to a criminal charge?
- III. What is meant by the plea of *autrefois acquit*?  
A is charged with breaking and entering a house and committing a felony therein, and is acquitted. He is afterwards charged with breaking and entering the house with intent to commit the same felony. He pleads *autrefois acquit*. Is this plea good?
- IV. Discuss the following cases, stating the principles involved:—
  - (1) A gave his servant a £5-note to get changed. The servant changed the note, but afterwards made off with the proceeds.
  - (2) The prisoner, in payment for goods purchased from the prosecutor, drew a cheque in the prosecutor's presence for the amount of the purchase, and gave it to him as the prisoner's own cheque drawn in his own name. The prosecutor received the cheque believing it to be drawn in the prisoner's own name. The cheque, in fact, was drawn in a fictitious name, and when presented was dishonored. The prisoner was charged with forgery.
- V. Under what circumstances may a statement made in the presence of an accused person be given in evidence against him?
- VI. What course of proceeding is provided by the Criminal Law Amendment Act in cases of appeals from summary convictions?

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LAW OF PROPERTY.

*Candidates are not to attempt more than EIGHT questions, but these should include Nos. I., II., IV. and V.*

SECTION I.

- I. Examine the powers of alienation over the fee, possessed, at the present time, by a married woman (married in 1876), with respect to each of the following:—
  - (1) Real estate not being her separate estate either at law or at equity;
  - (2) Real estate, being her separate estate



in equity; (3) Real estate, the rents and profits of which became her separate estate under the Acts of 1879 or 1886; and (4) Real estate, being her separate estate under the Act of 1893.

II. Discuss the effect of the following dispositions, stating in technical terms the nature of the interests *validly* created thereunder, and the principles involved:—

- (1) Devise to the eldest unborn son of A for life, with remainder to his first and other sons in tail male.
- (2) Gift of land by deed to A and his heirs, with a direction to A to pay over the rents and profits to B during the life of B, and thereafter to permit C to take the profits.
- (3) Devise to my wife until one or other of my sons shall attain the age of 21, and then to that son and his heirs; but if no son of mine shall attain the age of 21, then to my daughter.
- (4) A, by his will, bequeaths real and personal property to trustees on trust to accumulate the income at compound interest for a period of 25 years from his death; and thereafter upon trust to hold both the original fund and the accumulations, on trust for his daughter B, for life; with remainder on trust for any husband of B who may survive her; and, after the death of the survivor of B and her husband, in trust for such children of B as shall then be living.

III. How far are covenants affecting (1) freehold, and (2) leasehold interests in land, binding upon the transferees or assignees of such interests, respectively? A conveys land to B in fee. B covenants for himself his heirs and assigns (1) to maintain on the land a boundary fence of a specified kind, and (2) not to allow the erection of any public house on the land. B subsequently conveys to C, who commits breaches of both covenants. Discuss the rights and liabilities of the parties.

IV. Write a short note on each of the following points in relation to lands registered under the Real Property Act:—

- (1) The conclusiveness of a certificate of title duly issued under the Act as to the right and title of the registered proprietor;

- (2) The position of a mortgagee of leasehold interest belonging to a registered proprietor who has become insolvent; and
  - (3) The proceedings involved in the seizure and sale of land under a writ of *fi. fa.*, and the position of a purchaser thereunder.
- V. State shortly the provisions of the Conveyancing and Law of Property Act, 1898, with respect to (1) Conveyances by way of release; (2) The nature and extent of the powers of leasing conferred on the tenant for life of a settled estate (without application to the court); and (3) The liability of devisees of mortgaged lands; adding a short word of explanation where necessary.
- VI. Distinguish between Prescription and Limitation of Actions. Does the doctrine of Prescription, either in its earlier or later form, apply in New South Wales? Cite authority for your answer.

## SECTION II.

- VII. Explain and illustrate the meaning of the terms (1) "actual possession," and (2) "legal possession"—as applied to personal property; pointing out incidentally the different forms which "legal possession" may assume; and illustrating your answer by reference to decided cases.
- VIII. Discuss the precise meaning of the term "*choses in action*," pointing out the various kinds of rights which may, in your view, be legitimately classed under this division of personal property. Where would you place (1) patent right, (2) a share in a joint stock company, and (3) a right to the goodwill of a business, in a classification of personal property?
- IX. Explain, by reference both to their incidents and methods of creation, the distinction between "joint ownership," and "ownership in common," of personality. Can there be ownership in common of a *choses in action*?
- X. "Chattels are essentially the subject of absolute ownership, and cannot be held for any estate." Examine this statement, pointing out any exceptions to it either at law or in equity.

Discuss the following case :—“Devise of stock on trust for A for life, and then on trust for B for life, and after B's death, on trust for the executors and administrators of A.”

- XI. What provisions exist in the colony for ensuring the *international* protection of (1) Patents and Trade Marks; and (2) Copyright.
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EQUITY AND COMPANY LAW, INCLUDING PROCEDURE.

- I. State, shortly, the provisions of the “Trustee Act, 1898” (No. 4, 1898) on the following subjects :—
- (1) The Investment of Trust Funds.
  - (2) The clauses deemed to be contained in every instrument creating a trust.
  - (3) The appointment of new trustees.
- II. Discuss the following cases, stating the principles involved :—
- (1) A employs B, a stockbroker, to purchase certain shares. B buys the shares from a person who, though ostensibly owner, is a mere trustee for himself. Is A bound to take the shares?
  - (2) C having an equitable reversionary interest in a fund vested in trustees, assigns it to other trustees upon trust for volunteers. Is the assignment binding?
- III. Upon what principles does the doctrine of consolidation of mortgages depend? How does consolidation differ from tacking?
- IV. (1) What is the rule in equity and in law, respectively, as to contribution between sureties where one becomes insolvent and one of the solvent sureties pays the whole debt?
- (2) When and for what reasons will a surety be discharged from his liability, (a) where the creditor gives time to the debtor without the surety's consent; (b) where the creditor releases the principal debtor?
- V. Discuss the rights of A in the following cases, stating the principles involved :—
- (1) A, a tenant in possession, sues for the specific performance of an alleged agreement for a lease, setting up his possession as part performance of the agreement.

- (2) A offers houses for sale, describing them in the particulars to be held for ninety years at a ground rent of £21. One of the conditions of sale is as follows: "The description of the property in the particulars is believed to be correct; but if any error shall be found therein the same shall not annul the sale, nor shall compensation be allowed in respect thereof." A is in fact entitled only to an underlease. Can A obtain a decree of specific performance?
- VI. (1) Write a short note explanatory of the doctrine of *Cy-près*.  
 (2) What are the rules applicable to resulting trusts in the case of charities?
- VII. Explain and illustrate the following maxims:—  
 "Equity follows the Law"; and  
 "Equality is Equity."
- VIII. (1) After a decree has been pronounced, what further steps have to be taken to perfect it?  
 (2) What is the process available for enforcing a decree directing a person (*a*) to do an act, and (*b*) to pay money?  
 (3) Where a decree is drawn up without fixing a time within which an act is to be done, is it effectual?
- IX. A party to a suit desires to plead as well as demur to the matter demurred to. What are the courses open to him?
- X. State, shortly, the necessary steps for the formation of a Company limited by shares.
- XI. In what ways may Companies registered under the Companies Act be wound up? What are the practical differences between the different methods of winding up?
- XII. Discuss the following case, stating the principles involved. The prospectus of a Company contained the following statement:—  
 "The price asked for the land is £5,500. Of the purchase money the vendor asks only £500 in cash, allowing £1,500 to remain on mortgage at 7 per cent., and taking the balance, £3,500, in paid up shares. As further showing his perfect confidence in the success of the under-

taking, the vendor will guarantee a dividend of 10 per cent. for three years (secured upon his interest in the Company), though there is no doubt, judging from the profits of similar institutions a much more handsome dividend will be paid."

As a matter of fact the land had been mortgaged by the vendor before the sale by him to the Company, to secure the sum of £1,500; and the Company, wishing to borrow money to make improvements, had to first pay off the debt of £1,500 owing by the vendor. The vendor was a Director, and his name appeared in the prospectus. B, who had taken shares, relying on the prospectus, applied to have his name removed from the list of shareholders.

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#### THE LAW OF PROCEDURE.

- I. State the various steps which must be taken by a plaintiff and defendant respectively up to trial, in an action for unliquidated damages in the Supreme Court.
- II. What is meant by a special endorsement on a writ of summons? What advantage does the plaintiff gain by such endorsement?
- III. A wishes to sue B for a trespass, and desires to obtain an injunction against the repetition of the trespasses complained of. Advise A as to how to proceed in the matter.
- IV. What is meant by a writ of foreign attachment? How should plaintiff proceed to obtain such a writ?
- V. In what cases can security for costs be demanded? How is it necessary to proceed in order to obtain such security?
- VI. What is the difference between a Statutory and a Common Law Prohibition? What jurisdiction has a judge in Chambers to grant a prohibition?
- VII. B, a defendant in action, obtains from a judge leave to plead several matters. A, the plaintiff, wishes to have the order set aside. How should A proceed?
- VIII. What remedies has a creditor against choses in action belonging to a debtor against whom he has obtained judgment?

- IX. When does an appeal lie from the District Court to the Supreme Court? What is the course of procedure on such an appeal?
- X. Enumerate the special defences in the District Court of which notice must be given. At what times should notices of such defences be given?
- XI. In what respects does a defence of set off in the District Court differ from a plea of set off in the Supreme Court?
- XII. A magistrate refuses to hear a case properly brought before him on the ground that he has no jurisdiction; how should the complainant proceed in order to have the case heard and determined?
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#### PLEADING AND EVIDENCE.

- I. Define (1) a presumption of law, and (2) a presumption of fact; giving examples of each.
- II. Under what circumstances may similar facts be admissible as direct proof of the fact in issue? In an action against A, charging him as partner with B in a certain transaction, evidence is tendered to show that A and B had been interested as partners in other similar transactions. Discuss the question of the admissibility of this evidence.
- III. When may a party to an action be affected by the admission of others?
- IV. A is sued for an infringement of B's patent. A scientific witness, who has examined both inventions, is asked his opinion whether there has been an infringement or not. Is such question admissible? Give reasons for your answer.
- V. Upon what grounds may a judgment, when tendered to prove the truth of the finding, be impeached?
- VI. In 1850 A conveyed land of which he was then in possession to B, who in 1872 conveyed it to C. C died in 1886, having devised the land to D. D never went into possession of the land, and in 1896 finds E in possession. He then brings an action of ejectment against E. The deeds showing a documentary title in A cannot be produced. How would you proceed to prove D's title?

