THE

Adelaide University Calendar

FOR THE

ACADEMICAL YEAR 1883.

ADELAIDE:
W. K. THOMAS & CO., GRENFELL STREET.

1883.

TABLE OF CONTENTS.

1	M	
2	Tu	
3	W	
4	Th	
5	F	
6	S	
7	*S*	
8	M	
9	Tu	
10	W	
11	Th	
12	F	
13	S	
14	*S*	
15	M	
16	Tu	
17	W	
18	Th	
19	F	
20	S	
21	*S*	
22	M	
23	Tu	
24	W	
25	Th	
26	F	Council Meeting.
27	S	
28	*S*	
29	M	
30	Tu	
31	W	First day of entry for the Supplementary Ordinary and Matriculation Examinations in March.

1883.		FEBRUARY XXVIII.
1	Th	
2	F	
3	S	
4	*S*	
5	M	
6	Tu	
7	W	
8	Th	
9	F	
10	S	
11	*S*	
12	M	
13	Tu	Last day of entry for Supplementary Ordinary and Matriculation Examinations in March.
14	W	
15	Th	
16	F	
17	S	
18	*S*	
19	M	
20	Tu	
21	W	
22	Th	
23	F	Council Meeting.
24	S	
25	*S*	
26	M	
27	Tu	
28	W	

MARCH XXXI.		1883.
1	Th	
2	F	
3	S	
4	*S*	
5	M	
6	Tu	
7	W	
8	Th	
9	F	
10	S	
11	*S*	
12	M	Vacation ends.
13	Tu	First Term begins, and Matriculation, University Scholarships, and Supplementary Ordinary Examinations begin. Last day for sending in to Clerk of Senate nominations of Candidates for the offices of Warden and Clerk of the Senate, and for sending in notices of motions to be brought forward at meeting of Senate on April 4th.
14	W	
15	Th	
16	F	
17	S	
18	*S*	
19	M	
20	Tu	
21	W	
22	Th	Easter recess begins.
23	F	Good Friday.
24	S	
25	*S*	Easter Sunday.
26	M	Easter Monday. Easter recess ends.
27	Tu	Lectures begin.
28	W	
29	Th	
30	F	
31	S	

1883.		APRIL XXX.
1	*S*	
2	M	Examination for John Howard Clark Scholarship begins.
3	Tu	
4	W	Senate meets. Election of Warden and Clerk.
5	Th	
6	F	
7	S	
8	*S*	
9	M	
10	Tu	
11	W	
12	Th	
13	F	
14	S	
15	*S*	
16	M	
17	Tu	
18	W	
19	Th	
20	F	
21	S	
22	*S*	
23	M	
24	Tu	
25	W	
26	Th	
27	F	Council Meeting.
28	S	
29	*S*	
30	M	

MAY XXXI.		1883.
1	Tu	
2	W	
3	Th	
4	F	
5	S	
6	*S*	
7	M	
8	Tu	
9	W	
10	Th	
11	F	
12	S	
13	*S*	
14	M	
15	Tu	
16	W	
17	Th	
18	F	
19	S	
20	*S*	
21	M	
22	Tu	
23	W	
24	Th	
25	F	Council Meeting.
26	S	
27	*S*	
28	M	
29	Tu	
30	W	
31	Th	

1883.		JUNE XXX.
1	F	Lectures and First Term end.
2	S	Vacation begins.
3	*S*	
4	M	
5	Tu	
6	W	
7	Th	
8	F	
9	S	
10	*S*	
11	M	
12	Tu	
13	W	
14	Th	
15	F	
16	S	
17	*S*	
18	M	Second Term and Lectures begin.
19	Tu	
20	W	
21	Th	
22	F	
23	S	
24	*S*	
25	M	
26	Tu	
27	W	
28	Th	Council Meeting.
29	F	
30	S	

JULY XXXI.		1883.
1	*S*	
2	M	
3	Tu	
4	W	
5	Th	
6	F	
7	S	
8	*S*	
9	M	
10	Tu	Senate. Last day for sending in to Clerk of Senate notices of motions to be brought forward at meeting of Senate on August 1.
11	W	
12	Th	
13	F	
14	S	
15	*S*	
16	M	
17	Tu	
18	W	
19	Th	
20	F	
21	S	
22	*S*	
23	M	
24	Tu	
25	W	
26	Th	
27	F	Council Meeting.
28	S	
29	*S*	
30	M	
31	Tu	

1883.		AUGUST XXXI.
1	W	Senate meets.
2	Th	
3	F	
4	S	
5	*S*	
6	M	
7	Tu	
8	W	
9	Th	
10	F	
11	S	
12	*S*	
13	M	
14	Tu	
15	W	
16	Th	
17	F	
18	S	
19	*S*	
20	M	
21	Tu	
22	W	
23	Th	
24	F	Lectures and Second Term ends.
25	S	Vacation begins.
26	*S*	
27	M	
28	Tu	
29	W	
30	Th	
31	F	Council Meeting.

SEPTEMBER XXX.		1883.
1	S	
2	***S***	
3	M	
4	Tu	
5	W	
6	Th	
7	F	
8	S	
9	***S***	
10	M	Vacation ends.
11	Tu	Third Term and Lectures begin. Examination for the Royal Military College begins.
12	W	
13	Th	
14	F	
15	S	
16	***S***	
17	M	
18	Tu	
19	W	
20	Th	
21	F	
22	S	
23	***S***	
24	M	
25	Tu	
26	W	
27	Th	
28	F	Council Meeting.
29	S	
30	***S***	

1883.		OCTOBER XXXI.
1	M	
2	Tu	
3	W	
4	Th	
5	F	
6	S	
7	*S*	
8	M	
9	Tu	
10	W	
11	Th	First day of entry for Ordinary Examinations.
12	F	
13	S	First day of entry for Junior and Matriculation Examinations.
14	*S*	
15	M	
16	Tu	
17	W	
18	Th	
19	F	
20	S	Last day of entry for Ordinary Examinations.
21	*S*	
22	M	
23	Tu	
24	W	First day of entry for Examination for M.A. Degree.
25	Th	
26	F	Council Meeting.
27	S	Last day of entry for Junior and Matriculation Examinations.
28	*S*	
29	M	
30	Tu	
31	W	

1	Th	
2	F	
3	S	Last day of entry for Examination for M.A. Degree.
4	*S*	
5	M	
6	Tu	
7	W	
8	Th	
9	F	Five members of Council retire..
10	S	
11	*S*	
12	M	
13	Tu	Lectures end. First day for sending to Clerk of Senate notices of motions to be brought forward at meeting of Senate on 5th December.
14	W	
15	Th	
16	F	
17	S	
18	*S*	
19	M	
20	Tu	
21	W	
22	Th	Ordinary Examinations begin.
23	F	
24	S	Last day for sending to Clerk of Senate notices of motions to be brought forward at meeting of Senate on 5th December.
25	*S*	
26	M	
27	Tu	Junior and Matriculation Examinations in Compulsory Subjects begins.
28	W	
29	Th	Council Meeting.
30	F	

1883.		DECEMBER XXXI.
1	S	
2	*S*	
3	M	
4	Tu	Examinations for M.A. Degree and for S. Australian Scholarship begin. Junior Exam. in Optional Subjects begins.
5	W	Senate meets. Election of five members of Council.
6	Th	
7	F	
8	S	
9	*S*	
10	M	
11	Tu	Third term ends.
12	W	Vacation begins.
13	Th	
14	F	
15	S	
16	*S*	
17	M	
18	Tu	
19	W	
20	Th	
21	F	
22	S	
23	*S*	
24	M	
25	Tu	Christmas Day.
26	W	
27	Th	
28	F	Council Meeting.
29	S	
30	*S*	
31	M	

TIME-TABLE OF LECTURES.

B.A. COURSE.	MONDAY.	TUESDAY.	WEDNESDAY	THURSDAY	FRIDAY.
FIRST YEAR.					
Latin }	11	11	11	11	11
Greek }					
Composition	12	...	12	...	12
Mathematics	10	...	10	...	10
Natural Philosophy ...	4.30	...	4.30	...	4.30*
Deductive Logic ...	...	2	...	2	...
SECOND YEAR.					
Latin } including } Greek } Ancient } History }	10	10	10	10	10
Composition	12	12	12	12	12
Mathematics, Applied	11	...	11	...	11
English Literature ...	...	3	...	3	...
Inductive Logic ...	...	4	...	4	...
THIRD YEAR.					
Latin }	10	10	10	10	10
Greek }					
Comparative Philology	12	12	12	12	12
Mathematics	9	...	9	...	9
Inductive Logic ...	...	4	...	4	...
Mineralogy and Geology	...	11	...	11	...
Biology	3.30	...	3.30	...	...
Physics	...	10	...	10	...
Political Economy† ...	...	...	...	...	...

* This Class will be held occasionally on Fridays.

† The hours will be fixed when the class in this subject is formed.

B.Sc. COURSE.	MONDAY.	TUESDAY.	WEDNESDAY.	THURSDAY	FRIDAY.
FIRST YEAR.					
Latin }	11	11	11	11	11
Greek }					
Composition	12	...	12	...	12
Mathematics	10	...	10	...	10
Natural Philosophy ...	4.30	...	4.30	...	4.30*
Deductive Logic ...	...	2	...	2	...
SECOND YEAR.					
Mathematics Applied	10	...	10	...	10
Do., Pure	12	...	12	...	12
Physics	...	10	...	10	...
Biology	3.30	..	3.30	...	...
Inorganic Chemistry ...	...	4.30	...	4.30	...
Inductive Logic ...	...	4	...	4	...
THIRD YEAR.					
‡Mathematics ...	...	...	...	...	...
Physics	...	10	...	10	...
Practical Chemistry ...	...	2—6	...	2—6	...
‡Animal Physiology ...	...	...	...	...	...
†Zoology and Comparative Anatomy	10	...	10	...	...
†Botany	11	...	11	...	...
†Geology and Mineralogy	...	11	...	11	...
‡Metallurgy, Practical Chemistry, &c. ...	...	...	...	...	...

* This class will be held occasionally on Fridays.

† These classes will also meet occasionally on Saturdays and Fridays.

‡ The hours of these Lectures will be fixed when the classes are formed.

LETTERS PATENT.

Dated 22nd March, 1881.

Victoria, by the Grace of God, of the United Kingdom of Great Britain and Ireland Queen, Defender of the Faith, Empress of India: To all to whom these Presents shall come, greeting.

WHEREAS, under and by virtue of the provisions of three Acts of the Legislature of South Australia, respectively known as "The Adelaide University Act," "The Adelaide University Act Amendment Act," and "The University of Adelaide Degrees Act," a University consisting of a Council and Senate has been incorporated and made a body politic with perpetual succession, under the name of "The University of Adelaide," with power to grant the several Degrees of Bachelor of Arts, Master of Arts, Bachelor of Medicine, Doctor of Medicine, Bachelor of Laws, Doctor of Laws, Bachelor of Science, Doctor of Science, Bachelor of Music, and Doctor of Music:

And whereas the Chancellor, Vice-Chancellor, and Council of the said University, by their humble petition under the common seal of the University, have prayed Us to the effect following (that is to say):

To grant Our Letters Patent, declaring that the aforesaid Degrees already conferred or hereafter to be conferred by the University of Adelaide shall be recognized as academic distinctions and rewards of merit, and be entitled to rank, precedence, and consideration within Our Dominions as fully as if the said Degrees had been conferred by any University in Our United Kingdom of Great Britain and Ireland; and that such recognition may extend to Degrees conferred on Women:

Now know ye that We, having taken the said petition into Our Royal consideration, do, by virtue of Our prerogative and of Our special grace, certain knowledge, and mere motion, by these presents, for Us, Our heirs and successors, will and ordain as follows:

I. The Degrees of Bachelor of Arts, Master of Arts, Bachelor of Medicine, Doctor of Medicine, Bachelor of Laws, Doctor of Laws, Bachelor of Science, Doctor of Science, Bachelor of Music, and Doctor of Music, heretofore granted or conferred and hereafter to be granted or conferred by the said University of Adelaide on any person, male or female, shall be recognized as academic distinctions and rewards of merit, and be entitled to rank, precedence, and consideration in Our United Kingdom and in Our Colonies and Possessions throughout the World, as fully as if the said Degrees had been granted by any University of Our said United Kingdom.

II. No variation of the constitution of the said University which may at any time, or from time to time, be made by any Act of the Legislature of South Australia shall in any manner annul, abrogate, circumscribe, or diminish the privileges conferred on the said University by these Our Letters Patent, nor the rank, rights, privileges, and considerations conferred by such Degrees, so long as the standard of knowledge now established, or a like standard, be preserved as a necessary condition for obtaining the aforesaid Degrees.

III. Any such standard shall be held sufficient for the purposes of these Our Letters Patent if so declared in any proclamation issued by Our Governor of South Australia for the time being.

In witness whereof We have caused these Our Letters to be made Patent. Witness Ourself at Westminster, the 22nd day of March, in the Forty-fourth year of Our Reign.

By Warrant under the Queen's Sign Manual.

PALMER.

ACT OF INCORPORATION.

No. 20 OF 1874.

Preamble.

WHEREAS it is expedient to promote sound learning in the Province of South Australia, and with that intent to establish and incorporate, and endow an University at Adelaide, open to all classes and denominations of Her Majesty's subjects: And whereas Walter Watson Hughes, Esquire, has agreed to contribute the sum of Twenty Thousand Pounds towards the endowment of two chairs or professorships of such University, upon terms and conditions contained in a certain Indenture bearing date the twenty-fourth day of December, one thousand eight hundred and seventy-two, and made between the said Walter Watson Hughes and Alexander Hay, Esquires, representing an Association formed for the purpose of establishing such University, a copy of which said Indenture is set forth in the Schedule hereto; be it therefore enacted by the Governor of the Province of South Australia, with the advice and consent of the Legislative Council and House of Assembly of the said Province, in this present Parliament assembled, as follows:

University to consist of Council and Senate.

1. An University, consisting of a Council and Senate, shall be established at Adelaide, and when duly constituted and appointed according to the provisions of this Act, shall be a body politic and corporate by the name of "The University of Adelaide," and by such name shall have perpetual succession, and shall adopt and have a common seal, and shall by the same name sue and be sued, plead and be impleaded, answer and be answered unto in all Courts in the said province, and shall be capable in law to take, purchase, and hold all goods, chattels, and personal property whatsoever, and shall also be able and capable in law to receive, take, purchase, and hold for ever, not only such lands, buildings, and hereditaments, and possessions, as may from time to time be exclusively used and occupied for the immediate requirements of the said University, but also any other lands, buildings, hereditaments, and possessions whatsoever, situated in the said Province, or elsewhere, and shall be able and capable in law to grant, demise, alien, or otherwise dispose of all or any of the property, real or personal, belonging to the University, and also to do all other matters and things incidental or

appertaining to a body politic and corporate : Provided always, that until the Senate of the said University shall have been constituted as herein enacted, the said University shall consist of a Council only: Provided further, that it shall not be lawful for the said University to alien, mortgage, charge, or demise any lands, tenements, or hereditaments, of which it shall have become seised, or to which it may become entitled by grant, purchase, or otherwise, unless with the approval of the Governor of the said Province for the time being, except by way of lease for any term not exceeding twenty-one years from the time when such lease shall be made, in and by which there shall be reserved during the whole of the term the highest rent that can be reasonably obtained for the same, without fine.

First Council by whom appointed. Election of Chancellor and Vice-Chancellor.

2. The first Council of the said University shall be nominated and appointed by the Governor within three months after the passing of this Act, and shall consist of twenty councillors, and the said Council shall elect a Chancellor and a Vice-Chancellor ; and whenever a vacancy shall occur in the office of Chancellor or Vice-Chancellor, either by death, resignation, expiration of tenure, or otherwise, the said Council shall elect a Chancellor or Vice-Chancellor, as the case may be, instead of the Chancellor or Vice-Chancellor occasioning such vacancy, the Vice-Chancellor in all cases shall be elected by the said Council out of their own body, and the Chancellor, if not a member of the said Council at the time of his election, shall, from and after his election, become a member of the said Council during the term of his office, and in any such case, and for such period, the Council shall consist of twenty-one councillors. Each Chancellor and Vice-Chancellor shall hold his office for five years, or, except in the case of the first Chancellor and Vice-Chancellor, for such other term as shall be fixed by the statutes and regulations of the University made previously to the election : Provided that there shall never be more than four ministers of religion members of the said Council at the same time.

Vacancies in the Council, how created and filled.

3. At the expiration of the third year, and thereafter at the expiration of each year, the five members of the Council who shall have been longest in office shall retire, but shall be eligible for re-election, and if more members shall have been in office for the same period, the order of their retirement shall be decided by ballot, and all vacancies which shall occur in the said Council by retirement, death, resignation, or otherwise, shall be filled as they may occur, by the election of such persons as the Senate shall at meetings to be duly convened for that purpose elect ; or, if the Senate shall not have been constituted, such vacancies shall be forthwith reported by the Chancellor to the Governor, who shall within

three months after such report nominate persons to fill such vacancies, or if the Senate shall fail to elect within six months, then the Governor shall nominate persons to fill such vacancies.

Senate how constituted.

4. As soon as the said Council shall have reported to the Governor that the number of graduates admitted by the said University to any of the degrees of Master of Arts, Doctor of Medicine, Doctor of Laws, Doctor of Science, or Doctor of Music, and of graduates of three years' standing, is not less than fifty, and such report shall have been published in the *Government Gazette*, the Senate shall be then constituted, and shall consist of such graduates, and of all persons thereafter admitted to such degrees, or who may become graduates of three years' standing, and a graduate of another University admitted to a degree in The University of Adelaide shall reckon his standing from the date of his graduation in such other University, and the Senate shall elect a Warden out of their own body annually, or whenever a vacancy shall occur.

Questions how decided, quorum.

5. All questions which shall come before the said Council or Senate respectively shall be decided by the majority of the members present, and the chairman at any such meeting shall have a vote, and in case of an equality of votes, a casting vote, and no question shall be decided at any meeting of the said Council unless six members thereof be present, or at any meeting of the said Senate unless twenty members thereof be present.

Chairmanship of Council and Senate.

6. At every meeting of the Council the Chancellor, or in his absence the Vice-Chancellor, shall preside as chairman, and at every meeting of the Senate the Warden shall preside as chairman, and in the absence of the Chancellor and Vice-Chancellor, the members of the Council present, and in the absence of the Warden the members of the Senate present shall elect a chairman.

Council to have entire management of the University.

7. The said Council shall have full power to appoint and dismiss all professors, lecturers, examiners, officers, and servants of the said University, and shall have the entire management and superintendence over the affairs, concerns, and property thereof, subject to the statutes and regulations of the said University.

Council to make statutes and regulations with approval of the Senate.

8. The said Council shall have full power to make and alter any statutes and regulations (so as the same be not repugnant to any existing law or to the provisions of this Act) touching any election or

the discipline of the said University, the number, stipend, and manner of appointment and dismissal of the professors, lecturers, examiners, officers, and servants thereof, the matriculation of students, the examination for fellowships, scholarships, prizes, exhibitions, degrees, or honours, and the granting of the same respectively, the fees to be charged for matriculation, or for any such examination or degree, the lectures or classes of the professors and lecturers, and the fees to be charged, the manner and time of convening the meetings of the said Council and Senate and in general touching all other matters whatsoever regarding the said University : Provided always that so soon as the Senate of the said University shall have been constituted, no new statute or regulation, or alteration or repeal of any existing statute, shall be of any force until approved by the said Senate.

Colleges may be affiliated, and boarding-houses licensed.

9. It shall be lawful for the said University to make any statutes for the affiliation to or connection with the same of any college or educational establishment to which the governing body of such college or establishment may consent, and for the licensing and supervision of boarding-houses intended for the reception of students, and the revocation of such licenses : Provided always that no such statutes shall affect the religious observances or regulations enforced in such colleges, educational establishments, or boarding-houses.

Statutes and Regulations to be allowed by Governor.

10. All such statutes and regulations as aforesaid shall be reduced to writing, and the common seal of the said University having been affixed thereto, shall be submitted to the Governor to be allowed and countersigned by him, and if so allowed and countersigned, shall be binding upon all persons members of the said University, and upon all candidates for degrees to be conferred by the same.

Limitation of the powers of Council as regards the chairs founded by W. W. Hughes.

11. The powers herein given to the Council shall, so far as the same may affect the two chairs or professorships founded by the said Walter Watson Hughes, and the two professors appointed by him, and so far as regards the appropriation and investment of the funds contributed by him, be subject to the terms and conditions of the before-mentioned indenture.

University to confer Degrees.

12. The said University shall have power to confer, after examination, the several Degrees of Bachelor of Arts, Master of Arts, Bachelor of Medicine, Doctor of Medicine, Bachelor of Laws, Doctor of Laws, Bachelor of Science and Doctor of Science, Bachelor of Music and Doctor of Music, according to the statutes and regulations of the said

University: Provided always that it shall be lawful for the said University to make such statutes as they may deem fit for the admission, without examination, to any such degree, of persons who may have graduated at any other University.

Students to be in residence during term.

13. Every undergraduate shall, during such term of residence as the said University may by statute appoint, dwell with his parent or guardian, or with some near relative or friend selected by his parent or guardian, and approved by the Chancellor or Vice-Chancellor, or in some collegiate or educational establishment affiliated to or in connection with the University, or in a boarding-house licensed as aforesaid.

No religious test to be administered.

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

Endowment by annual grant.

15. It shall be lawful for the Governor by warrant under his hand, addressed to the Public Treasurer of the Province, to direct to be issued and paid out of the General Revenue an annual grant, equal to Five Pounds per centum per annum on the said sum of Twenty Thousand Pounds contributed by the said Walter Watson Hughes, and on such other moneys as may from time to time be given to and invested by the said body corporate upon trusts for the purposes of such University, and on the value of property real or personal, securely vested in the said body corporate, or in trustees, for the purposes of the said University, except the real property mentioned in clause 16 of this Act; and such annual grant shall be applied as a fund for maintaining the said University, and for defraying the several stipends which may be appointed to be paid to the several professors, lecturers, examiners, officers, and servants to be appointed by such University, and for defraying the expense of such fellowships, scholarships, prizes, and exhibitions, as shall be awarded for the encouragement of students in such University, and for providing a library for the same, and for discharging all necessary charges connected with the management thereof: Provided that no such grant shall exceed Ten Thousand Pounds in any one year.

Endowment in Land.

16. The Governor, in the name and on behalf of Her Majesty, may alienate, grant, and convey in fee-simple to such University or may reserve and dedicate portions of the waste lands of the said Province, not exceeding fifty thousand acres, for the purpose of the University and the further endowment thereof; and the Governor may in like

manner, and on behalf of Her Majesty, alienate, grant, and convey in fee-simple to such University, or may reserve and dedicate a piece of land in Adelaide, east of the Gun Shed and facing North-Terrace, not exceeding five acres, to be used as a site* for the University buildings and for the purposes of such University: Provided that the lands so granted shall be held upon trust for the purposes of such University, such trusts to be approved by the Governor.

University of Adelaide included in Ordinance No. 17 of 1844.

17. The University of Adelaide shall be deemed to be an University within the meaning of section 1† of Ordinance No. 17 of 1844, entitled "An Ordinance to define the qualifications of Medical Practitioners in this Province for certain purposes."

Council or Senate to report annually to the Governor.

18. The said Council or Senate shall, during the month of January in every year, report the proceedings of the University during the previous year to the Governor, and such report shall contain a full account of the income and expenditure of the said University, audited in such manner as the Governor may direct, and a copy of every such report, and of all the statutes and regulations of the University, allowed as aforesaid by the Governor, shall be laid in each year before the Parliament.

Governor to be Visitor.

19. The Governor for the time being shall be the Visitor of the said University, and shall have authority to do all things which appertain to Visitors as often as to him shall seem meet.

Short Title.

20. This Act may be cited as "The Adelaide University Act."

SCHEDULE REFERRED TO.