- VII. What is the distinctive feature of the English Common Law system of pleading as contrasted with other systems? Trace the origin of this feature.
- VIII. In what ways other than by demurrer may a question of law arising on the pleadings be raised?
- IX. "A party must either demur or plead by way of confession and avoidance." State and explain the exceptions to this rule.
- X. Explain and illustrate the following rules of pleading:—  
 (a) There should be no departure in pleading.  
 (b) Pleadings should not be double.  
 (c) Pleadings must show title.
- XI. What are the general issues in the following actions:—  
 (1) Covenant, (2) assumpsit, (3) replevin, and (4) trespass?  
 What facts are put in issue by such pleas respectively?
- XII. B goes into A's house and seizes and sells A's furniture. B alleges that A had no right whatsoever to do so. B's case is that he was entitled to do so under Sections 2, 3, and 4 of the Distress for Rent and Replevin Act. Draw the pleadings.

## BANKRUPTCY, PROBATE AND DIVORCE.

### I.—BANKRUPTCY.

*Candidates are not to attempt more than TEN questions, but these should include Nos. I., II., IV., and VII.*

- I. Discuss the following case, stating the principles involved:—  
 On 8th August, 1895, A gave to B a bill of sale, which was duly registered. On the 29th December 1896 A said to B in course of conversation, "I shall have to file." The next morning B entered into possession under his bill of sale. On the 13th January, 1897, a sequestration order was made against A, and the official assignee claimed to be entitled as against B to the goods comprised in the bill of sale.
- II. State the rule regarding transactions by a bankrupt after his bankruptcy with persons dealing with him in respect of his "after-acquired" property. Upon what principles does the rule depend?  
 Discuss any exceptions to the rule.

- III. How does a creditor in ordinary cases proceed to prove his debt? State the practice as to the admission or rejection of proofs.
- IV. Discuss the following case, stating the principles involved :—  
A owes debts to several creditors, amongst them B and C. A, being at the time insolvent, pays B and C, thereby exhausting his funds and leaving his other creditors unpaid. B and C receive the money innocently, and in ignorance of A's financial position. Five months after the payment A is adjudicated bankrupt, and the official assignee calls upon B and C to refund the money.
- V. What protection is given by the Bankruptcy Act to conveyances or assignments of property to trustees for the benefit of creditors generally?
- VI. How and when may a certificate of discharge be applied for? What are the powers of the Court on the hearing of the application? What other means of terminating a bankruptcy are provided by the Bankruptcy Act?

## II.—PROBATE.

- VII. A will is in the following terms :—"I give and bequeath all my real and personal estate whatsoever and wheresoever unto my wife.—R. G." The will contains no specific appointment of an executor. What form of grant will the Court issue? Give your reasons.
- VIII. (1) In what cases will the Court grant an order to the Curator to collect?  
(2) Explain "*Administration de bonis non*." What documents are required on an application for this form of grant?
- IX. State shortly the provisions of the "Wills Probate and Administration Act" (No. 13, 1898) on the following subjects :—  
(1) The essentials to a valid will, and the provisions respecting signature of a will.  
(2) A husband's interest in his wife's estate and *vice versa*.  
(3) The persons to whom administration may be granted.



## III.—DIVORCE.

- X. Upon what grounds may a wife present a petition for dissolution of marriage?
- XI. What orders can be made on a decree for dissolution of marriage against a husband, in respect to the maintenance of the wife where the husband has no property on which a gross or annual sum can be secured?
- XII. (1) What power has the Court over property of a wife where judicial separation is decreed on the ground of her adultery?
- (2) What power has the Court in regard to ante-nuptial or post-nuptial settlements after a final decree of nullity or dissolution of marriage?
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# FACULTY OF SCIENCE.

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## DEPARTMENT OF ENGINEERING.

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### FIRST YEAR EXAMINATION.

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#### APPLIED MECHANICS I.

*Not more than six questions to be attempted.*

1. Explain Culman's Principle, and apply it to obtain the diagram of bending moments in a beam supported at each end, and loaded with equal loads spaced at equal distances from each other. Sketch the outline of an ordinary roof truss, and show how to obtain the stresses in three members by the method of moments.
2. Investigate the equations of bending moments and shearing stresses in a beam supported at each end, and subjected to a dead load of 0.25 ton, and a live load of 1.75 tons per foot run. Span of beam 40 feet. Represent the results of the calculations graphically.
3. Referring to the foregoing question, show how you would design the girder.
4. Write an essay on torsional stress, and give the result of any torsion tests with which you are acquainted.
5. Make sketches, showing how you would design a timber viaduct of 8 feet spans for a live load of 4 tons per foot run.
6. What do you mean by the modulus of section of a beam? Determine the modulus of section of
  - (a) A square beam,
  - (b) The same with one diagonal as neutral axis,
  - (c) A modern steel rail.Assume in each case the necessary dimensions.

7. Describe fully, with sketches, the method employed and apparatus used in making a complete tension test of a specimen of mild steel suitable for bridge work. What numerical results would you expect from an average sample?
  8. Write down a formula for the determination of the safe working stresses in structures subjected to dead and live loads, and describe some of the experiments made by Wöhler and Bauschinger on the endurance of materials.
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## APPLIED MECHANICS II.

*Not more than SEVEN questions are to be attempted, but these must include No. 1.*

1. (a) Find the work done by a winding engine in lifting a cage weighing 2 tons through 150 feet, the cage (originally stationary) having its velocity increased to 10 feet per second.  
(b) Each of the two cylinders in a locomotive is 16 inches in diameter, and the length of the crank is 1 foot. If the driving wheels make 105 revolutions per minute, and the mean effective steam pressure is 85 lbs. per square inch, what is the horse power?  
(c) A locomotive weighing 35 tons travels at a speed of 50 miles an hour round a curve of 400 feet radius. What is the "centrifugal force," and what should be the super-elevation of the outer rail?
2. "All relative motions of plane figures in a common plane may be considered to be rolling motions, and the motion of any points in them can be determined so soon as the centrodes of the figures are known."—*Reuleaux*.  
Explain this statement fully, illustrating your remarks by reference to some particular mechanism.
3. In a slider-crank mechanism the ratio of crank to connecting rod is 1 to 4. Given that the crank-pin is moving at a uniform rate, draw the corresponding velocity curve for the motion of the crosshead. Show clearly the positions of the crosshead when—
  - (i.) Its acceleration is zero.
  - (ii.) Its velocity is equal to that of the crank-pin.

4. What is meant by "*the inversion of a kinematic chain*"? Illustrate by practical examples of the process.
5. In the lever-crank mechanism *a*, *b*, *c* and *d* are the four links, *d* being the fixed link. Given the linear velocity of any point *A* on *a*, find the corresponding velocity of any point *C* on the opposite link *c*, (i.) when the necessary virtual centre is accessible, and (ii.) when it is inaccessible.
6. Prove that involute curves possess the characteristics necessary for the profiles of wheel teeth. Explain some one method of describing these profiles, and state approximately the proportions usually adopted in dimensioning the teeth.
7. Sketch an arrangement of toothed gearing by which a high velocity ratio (say, 1 to 2,500) may be conveniently transmitted, showing clearly the number of teeth on each wheel. Describe any machine with which you are acquainted in which such an arrangement is made use of.
8. Prove that if at any point a normal be drawn to a velocity curve on distance base, the sub-normal represents the acceleration at that point. If the curve of accelerations were given, how would you obtain the velocity curve?
9. Write a short essay on the efficiency of riveted joints, pointing out clearly the various conditions that affect its value.
10. Make neat sketches approximately to scale of the quick-return motions in (a) the Planing Machine and (b) the Shaping Machine in the workshop.

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### DESCRIPTIVE GEOMETRY AND DRAWING.

*Not more than six questions to be attempted.*

1. (a) Describe an ellipse, having given the major and minor axes as 4 inches and  $2\frac{1}{2}$  inches respectively.
- (b) Inscribe a parabolic curve in a given rectangle ABCD, the apex to be at the middle point of AB and the branches of the curve to pass through the points C and D respectively.

2. (a) A circle, one inch in diameter, rolls on the circumference of another circle three inches in diameter, and on the outside. Draw the path of a point on the circumference of the smaller circle as it makes a complete excursion round the larger circle, returning to its original position.  
(b) Under what circumstances does the *hypocycloid* become a straight line? Sketch a mechanism illustrating it.
3. The inclinations of an oblique plane to both the co-ordinate planes being given, determine its traces.
4. Two planes being given by their traces, find the angle between them.
5. Draw the plan and an elevation on any vertical plane of the following:—  
(a) A cube (edge 2 inches) when hung up by one of its corners.  
(b) An octahedron resting upon one of its triangular faces.
6. A cube (edge 2 inches) has the plane of one face inclined at  $50^\circ$  and one edge of that face at  $30^\circ$ ; determine its plan, elevation and end view.
7. A bar of iron, half-inch square in section, is made into a spiral of 4 inches internal diameter and  $1\frac{1}{2}$  inches pitch. Show two complete turns of the spiral, in elevation.
8. Determine the projections of the lines of interpenetration of two given right cylinders, the axis of one being vertical and of the other horizontal. Obtain also the development of the vertical cylinder, showing the lines of interpenetration. The diameter of the vertical cylinder is to be assumed greater than that of the horizontal one.
9. Construct the perspective of the following objects:—  
(a) A chess board.  
(b) A rectangular box with the lid open at an angle of  $45^\circ$ . Assume all necessary data.
10. Describe briefly the principles of isometric projection. What are some of its advantages? Why is it not more commonly used?

11. A tripod, whose vertex is A, and whose legs are AB, AC and AD of lengths 8, 8.5 and 9 feet respectively, sustains a load of 2 tons. The ends B, C, D form a triangle whose sides are  $BC=7$  feet,  $CD=6$  feet,  $BD=8$  feet.

Find by graphical construction the compressive force in each leg.

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#### MATHEMATICS.

#### HONOURS.

The same papers as those set in the First Year of the Faculty of Arts.

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## SECOND YEAR EXAMINATION.

## APPLIED MECHANICS I.

Not more than SEVEN questions are to be attempted, but these must include No. 1.

1. (a) The fly-wheel of a stationary engine attains a velocity of 70 revolutions per minute in 50 seconds after starting. Its moment of inertia about its axis is 13,000 (units being feet and pounds). What must have been the average force at the radius of the crank-pin, say 18 inches, to cause this change of angular momentum? Also what brake pressure applied at the periphery of the wheel (radius 5 feet) would bring it to rest in 3 seconds?
- (b) Find the work done by a winding engine in lifting a cage weighing 2 tons through 150 feet, the cage (originally stationary) having its velocity uniformly increased to 10 feet per second. At what average rate (in horsepower) was the work done during this operation?
- (c) The tup of a steam hammer weighing 4 tons is allowed to fall 7 feet on to a piece of iron, which it compresses. The duration of the compression is half a second. What is the average compressive force during that time?
2. Make careful sketches of the *Oldham coupling* and the *Drag link coupling* as used to connect two lengths of shafting. Discuss their kinematical relationship, and explain under what circumstances each might be employed.
3. Explain with the aid of neat sketches how, in a mechanism, by altering the size of the elements or the extent of the links, or by reducing the number of the links, other mechanisms may be obtained.  
Take the lever crank mechanism as an example, and give at least four illustrations of the process.
4. In a slider-crank mechanism the ratio of length of crank to length of connecting rod is 1 to 4. Given that the crank-pin is moving at a uniform rate, draw the corresponding velocity curve for the motion of the cross head. Obtain also the acceleration curve for the same case.