This Indenture, made the twenty-fourth day of December, one thousand eight hundred and seventy-two, between Walter Watson Hughes, of Torrens Park, near Adelaide, in the Province of South Australia, Esquire, of the one part, and Alexander Hay, of Adelaide, aforesaid, Esquire, Treasurer of the Executive Council of the University Association, of the other part: Whereas the said Walter Watson Hughes is desirous that a University should be established in the said Province, to be called "The Adelaide University," and has agreed to assist in the foundation of such University, by contributing the sum of Twenty Thousand Pounds in

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* An exchange of part of the site granted under this section has been effected under Act No. 45 of 1876.

† This section has been repealed by Act No. 193 of 1880, which recognizes (amongst others) the following qualifications:—"Doctor or Bachelor of Medicine, or Master in Surgery of any chartered University in Her Majesty's Dominions authorised to grant Degrees in Medicine and Surgery."

endowing by the income thereof two chairs or professorships in the said University, one for Classical and Comparative Philology and Literature, and the other for English Language and Literature and Mental and Moral Philosophy: And whereas the said Walter Watson Hughes, his executors or administrators is or are entitled to nominate and appoint the two first Professors to such chairs: And whereas an Association has been formed, and has undertaken to endeavour to found and establish such University, and has appointed an Executive Council: And whereas the said Alexander Hay has been appointed Treasurer of the said Executive Council: Now this Indenture witnesseth, that in consideration of the premises, the said Walter Watson Hughes doth hereby for himself, his heirs, executors, and administrators covenant with the said Alexander Hay, his executors and administrators, that he, the said Walter Watson Hughes, his executors, or administrators, shall and will, on or before the expiration of ten years from the date hereof pay to the said Alexander Hay, as such Treasurer, or to the said Executive Council, or if the said University is incorporated within such period, then to such Corporation the sum of Twenty Thousand Pounds sterling: And will, in the meantime, pay interest thereon, on such portion thereof as may remain unpaid at the rate of Six Pounds per centum per annum, from the first day of May, one thousand eight hundred and seventy-three, such interest to be paid by equal quarterly payments: And it is agreed and declared that the interest and annual income of the said sum of Twenty Thousand Pounds shall be applied in two equal sums in endowing the said two chairs with salaries for the two Professors, or occupiers of such chairs: And it is hereby also declared and agreed that the said Walter Watson Hughes has appointed the Reverend Henry Read, M.A., Incumbent of the Church of England in the District of Mitcham, to occupy, and that the said Henry Read shall occupy the first of such chairs as Professor of Classics and Comparative Philology and Literature: and that the said Walter Watson Hughes has appointed the Reverend John Davidson, of Chalmers Church, Adelaide, to occupy, and that the said John Davidson shall occupy the first of the other of such chairs as Professor of English Language and Literature, and Mental and Moral Philosophy: And it is hereby agreed and declared that the annual income and interest of the said sum of Twenty Thousand Pounds, shall be applied for the purposes aforesaid in equal sums quarterly, and for no other purpose whatever: And it is also declared and agreed that the said sum of Twenty Thousand Pounds shall be held by the Treasurer of the said University, or by the Corporation thereof, when the said University shall become incorporated, for the purpose of paying and applying the annual interest and income thereof equally in endowing two chairs or professorships in the said University, one of such chairs or professorships being Classics and Comparative Philology and Literature, and the other of such chairs or professorships being English Language and Literature, and Mental and Moral Philosophy: And it is also declared and agreed that the said sum of Twenty Thousand Pounds shall, when the same is received by the Treasurer of the said University, or by the University when incorporated, be invested* upon South Australian Government Bonds, Debentures or Securities, and the interest and annual income arising from such investments paid and applied quarterly in endowing the said two chairs or professorships in the said University as aforesaid: In witness whereof the said parties to these presents have hereunto set their hands and seals the day and year first above written.

Signed, sealed, and delivered by the said Walter Watson Hughes, in the presence of Richard B. Andrews, Solicitor, Adelaide } W. W. HUGHES. (L.S.)

* By a deed executed in 1881 the donor consented to the investment of the moneys in the purchase of freehold lands and buildings, and on first mortgages of freehold lands and buildings in South Australia.

TRUST CLAUSE OF DEED WHEREBY THE HONOURABLE THOMAS ELDER GRANTED £20,000 TO THE UNIVERSITY.

By an Indenture, which bears date the 6th day of November, 1874, the Honourable Thomas Elder covenanted to pay Twenty Thousand Pounds, and the trust clause in that deed provides :—"And it is agreed and declared that the interest and annual income of the said sum of Twenty Thousand Pounds shall be applied as a fund for maintaining the said University, and for defraying the several stipends which may be appointed to be paid to the several Professors, Lecturers, Examiners, officers, and servants to be appointed by such University, and for defraying the expense of such fellowships, scholarships, prizes, and exhibitions as shall be awarded for the encouragement of students in such University, and for providing a Library for the same ; and for discharging all necessary charges connected with the management thereof, and for no other use or purpose whatsoever. And it is also declared and agreed that the said sum of Twenty Thousand Pounds shall, when the same is received by the Treasurer of the said University, or by the University when incorporated, be invested * upon South Australian Government Bonds, Debentures, or securities, and the interest and annual income arising from such investments shall be paid and applied to and for the benefit and advantage of the said University in the manner and for the intents and purposes hereinbefore mentioned and described, and to or for no other purpose whatsoever."

* By a deed executed in 1880, the University is empowered to invest the moneys in the purchase of freehold lands and buildings and on first mortgages of freehold lands and buildings in South Australia.

AMENDING ACT,

No. 143 *of* 1879.

University has been duly constituted.

1. The University of Adelaide has been duly constituted and appointed according to the provisions of "The Adelaide University Act."

Power to repeal Statutes and Regulations.

2. Subject to the proviso contained in the eighth section of the said Act, the Council of the said University may by Statute or Regulation repeal Statutes and Regulations made by the University; and that section shall be read and construed as if the words "or Regulation" had been inserted in it next after "Statute" where that word occurs lastly therein.

Repeal of power to confer certain Degrees.

3. The words "Bachelor of Science and Doctor of Science," which occur in the twelfth section of the said Act, are hereby repealed; and that section shall be read and construed as if those words had not occurred therein.

Short Title.

4. This Act may be cited as "The Adelaide University Act Amendment Act."

DEGREES ACT,

No. 172 *of* 1880.

Repeal and revival.

1. The third section of "The Adelaide University Act Amendment Act" is hereby repealed, and so much of "The Adelaide University Act" as was repealed by that section is hereby revived.

Admission of women to Degrees.

2. Women, who shall have fulfilled all the conditions prescribed by "The Adelaide University Act," and by the Statutes and Regulations of The University of Adelaide for any Degree, may be admitted to that Degree at a meeting of the Council and Senate of the said University.

Words importing masculine gender include feminine.

3. In "The Adelaide University Act," words importing the masculine gender shall be construed to include the feminine.

Title.

4. This Act may be cited as "The University of Adelaide Degrees Act."

S.A. INSTITUTE ACT (AMENDMENT)

No. 151 *of* 1879.

South Australian Institute Board increased to nine.

1. From and after the passing of this Act the Board of Governors of the South Australian Institute shall, notwithstanding anything contained in the South Australian Institute Act, 1863, consist of nine members, of whom two shall be members of, and shall be elected by, the said University.

Council to convene meetings to elect. Tenure of persons elected Filling occasional vacancies.

2. So soon as conveniently may be after the passing of this Act, and thereafter in each succeeding month of October, the Council of the said University shall convene in the prescribed manner a meeting in Adelaide of the said University to elect two members of the said Board, and the members elected at any such meeting shall (except in the event hereinafter provided for) hold office until the election in the next succeeding month of October. Whenever the office held by any member so elected shall during the year or other period for which he was elected become vacant, the said Council shall in the prescribed manner convene a meeting of the University to elect in his room another member, who shall hold office only until the next annual election.

Power to make Statutes and Regulations to carry out the Act.

3. The said University is hereby empowered to make all such Statutes and Regulations as shall be deemed necessary or proper for prescribing the time and mode of nominating candidates for the said offices, of convening each such meeting, and of transacting the business and conducting the election thereat; for prescribing the place in Adelaide at which such meetings shall be held, the members of the University who shall preside thereat, and the number of members of the University who must be present in order to constitute a valid meeting, and other Statutes and Regulations dealing with all other matters of every kind which, in the opinion of the said University, ought to be made for the purpose of carrying out this Act in the most efficient manner.

If meeting not constituted in fifteen minutes after appointed hour, Council to elect for that occasion.

4. Notwithstanding any other provision herein contained, whenever the prescribed number of members of the University is not present within fifteen minutes after the time appointed for holding any such meeting, the Council shall, as soon as conveniently may be thereafter, elect in such manner as they shall think proper a member or (as the case shall require) two members of the said University to be members of the said Board.

Governors elected under this Act to have same rights, &c., as the others.

5. Members of the said Board of Governors elected under this Act shall during their tenure of office enjoy equal rights and powers with the other members of the said Board.

Title.

6. This Act may be cited for all purposes as the "South Australian Institute Act Amendment Act, 1879."

STATUTES.

Under the powers given by the foregoing Act the following Statutes have been made :

1. Meetings of the University to elect members of the Board of Governors of the South Australian Institute shall be held in Adelaide at such places as the Council shall from time to time appoint.

2. So soon as conveniently may be after these Statutes shall have been allowed and countersigned by the Governor, the Council shall convene a meeting of the University to elect two members of the said Board.

3. The Council shall also convene the University to meet on some day in each month of October to elect two members of the said Board.

4. Whenever the office held by any member of the said Board elected by the University shall become vacant during the period for which he was elected, the Council shall, so soon as conveniently may be thereafter, convene a meeting of the University to elect another member in his room.

5. Every meeting of the University for the election of a member of the said Board shall be convened not less than ten days before the day appointed for the meeting by the Registrar by a circular, specifying the place and time of meeting, and sent by post to the last known address in South Australia of or delivered to all members of the University who are resident in the Province.

6. Candidates shall be nominated in writing signed by two members of the University, and sent to the Registrar so as to reach him at least two days before the day appointed for the meeting, and no candidate will be eligible for election unless his written consent to act, if elected, reaches the Registrar not later than two days before the day of meeting.

7. If only the required number of members shall be eligible, the Chairman of the meeting shall declare such member or members elected.

8. If more than the required number of members be eligible, a printed voting paper containing the names of such members shall be given to each member present at the meeting, who may vote for the required number of candidates by striking out the names of the members for whom he does not vote.

9. The votes so given shall be counted by two tellers appointed by the Chairman before the election is proceeded with. The number of votes given for each candidate shall be reported in writing by the tellers to the Chairman, who shall then declare the result of the election.

10. At every such meeting the Chancellor, or in his absence the Vice-Chancellor, or in their absence the Warden of the Senate (if present) shall preside as Chairman, and in the absence of the Chancellor, Vice-Chancellor, and Warden, the members of the University present shall elect a Chairman.

11. No such meeting shall be constituted unless at least twelve members of the University be present within fifteen minutes after the time appointed for holding the meeting. At every such meeting all questions shall be decided by the majority of the members present. In case of an equality of votes on any question or for any candidate, the Chairman shall give a casting vote.

12. The proceedings of and elections made by each such meeting shall be recorded by the Registrar in a book kept for that purpose, and shall be signed by the Chairman.

Allowed: April, 1880.

Representatives at the Board of Governors of the South Australian Institute.

Elected October, 1882.

The Hon. Samuel James Way, Chief Justice of South Australia.
Edward Charles Stirling, Esquire, M.A., M.D.

The University of Adelaide.

1883.

VISITOR.

HIS EXCELLENCY THE GOVERNOR.

THE COUNCIL.

* THE CHANCELLOR :

THE HON. SAMUEL JAMES WAY, Chief Justice of South Australia.

THE VICE-CHANCELLOR :

VACANT.

Elected by the Senate, 3rd December, 1879,

THE HON. ROBERT DALRYMPLE ROSS, M.P., Speaker of the House of Assembly.

Elected by the Senate, 1st December, 1880,

† WILLIAM GOSSE, Esq., M.D., F.R.C.S., Eng.

ADOLPH von TREUER, Esq., LL.B.

HORACE LAMB, Esq., M.A., Elder Professor of Mathematics.

JOHN DAVIES THOMAS, Esq., M.D., F.R.C.S., Eng.