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.

5. Contrast the functions of the fly-wheel and the governor of an engine. What co-efficients of fluctuation of speed would you adopt in the case of—
  - (a) Engines driving electric generators ;
  - (b) Engines driving machine tools ;
  - (c) Pumping engines ?

Describe the various steps to be followed in the determination of the dimensions of a fly-wheel for a particular engine.

6. Discuss clearly the question of "fly-wheel stresses."
7. Describe, with the aid of neat sketches, the methods adopted in certain high speed engines for keeping the piston and connecting-rods always either in compression or tension. What is the object of so doing ?
8. Make a sketch, approximately to scale, of some form of Stephenson's link-motion, and explain how the movement of a valve driven by such a link-motion may be graphically investigated.
9. Explain carefully how you would construct and use a set of harmonic diagrams for the purpose of studying the action of the Myers' valve gear on the low pressure experimental engine in the laboratory.
10. Describe both the Zeuner and the Bilgram valve diagrams, and apply them to the solution of the following example:—

Given the point of cut-off, the lead and the travel of the valve, find the outside lap and the angular advance.

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## APPLIED MECHANICS II.

*Not more than SEVEN questions are to be attempted.*

1. Describe the mode of action of the original Watt engine in the Sydney Technical College Museum, and contrast it with that of Newcomen's atmospheric engine as built in the early part of the 18th century.



2. Describe the cycle of operations in any air engine with which you are acquainted. What advantages have such engines as compared with steam engines, and why are they not more commonly used?
3. Explain precisely why steam is dried or superheated by throttling, and describe with the aid of sketches an instrument in which this fact is made use of for the purpose of determining the "quality" of the steam supplied to an engine. In conducting an engine and boiler test, how would you apply such an instrument, and what is your opinion as to its reliability?
4. If steam of initial dryness  $q_1$  and at an absolute temperature  $T_1$ , expand adiabatically until its temperature falls to  $T$ , prove that its dryness after expansion is

$$q = \frac{T}{L} \left( \frac{q_1 L_1}{T_1} + \log_e \frac{T_1}{T} \right)$$

where  $L_1$  and  $L$  are the latent heats before and after expansion respectively.

5. Explain carefully how you would obtain the probable indicator card of an engine before it is actually built.

If  $p_1$  = admission pressure,  $p_b$  = back pressure,  $r$  = ratio of expansion, obtain an expression for the mean effective pressure.

6. An unjacketed simple condensing engine of good average efficiency is supplied with steam from a Lancashire boiler at a pressure of 50 lbs. per square inch. Assuming that each pound of fuel put into the furnace develops 12,000 B.T.U., describe in detail what will be the probable method of expenditure of this amount of heat as it passes through the boiler and engine. Put your reply in the form of a balanced heat account, with notes to show how you have arrived at the various quantities.
7. Discuss fully the relative advantages and disadvantages of *air*, *ammonia* and *carbon dioxide* as working substances in a refrigerating plant, employing entropy-temperature diagrams in explanation wherever possible. Describe a plant in which one or other of these substances is used.
8. Describe by means of sketches the construction of a modern centrifugal pump, and show how to determine the curves of the wheel vanes. Make all necessary calculations in regard to work done and efficiency, assuming all necessary data.

9. Show by means of equations and graphical construction the methods of determining the curves of the guide-blades and wheel vanes of an ordinary impulse turbine.
10. Describe briefly the following dynamos: Series wound, shunt wound, separately excited, compound wound. Illustrate your remarks by means of sketches, and state the special purposes for which each is most suitable. A four-pole dynamo has 440 surface conductors with  $16.1 \times 10^8$  lines per pole; the armature is series connected. Find the torque in inch pounds when a current of 300 amperes flows through the armature.
11. Explain the following terms in connection with alternating currents: Impressed, Inductive and Effective E.M.F., Impedance, Capacity, Resonance.  
A resistance of 100 ohms in series with a condenser of 4 microfarads capacity, and also with an inductance of 0.3 henry carries an alternating current of 2,000 volts at 130 cycles per second. Find the impedance, the resulting current, and its angle of lead or lag.
12. Compare the method of regulation in a continuous current motor and a synchronous motor when the load varies. What is an induction motor?
13. Write an essay on the transmission of power by means of compressed air with especial reference to mining. State the precautions necessary in order to obtain maximum efficiency, and give equations showing the work obtainable in the compressors and motors.

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### APPLIED MECHANICS III.

*Not more than two questions to be attempted.*

1. Make a neat plan and sectional elevation of *one* of the following:—
  - (a) A thrust-block for a shaft 10 inches in diameter, making 60 revolutions per minute, and transmitting 1000 H.P.
  - (b) A Blake's stone crusher of medium capacity.

2. Draw a section through a jet condenser and air pump similar to that on the experimental engine in the Laboratory.

Diameter of plunger =  $4\frac{1}{2}$  inches; length of stroke = 12 inches.

3. Design the shell of a Lancashire boiler (length 28 feet, diameter 7 feet, gauge pressure 80 lbs.) showing details of riveted joints, but omitting such stock details as steam gauge, water gauge, cocks, and valves.

Design also a brick setting for the boiler.

4. The following leading dimensions were taken from the fly-wheel of a gas engine running at 160 revolutions per minute:—

Outside diameter of wheel .. 51 inches.

Face of wheel .. .. 5 "

Weight of metal in rim .. 500 lbs (approximate.)

Diameter of engine shaft .. 3 inches.

Make an accurate drawing of the fly-wheel, giving all dimensions. Also calculate the total weight of metal in the wheel.

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#### APPLIED MECHANICS IV.

#### HONOURS.

*Not more than FIVE questions to be attempted.*

1. The machine shop in the Engineering School measures 44 feet by 30 feet, and the walls are 15 feet high.

Make a sketch plan of the arrangement of the shafting you would propose for driving the various machines at present in the shop. Show clearly all pedestals, hangers, shafting and pulleys (giving leading dimensions), and calculate the total length of belting required. You may adopt either the actual arrangement in use or any modification of it you may think desirable.

2. Discuss thoroughly the various considerations that would influence you in designing a central steam power station for purposes of power distribution in a large city, especially as regards the following points:—

(a) Choice of a site.

- (b) The general character of the station.
  - (c) Choice of types of engines and boilers.
3. Describe precisely how you would carry out a test for the determination of the performance of a large refrigerating plant such as that at the Kirribilli Point, North Sydney. Draw up sample tabular blank forms suitable for recording all the necessary observations made during the course of the test.
  4. Two dynamos are mechanically coupled, and have their terminals connected in parallel to the same line. Dynamo A has an induction factor of 6, resistance of 1.2 ohms, and a maximum current of 100 amperes; dynamo B has an induction factor of 4, resistance 1.09 ohms, and a current of 110 amperes. The line tension is 120 volts. Make all necessary calculations and draw the diagrams of combined speed and torque when working under variable conditions.
  5. State Lord Kelvin's Law in regard to the most economical size of conductors, and discuss it generally in regard to
    - (a) Delivery of a known amount of power from ample water power,
    - (b) Delivery of a known power from a closely limited source,
    - (c) Distribution of power in known amounts and units from a rented water power.
  6. Describe by means of sketches the construction of a modern alternator, suitable for a power transmission plant. If an ample supply of water is available at a given head for working turbines, what considerations would influence you in deciding whether the alternators should be directly coupled to the turbine shaft, or driven by means of straps or ropes? Illustrate your remarks by reference to actual cases.
  7. Describe fully, and give detail sketches illustrating the principles involved, any well known long distance power transmission in which the prime movers are turbines.
  8. Describe and sketch a modern induction motor, using poly-phase currents, and explain the principles upon which such motors work.

## SURVEYING.

THREE questions in each section to be attempted.

## I.

1. (a) Discuss the conditions of accuracy in surveying, with respect to linear measurement, angular measurement, and levelling. (b) Indicate the application of the probability theory to these questions.
2. In plane-table surveying it may happen that points  $a, b$ , or  $a, b, c$ , occupied and delineated on the plan, cannot be again occupied when the survey is to be continued. In such a case how may other required points,  $p, q, r$ , &c., from which the former are visible, be fixed upon the drawing? Give several examples.
3. Shew how a survey may be made to determine the capacity of a very large reservoir, and the volume stored up at different levels. Explain fully by diagrams; and give reasons for your preference for any particular system of survey.
4. (a) Indicate the theory of stadia measurement; (b) state what are the advantages of using an anallatic telescope; (c) and shew, where refraction is considerable, why the theory of the constancy of the relation between intercept and distance is faulty.
5. (a) Explain to what class of surfaces the prismoidal formula is strictly applicable; and (b) shew how the volumes bounded by undulating surfaces may be measured by various applications of that formula.
6. (a) What are the adjustments of the level; (b) and the sources of error in levelling? (c) How with an instrument not in perfect adjustment would you obtain accurate results, supposing also that it was not always possible to set exactly midway between the stations or turning points?
7. Write an essay either on (a) Photogrammetry, or (b) on the Closure of Survey.

## II.

8. (a) What circumstances affect the rate of fall in pressure of water flowing in a pipe or pipes? (b) Draw diagrams

showing the various losses that can occur, supposing water to flow from a reservoir into a long pipe line of variable diameter. (c) Indicate, by diagram, the positions of the hydraulic gradient.

9. (a) Shew how influx into a discharging vessel with a varying head complicates the calculation of discharge; and (b) discuss the method of calculating efflux under a varying head.
10. (a) In designing a long channel to discharge a required volume of water per second ( $q$ ), with a given slope ( $m$ ) for the sides, a given length ( $l$ ) and fall ( $f$ ), how may the condition of minimum sectional area and maximum hydraulic radius be secured? (b) Supposing  $v=c\sqrt{rs}$ , what will be the depth of a symmetrical trapezoidal channel of such form? Clearly shew all calculations.
11. (a) Sketch the theory of flow through orifices near the surface of supply tank, and (b) of the flow over weirs and over-falls, and (c) indicate the application of the theory to the practice of discharge-gauging. (d) Make a diagram explaining how the head over an orifice or over-fall is measured. (e) Explain the "velocity of approach" correction to the head.
12. Shew how the velocity of flow in short pipes may be calculated assuming several sources of loss, and interpret the formula  $v^2=2gh/(1-a^2/A^2)$  when the orifice area ' $a$ ' is identical with the area ' $A$ ' of the supply tank.