Elected by the Senate, 14th June, 1881,

THE HON. SAMUEL JAMES WAY, Chief Justice of South Australia.

EDWARD CHARLES STIRLING, Esq., M.A., M.D.

Elected by the Senate, 12th October, 1881,

FREDERICK AYERS, Esq., M.A.

Elected by the Senate, 7th December, 1881,

WILLIAM ROBINSON BOOTHBY, Esq., B.A.

THE REV. WILLIAM ROBY FLETCHER, M.A., Hughes Professor of English Literature.

JOHN ANDERSON HARTLEY, Esq., B.A., B.Sc.

THE HON. DAVID MURRAY, M.L.C.

EDWARD WILLIS WAY, Esq., M.B.

Elected by the Senate, 2nd August, 1882,

HORATIO THOMAS WHITTELL, Esq., M.D.

WILLIAM BARLOW, Esq., B.A.

* Elected Chancellor for the first time, 26th January, 1883.
† Warden of the Senate.

Elected by the Senate, 6th December, 1882,

CHARLES TODD, Esq., C.M.G.

THE HON. SIR HENRY AYERS, K.C.M.G., President of the Legislative Council (Treasurer).

WILLIAM ALEXANDER ERSKINE WEST-ERSKINE, Esq., M.A.

JOHN WARREN BAKEWELL, Esq., M.A.

WILLIAM EVERARD, Esq., J.P.

THE SENATE.

WARDEN: WILLIAM GOSSE, Esq., M.D., F.R.C.S., Eng.

DOCTORS OF LAWS.

SMITH, JAMES WALTER. 1882

DOCTORS OF MEDICINE.

COCKBURN, JOHN ALEXANDER 1877
DEANE, CHARLES MASLEN 1877
ENGELHART, AUGUST FRIEDRICH GOTTFRIED 1877
ESAU, CHARLES FREDERICK HERMAN 1877
GARDNER, WILLIAM 1877
GETHING, ROBERT 1877
GÖRGER, OSCAR 1878
GOSSE, CHARLES 1877
GOSSE, WILLIAM (Warden) 1877
GUNSON, JOHN MICHAEL 1877
MACKINTOSH, JAMES SUTHERLAND 1878
NEUBAUER, MAX FRIEDRICH 1877
PATERSON, ALEXANDER STUART 1877
RENNER, FRIEDRICH EMIL 1877
SEABROOK, THOMAS EDWARD FRAZER 1877
STIRLING, EDWARD CHARLES 1882
THOMAS, JOHN DAVIES 1877
VERCO, JOSEPH COOKE 1877
WHITTELL, HORATIO THOMAS 1877

MASTERS OF ARTS.

AYERS, FREDERIC 1877
BAKEWELL, JOHN WARREN 1877
BURTT, THOMAS... 1877
CARR, WHITMORE 1877
D'ARENBERG, FREDERICK AUGUSTUS... 1881
DENDY, ARTHUR 1877
DOVE, GEORGE 1877

ELCUM, CHARLES CUNNINGHAM 1879
FARR, GEORGE HENRY 1877
FIELD, THOMAS 1877
FLETCHER, WILLIAM ROBY 1877
HOWELL, EDWARD TUCKER 1877
KELLY, DAVID FREDERICK 1879
LAMB, HORACE 1877
MACBEAN, JOHN 1877
MARRYAT, CHARLES 1877
MEAD, SILAS 1877
MÜCKE, CARL WILHELM LUDWIG 1877
PATON, DAVID 1878
POOLE, FREDERICK SLANEY 1877
POOLE, HENRY JOHN... 1877
READ, HENRY 1877
RENNICK, FRANCIS HENRY 1882
SELLS, ALFRED 1877
SHARP, WILLIAM HEY 1877
SHORT, AUGUSTUS 1877
STANFORD, WILLIAM BEDELL 1879
STIRLING, EDWARD CHARLES 1877
STUCKEY, JOSEPH JAMES 1877
SUTHERLAND, GEORGE 1882
SYMON, WILLIAM 1879
WEBB, ROBERT BENNETT 1877
WEST-ERSKINE, WILLIAM ALEXANDER ERSKINE 1877
WILLIAMS, FRANCIS 1877

BACHELORS OF LAWS.

HAWKER, EDWARD WILLIAM 1877
JEFFERIS, JAMES 1877
STIRLING, JOHN LANCELOT 1877
VON TREUER, ADOLPH 1877

BACHELORS OF MEDICINE.

CLELAND, WILLIAM LENNOX 1880
FLOOD, JOHN WELLESLEY 1881
HAMILTON, JAMES ALEXANDER GREER 1880
MAGAREY, SYLVANUS JAMES 1877
MITCHELL, JAMES THOMAS 1881
NESBIT, WILLIAM PEEL 1877
WAY, EDWARD WILLIS 1877

BACHELORS OF ARTS.

BARLOW, WILLIAM	1877
BOOTHBY, WILLIAM ROBINSON	1877
BOWYEAR, GEORGE JOHN SHIRREFF	1882
CATERER, THOMAS AINSLIE	1879
CHAPPLE, FREDERIC	1877
CHURCHWARD, SAMUEL	1877
CORVAN, JAMES HAMILTON	1877
FLOOD, JOHN WELLESLEY	1881
HACKETT, JAMES THOMPSON	1882
HALCOMB, FREDERICK	1877
HARTLEY, JOHN ANDERSON	1877
HOCTER, JOHN FRANCIS (Clerk of the Senate)	1877
LABATT, EDWARD	1877
LABATT, GEORGE AUGUSTUS	1877
LEONARD, JAMES	1877
McCULLAGH, WILLIAM GEORGE	1877
MORSE, CHARLES WILLIAM	1877
NANKIVELL, JOHN THOMAS	1877
SMYTH, JOHN THOMAS	1878
SPICER, EDWARD CLARK	1877
WELD, OCTAVIUS	1877
WOODS, JOHN CRAWFORD	1877

OFFICERS OF THE UNIVERSITY.

PROFESSORS AND LECTURERS.

Hughes Professor of Classics, and Comparative Philology and Literature,
DAVID FREDERICK KELLY, M.A.

Hughes Professor of English Language and Literature, and Mental and Moral Philosophy :
* WILLIAM ROBY FLETCHER, M.A.

Elder Professor of Mathematics:
HORACE LAMB, M.A.

Elder Professor of Natural Science :
RALPH TATE, F.G.S.

Lecturer on Human Physiology :
EDWARD CHARLES STIRLING, M.A., M.D.

* Appointed Professor up to July 1st, 1883, after which date Mr. E. V. Boulger, M.A., will occupy this chair.

THE PROFESSORIAL BOARD.

THE CHANCELLOR
THE VICE-CHANCELLOR
PROFESSOR KELLY
PROFESSOR FLETCHER (Dean)
PROFESSOR LAMB
PROFESSOR TATE

REGISTRAR.

J. WALTER TYAS, University, North Terrace, Adelaide.

CLERK OF THE SENATE.

JOHN FRANCIS HOCTER, B.A.

BACHELORS OF ARTS WHO ARE NOT MEMBERS OF THE SENATE.

DONALDSON, ARTHUR	1881
HENDERSON, JAMES	1880
MACK, HANS HAMILTON	1880
ROBIN, PERCY ANSELL	1880
SMEATON, STIRLING	1880
CLARE, WILLIAM	1882
DONALDSON, GEORGE	1882
GILL, ALFRED	1882
HOLDER, SYDNEY ERNEST	1882
MOORE, EDWIN CANTON	1882
ROGERS, RICHARD SANDERS	1882

UNDERGRADUATES WHO HAVE PASSED THE FINAL EXAMINATION FOR THE DEGREE OF B.A.

BEARE, THOMAS HUDSON	1879
COOKE, WILLIAM ERNEST	1882
KERR, DONALD ALEXANDER	1882

DEGREES CONFERRED BY THE UNIVERSITY OF ADELAIDE DURING THE YEAR 1882.

B.A.

GILL, ALFRED.
ROGERS, RICHARD SANDERS.
DONALDSON, GEORGE.
MOORE, EDWIN CANTON.
HOLDER, SYDNEY ERNEST.
CLARE, WILLIAM, *in absentiâ.*

ADMITTED AD EUNDEM GRADUM IN 1882.

LL.D.

SMITH, JAMES WALTER.

M.D.

STIRLING, EDWARD CHARLES.

M.A.

SUTHERLAND, GEORGE.
RENNICK, FRANCIS HENRY.

B.A.

BOWYEAR, GEORGE JOHN SHIRREFF.
HACKETT, JAMES THOMPSON.

UNDERGRADUATE STUDENTS: SESSION 1882.

Berry, George Augustus
Cooke, William Ernest
*Hopkins, William Fleming
Hosking, Edwin William Gluyas
Kerr, Donald Alexander
*Kingsmill, Walter
*Leitch, James Westwood
*Murray, George John Robert
Oldham, Reginald Vautin
*Wilkinson, Frederick William
Williams, Frances Elizabeth
Wright, Charles Joseph Harvey

STUDENTS NOT STUDYING FOR A DEGREE: SESSION 1882.

Anderson, James Robert
Anderson, Jane
Ashton, Sarah Annie
Bagot, Charles Ulysses
Baker, Amy
Baker, John Richard
Bennets, Annie Caroline
Bennett, John
Bennett, William
Birks, George Frederick
Birks, Helen Mary
Bosher, Frederick Charles
Burton, Richard
Calf, Susannah Elizabeth
Collier, John Richard
Cooke, Edith Agnes
Cox, Lois Ainslie
Crawford Mary Catherine
Darke, Albert Thomas
Donaldson, Arthur
Donnell, William
Dornwell, Edith Emily
Downer, Marian Jane
Duce, Marian Ethel
Fergusson, John Adam (Major)
Fergusson, Lizzie
Fisher, Gertrude
Flynn, Mary Ellen
George, Madelaine Rees
Giles, Lydia Mary
Gilmour, William
Glover, George Henry
Gmeiner, Caroline Leonora
Good, Annie
Good, Elizabeth
Goode, Annie
Goode, Clara
Goode, Edith Marion
Goode, Florence Grace
Grasby, William Catton
Greayer, Mary Emma
Hamp, John Chipp
Hancock, Thomas
Harford, Joseph
Hart, Cecilia Elizabeth
Hart, Margaret
Herbelet, James William
Hill, Henry Richard
Hill, John Charles
Johnson, John Thomas Frederick
Kay, Emily
Kay, Sarah
Keen, Edith Guard
Kell, Mary Lilian
Keppert, Frances Alice
Knight, Mary Adela McCullock
LeMessurier Thomas Abram
Lloyd, Emily Mabel
Loutit, Annie Freeman
McNamara, David Joseph
Martin, Annie Montgomery
Martin, Harriet Elizabeth

* The asterisk denotes that the student to whose name it is prefixed is an University Scholar

Maughan Minietta
Mead, Gertrude Ella
Mead, Lilian Staple
Mitchell, Emma Priscilla
Morgan, Florence Amy
Müller, Henry Phillip
Newman, George Gough
Nicholls, Ellen Jane
Osborne, William Henry
Paynter, John
Peacock, Kate Marion Lilian
Pennyfield, George
Pettit, Ellen Martha
Propsting, William Bispham
Rigby, Ada
Ring, Mary
Robin, Charles Ernest
Rodda, Mary Watson
Rogers, Isabel Whelan
Rogers, Richard Sanders
Rymill, Florence Edith
Rymill, Lucy Isabel
Sandercock, Alfred
Scott, James
Smith, Charles
Spence, Helen
Spöndley, Henry
Stephens, Maria
Thomas, Evan
Thornber, Ellen
Ware, Evelyn
Welch, Alice Victoria
Whenan, Elizabeth
Williams, Emily
Williams, Thomas Swain
Willshire, Robert Charles
Wilson, Jemima

STATUTES,

CHAPTER I.—OF THE COUNCIL.

1. The Council shall meet on the last Friday in every month, at two o'clock in the afternoon, for the dispatch of business, and shall have power to adjourn to any intermediate period : Provided that if any such Friday shall be a Public Holiday the Council shall meet on the preceding Friday.

2. All proceedings of the Council shall be entered in a Journal.

3. The Minutes of the preceding meeting shall be read at each Meeting of the Council and confirmed or amended thereat, and the presiding Chairman shall sign them as confirmed or amended.

4. The Chancellor or Vice-Chancellor shall have power to call a Special Meeting for the consideration and dispatch of business which either may wish to submit to the Council.

5. The Chancellor or Vice-Chancellor or in their absence the Registrar shall convene a meeting of the Council upon the written requisition of four members, in which shall be set forth the objects for which the meeting is required to be convened ; and the meeting shall be held within fourteen days after the ~~receipt of the requisition~~.

6. Each member shall be supplied by the Registrar with a written or printed notice of all matters to be considered at the next ensuing meeting (whether special or ordinary) of the Council, and such notice shall be delivered or transmitted by post at least seven days before the day of meeting.

7. The Registrar shall insert in a book to be called "The Notice of Motion Book" the date of each notice of motion, that of its discussion, and the final result. And no member shall make any motion initiating a subject for discussion except in pursuance of notice of such motion given to the Registrar at least ten days previously.

8. If a quorum of the Council be not present within fifteen minutes after the time appointed for a meeting (whether ordinary or special) all business which should have been transacted at such meeting shall stand over for the next meeting and take precedence thereat : Provided that the Registrar shall deliver or transmit by post at least seven days before the day of such next meeting such notice as aforesaid.

CHAPTER II.—OF THE SENATE.

1. The Senate of the University when constituted shall meet at such times and places as shall be prescribed by the Standing Orders of the Senate.

CHAPTER III.—OF THE PROFESSORIAL BOARD.

1. The Professors and such of the Lecturers as the Council shall from time to time nominate for that purpose shall form a Board for the consideration of all questions relating to the Studies and Discipline of the University, and of this Board the Chancellor and Vice-Chancellor or in the absence of either of them such other member of the Council as each of them may for any occasion or occasions appoint to act in his stead shall *ex officio* be Members, and the Registrar shall be Secretary.

2. The Chancellor, or if he be not present the Vice-Chancellor, shall when present preside over the Professorial Board at every meeting thereof. The Professorial Board when constituted shall elect one of their number to preside over them during the remainder of the then current Academical Year at every meeting at which neither the Chancellor nor the Vice-Chancellor shall happen to be present, and during the last term of that and of every subsequent Academical Year shall also elect one of their number to preside over them during the next ensuing Academical Year at every meeting at which neither the Chancellor nor the Vice-Chancellor shall happen to be present. Each person so elected shall be styled the Dean during his year of office.

3. The Professorial Board shall arrange the days and hours of all Lectures and Examinations and determine the subjects of all Examinations and Lectures, but every such arrangement and determination shall be made subject to the approval of the Council.

4. The Professorial Board shall prepare regulations for the maintenance of Discipline among the Students, and shall have the power of inflicting punishments for breaches of good order and propriety.

5. Every Professor and Lecturer in whose presence a breach of good order or of propriety has been committed by a Student may make a written complaint thereof under his hand to the Professorial Board, and each such complaint must be transmitted to the Dean on (at the latest) the day next succeeding that on which the conduct complained of took place, and must be brought before the Professorial Board at its meeting next after the Dean has received such complaint.

6. Whenever disorderly conduct shall occur or any breach of good order or propriety shall be committed in a class-room during the time

devoted to teaching, the Professor or Lecturer in attendance may require every misbehaving Student to withdraw at once and may dismiss each such Student from his class for that day.

7. The Professorial Board shall investigate as soon as it conveniently can each such complaint, but may when and so often as it thinks right adjourn any such investigation.

8. The Professorial Board shall through its Dean have the power

(*a*) To *Admonish* the Student complained against.

(*b*) To administer a *Reprimand* either in private or in the presence of a Class or Classes attended by the Student complained against.

(*c*) To suspend such Student temporarily from attendance on any course or courses of Instruction in the University.

(*d*) To exclude the Student from any place or places of Recreation or Study in the University for any period of time during but not extending beyond the then current Academical Year.

(*e*) The Professorial Board may also recommend to the Council such other punishment as the Board shall think proper.

9. The Dean shall in each case pronounce the judgment of the Professorial Board, which judgment shall be in writing and signed by him, and shall also admonish or reprimand the Student whenever any such punishment has been awarded.

10. The Professorial Board shall prepare regulations for the management of the Library and Museum of the University.

11. The Dean shall regulate the duties of the porters and servants of the University, and shall have the power of punishing them by fine or removal.

12. The Dean shall direct his particular attention to the maintenance of order and discipline in the University.

13. The Professorial Board shall furnish to the Council such information as may be from time to time required by the Council.

14. All regulations prepared by the Professorial Board shall be laid before the Council at its next meeting for approval, and on being approved shall be in force and valid from a day to be therein fixed.

CHAPTER IV.—OF THE PROFESSORS AND LECTURERS.

1. There shall for the present be a Professor for each of the following groups of subjects, that is to say, for

a. Classics and Comparative Philology and Literature.

b. English Language and Literature and Mental and Moral Philosophy.

c. Mathematics pure and applied.

d. Natural Science, especially Geology and Mineralogy; the Professor to give lectures in Chemistry also.

2. Each Professor shall hold office *quam diu se bene gesserit*, but when and so often as sickness or other causes shall temporarily incapacitate any Professor or Lecturer from performing the duties of his office the Council may appoint a substitute to act in his stead during the continuance of such incapacity, and such substitute so long as he shall continue to act as such shall receive annually at the discretion of the Council out of the salary of the Professor or Lecturer so incapacitated such sum (not exceeding one-half of such salary), as the Council shall direct; but it shall be competent for the Council to appoint Professors for a fixed term or (by special arrangement on the appointment of any Professor) to modify the terms on which he shall hold office.

3. The Council may at its discretion dismiss from his office or suspend for a time from performing the duties and receiving the salary thereof any Professor who has been appointed by the Council and whose continuance in his office or in the performance of the duties thereof shall in the opinion of the Council be injurious to the progress of the students or to the interests of the University: Provided that no such dismissal shall have effect until confirmed by the Visitor.

4. No Professor shall while he is such sit in Parliament or become a member of any political association, neither shall any Professor while he is such (except with the sanction of the Council) give private instruction or deliver lectures to persons not being students of the University.

5. The Professor shall not receive any persons (other than students) as boarders in their houses without the permission of the Council.

6. Each Professor shall take such part in all University Examinations as the Council shall from time to time direct, but no Professor or Lecturer shall be required to examine in any subject other than the subject or subjects which it is his duty to teach or to lecture upon.

7. There shall be such Lecturers on such subjects and for such times as the Council shall from time to time think fit to appoint.

8. On all days during Term time, except Sundays and public holidays, the whole time of each Professor shall be at the disposal of the Council for the purposes of the University.

CHAPTER V.—OF THE REGISTRAR.

1. There shall be a Registrar of the University, whose duty it shall be to attend the meetings of the Council and to keep minutes thereof, to prepare and have charge of the records of the University, to keep all

Registers which may be requisite, and to receive all fees and hand them over to the Treasurer, and to keep books of account thereof, and to conduct all correspondence and answer all enquiries connected with the University.

The Registrar shall also perform the duties of Librarian.

2. The Council may at any time appoint a deputy to act in the place of the Registrar for such period as they may think fit, and assign to him any of the duties of Registrar, and dismiss any such deputy at their discretion.

CHAPTER VI.—OF THE SEAL OF THE UNIVERSITY.

The Seal of the University shall be entrusted to the Chancellor and shall be affixed to documents only at a meeting of the Council and by the direction thereof.

CHAPTER VII.—OF TERMS.

1. The Academical Year shall be divided into three terms.

The first term shall commence on the second Tuesday in March, and the third term shall terminate on the second Tuesday in December in each year.

The Council shall year by year fix the commencement of the second and third and the termination of the first and second terms, and there shall always be a fortnight's vacation between the first and second and second and third terms.

CHAPTER VIII.—OF MATRICULATION AND DEGREES.

1. There shall be a Matriculation Examination for all candidates who desire to become Students of the University, and no candidate shall be permitted to Matriculate who shall not have passed the Matriculation Examination, and who being a male shall not have completed the full age of sixteen years, and being a female shall not have completed the full age of eighteen years.*

2. The Matriculation Examination shall be held in each year on the first Tuesday in March, or on such other day or days as the Council shall from time to time appoint.†

* A subsequent Statute fixes sixteen years as the age for both sexes, but empowers the Chancellor or (in his absence) the Vice-Chancellor, to admit as students younger persons.

† A second Matriculation Examination is held in December.

3. The names of all candidates who shall have passed the Matriculation Examination shall be laid before the Professorial Board, and shall be entered in a book called the "Examination Book," and shall be attested by the signatures of the Examiners.

4. Every candidate who has passed the Matriculation Examination and has completed the full age of sixteen or eighteen years as the case may be and who in the presence of the Registrar or the Deputy Registrar signs his or her name in the University Roll Book and makes and signs the declaration hereinafter mentioned shall thereby become a Matriculated Student of the University. The declaration hereinbefore referred to shall be in the following form :

> "I do solemnly promise that I will faithfully obey the Statutes and Regulations of the University of Adelaide so far as they may apply to me, and that I will submit respectfully to the constituted authorities of the said University, and I declare that I believe myself to have attained the full age of sixteen years [or eighteen years, *as the case may be.*]

5. All certificates of attendance at Lectures and Examinations shall be laid before the Professorial Board, and the names of such students as shall have been ascertained by the Board to have fulfilled the conditions required by the Regulations of the University shall at the end of each year be inscribed in the Examination Book as having completed the course for that year and be authenticated by the signature of the Dean affixed at a meeting of the Professorial Board.

6. No student shall be permitted to proceed with the business of the second or any subsequent year unless he shall have duly passed the examinations of the previous portions of the course.

7. The course for the Degree of Bachelor of Arts shall extend over three Academical Years, and must be completed by each student before he or she can attain the Degree.

8. Students who shall have fulfilled all the conditions prescribed by the Statutes and Regulations for any Degree may be admitted to that Degree at a meeting of the Council of the University until the Senate shall have been constituted, and from and after the time when the Senate shall have been constituted then at a meeting of the Council and Senate, and all members for the time being of the University shall be entitled to be present at each such meeting. Meetings for such purpose and for admitting Graduates of other Universities to Degrees in the University of Adelaide shall be held in each year on such days as the Council shall from time to time determine.

9. Bachelors of Arts of not less than two years' standing who shall have fulfilled the conditions prescribed by the Regulations of the University of Adelaide may be admitted to the Degree of Master of Arts.

10. Persons who have been admitted to Degrees in any University recognized by the University of Adelaide, and who shall produce to the Council thereof satisfactory evidence of such admission, may be admitted to the same Degrees in the University of Adelaide.

11. Every candidate for admission to any Degree in the University who is resident in the Province of South Australia shall be presented by the Dean of the Professorial Board, and whenever any candidate for admission to any Degree in the University shall be resident out of the said Province and shall have passed the final examination for such Degree and shall have fulfilled all other conditions prescribed for admission to such Degree, the name of each such candidate may notwithstanding his absence from the said Province be presented by the Dean of the Professorial Board, and each such candidate may in his absence be admitted to such Degree.

12. Persons who have completed the whole or part of their undergraduate course in any University or College of a University recognised by the University of Adelaide, and shall produce to the Council thereof satisfactory evidence of such completion, may be allowed corresponding standing in the University of Adelaide.

*13. The fees payable in the University shall be those specified in Schedule A.

†

15. A student who having paid the fees for any examination shall fail to pass such examination shall not be entitled to receive back the fee so paid or any part thereof.

16. The following shall be the forms of Presentation for and Admission to Degrees :

FORM OF PRESENTATION FOR STUDENTS OF THE UNIVERSITY OF ADELAIDE.

Mr. Chancellor, Mr. Vice-Chancellor, and Members of the Council and Senate of the University of Adelaide.

I present to you as a fit and proper person to be admitted to the Degree of . And I certify to you and to the whole University that he has fulfilled the conditions prescribed for admission to that Degree.

*The fees payable under the statutes now in force are specified on p. 47.
† NOTE.—No. 14 has been repealed.

FORM OF PRESENTATION FOR GRADUATES OF OTHER UNIVERSITIES.

Mr. Chancellor, Mr. Vice-Chancellor, and Members of the Council and Senate of the University of Adelaide.