### CIVIL ENGINEERING I.

#### HYDRAULIC ENGINEERING.

*Not more than FIVE questions to be attempted.*

1. It is proposed to construct a covered service reservoir to hold 1,000,000 gallons, half in excavation and half in embankment. The material excavated consists of dry sand, and there is a plentiful supply of stone suitable for concrete near the site. Make a sketch plan and section of the reservoir, and write a specification for the supply of materials, and the building of the reservoir.
2. What considerations would influence you in selecting a site for a storage reservoir intended to be made by constructing

## MARCH EXAMINATION.

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- an earthen embankment? Make a cross-section of the embankment, and show also how you would draw off the water from the reservoir, stating what precautions you would take. Enumerate the other necessary works in connection with the reservoir.
3. State the various materials used for the filtration of water, and show how to construct a filter bed to filter 100,000 gallons a day. Illustrate fully by means of sketches.
  4. Make a sketch showing the cross-section of a concrete channel, on a grade of 1 in 100, to discharge 50,000,000 gallons in 24 hours.
  5. Write an essay on pile foundations and the bearing power of piles. Describe any case of a pile foundation with which you are acquainted.
  6. Make sketches showing how you would construct a cofferdam for building a bridge pier in a river with a moderate current and depth of water.
  7. Describe and illustrate by means of sketches the Worthington High Duty Pumping Engine, and explain how it is able to work economically.
  8. Describe the Von Schmidt Dredging Machine and its application in deepening a channel and reclaiming land.
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## CIVIL ENGINEERING II.

### RAILWAY ENGINEERING.

The same paper as that set in the Third Year of Engineering.

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## MATHEMATICS.

### HONOURS.

The same papers as those set in the Second Year in the Faculty of Arts.

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## THIRD YEAR EXAMINATION.

## CIVIL ENGINEERING I.

## RAILWAY ENGINEERING.

*Not more than six questions are to be attempted.*

1. State the considerations which would influence you in locating a railway in a mining district where the heavy traffic would be mainly in one direction. Show cross-sections of cuttings and embankments on steep side-long ground; and specify the weight of rails and the size and spacing of sleepers.
2. State the gauges, ruling grades, and curves of minimum radius on the Australian railways. What are the objections to curvature, and how can these be minimised?
3. What do you understand by train resistance; how can you express it by formulæ, assuming the line to be level and straight, and the rolling stock in good condition? How do you estimate the extra resistance due to grades and curves?
4. A train weighing 300 tons descends an incline of 1 in 40 at a speed of 20 miles an hour, and is stopped by applying the brakes in a distance of 400 feet. Seventy per cent. of the weight of the train was braked. What is the percentage of efficiency due to the brakes, and their resistance in pounds per ton?
5. Describe fully and illustrate by means of sketches the construction and use of the Westinghouse quick-acting automatic brake.
6. Write a specification to govern the manufacture of steel rails, giving chemical and mechanical tests.
7. Make sketches of an ordinary cross-over road, showing frogs and switches, and show also the arrangements at terminal stations in connection with facing points.



8. Describe the method of setting out a tunnel in heavy ground, make sketches showing the timbering of the shafts and headings, and explain the process of mining and lining a length.
9. What is the cause of slips in earthworks? And what means are usually adopted for preventing them? Describe any cases with which you are acquainted, giving full particulars of the means adopted to prevent their recurrence.
10. Explain the theory of counterbalancing a locomotive engine, and describe the method usually adopted. A locomotive weighs 50 tons, and has two coupled axles and outside cylinders. The weights of the moving parts on one side of the engine are as follows:—

Coupling rods and pins .. ..	= 300 lbs.
Connecting rod .. ..	= 400 lbs.
Piston, piston rod, crosshead, &c. ..	= 500 lbs.

If the leverage of the balance weights is twice that of the crank, how would you proportion the weights on the driving and trailing wheels?

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## CIVIL ENGINEERING II.

### HONOURS.

*Not more than FOUR questions to be attempted.*

1. Compare the section of the standard 80 pound rail used on the New South Wales Railways with that used on the principal American lines. Compare also the permanent way of the New South Wales Railways with that of a high-class American line. Illustrate fully by means of sketches.

Write a specification giving chemical and mechanical tests to govern the manufacture of steel rails.

2. A busy suburban passenger railway has easy grades and curves of 20 chains radius, the gauge being that of the New South Wales Railways. Give a full description, with sketches of the locomotives and carriages you would employ, and indicate in general terms the signalling arrangements, and the place of intermediate and terminal stations you would prefer.

3. Describe fully the block system as used on the New South Wales Railways, and illustrate with sketches a double line junction, having interlocking points and signals combined with a level crossing.
4. A standard gauge railway has for the greater part of its length ruling grades of 1 in 50 and 20-chain curves. Occasionally, however, it is found necessary to introduce grades of 1 in 20 from half-a-mile to one mile in length with 10-chain curves. Give the size, weight, and general outline of a locomotive suitable to take trains of 100 tons weight over this line.
5. Write an essay on the compound Locomotive Engine, and contrast its behaviour with the simple locomotive engine. Explain, as far as possible, the conditions which would develop the advantages of the compound locomotive.  
Give the ratio of the cylinder volumes used, and make sketches of the cylinder ports and valves found to be most suitable. Sketch also the special automatic valve for using high pressure steam in the low pressure cylinder at starting.
6. Design a graving dock to accommodate steamers 450 feet long, 50 feet wide, and 25 feet draught of water, the ground being bluestone in boulders, and the materials available good bluestone and Portland cement. Give brief particulars of caisson and pumping engines.
7. Write an essay on one of the following subjects—
  - (a) The characteristic features of the construction of light railways to act as feeders to main trunk lines.
  - (b) The construction of Breakwaters.
  - (c) The Shone System of Sewerage.

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### MATERIALS AND STRUCTURE I.

#### PASS.

*Not more than six questions to be attempted.*

1. Make an outline sketch of an ordinary king-post roof truss, the depth being one-third the span, and determine the stresses on each member with a load of 5 tons at the ridge,

and at the mid point of each rafter. Determine also the stresses due to a wind pressure of 25 lbs. per square foot acting normally to the roof on one side.

2. Make an outline sketch of a Pratt Truss suitable for a through bridge carrying a single line of way, and show how to calculate the stresses for a live load of 2 tons, and a dead load of 0.5 ton per foot run on the bridge, which may be taken as concentrated at the panel points. Show also how to calculate the stresses in the top and bottom lateral systems, and in the sway and portal bracing.
3. Show how you would design a steel column 50 feet long to carry 100 tons. Give all necessary calculations.
4. Show how to design a concrete dam 100 feet high, having a top width of 10 feet. Assume all necessary data.
5. Write an essay on the testing of Portland cement, and specify the materials which you would use in concrete for the dam in the foregoing question.
6. What is meant by tearing, shearing, and bearing area in riveted joints, and what is the allowable stress in each case for steel bridges and boiler work? Arrange a riveted joint of maximum efficiency for a bar in a railway bridge, 6 inches wide and  $\frac{1}{2}$  inch thick, the rivets being  $\frac{7}{8}$  inch diameter in single shear.
7. Make sketch designs of a chimney built in brickwork, 120 feet high, and 3 feet internal diameter at the top. The earth foundation upon which the chimney is built is not to be loaded with more than 2 tons per square foot when subjected to a wind pressure of 50 lbs. per square foot. Make all necessary calculations.
8. Show how you would design a timber railway viaduct having spans of 15 feet, the maximum height of the rails above the ground being 25 feet. Make all necessary calculations for dead and live load stresses, and illustrate by means of sketches, giving all dimensions.
9. What is meant by complete, redundant and deformable framed structures? Under what circumstances should each be used? A rectangular element of a framed structure consists of four massive bars forming the sides, and two light diagonal tension rods, one of which is capable of adjustment. To which of the above classes does this belong? Give reasons for your answer.

10. Investigate the equations of bending moments, shearing stresses, slope and deflection in a beam supported at each end and loaded in the centre.
  11. Show how to design a brick retaining wall, on a clay foundation, 30 feet high and having a top width of 2 feet. Illustrate your answer by means of sketches, showing the arrangement of the backing, drainage, &c., and write a specification for the materials used.
  12. Sketch the deck of a railway bridge for a double line of way having cross girders spaced 25 feet centres, with longitudinal girders under the rails. Make all necessary calculations, and dimension the cross-sections.
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## MATERIALS AND STRUCTURES II.

## CIVIL ENGINEERING.

*Not more than FOUR questions to be attempted.*

1. Write an Essay on the Monier System of Construction, and its application in building arched bridges for road traffic. Explain fully the method of proportioning the areas of iron and compo. in Monier beams for floors of buildings.
2. A continuous girder of three equal spans of 100 feet is loaded as follows:—Each side span has a concentrated load of 10 tons in the centre; the middle span is loaded with an uniformly distributed load of one ton per foot run. Calculate the bending moments and shearing stresses, and represent your results by means of diagrams.
3. Make a sketch of a braced pier in an exposed position, carrying a single line of railway. Investigate the stresses in the various members, and give detailed sketches of the principal joints.
4. A bridge consists of two spans of 40 feet each, the abutments and centre pier being of brick, and the superstructure of steel girders and deck carrying wood paving. The width of the carriage way is 40 feet, and there are two foot-paths of 13 feet each. The flood level is 5 feet below the centre of the carriage way. Make sketches showing how you would design this bridge, supplying in full all necessary calculations and specify the superstructure.

5. Make sketches showing how you would design a concrete arch and abutments of a railway bridge. Show how to draw the line of resistance through the arched ring, and investigate the stability of the abutments, assuming all necessary data.
6. Make sketches showing how you would design a swing bridge over a river, giving two equal openings of a clear width of 50 feet each, and carrying a double line of railway. Investigate the stresses in one panel, when fully open and also when closed. Assume all necessary data as to loading.

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### MATERIALS AND STRUCTURES III.

#### HONOURS.

1. Make outline sketches of the Hawkesbury Bridge, showing main trusses, deck, top and bottom lateral systems, sway and portal bracing. Show how to calculate the maximum stresses in one panel of the main trusses for a train on each line of way, weighing 3,000 lbs. per foot run, headed by two of the heaviest consolidation engines in use on the New South Wales Railways.

Show how to calculate the stresses in the sway-bracing (i.) for wind pressure, (ii.) for one pair of rails loaded. How will the latter loading affect the design of the vertical columns in the main trusses? Explain the method of designing the counterbraces in the main trusses, also the strutting of the bottom chords.

2. Write an essay on the design and building of river piers for bridges of large span, illustrating your remarks by means of sketches of actual examples occurring in Australia and other parts of the world. Discuss the methods which have been adopted for sinking caissons under various conditions, giving sketches and any other information you can as to the necessary plant and appliances.
3. Investigate completely the stresses in the two-hinged arch rib, and make detail sketches showing how you would construct the rib, and the method of attaching it to the abutments.

4. Make a sketch of an ordinary Pratt truss, carrying a single line of railway, and explain fully how you would calculate the deflection when it is loaded equally at the panel points.
5. Make a complete investigation of the stresses in the North Sydney suspension bridge, for live and dead loads and wind pressures.

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### SURVEYING.

*Six questions in Section I. to be attempted except by Students in Mining, who are required to attempt THREE questions in each section.*

#### I.

1. (a) In using the barometer for levelling, what precautions are requisite to secure accuracy? (b) Explain why, even with a faultless barometer, the measured differences of pressure do not afford perfect data for the determination of difference of height. (c) What in barometric hypsometry are the corrections applied to the reading given by the mercurial barometer, and (d) how are they derived?
2. (a) Why is it erroneous to take the mean of all high and low waters as the mean sea-level? (b) How can mean sea-level be obtained? (c) How may information be obtained to allow of the fairly accurate prediction of the *times* of high and low water, and the rough prediction of the *heights* of the same?
3. Give a complete account of what is necessary in the survey of a large harbour.
4. (a) Explain fully why in geodetic determinations of height, the results are subject to a large uncertainty as compared with the positions of the co-ordinates on the spheroidal surface. (b) It has been found that the refraction-factor is sometimes a variable fraction of the distance between stations. Offer any observations you may please in explanation of that fact. (c) How may the heights of stations be calculated?
5. (a) Shew what advantages a geodetic theodolite with three microscopes has over one with four. (b) Fully describe the method of taking a *set* of observations. (c) Why is it very desirable to include each station in every round of readings?

6. In geodetical astronomy it is very important to have regard to the conditions of accuracy. Illustrate this with reference to observations for the determination of time, latitude, and meridian.
7. (a) Explain the difference between astronomical meridian and latitude, geographical meridian and latitude, and geocentric meridian and latitude. (b) Why is it preferable to employ the mean meridian or latitude or longitude of a group of stations, to the meridian, latitude, or longitude of any one of them? (c) What are the best methods of ascertaining latitude?
8. Write an essay on Geodesy, discussing the figure of the earth, and shewing fully how this affects geodetical computations.
9. (a) Two geodetic stations are in electric communication, shew how you would determine with great exactness their difference of longitude, (b) and explain how deflections of the plummet affect the result.

## II.

10. (a) How would you carry out a small triangulation, (b) and compute the same so as to eliminate inconsistencies arising from errors of observation? (c) How is convergence calculated?
11. At three boring stations, A, B, C, a seam, supposed to be sensibly plane, is met with at the depths 570, 432, and 865 feet respectively from the surface. The co-ordinates of the stations are as follows:—
 

(A) N. 126ft.	E. 230ft.	above H.W.M. 640ft.
(B) N. 8090ft.	E. 3075ft.	„ 610ft.
(C) N. 5142ft.	E. 7349ft.	„ 719ft.

 Shew by a rough plot the strike and dip of the seam.
12. (a) Shew by diagrams and descriptions how the survey of an extensive mine might be carried out; deal with each typical case. (b) How may accuracy in mining surveys be secured? (c) Shew how you would set out and keep exactly the position of a long curved tunnel.

13. (a) How are the deviations of bores from the vertical ascertained? (b) What difficulties present themselves in carrying a vertical line down a deep shaft? (c) How may a direction be most accurately obtained from a very short line? (d) What considerations would guide in choosing positions for the permanent marking of underground surveys?
14. (a) Write an essay on the maintenance of accuracy in underground surveying, (b) and explain where in extensive mines it is desirable to secure accuracy and where it is unnecessary. (c) Refer fully to any special instruments designed for underground survey.
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## OPTICAL PETROLOGY.

1. What experimental evidence is there in support of the statement that the vibrations in a ray of plane polarised light are normal to the ray and symmetrical to two planes containing the ray and at right angles to one another?
  2. Apply Huygen's construction for refraction to the case of a section of calcite with the optic axis parallel to the plane of section and in the plane of incidence. Find the relation between the directions of the refracted rays.
  3. What is external conical refraction in Biaxial Crystals?
  4. Two exactly similar quartz wedges are placed between crossed nicols, at right angles to one another, and at  $45^\circ$  with the principal planes of the nicols, similar points being superimposed. What will be the appearance? Give reasons for your answer.
  5. Explain the appearance of the interference figure, in convergent light, of a biaxial mineral cut perpendicular to an optic axis, when the optic axes are at right angles.
  6. Practical question, including determinations of extinction angles, order of colour, and pleochroism.
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## MATHEMATICS.

## HONOURS.

The same papers as those set in the Third Year in the Faculty of Arts.



## \* MATRICULATION EXAMINATION.

## LATIN.

1. Translate into English, extracts from Livy, Book XXVI.
2. Translate, with short explanatory notes—
  - (a) Tribuni plebis ex auctoritate senatus ad populum tulerunt, ut M. Marcello, quo die urbem ovans iniret, imperium esset.
  - (b) Permutatis provinciis, Siculi in senatum introducti multa de Hieronis regis fide perpetua erga populum Romanum verba fecerunt, in gratiam publicam avertentes.
3. Translate into English—

Eo biduo Caesar cum equitibus dccc, quos sibi praesidio reliquerat, in castra pervenit. Pons, qui fuerat tempestate interruptus, paene erat reffectus: hunc noctu perfici iussit. Ipse cognita locorum natura ponti castrisque praesidio sex cohortes reliquit atque omnia impedimenta, et postero die omnibus copiis, triplici instructa acie ad Ilerdam proficiscitur et sub castris Afranii constitit et ibi paulisper sub armis moratus facit aequo loco pugnandi potestatem. Potestate facta Afranius copias educit et in medio colle sub castris constituit. Caesar ubi cognovit per Afranium stare, quominus proelio dimicaretur, ab infimis radicibus montis intermissis circiter passibus cccc castra facere constituit.
4. Translate into Latin—
  - (a) I warn you that a great disaster will soon destroy our city.
  - (b) If they had pardoned him, no one would have blamed them.
  - (c) Ambassadors came to ask that the captives might be spared.
  - (d) The Spartans immediately invaded Boeotia, but the Theban infantry had become the best in Greece, and

\* Note.—The time allowed for each paper is three hours, except where otherwise stated.

their commander, Epaminondas, was the greatest general of his time. Epaminondas met the Spartans at Leuctra, and so completely defeated them that all over Greece it was felt that the power of Sparta was at an end. But Epaminondas was not content with destroying the authority of Sparta outside Peloponnesus; in order to break down her power in Peloponnesus itself, and to surround her with enemies, he determined to unite Arcadia, which had hitherto been a number of disconnected cities, in one great League.

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GREEK.

1. Translate into English, extracts from Xenophon, *Cyropædeia*, Book VII.
2. Give a short summary of the story of Croesus as told by Xenophon. How much of it can be accepted as historically true?
3. Translate into Greek—
  - (a) If you love your country, you<sup>1</sup> will fight against those who are attacking it.
  - (b) He knew that he would stop the enemy from their advance if he were to ride round to their rear.
  - (c) It is more painful to be deprived of good things when one has got them, than never to get them.
  - (d) Those who wish to enjoy happiness must work hard.
  - (e) When we were young, we were taught to do nothing disgraceful.
4. Translate into English—

ὁ δὲ Ἀλέξανδρος, νυκτὸς ἀπὸ τῆς διώξεως τῆς Δαρείου ἐπανήκων, ἐς τὴν σκηνὴν παρελθὼν τὴν Δαρείου, ἤκουσε γυναικῶν οἰμωγὴν καὶ ἄλλον τοιοῦτον θόρυβον οὐ πόρρω τῆς σκηνῆς. ἐπέθετο οὖν αἰτίνες γυναῖκες οὕτως ἐγγὺς πυρασκηνοῦσι· καὶ τις ἐξήγγειλεν ὅτι Ὡ βασιλεῦ, ἡ μήτηρ τε καὶ ἡ γυνὴ Δαρείου καὶ οἱ παῖδες, ὡς ἐξηγγέλθη αὐταῖς ὅτι τὸ τόξον τε τὸ Δαρείου ἔχεις καὶ τὴν ἀσπίδα, ὡς ἐπὶ τεθνεῶτι Δαρείῳ ἀνοιμώζουσι. ταῦτα ἀκούσας Ἀλέξανδρος ἔπεμψε πρὸς αὐτὰς Λεοννάτον, ἕνα τῶν ἐταίρων, κελεύσας εἰπεῖν ὅτι ζῇ Δαρείος, τὰ δὲ ὅπλα ὅτι φεύγων ἀπέλιπεν ἐπὶ τῷ ἄρματι, καὶ ταῦτα μόνον ἔχει Ἀλέξανδρος. καὶ Λεοννάτος παρελθὼν ἐς τὴν σκηνὴν τὰ τε περὶ Δαρείου εἶπε, καὶ

ὅτι τὴν θεραπείαν αὐταῖς συγχωρεῖ Ἀλέξανδρος τὴν βασιλικὴν καὶ τὸν ἄλλον κόσμον, ἐπεὶ οὐδὲ κατὰ ἔχθραν αὐτῷ γενέσθαι τὸν πόλεμον πρὸς Δαρεῖον, ἀλλ' ὑπὲρ τῆς ἀρχῆς τῆς Ἀσίας διαπεπολεμῆσθαι.

## 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 letter A or B.*

## A.

1. Translate into English, extracts from Racine, *Athalie*.
2. (a) Write out in full the Imperfect, the Past Definite, and the Future of the underlined verbs in the above passages (*égaré, menez, veut, ravi, vu, rendu*).  
 (b) When is *tout* as an adverb inflected, and when is it left unchanged?  
 (c) Form adverbs in *ment* from *vil, juste, entier, confus, heureux*.  
 (d) State the rules for the plural formation of words in *ou, al, and ail*, and in each case mention the chief exceptions.

## B.

## 3. Translate into French—

- (a) Yesterday when I returned home I found my brother very ill. When we left Rome we passed through Switzerland, and then stayed a few days in Paris. The examination begins at half-past nine on Monday morning, the 6th March, 1899 (write the numerals in full). The late Empress was greatly liked. Get me some bread and water.
- (b) Alexander rose early; the first moments of the day were consecrated to private devotion, and his chapel was filled with the images of those heroes who, by improving or reforming human life, had deserved the grateful reverence of posterity. But as he deemed the service of man the best worship of the Gods, the greatest part of his morning was employed in his council, where he discussed public affairs and determined private cases, with a discretion and wisdom above his years. The dryness of

business was relieved by the charms of literature ; and a portion of time was always set apart for his favourite studies of poetry, history and philosophy. The exercises of the body succeeded to those of the mind ; and Alexander, who was tall, robust, and active, surpassed most of his equals in the gymnastic arts.