I present to you who has been admitted to the Degree of in the University of as a fit and proper person to be admitted to the rank and privileges of that Degree in the University of Adelaide.

FORM OF ADMISSION TO ANY DEGREE.

By virtue of the authority committed to me, I admit you to the rank and privileges of a in the University of Adelaide.

FORM OF ADMISSION TO ANY DEGREE DURING THE ABSENCE OF THE CANDIDATE.

By virtue of the authority committed to me, I admit in his absence from the Province of South Australia to the rank and privileges of a in the University of Adelaide.

Allowed : 28th January, 1876.

CHAPTER IX.—OF THE FACULTY OF LAW.

1. There shall be a Faculty of Law, consisting of any members of the Council who shall be Judges of the Supreme Court, of two other members of the Council, to be annually appointed by the Council, of the Professors and Lecturers in Law, and of the Dean of the Professorial Board.

2. The Faculty shall advise the Council upon all questions touching the Studies, Lectures, and Examinations in Laws. Notwithstanding anything contained in the third chapter of the Statutes, the Faculty shall (subject to the approval of the Council), arrange the days, hours, and places of all Lectures and Examinations in Laws, and determine the subjects thereof.

3. The Faculty shall annually elect one of their number to be Dean of the Faculty of Law. The Dean of the Faculty of Law shall be *ex officio* a member of the Professorial Board.

4. The Dean shall perform such duties as shall from time be prescribed by the Council, and (amongst others) the following :—

He shall at his own discretion, or upon the written request of the Chancellor or Vice-Chancellor, or of two members of the Faculty, convene meetings of the Faculty.

He shall preside at the meeings of the Faculty.

Subject to the control of the Faculty, he shall exercise a general superintendence over its administrative business.

5. When the Dean is absent from a meeting, the Faculty shall elect a Chairman for that occasion.

6. The Registrar shall be the Secretary of the Faculty.

7. The Council shall annually appoint a sufficient number of Examiners, who, together with the Professors and Lecturers, shall constitute the Board of Examiners.

8. The appointment of Examiners in the subjects necessary for admission to the Bar shall be subject to approval by the Judges of the Supreme Court.

9. The foregoing Statutes shall come into operation on a day to be fixed by the Council, of which notice shall be given in the South Australian *Government Gazette.**

STATUTES TOUCHING THE TENURE OF THE OFFICES OF CHANCELLOR AND VICE-CHANCELLOR.

Each Chancellor who shall hereafter be elected shall hold office until the ninth day of November in the fifth year from the date of his election, and no longer.

Each Vice-Chancellor who shall hereafter be elected shall hold office until the day preceding that on which he would have retired from the Council if he had not been Vice-Chancellor.

Allowed : 7th November, 1881.

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* By a notice appearing in the South Australian *Government Gazette* of the 1st and 8th February the Council fixed the 8th of February, 1883, as the day on which the above Statutes came into operation.

FEES.

The following is the Scale of Fees at present in force.

	£	s.	d.
Entrance Fee for Students not intending to Graduate ...	0	10	6
Entrance Fee for Students not intending to Graduate in Laws but intending to attend Lectures or present themselves for Examination in Laws	1	1	0
Fee payable by Undergraduates of other Universities for admission to same standing in the University of Adelaide	2	2	0

Fees payable in advance in each Term by every student who takes up any subject included in the course for the Degree of B.A. :

For each such subject included in the first year's course ...	0	10	0
Do. do. do. second or third year's course	0	15	0

Fees payable in advance in each Term by every student who takes up any subject included in the course for the Degree of B.Sc. :

For each subject included in the first year's course... ...	0	10	0
Do. do. do. second year's course...	0	15	0
Do. do. do. third year's course ...	2	2	0

Fees payable in advance in each Term by every student attending Lectures in any subject included in the course for the degree of LL.B. :

For each subject	1	1	0

Examination Fees.

Fee for the Junior Examination	1	1	0
Fee for admission to Matriculation Examination	2	2	0
Fee for each subject specified in each candidate's notice for the First Ordinary Examination for B.A. or B.Sc....	0	5	0
Fee for each subject specified in each candidate's notice for the Second Ordinary Examination for B.A. or B.Sc.	0	7	6
Fee for each subject specified in each candidate's notice for the Third Ordinary Examination for B.A.	0	7	6
Fee for each subject specified in each candidate's notice for the Third Ordinary Examination for B.Sc.	1	1	0
Fee for each subject specified in each Candidate's notice for the ordinary Examination for LL.B.	0	15	0
Fee payable by a Candidate for the Angas Engineering Scholarship Examination	5	5	0
Fee payable by each Undergraduate who sends notice of his intention to present himself at a Supplementary Examination	2	2	0
Fee for the Examination for the Degree of Master of Arts	5	5	0

Degree Fees.

Fee for the Degree of Bachelor of Arts	3	3	0
Fee for the Degree of Bachelor of Science	3	3	0
Fee for the Degree of Bachelor of Laws	3	3	0
Fee for the Degree of Master of Arts	5	5	0
Fee for Graduates of other Universities admitted to the same Degree (when not honorary) in the University of Adelaide	3	3	0

Certificates in Laws.

Fee for Certificate of having passed in one or more subjects of any examination in the course for the degree of LL.B.	0	5	0
Fee for final Certificate showing all the subjects in which a Student has passed at the three Examinations in Laws	1	1	0

JUNIOR EXAMINATION.

REGULATIONS.

I. Candidates must be under sixteen years of age on the first day of June in the year in which they present themselves for examination.

II. The subjects of examination shall be as follows :

COMPULSORY SUBJECTS.

Every candidate will be required to satisfy the Examiners in each of the following subjects :

1. *Reading and Writing* from dictation.
2. *English Grammar*, including the analysis of sentences.
3. *Writing a Short English Composition*—such as a description of a place, an account of some useful product, or the like.
4. *The Elements of Arithmetic*, including vulgar and decimal fractions.
5. *The Outlines of Geography*, and in particular the geography of Australia, Tasmania, and New Zealand.
6. *The Outlines of English History*, from the Norman Conquest, including the succession of Sovereigns, the chief events, and some account of the leading men in each reign.

OPTIONAL SUBJECTS.

III. Every candidate will further be required to satisfy the Examiners in two at least of the following divisions—A, B, C, D, and E; and no candidate will be examined in more than *three* of these divisions.

A.—ENGLISH.

1. Some selected period of English History, to be fixed from year to year.
2. A work of some classical English author, to be fixed from year to year.

Candidates must satisfy the Examiners in both of these subdivisions in order to pass in this Division.

B.—CLASSICS.

1. *Latin.*
2. *Greek.*

Candidates will be required to show a sound knowledge of the elements of Grammar, and to translate *easy* passages from English. Passages will be set for translation from Latin and Greek authors to be

previously specified, and also *easy* passages from authors not specified; but little credit will be given for the correct rendering of these passages in the case of candidates who fail to answer satisfactorily in Grammar and in Composition.

Candidates who satisfy the Examiners either in Latin or in Greek will pass in this Division.

C.—Modern Languages.

1. *French.*
2. *German.*

Candidates will be required to show a sound knowledge of the elements of Grammar, and to translate *easy* passages from English. Passages will be set for translation from French and German authors to be previously specified, and also *easy* passages from authors not specified; but little credit will be given for the correct rendering of these passages in the case of candidates who fail to answer satisfactorily in Grammar and in Composition.

Candidates who satisfy the Examiners either in French or in German will pass in this Division.

D.—Mathematics.

1. *Algebra,* to simple equations.
2. *Geometry*: the substance of Euclid, Books I. and II., with simple exercises.

Candidates must satisfy the Examiners in both of these subdivisions in order to pass in this Division.

E.—Physical and Natural Science.

1. *Chemistry.*
2. *Elementary Physics.*
3. *Botany.*
4. *Animal Physiology.*
5. *Physical Geography.*

Candidates who pass in one of the above Sub-Divisions will pass in this Division.

IV. The Examination in the compulsory subjects shall begin on the last Tuesday in November, and that in the optional subjects on the first Tuesday in December in each year.

V. All applications for admission to the Examination must reach the Registrar at least one calendar month before the beginning of the Examination. Each application must be made according to the form prescribed below.

VI. The fee for the Examination shall be one guinea. This fee must be paid at the time at which application is made for admission to the examination.

VII. The list of successful candidates shall be published at the University at noon on the second Tuesday in December. The list shall consist of three classes, in the first two classes the names shall be arranged in order of merit, and in the third class in alphabetical order. The list shall state the place of education from which each successful candidate comes, and shall also indicate in which of the optional subjects the candidate has passed.

VIII. Each successful candidate shall be entitled to a certificate, signed by the Dean of the Professorial Board and countersigned by the Registrar, showing in what subjects the candidate passed, and in which class he or she was placed.

IX. Schedules fixing the special subjects of examination in Divisions A, B, C, and defining as far as may be necessary the range of questions to be set in each of the remaining subjects, shall be drawn up by the Professorial Board subject to the approval of the Council, and shall be published not less than fifteen calendar months before the date of the Examination to which they are intended to apply.

X. The Professorial Board shall, subject to the approval of the Council, draw up and publish a schedule of the marks to be allotted to the various subjects of examination, and shall amend this schedule from time to time, as may seem to them expedient; provided always that every such alteration shall be published not less than ten calendar months preceding the date of the examination to which it is intended to apply.

XI. The Board of Examiners shall be nominated by the Council not later than the first day of October in each year.

XII. The Board of Examiners shall, not less than twenty-eight days before the commencement of the Examination, meet and arrange the distribution of papers, and shall determine all matters necessary for the conduct of the examination. Not less than fourteen days before the commencement of the examination the Board of Examiners shall again meet; and all papers proposed to be set at the Examination shall then be laid before the Board; and no paper shall be finally printed until it has received the approval of the Board.

XIII. The Board of Examiners shall make arrangements that unsuccessful candidates may learn in which subjects they have failed to pass; provided always that no publication of the names of unsuccessful candidates shall take place.

XIV. The first examination under this scheme shall begin on the last Tuesday in November, in the year 1882. Notwithstanding

anything contained in Sections IX. and X. of the above Regulations, it shall be sufficient if the Schedules there referred to, so far as they apply to this first examination, be published within one month of the confirmation of these Regulations by the Governor; and, notwithstanding what is said in Section I. above, this first examination shall be open to all candidates who shall be under eighteen years of age on the first day of December, 1882.

XV. The regulations constituting the University Primary Examination, allowed on the twelfth day of December, 1877, and so much of the Regulations allowed on the 27th of August, 1878, as relates to the University Primary Examination fee and the reduction thereof are hereby repealed.

XVI. The following shall be the form of application for admission to the Examination :

I hereby give notice that I intend to present myself at the Junior Examination commencing on the day of November next, in the Compulsory Subjects, and also in the following Optional Subjects :

Name of candidate in full.....
Address.....
Date of birth .....
Last place of education.....
Signature of candidate.....

Date.....

DETAILS OF THE OPTIONAL SUBJECTS.

A. English.

1. History of England, the reigns of Henry VIII. to Elizabeth, inclusive.
2. Shakespeare's "Tempest."

Text-books recommended

The Student's Hume.
Green's Short History of the English People.

B. Classics.

1. Latin

Cicero—Pro Archia.

2. Greek

Luciani—Somnium, Charon.

} Pitt Press edition.

C. Modern Languages.

1. French

De Maistre—La jeune Sibérienne, and Le lépreux de la Cité d'Aoste (Pitt Press edition).

2. German

Wagner—Book of Ballads on German History (Pitt Press edition).

D. Mathematics.

1. Algebra

To simple equations.

2. Geometry

The substance of Euclid, Books I. and II., with simple exercises.

E. Physical and Natural Science.

1. Chemistry (Inorganic)

Simple and compound matter. Different modes of Chemical action. Principles of Chemical nomenclature. Chemical formulæ. Classification of elements.

Preparations and properties of Hydrogen, Chlorine, Oxygen, Carbon, Nitrogen, and Sulphur, and of their simpler compounds.

2. Elementary Physics

The elementary laws of Rest and Motion of Solids, Liquids, and Gases. The questions will be designed to test the candidates' practical acquaintance with the fundamental experiments and with the more important inferences to be drawn from them.