4. Translate (at sight)—

(a) Les Prussiens avançaient toujours et s'emparèrent successivement de toutes les hauteurs environnantes. Ici la lutte prend un caractère particulier. Les Autrichiens comprennent que le sort de la bataille va se décider. Ce n'est plus avec constance et bravoure, c'est avec la furie du désespoir qu'ils vont combattre. Les officiers haranguent les soldats, ils les encouragent, ils voient le cercle de fer qui les serre, les étreint. De tous côtés les montagnes se couvrent de canons ; de sinistres rumeurs courent dans les rangs. On entend la fusillade sur les rives de l'Elbe. L'armée est cernée, la retraite coupée, il faut vaincre ou mourir. Et ces hommes, braves parmi les braves, se firent exterminer.

(b) "Mon père de glorieuse mémoire," ainsi parlait un jeune loup à un renard, "était un fameux héros. Il s'est rendu redoutable dans tout le pays. Il a triomphé successivement de plus de deux cents ennemis et a envoyé leurs âmes aux rives du Styx. Peut-on s'étonner qu'il ait fini par succomber sous les coups d'un nouvel adversaire ? "C'est ainsi, que s'exprimerait un panégyriste, répliqua le renard. L'historien ajouterait : les deux cents ennemis dont il a triomphé étaient des moutons ; l'adversaire qui le vainquit fut le premier taureau qu'il osa attaquer."

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GERMAN.

1. Translate into English, extracts from Gutzkow, Zopf und Schwert.

2. (a) Parse the underlined words in the above passage—

(b) Derive the following words from nouns or verbs, or from foreign words — Geschmack, Geschichte, Manöver, Aufwand, Abenteuer, Günstling, verständigen.

- (c) Of what gender are the following—Rücksicht, Schloss, Illumination, England, Biertrinken, Geschmack, Thatsache, Herrschaft; and why?
- (d) Give the chief parts (Infin., Past tense and Past participle) of gesonnen, gebeten, genannt, herkommen, unterhalten; and conjugate in the singular of the Present Indicative: gehen, sprechen, erfahren.

3. Translate into German—

THE SACK OF MAGDEBURG.

The street was covered with the dead and dying. Their cries were enough to have pierced the hearts of the greatest barbarians. We walked over the bodies; and, when we arrived at the church of St. Catherine, met an officer of distinction on horseback. This generous person soon discovered us; and, seeing me covered with blood, said to the man who conducted us, "Fellow-soldier, fellow-soldier, take care what you do to these persons!" At the same time he said to my wife, "Madam, is yonder house yours?" My wife answered that it was. "Well," added he, "take hold of my stirrup, conduct me thither, and you shall have quarter. "Then, turning to me, and making a sign to the soldier, he said, "Gentlemen of Magdeburg, you yourselves are the occasion of this destruction: you might have acted otherwise." The soldier who had used me ill, took this opportunity to steal away.

4. Translate (at sight)—

Der König, der sein liebes Kind vor so großem Unglück gern bewahren wollte, ließ den Befehl ausgehen, daß die Spindeln im ganzen Königreiche sollten verbrannt werden. An dem Mädchen aber wurden die Gaben der weisen Frauen sämtlich erfüllt, denn es war so schön, sitzsam freundlich und verständig, daß es jedermann, der es ansah, liebhaben mußte. Es geschah, daß an dem Tage, wo es gerade fünfzehn Jahr alt ward, der König und die Königin nicht zu Haus waren, und das Mädchen ganz allein im Schloß zurückblieb. Da ging es aller Orten herum; besah Stuben und Kammern, wie es Lust hatte, und kam endlich auch an einen alten Thurm. Es stieg die enge Wendeltreppe hinauf und gelangte zu einer kleinen Thür. In dem Schloß steckte ein verrosteter Schlüssel, und als es ihn umdrehte, sprang die Thür auf, und sah da in einem kleinen Stübchen eine alte Frau mit

einer Spindel und spann eifrig ihren Flachs. „Guten Tag, du altes Mütterchen," sprach die Königstochter, „was machst du da?" „Ich spinne," sagte die Alte und nickte mit dem Kopf. „Was ist das für ein Ding, das so lustig herumspringt?" sprach das Mädchen, nahm die Spindel und wollte auch spinnen. Kaum hatte sie aber die Spindel angerührt, so ging der Zauberspruch in Erfüllung, und sie stach sich damit in den Finger.

### ARITHMETIC.

TWO HOURS AND A HALF.

1. If 13 tons 11 cwt. 17 lbs. of rice cost £165 14s. 2d., how much will 7 tons 3 cwt. 5 lbs. cost?
2. Express as one fraction in its lowest terms  

$$\frac{2450}{56425} - \frac{90}{15651} - \frac{11}{517}.$$
3. Express  $2\frac{9}{25}$  of  $\frac{13}{4}$  of one shilling and eightpence halfpenny as a decimal of the difference between  $\frac{3}{4}$  of two pounds seven shillings and ten pence and  $\frac{9}{17}$  of five shillings and one penny halfpenny.
4. Express as a single recurring decimal the sum of  $\cdot\dot{1}35$ ,  $\cdot590$  and  $\cdot1714285$ .
5. A house contains six windows, each of 4 panes, measuring 15 by 28 inches; eight windows, each of 2 panes, measuring 34 by 26 inches; 4 doors, each containing 4 panes, measuring 23 by 16 inches; and 3 fanlights, each measuring 15 by 34 inches. How much will it cost to glaze the whole with glass at  $3\frac{1}{2}$ d. per square foot?
6. The length and breadth of a rectangular field are 549 feet and 1,173 feet respectively. Find its area in acres, &c.
7. Find the value on March 6th of a bill at 6 months for £253 drawn on January 13th, the rate of interest being  $4\frac{1}{2}$  per cent. per annum.
8. A man invests £1,200 for 5 years at  $2\frac{1}{2}$  per cent. per annum compound interest. Find the amount at the end of the time.
9. If 13 men or 23 boys can do a piece of work in 5 days, how long will it take 4 men and 7 boys to complete it after 6 men and 11 boys have been working at it for 2 days?

10. A and B were partners in business, and each received one-half of the profits. They found that they were receiving 3 per cent. and 5 per cent. on their respective capitals. If the whole capital amounted to £17,600, how much did each receive?
11. Two clocks are correct at noon on Monday, and the one loses and the other gains 1 minute per day. What time will it be by the clock that loses when it is 4.30 p.m. on the following Thursday by the clock which gains?

## ALGEBRA.

TWO HOURS AND A HALF.

1. Simplify

$$(b+c-a)(c+a-b) + (c+a-b)(a+b-c) + (a+b-c)(b+c-a) \\ + a^2 + b^2 + c^2.$$

2. Factorise

$$a^3 - b^3, a^3 + a^2 + b^3 - b^2, 48x^2 + 34xy - 99y^2.$$

3. Find the H.C.F. of

$$12(a^3 + 6a^2b + 11ab^2 + 6b^3) \\ \text{and } 27(a^3 - 3ab^2 + 2b^3).$$

Give also (without multiplying out) the factors of the L.C.M.

4. Reduce to a single fraction

$$\frac{2x-1}{3x^2-5x+2} + \frac{x-1}{12x^2-17x+6} - \frac{1}{4(4x^2-7x+3)}$$

5. Prove algebraically that the difference of the cubes of two consecutive whole numbers exceeds three times the product of the numbers by unity.

6. Shew that

$$a^3 + (b+c)^3 = (a+b)^3 + c^3 + 3b(c-a)(a+b+c).$$

7. Solve the equations

$$(i.) \frac{4-x}{x+3} = \frac{1}{x} + \frac{2-x}{x+4}.$$

$$(ii.) x(a+b)^2 = (x+2b)(a^2+b^2) - 2b^2(2a-x).$$

$$(iii.) \begin{cases} 4x+3y+xy=0 \\ 5y-6x+8xy=0 \end{cases}$$

Solve the equation

$$(2x-1)(x+2)+(3x-4)(x+1)=(4x-3)(x+4)-6x.$$

9. The number of years in a man's age is twice the sum of the years in his two children's ages. Four years ago the father's age was three times the then sum. The younger child was born eight years ago. Find the present ages of the father and the elder child.

### GEOMETRY.

TWO HOURS AND A HALF.

1. Give a description in words of the method of proof, sometimes used by Euclid, called the *Reductio ad absurdum*.
2. Any two sides of a triangle are together greater than the third side.
3. Three straight lines AB, AC, AD are drawn from A to meet the straight line BCD. Prove that the intermediate line AC is less than the greater of the two extreme lines AB, AD.
4. The square on the hypotenuse of a right-angled triangle, etc. Complete this enunciation, and write out the proof.
5. ABC is any triangle, and ADEB, BFGC are the squares described externally on the sides AB, BC respectively. Join AF, CE, and prove that these two straight lines are equal and perpendicular to one another.
6. Define *Rectangle*, *Complement*, *Gnomon*; and shew that a parallelogram with equal diagonals must be rectangular.
7. If a straight line is bisected and produced to any point, the rectangle contained by the whole line thus produced and the part produced, together with the square on half the line bisected, is equal to the square on the line made up of the half and the part produced.
8. If two points be taken on the circumference of a circle, the straight line which joins them shall fall within the circle.
9. Two circles touch each other externally, and two straight lines are drawn through the point of contact so as to be terminated by the circles. Prove that the chords which join their extremities are parallel to each other.



10. Two chords of a circle intersect, and neither passes through the centre; shew that the rectangle contained by the segments of the one is equal to the rectangle contained by the segments of the other.

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[The four Honour papers which follow were set in November, 1898, in addition to those set for the Senior Public Examination and Matriculation Honour Examination conjointly, which are printed in the Manual of Public Examinations.]

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## GENERAL QUESTIONS—LATIN.

ONE HOUR AND A HALF.

1. "The traditional account of the origin of literature at Rome, accepted by the Romans themselves, is that it was entirely due to contact with Greece." Comment on this passage.
2. Describe the characteristics of Horace as a lyric poet.
3. "Even the beautiful style of Livy shows traces of that intrusion of the poetic element which made such destructive inroads into the manner of the later prose writers." Discuss this statement.
4. "A most interesting feature in the *Æneid* is its incorporation of all that was best in preceding poetry." Comment on this.
5. Scan the following lines—
  - (a) Regum timendorum in proprios greges,  
Reges in ipsos imperium est Jovis.
  - (b) Nil parvum aut humili modo,  
Nil mortale loquar. Dulce periculum est.
  - (c) Me vel extremos Numidarum in agros  
Classe releget.
  - (d) Exegi monumentum aere perennius  
Regalique situ pyramidum altius.

## GENERAL QUESTIONS—GREEK.

ONE HOUR AND A HALF.

*Not more than FOUR questions are to be answered.*

1. Describe the origin and growth of Athenian tragedy down to Sophocles.

2. What is the nature of the evidence on which our knowledge of the life of Athens in the age of Pericles is based? Explain how a knowledge of that period has been preserved, and trace the chief stages of the process by which it has been handed down to modern times.
3. When, where, and how were the Jews brought under the influences of Greek civilization?
4. Describe the athletic sports and exercises of the ancient Greeks, and estimate their importance in Greek life.
5. Give a short account of any *four* of the following—Epicurus, Bacchylides, Solon, Empedocles, Tyrtaeus, Lucian.

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#### FRENCH II.

##### 1. Translate—

Nobody in the end can lose a penny by me: that is one comfort. Men will think pride has had a fall. Let them indulge their own pride in thinking my ruin will place them higher, or seem at least to do so. I have the satisfaction to recollect that my prosperity has been of advantage to many, and to hope that some will forgive my transient wealth on account of the innocence of my intentions and my real wish to do good to the poor. There will be sad hearts in the cottages of Abbotsford. I have half resolved never to see the place again. How could I tread my hall with such a diminished crest? How live a poor indebted man where I was once the wealthy, the honoured? I was to have gone there on Saturday, in joy and prosperity to receive my friends. My dogs will wait for me in vain. It is foolish, but the thoughts of parting from these dumb creatures have moved me more than any of the painful reflections I have put down. Poor things! I must get them kind masters. There may be yet those who, loving me, will love my dog, because it has been mine. I must end these gloomy forebodings, or I shall lose the tone of mind with which men should meet distress. I feel my dogs' feet on my knees. I hear them whining and seeking me everywhere. This is nonsense, but it is what they would do could they know how things may be.—(*Sir Walter Scott.*)

## 2. Translate (at sight)—

(a) Tout l'appareil de l'armée romaine ne servait qu'à rendre l'armée des ennemis plus formidable, par le contraste d'une sauvagerie simplicité. Parés de la dépouille des ours, des veaux marins, des urochs et des sangliers, les Francs se montraient de loin comme un troupeau de bêtes féroces. Une tunique courte et serrée laissait voir toute la hauteur de leur taille, et ne leur cachait pas le genou. Les yeux de ces barbares ont la couleur d'une mer orageuse; leur chevelure blonde, ramenée en avant sur leur poitrine, et teinte d'une liqueur rouge, est semblable à du sang et à du feu. La plupart ne laissent croître leur barbe qu'au-dessus de la bouche, afin de donner à leurs lèvres plus de ressemblance avec le mufle des dogues et des loups. . . . Ces barbares, fidèles aux usages des anciens Germains, s'étaient formés en coin, leur ordre accoutumé de bataille. Le formidable triangle où l'on ne distinguait qu'une forêt de framées, des peaux de bêtes et des corps demi-nus, s'avancait avec impétuosité, mais d'un mouvement égal, pour percer la ligne romaine.

(b) J'ai deux grands bœufs dans mon étable,  
 Deux grands bœufs blancs, marqués de roux;  
 La charrue est en bois d'érable,  
 L'aiguillon en branche de houx;  
 C'est par leurs soins qu'on voit la plaine  
 Verte l'hiver, jaune l'été;  
 Ils gagnent dans une semaine  
 Plus d'argent qu'ils n'en ont coûté.  
 Les voyez-vous, les belles bêtes,  
 Creuser profond et tracer droit,  
 Bravant la pluie et les tempêtes,  
 Qu'il fasse chaud, qu'il fasse froid?  
 Lorsque je fais halte pour boire,  
 Un brouillard sort de leurs naseaux,  
 Et je vois sur leur corne noire  
 Se poser les petits oiseaux.

3. (a) In French how are Latin words of learned to be distinguished from Latin words of popular origin? Give three examples of doublets, derived in each of these ways, from the same Latin word.

- (b) In what fashion and to what extent are the genders of the Latin adjective preserved in modern French?
- (c) Give the derivation of the following words, and point out the phonetic changes that are illustrated by the italicised letters—*épine*, *toit*, *carré*, *chambre*, *carême*, *bonheur*.
- (d) Compare the English blank verse and the French Alexandrine as dramatic measures.
- (e) Enumerate the chief representatives of the classic tragedy in France, and mention their principal works.
- (f) What French philosophers have exerted most influence on European thought?

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GERMAN II.

1. Translate into German—

My greenhouse is never so pleasant as when we are just on the point of being turned out of it. The gentleness of the autumnal sun, the calmness of this latter season, make it a much more agreeable retreat than we ever find it in the summer. . . . But now I sit with all the windows and the door wide open, and enjoy the scent of every flower, in a garden as full of flowers as I have been able to make it. We keep no bees; but if I lived in a hive, I should hardly hear more of their music. All the bees in the neighbourhood resort to a bed of mignonette opposite to the window, and pay me for the honey they get out of it, by a hum which, though rather monotonous, is as agreeable to my ear as the whistling of my linnets. All the sounds that Nature utters are delightful, at least in the country. I should not perhaps find the roaring of lions in Africa, or of bears in Russia, very pleasing; but I know no beast in England whose voice I do not account musical, save and except always the braying of an ass.

2. Translate (at sight)—

ABENDDÄMMERUNG.

Am blassen Meeresstrande  
 Sass ich gedankenbekümmert und einsam;  
 Die Sonne neigte sich tiefer und warf

Glührote Streifen auf das Wasser,  
 Und die weissen, weiten Wellen,  
 Von der Flut gedrängt,  
 Schäumten und rauschten näher und näher—  
 Ein seltsam Geräusch, ein Flüstern und Pfeifen,  
 Ein Lachen und Murmeln, Seufzen und Sausen,  
 Dazwischen ein wiegenliedheimliches Singen—  
 Mir war, als hört' ich verschollne Sagen,  
 Uralte, liebliche Märchen,  
 Die ich einst als Knabe  
 Von Nachbarskindern vernahm,  
 Wenn wir am Sommerabend  
 Auf den Treppensteinen der Hausthür  
 Zum stillen Erzählen niederkauerten  
 Mit kleinen, horchenden Herzen  
 Und neugierklugen Augen;  
 Während die grossen Mädchen  
 Neben duftenden Blumentöpfen  
 Gegenüber am Fenster sassen,  
 Rosengesichter,  
 Lächelnd und mondbeglänzt.—*Heine.*

3. (a) Mention as many derivative nouns and adjectives as you can from the following verbs : — geben, fahren, fliegen, graben, schlagen, ziehen.
- (b) Mention loan-words from Latin or Greek, and show how their form is an indication of the period at which they were borrowed.
- (c) At what periods has French literature had influence upon German literature?
- (d) Give a short account of any of the German lyric poets of this century.
- (e) Write short notes upon two of the following: the *Meistersinger*, *Klopstock*, *A. W. Schlegel*, *Minna von Barnhelm*, *Faust*, *Undine*.
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\*ENTRANCE EXAMINATION  
FOR THE  
FACULTIES OF LAW, MEDICINE & SCIENCE  
INCLUDING THE  
DEPARTMENT OF ENGINEERING.

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1. Translate into English, an extract from Livy, Book XXVI.
2. Translate and write short explanatory notes on—
  - (a) M. Marcellus, questus leniter non suam magis quam militum vicem, quod, provincia confecta, exercitum deportare non licuisset, postulavit ut triumphanti urbem inire liceret.
  - (b) Ceterum habitari tantum tamquam urbem Capuam frequentarique placuit.
  - (c) Omnibus aut ipse (Scipio) affui cladibus aut, a quibus afui, maxime unus omnium eas sensi.
3. Translate into English, an extract from Horace, Odes, Book III.
4. Translate, with brief notes on construction or allusions—
  - (a) Abstinet,  
Dixit, irarum calidaeque rixae.
  - (b) Non his juvenus orta parentibus  
Infecit aequor sanguine Punico.
  - (c) Hac [arte] Quirinus  
Martis equis Acheronta fugit.
5. Translate—

Ad eundem Africanum in Liternina villa se retinentem conplures praedonum duces videndi eius causa eodem tempore forte confluerunt. Quos cum ad vim faciendam venire existimasset, praesidium domesticorum in tecto conlocavit eratque in his repellendis et animo et apparatu

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\*NOTE.—The time allowed for each paper is three hours, except where otherwise stated.

occupatus. Quod ut praedones animadverterunt, dimissis militibus abiectisque armis ianuae adpropinquant et clara voce nuntiant Scipioni, non vitae eius hostes, sed virtutis admiratores venisse, conspectum et congressum tanti viri quasi caeleste aliquod beneficium expetentes: proinde securum se spectandum praebere ne gravetur. Haec postquam domestici Scipioni retulerunt, fores reserari eosque intromitti iussit.

6. Translate into Latin—

Hannibal returned to Tarentum; but finding that the citadel still held out, and could neither be forced nor surprised, and that provisions were still brought in by sea, he marched off towards Brundisium, on some prospect that the town would be betrayed into his hands. This hope also failed him, and he remained inactive in Apulia or in the country of the Sallentines during the rest of the year. Meantime the consuls received orders from the Senate to collect the remains of the two beaten armies, and to search for the soldiers of Gracchus' army who had dispersed after his death. The city praetor, P. Cornelius, carried on the same search nearer Rome.

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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 letter A or B.*

A.

- 1 and 2. Translate into English, extracts from Racine, *Athalie*; and La Fontaine, *Select Fables*.

B.

3. Translate into French—

- (a) Yesterday when I returned home I found my brother very ill. When we left Rome we passed through Switzerland, and then stayed a few days in Paris. The examination begins at half-past nine on Monday morning, the 6th March, 1899 (write the numerals in full). The late Empress was greatly liked. Get me some bread and water.

- (b) Alexander rose early ; the first moments of the day were consecrated to private devotion, and his chapel was filled with the images of those heroes who, by improving or reforming human life, had deserved the grateful reverence of posterity. But as he deemed the service of man the best worship of the Gods, the greatest part of his morning was employed in his council, where he discussed public affairs and determined private cases, with a discretion and wisdom above his years. The dryness of business was relieved by the charms of literature ; and a portion of time was always set apart for his favourite studies of poetry, history, and philosophy. The exercises of the body succeeded to those of the mind ; and Alexander, who was tall, robust, and active, surpassed most of his equals in the gymnastic arts.

4. Translate (at sight) —

- (a) Les Prussiens avançaient toujours et s'emparèrent successivement de toutes les hauteurs environnantes. Ici la lutte prend un caractère particulier. Les Autrichiens comprennent que le sort de la bataille va se décider. Ce n'est plus avec constance et bravoure, c'est avec la furie du désespoir qu'ils vont combattre. Les officiers haranguent les soldats, ils les encouragent, ils voient le cercle de fer qui les serre, les étreint. De tous côtés les montagnés se couvrent de canons ; de sinistres rumeurs courent dans les rangs. On entend la fusillade sur les rives de l'Elbe. L'armée est cernée, la retraite coupée, il faut vaincre ou mourir. Et ces hommes, braves parmi les braves, se firent exterminer.
- (b) "Mon père de glorieuse mémoire," ainsi parlait un jeune loup à un renard. "était un fameux héros. Il s'est rendu redoutable dans tout le pays. Il a triomphé successivement de plus de deux cents ennemis et a envoyé leurs âmes aux rives du Styx. Peut-on s'étonner qu'il ait fini par succomber sous les coups d'un nouvel adversaire ? "C'est ainsi, que s'exprimerait un panégyriste, répliqua le renard. L'historien ajouterait ; les deux cents ennemis dont il a triomphé étaient des moutons ; l'adversaire qui le vainquit fut le premier taureau qu'il osa attaquer."