3. Botany

The questions will be confined to the *general structure of the flowering plant* with especial reference to the following illustrative plants :—*Wallflower, castor oil tree, pea, gum-tree, sow-thistle, lily, wild oat, and snap-dragon.*

4. Animal Physiology

Text-books

Foster's Primer of Physiology.

Huxley's Elementary Lessons in Physiology, Lesson XII.

Students are recommended to consult also other parts of the Elementary Lessons, especially those relating to the special senses.

Candidates will be expected to show a practical acquaintance with the position, appearance, and general structure of the principal organs of the body, and to recognize microscopic and other specimens of the elementary tissues as described in Lesson XII. of the Elementary Lessons.

5. Physical Geography

The following synopsis includes the various branches of the subject required:

(*a*) Relation of continents and islands. Grouping of islands. Influence of the form of a coast line. Characteristic features of the various great masses of land.

(*b*) Details of the great mountain systems of the world. Nature and position of high plains. Low plains, their relations to geological structure, their position, distribution and characteristics. Different kinds of valleys.

(*c*) Ocean—Divisions, depth, density, temperature and colour. Form and nature of the ocean floor. Movements of the ocean. Waves and currents.

(*d*) Distribution of rain. Subterranean circulation of water. Springs, their origin, temperature, and mineral contents.

(*e*) River systems of the world. Deltas. Extent and peculiarities of lakes.

(*f*) Snow line. Glaciers. Icebergs.

(*g*) Distribution of winds in both hemispheres. Special local winds and their cause.

(*h*) Phenomena of and causes that produce or modify climate.

(*i*) Volcanic and earthquake phenomena.

(*j*) The simple facts of the vertical and horizontal distribution of plants and animals on the land and in the sea.

Schedule of marks prepared under No. X. of the foregoing Regulations:

COMPULSORY SUBJECTS.

1.	Reading, and writing from dictation	150
2.	English Grammar, including the analysis of sentences	
3.	Writing a short English Composition, such as a description of a place, an account of some useful product, or the like	
4.	The elements of Arithmetic, including vulgar and decimal fractions ...	150
5.	The outlines of Geography, and in particular the Geography of Australia, Tasmania, and New Zealand	100
6.	The outlines of English History from the Norman Conquest, including the succession of sovereigns, the chief events, and some account of the leading men in each reign	100

OPTIONAL SUBJECTS.

A.	English	200
B. 1.	Latin	150
B. 2.	Greek	150
C. 1.	French	100
C. 2.	German	100
D.	Mathematics	300
E. 1.	Chemistry	100
E. 2.	Elementary Physics	100
E. 3.	Botany	100
E. 4.	Animal Physiology	100
E. 5.	Physical Geography	100

MATRICULATION EXAMINATION.

REGULATIONS.

I. The subjects of examination shall be as follows :

COMPULSORY SUBJECTS.

1 to 6. The same as in the Junior Examination.

Candidates who have previously passed the Junior Examination will not be required to present themselves again in these subjects.

7. *Latin*, except in the case of female candidates, who may substitute *French* from Division C below.

In Latin, candidates will be required to show a sound knowledge of the elements of Grammar, and to translate *easy* passages from English. Passages will be set for translation from some Latin author to be previously specified, and also *easy* passages from authors not specified; but little credit will be given for the correct rendering of these passages in the case of candidates who fail to answer satisfactorily in Grammar and in Composition.

8. *Mathematics*, viz :

Arithmetic, including the theory of the various processes.
Algebra, to simple equations.
The substance of Euclid, Books I. and II., with simple exercises.

OPTIONAL SUBJECTS.

II. Every candidate will further be required to satisfy the Examiners in two at least of the following Divisions : A, B, C, D, E, F, G; and of these two either A, or B, or C must be one; and no candidate will be examined in more than *three* of these divisions.

A. CLASSICS.

1. *Latin.*
2. *Greek.*

Candidates who satisfy the Examiners in either Greek or Latin will pass in this Division.

B. MATHEMATICS.

1. *Algebra*, as far as the Binomial Theorem for a positive integral exponent.
2. The substance of *Euclid*, Books I., II., III., IV., VI.
3. *Elementary Trigonometry.*

Candidates who pass in Algebra and in Geometry will pass in this Division.

C. Modern Languages.

1. *French.*
2. *German.*
3. *Italian.*

Candidates who satisfy the Examiners in one of these languages will pass in this Division. No candidate will be examined in more than *two* of the languages of this Division.

In the case of female candidates who have in the Compulsory Subjects substituted French for Latin, French will *not* be reckoned as one of the languages of this Division.

D. English.

1. *Composition.*
2. *The English Language.*
3. *English Literature:* A work of some classical English author, to be fixed from year to year.

Candidates must satisfy the Examiners in all of these subdivisions in order to pass in this Division.

E. Physical Science.

1. *Chemistry*, with the cognate portions of *Physics.*
2. *Natural Philosophy.*

Candidates who satisfy the Examiners in either of these subdivisions will pass in this Division.

F. Natural Science.

1. *Animal Physiology.*
2. *Botany.*
3. *Geology.*

Candidates who satisfy the Examiners in one of these subdivisions will pass in this Division.

G. History.

1. *Ancient History:* Some selected period to be fixed from year to year.
2. *Modern History:* Some selected period to be fixed from year to year.

Candidates who satisfy the Examiners in *either* of these subdivisions will pass in this division.

III. The examination shall be held twice in each year, in the first and third terms, at dates to be fixed by the Council.

IV. All applications for admission to the examination must reach the Registrar at least one calendar month before the beginning of the examination. Each application must be made according to the form prescribed below.

V. The fee for the examination shall be two guineas. This fee must be paid at the time at which application is made for admission to the examination. If a candidate withdraw from, or fail to pass the examination the fee shall not be returned, but the candidate shall be admitted to one subsequent Matriculation Examination without the payment of any additional fee, provided the usual notice be given to the Registrar.

VI. The list of successful candidates shall be published at the University at noon on the Tuesday next after the close of the examination. The list shall consist of three classes; in the first two classes the names shall be arranged in order of merit, and in the third class in alphabetical order. The list shall state the place of education from which each successful candidate comes, and shall also indicate in which of the optional subjects the candidate has passed.

VII. Each successful candidate shall be entitled to a certificate, signed by the Dean of the Professorial Board and countersigned by the Registrar, showing in what subjects the candidate passed, and in which class he or she was placed.

VIII. Schedules fixing the special subjects of examination in Divisions A, C, D, G, and defining as far as may be necessary the range of questions to be set in each of the remaining subjects, shall be drawn up by the Professorial Board subject to the approval of the Council, and shall be published not less than fifteen calendar months before the date of the examination to which they are intended to apply.

IX. The Professorial Board shall, subject to the approval of the Council, draw up and publish a schedule of the marks to be allotted to the various subjects of examination, and shall amend this schedule from time to time as may seem to them expedient; provided always that every such alteration shall be published not less than ten calendar months preceding the date of the examination to which it is intended to apply.

X. The Board of Examiners shall be nominated by the Council not later than the first day of October in each year.

XI. The Board of Examiners shall, not less than twenty-eight days before the commencement of the Examination, meet and arrange the distribution of papers, and shall determine all matters necessary for the conduct of the Examination. Not less than fourteen days before the commencement of the Examination the Board of Examiners shall again meet; and all

papers proposed to be set at the Examination shall then be laid before the Board; and no paper shall be finally printed until it has received the approval of the Board.

XII. The Board of Examiners shall make arrangements that unsuccessful candidates may learn in which subjects they have failed to pass; provided always that no publication of the names of unsuccessful candidates shall take place.

XIII. The first examination under this scheme shall begin on the last Tuesday in November in the year 1882; and notwithstanding anything contained in sections VIII. and IX. of the above Regulations, it shall be sufficient if the schedules there referred to, so far as they apply to this first Examination, be published within one month of the confirmation of these Regulations by the Governor.

XIV. The following shall be the form of application for admission to the Examination:

I hereby give notice that I intend to present myself at the Matriculation Examination commencing on the day of next, in the compulsory subjects, and also in the following optional subjects:

Name of candidate in full.....
Address.....
Date of birth.....
Last place of education.....
Signature of candidate.....

Date.....

If the candidate claims exemption from examination in the Compulsory Subjects, 1 to 6, on the ground of having previously passed the Junior Examination, the following additional form must also be filled up:

I further claim exemption from renewed examination in the Compulsory Subjects numbered 1 to 6, having passed the Junior Examination held in the year 188 , when I was placed in the class.

Signature of candidate.....

Date.....

Allowed: 4th January, 1882.

*DETAILS OF SUBJECTS FOR THE MATRICULATION EXAMINATIONS TO BE HELD IN DECEMBER, 1883, AND MARCH, 1884.

COMPULSORY SUBJECTS.

1 to 6. The same as in the Junior Examination.

7. LATIN.
Livy: Book I.

8. MATHEMATICS.
Both in Arithmetic and in Algebra candidates will be expected to show not merely proficiency in the use of the various rules and processes, but also a knowledge of the reasoning on which these are based.
In Geometry candidates will not be restricted to Euclid's methods of proving the various propositions; and any proofs that are strictly geometrical will be accepted.

OPTIONAL SUBJECTS.

A. CLASSICS.

1. LATIN.
Livy: Book I.
Horace: Odes, Books I., II.

2. GREEK.
Homer: Iliad, Book III.
Euripides: Alcestis.
Translation of simple English into Greek.

B. MATHEMATICS.

1. ALGEBRA, as far as the Binomial Theorem for a positive integral exponent.
2. The Substance of EUCLID, Books I., II., III., IV., VI.
3. ELEMENTARY TRIGONOMETRY.

C. MODERN LANGUAGES.

1. FRENCH.
Moliere: Les Fourberies de Scapin.
Racine: Athalie.
Clarendon Press edition.

2. GERMAN.
Goethe: Hermann und Dorothea.

3. ITALIAN.
Silvio Pellico: Le mie Prigioni.

In each of the above subdivisions *easy* passages will also be set for translation from authors not specified. Candidates will also be required to answer questions on Grammar, and to translate *easy* passages from English.

D. ENGLISH.

1. COMPOSITION.
2. THE ENGLISH LANGUAGE.
3. ENGLISH LITERATURE.
Shakespeare: King Lear.

E. PHYSICAL SCIENCE.

1. CHEMISTRY, with the cognate portions of PHYSICS:
Simple and compound matter. Different modes of chemical action. Principles of chemical nomenclature. Chemical formulæ. Classification of elements.

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* The details for the Matriculation Examination in March, 1884, will be found in the Calendar for 1883.

Preparation and properties of hydrogen, chlorine, oxygen, carbon, nitrogen, iodine, and sulphur, and of their simpler compounds.

The theory of the Balance, Specific Gravity and the methods of determining it, the Laws of Gases; construction and theory of the Air-Pump, Barometer, Thermometer; Conduction, Convection, and Radiation of Heat; Specific Heat, Latent Heat.

2. NATURAL PHILOSOPHY.

Elementary Mechanics of Solids and Fluids, comprising the Elements Statics, Dynamics, and Hydrostatics.

F. NATURAL SCIENCE.

1. ANIMAL PHYSIOLOGY.

Text-book—Huxley's Elementary Lessons on Physiology.

Students are strongly recommended to consult also The Course of Practical Physiology, by Foster and Langley.

Candidates will be required to show a practical acquaintance with the position, appearance, and structure of the most important tissues and organs of the body; and will be expected to identify microscopic and other specimens of these, and may be called upon to perform some easy exercise in dissection. Candidates should also be familiar with the ordinary methods of preparing and mounting physiological specimens for the microscope.

2. BOTANY.

Questions will be confined to the *general structure of the flowering plant* with especial reference to the following illustrative plants—*Buttercup, wallflower, pea, gum-tree, sow-thistle, snapdragon, castor-oil tree, lily,* and *wild-oat.*

Candidates will be required to describe in technical language the organs of fresh plants in the following order:

Root	Calyx	Fruit
Stem	Corolla	Seed
Leaves	Stamens	Embryo
Inflorescence	Pistil	
Bracts	Ovule	

Candidates will be required to fill up "schedules." (See Oliver's Lessons in Elementary Botany—the text-book recommended.)