## GERMAN.

- 1 and 2. Translate into English, extracts from Gutzkow, Zopf und Schwert; and Uhland, Ballads and Romances.
3. Translate into German—

## THE SACK OF MAGDEBURG.

The street was covered with the dead and dying. Their cries were enough to have pierced the hearts of the greatest barbarians. We walked over the bodies; and, when we arrived at the church of St. Catherine, met an officer of distinction on horseback. This generous person soon discovered us, and, seeing me covered with blood, said to the man who conducted us, "Fellow-soldier, fellow-soldier, take care what you do to these persons!" At the same time he said to my wife, "Madam, is yonder house yours?" My wife answered that it was. "Well," added he, "take hold of my stirrup, conduct me thither, and you shall have quarter." Then, turning to me, and making a sign to the soldier, he said, "Gentlemen of Magdeburg, you yourselves are the occasion of this destruction: you might have acted otherwise." The soldier who had used me ill, took this opportunity to steal away.

4. Translate (at sight)—

Der König, der sein liebes Kind vor so großem Unglück gern bewahren wollte, ließ den Befehl ausgehen, daß die Spindeln im ganzen Königreiche sollten verbrannt werden. An dem Mädchen aber wurden die Gaben der weisen Frauen sämmtlich erfüllt, denn es war so schön, sitzsam, freundlich und verständig, daß es jedermann, der es ansah, liebhaben mußte. Es geschah, daß an dem Tage, wo es gerade fünfzehn Jahr alt ward, der König und die Königin nicht zu Haus waren, und das Mädchen ganz allein im Schloß zurückblieb. Da ging es aller Orten herum, besah Stuben und Kammern, wie es Lust hatte, und kam endlich auch an einen alten Thurm. Es stieg die enge Wendeltreppe hinauf und gelangte zu einer kleinen Thür. In dem Schloß steckte ein verrosteter Schlüssel, und als es ihn umdrehte, sprang die Thür auf, und saß da in einem kleinen Stübchen eine alte Frau mit einer SpinDEL und spann emsig ihren Flachs. „Guten Tag, du altes Mütterchen,“ sprach die Königstochter, „was machst du da?“ „Ich spinne,“ sagte die Alte und nickte mit dem Kopf. „Was ist das für ein Ding, das so lustig herumspringt?“ sprach das

Mädchen, nahm die Spindel und wollte auch spinnen. Raum hatte sie aber die Spindel angerührt, so ging der Zauberspruch in Erfüllung, und sie stach sich damit in den Finger.

# ARITHMETIC AND MENSURATION.

1. Arrange in order of magnitude  $\frac{9482}{531}$ ,  $\frac{1941}{296}$  and  $\sqrt{43}$ .
2. Find the true discount on £362 for 221 days at 6 per cent. per annum.
3. A tradesman has a false balance, such that a weight of fifteen ounces in one scale pan will balance a weight of one pound in the other, and he uses it in his own favour both in buying and selling certain goods. What does he really gain per cent. on goods which he pretends to sell at a profit of threepence in the shilling?
4. If £1=25·2 francs, and 1 mile=1609·33 metres, which is the cheaper line to travel by, one which charges £1 5s. for 168 miles, or one which charges 30 francs for 250 kilometres?
5. Find to the nearest inch the side of a square field whose area is 9 acres 3 roods 21 perches.
6. Find the length of wire  $\frac{1}{32}$  inch in diameter which can be made from a cubical piece of iron each side of which measures 3 inches.  $\pi=3\cdot1416$ .
7. One contractor offers to supply gravel at 1s. 6d. per ton, another contractor offers to supply it at 1s. 10d. per ton for the first 100 tons, 1s. 9d. per ton for the second 100 tons, 1s. 8d. per ton for the third 100 tons, and so on up to 1000 tons, and to supply all quantities over 1000 tons at a uniform rate of 1s. per ton. Find for what amount of gravel the two contractors will charge the same price.
8. A man walking at the rate of 4 miles per hour along a railway observes that a train 187 feet long, moving in the opposite direction, passes him in 17 seconds. He then walks on for two minutes, and another train 330 feet long, moving in the same direction as the first, passes him in 5 seconds. How fast was each train moving, and,

assuming all speeds to continue uniform, how long will it be before the second train overtakes the first?

9. Find the weight of a closed wooden box whose outside measurement is 3 feet 4 inches by 17 inches by 10 inches. The box is made of boards  $\frac{1}{2}$ -inch thick, weighing 42 lbs. per cubic foot.
10. A man dies intestate, leaving an estate valued at £10,500 to be divided one-third to his widow and the rest equally between his six sons. Before the estate is distributed one son dies, and his share is payable one-half to his mother and the rest equally between his surviving brothers. If a 5 per cent. probate duty is payable on the father's estate, and also on the deceased son's interest therein, find how much each got.

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ALGEBRA.

1. Divide  $x^4 + 4(y+1)^4$  by  $2y^2 - 2y(x-2) + x^2 - 2x + 2$ .
2. Simplify  

$$\{(a-b)(c-2d)(x+y) + (a+b)(c+2d)(x-y) + (a-c)(b-2d)(x-y) + (a+c)(b+2d)(x+y)\} \div \{(b+c)(a+2d)\}.$$
3. Solve
  - (i.)  $x^3 - y^2 + 2x + 2y = 0$   
 $x^2 + 2y^2 + 2x - 4y = 24$
  - (ii.)  $(4 + \sqrt{2})x^2 - (\sqrt{2} - 1)x = \sqrt{2} + 1$
  - (iii.)  $(x+a-b)(y-a) = (y-a-b)(x-b) \left\{ \begin{array}{l} \frac{y+b}{x-a} = \frac{a}{b} \end{array} \right.$
4. Prove the ordinary rule for finding the H.C.F. of two expressions, and shew that the product of the L.C.M. and H.C.F. is equal to the product of the expressions.
5. Shew that the fraction  $\frac{3x^2 + 2x + 1}{2x^2 - 2x - 1}$  cannot, for any real value of  $x$ , lie between  $\frac{2}{3}$  and  $-1$ .
6. Find the fourth root of  $31 + 8\sqrt{15}$ .
7. Find  $n$  harmonic means between  $a$  and  $b$ .

An odd number of quantities form a series in H.P., shew that the sum of the first and last terms multiplied by the middle term is equal to twice the product of the first and last.

8. If  $x+y+z=0$ , shew that
  - (i.)  $x^3+y^3+z^3=3xyz$ .
  - (ii.)  $x^4+y^4+z^4=2(yz+zx+xy)^2$ .
9. Find the three roots of the equation  $x^3-1=0$ , and shew that each of the imaginary roots is the square of the other imaginary root.
10. Find the number of permutations of  $n$  things  $r$  together.  
Two dice, one with  $m$  faces and the other with  $m+n$  faces are thrown together. Shew that the number of different throws is  $\frac{m}{2}(m+2n+1)$ .

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### GEOMETRY.

1. The angle between one side of a regular polygon and the adjacent side produced is two-fifteenths of a right angle. How many sides has the polygon?
2. If a straight line fall on two parallel straight lines, then it makes the alternate angles equal, and the exterior angle equal to the interior opposite angle on the same side; and also the two interior angles on the same side equal to two right angles.
3. Enunciate and prove the proposition of the second book which solves geometrically the algebraical equation  $x^2=a$  given quantity.
4. The angle between two secants to a circle is measured by half the sum or half the difference of the intercepted arcs according as the secants cut one another inside or outside the circle.
5. On the portion of a tangent to a circle cut off between two parallel tangents to the same circle as diameter, a circle is described. Shew that this circle passes through the centre of the original circle.

6. If from a point without a circle two straight lines are drawn, one cutting the circle and the other touching it, the rectangle contained by the segments of the cutting line is equal to the square on the touching line.
7. Inscribe a regular hexagon in a given circle.
8. If ABCDEF be a regular hexagon, and lines be drawn from each point to the next but one, namely from A to C, B to D, and so on, then the figure contained by these lines is also a regular hexagon, and its area is one-third that of the original hexagon.
9. The side AB of a triangle ABC is trisected in D and E, and the side CA trisected in F and G; DF, GE are joined and produced to meet BC in X and Y. Shew that the triangles CFX, BEY are equal in area.
10. If from any point on the circumscribing circle of a triangle perpendiculars be drawn to the sides, the feet of these perpendiculars are collinear.

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TRIGONOMETRY.

1. Describe the three systems of measuring angles in trigonometry; and prove that

$$\frac{D}{180} = \frac{G}{200} = \frac{\theta}{\pi}.$$

2. Prove the formula for expanding  $\sin (A - B)$ .

In the triangle ABC, BD is drawn meeting AC in D, so that BD is equal to DC. MD, AE are drawn perpendicular to AB, BC respectively; and BC is bisected in K. Shew that

$$MD \cdot AB \cdot AC = 2BD \cdot AE \cdot EK$$

3. Find the value of the following

$$\sin 0^\circ, \cot 75^\circ, \cos 22\frac{1}{2}^\circ.$$

4. Express  $\tan(A + B + C)$  in terms of  $\tan A$ ,  $\tan B$  and  $\tan C$ .

If  $A + B + C = 180^\circ$ , shew that

$$\tan A + \tan B + \tan C = \tan A \tan B \tan C;$$

and if  $A + B + C = 90^\circ$ , then

$$\cot A + \cot B + \cot C = \cot A \cot B \cot C.$$

5. Solve the equations

$$(i.) \cos 3\theta + \cos \theta + 2\cos^2 \theta = 1.$$

$$(ii.) \cot 2\theta + \operatorname{cosec} 2\theta = 2 - \sqrt{3}.$$

6. Prove the formulæ

$$(i.) \frac{\sin A}{a} = \frac{\sin B}{b} = \frac{\sin C}{c}.$$

$$(ii.) \tan \frac{A}{2} = \sqrt{\frac{(s-b)(s-c)}{s(s-a)}}.$$

7. If in any triangle  $\sin A + \sin C = 2 \sin B$ , then

$$\cot \frac{A}{2} + \cot \frac{C}{2} = 2 \cot \frac{B}{2}.$$

8. The bisector of the angle A of a triangle and the bisectors of the exterior angles B and C meet in I. AI meets BC in D, and IE is drawn perpendicular to BC, shew that

$$DE = \frac{(b-c)(a+b+c)}{2(b+c)}$$

9. From A, the top of a tower, the angle of depression of a point B is  $30^\circ$ , and the angle of elevation of the top C of another tower in the same vertical plane is  $15^\circ$ . If B is 100 feet horizontally from the foot of the first tower, and AC subtends an angle  $75^\circ$  at B, find the height of C above A.

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