3. GEOLOGY.

Questions will be confined to the undermentioned topics in the elements of physical geology:

Proofs of the origin of stratified rocks resulting from the degradation of the land produced by the action of rain, rivers, frosts, glaciers, icebergs, accumulations of organic debris, &c.

The transport of matter by rivers, the formation of deltas, &c., and the general accumulations of great deposits of marine and freshwater strata.

The theory of the origin of salt lakes.

Proofs that large areas of the earth's surface are now being slowly elevated above or depressed beneath the sea. The relations of coral reefs and of earthquake and volcanic phenomena to this branch of the subject.

Explanation of common geological terms—as clay, sand, gravel, horizontal and inclined strata, anticlines and synclines, unconformability, dip, joint, fault.

The candidates will also be required to make sketches, and name unlabelled specimens of the commoner rocks of this country.

G. HISTORY.

1. ANCIENT HISTORY.
"The Romans under the Empire."
Text-book recommended—Merivale's istory.

2. MODERN HISTORY.
"The Reigns of Elizabeth, James I., and Charles I."
Text-books recommended—Hume and Hallam.

Schedule of Marks prepared under No. IX. of the foregoing Regulations:

COMPULSORY SUBJECTS.

1.	Reading, and writing from dictation	150
2.	English Grammar, including the analysis of sentences	
3.	Writing a short English Composition, such as a description of a place, an account of some useful product, or the like	
4.	The elements of Arithmetic, including vulgar and decimal fractions ...	150
5.	The outlines of Geography, and in particular the Geography of Australia, Tasmania, and New Zealand	100
6.	The outlines of English History from the Norman Conquest, including the succession of Sovereigns, the chief events, and some account of the leading men in each reign	100
7.	Latin	200
	or (in the case of female candidates who substitute French)	
	French	150
8.	Mathematics	250

The marks obtained in the first six of the Compulsory Subjects will not be taken into account in deciding the relative positions of the candidates in the Class Lists.

OPTIONAL SUBJECTS.

A.1.	Latin	300
A.2.	Greek	400
B.1.	Algebra	200
B.2.	Geometry	200
B.3.	Trigonometry	100
C.1.	French	250
C.2.	German	250
C.3.	Italian	250
D.	English	250
E.1.	Chemistry, with the cognate portions of Physics...	150
E.2.	Natural Philosophy	150
F.1.	Animal Physiology	150
F.2.	Botany	150
F.3.	Geology...	150
G.1.	Ancient History	100
G.2.	Modern History	100

MEDICAL STUDENTS.—The Royal College of Surgeons of England recognises the First-Class certificate of having passed the Matriculation Examination, and the Degree of B.A., of this University, as exempting Candidates from the necessity of passing the Preliminary Examination for the Diploma of Member of the College.

The General Council of Medical Education and Registration of the United Kingdom has recognised the Matriculation Examination of the University of Adelaide, and inserted it in the list of Examinations fulfilling the conditions of the Medical Council as regards Preliminary Examination; and has intimated that

"On and after the first day of January, 1882, no person shall be allowed to be registered as a Medical Student unless he shall have previously passed a Preliminary Examination in the subjects of General Education as specified in the following list:—

(1) English Language, including Grammar and Composition; *
(2) English History;
(3) Modern Geography;
(4) Latin, including Translation from the original and Grammar;
(5) Elements of Mathematics, comprising (*a*) Arithmetic, including Vulgar and Decimal Fractions; (*b*) Algebra, including Simple Equations; (*c*) Geometry, including the first two books of Euclid or the subjects thereof;
(6) Elementary Mechanics of Solids and Fluids, comprising the Elements of Statics, Dynamics, and Hydrostatics; †
(7) One of the following Optional Subjects:—
(*a*) Greek; (*b*) French; (*c*) German; (*d*) Italian; (*e*) any other Modern Language; (*f*) Logic; (*g*) Botany; (*h*) Elementary Chemistry."

CIVIL SERVICE.—Under the Civil Service Regulations the Matriculation Examination of this University is recognised as qualifying Candidates for admission to the Civil Service.

ARTICLED CLERKS.—Under the Rules of the Supreme Court no person can be articled to a Solicitor until he has passed the Matriculation Examination of the University of Adelaide, or that of some University recognised by it, or a Preliminary or Intermediate Examination which articled Clerks in the United Kingdom are required to pass. [See the *South Australian Government Gazette* for October 5, 1876, p. 2,019, *et seq.*]

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* "The General Medical Council will not consider any Examination in the English Language sufficient that does not fully test the ability of the Candidate:—(1) To write sentences in correct English on a given theme, attention being paid to spelling and punctuation as well as to composition;—(2) to write correctly from dictation;—(3) to explain the grammatical construction of sentences;—(4) to point out the grammatical errors in sentences ungrammatically composed, and to explain their nature; and (5) to give the derivation and definition of English words in common use."

† "This subject may be passed either as Preliminary, or before or at the first Professional Examination."

RULES OF THE LABORATORY

I. The University will provide reagents and gas necessary for the use of the students.

II. Each student is at liberty to provide himself with a set of apparatus, but can purchase a set of apparatus from the University for a sum of £2 10s., equal to cost price in Adelaide.

III. The following articles constitute a set of apparatus:—

Conical brass blowpipe
Platinum Wire, 6 inches
Platinum Foil, 2 by 1 inches
Test Tube Stand, 24 holes
Test Tubes, 18 of 6 by $\frac{3}{4}$ inches
Test Tubes, 12 of 5 by $\frac{1}{2}$ inches
Boiling Tubes, 2 of 8 by $1\frac{1}{4}$ inches
Test Tube Brushes, 2
Beaked Tumblers, a set of 3
German Flasks, 1 each—2 oz., 4 oz., 8 oz., 16 oz., and 30 oz.
Berlin Porcelain Crucibles $1\frac{1}{4}$ inch, and $1\frac{1}{2}$ inch
Berlin Porcelain Evaporating Dishes, $1\frac{1}{4}$ inch, and $1\frac{1}{2}$ inch
Funnels, 1 each—$1\frac{1}{2}$ inch and 2 inch
Filtering Paper, 1 quire
Iron Retort Stand
Watch Glasses, 2 inch, 6
Glass Tubes, soft, 3-16 to $\frac{1}{4}$ inch, $\frac{1}{2}$ lb., in lengths of about 2 feet
Glass Combustion Tubes, $\frac{3}{8}$ inch bore, $\frac{1}{2}$ lb., in lengths of 2 feet
Bunsen Gas Burner, &c.
Caoutchouc Tubing, 2 feet
Corks, 3 doz. assorted
Woulff's Bottle, 2 necks, pint size
Stoppered German Retort, 2 oz.
Set of 3 Cork Borers
Round, triangular, and square flat files, 1 each
Crucible Tongs
Porcelain Mortar, 4 inch
Box of Test Papers
Cobalt Nitrate Solution, $\frac{1}{2}$ oz.
Silver Nitrate Solution, $\frac{1}{2}$ oz.
Platinic Chloride Solution, $\frac{1}{2}$ oz.
Two Dusters
Glass Spirit Lamp, 4 oz.
Methylated Spirit, 1 pint

IV. Other apparatus may be used by the students, but all breakages are to be made good.

V No experiments of a dangerous character are to be performed without the previous knowledge of the Professor or his assistant.

OF THE DEGREE OF BACHELOR OF ARTS.*

REGULATIONS.

I. To obtain the Degree of Bachelor of Arts every candidate must after matriculation complete three academical years of study, and pass the examination proper to each year.

II. The Ordinary Examinations shall be held within the last fortnight of the closing term of each academical year.

III. At the First Ordinary Examination for the Degree of Bachelor of Arts every candidate shall be required to satisfy the Examiners in each of the following subjects:

1. *Latin.*
2. *Greek.*
3. *Elementary Pure Mathematics.*
4. *Elementary Natural Philosophy.*
5. *Deductive Logic.*

IV. At the Second Ordinary Examination for the Degree of Bachelor of Arts every candidate shall be required to satisfy the Examiners in each of the following subjects:

1. *Latin* } *including Ancient History.*
2. *Greek* }
3. *Elementary Applied Mathematics.*
4. *English Language and Literature.*
5. *Inductive Logic.*

V. At the Third Ordinary Examination for the Degree of Bachelor of Arts every candidate shall be required to satisfy the Examiners in each of the following subjects:

1. *Latin.*
2. *Greek.*
3. *Comparative Philology.*
4. *Mathematics.*
5. *Political Economy.*

VI. Schedules fixing the special authors and works to be studied in Latin and Greek, and defining as far as may be necessary the range of questions to be set in the other subjects, shall be drawn up by the Professorial Board, subject to the approval of the Council, and shall be published not later than the month of January in each year.

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* The old Regulations, printed in preceding Calendars, apply to Undergraduates who shall have completed before April, 1882, the first year of the B.A. course.

VII. No candidate shall at any Ordinary Examination be allowed to present himself in any subject in which he has failed to gain credit for attendance at the University lectures during the current academical year, except in cases where attendance on lectures may have been dispensed with by special order of the Council.

VIII. No student shall in any academical year be credited with attendance at the University lectures on any subject unless he shall have attended in each term of that year three-fourths of the lectures given in that subject, except in cases of illness or other sufficient cause to be allowed by the Council.

IX. The names of the successful candidates at each Ordinary Examination shall be arranged in three classes, in alphabetical order in each, according to the results of the whole examination.

X. The Examiners at any Ordinary Examination may permit such unsuccessful candidates as they may think proper to present themselves at a Supplementary Examination to be held at the beginning of the next academical year. Candidates who pass this Supplementary Examination shall be held to have completed the preceding academical year.

XI. All other unsuccessful candidates shall be required to pass through an additional year of study before again presenting themselves for Examination.

XII. Any Student of the University may at any Ordinary Examination present himself in any subject in which he has gained credit for attendance at the University Lectures during the current academical year.

XIII. Any Student who shall have passed in any subject of an Ordinary Examination shall be entitled to a certificate showing in what subjects he has passed.

XIV. The following Forms of Notice are prescribed:

Form of Notice to be sent to the Registrar by Undergraduates of their intention to present themselves for Examination.

I, an Undergraduate of the University, hereby give notice that, for the purpose of completing the year of the course for the Degree of Bachelor of Arts, I intend to present myself at the Ordinary Examination in the term of 188 , for examination in the undermentioned subjects, viz.:

1.
2.
3.
4.
5.

I send herewith the prescribed fee of £ , being for each of the above subjects.

Dated this day of (Signed).....
188 .

The Registrar,
University of Adelaide.

Form of Notice to be sent to the Registrar by Students not studying for Degrees of their intention to present themselves for Examination.

I, a Student of this University, hereby give notice that I intend to present myself at the Ordinary Examination in the term of 188 , for examination in the following subjects, viz.

1. 4.
2. 5.
3.

I send herewith the prescribed fee of £ , being for each of the above subjects.

Dated this day of. (Signed).....
188 .

The Registrar,
University of Adelaide.

Allowed: 4th January, 1882.

Schedules drawn up under No. VI. of the foregoing Regulations for the First Year's Course, and under the old Regulations for the Second and Third Years' Courses:

DETAILS OF SUBJECTS FOR THE ORDINARY EXAMINATIONS IN NOVEMBER, 1883, AND MARCH, 1884.

FIRST YEAR'S COURSE.

LATIN.

The subjects are:

Virgil—Æneid, Books I. and II.
Prose Composition.

GREEK.

The subjects are:

Demosthenes—The Olynthiacs, and Philippics.
Prose Composition.

At the First Ordinary Examination a separate paper, containing questions in Latin and Greek Grammar, with simple and easy sentences of English to be translated into Latin, will be set.

PURE MATHEMATICS (Elementary).

The Geometry of the straight line and circle; the Theory of Proportion and of Similar Rectilinear figures.
The Elements of Algebra, as far as the Binomial Theorem (exclusive).

The Measurement of Angles, the definitions of the Trigonometrical ratios, and the relations between them for one and for two angles; the simpler relations between the sides and angles of triangles; the properties and use of logarithms.

Text-books recommended:
Wilson's Elementary Geometry; Todhunter's Euclid and Algebra for Beginners; J. H. Smith's Elementary Trigonometry.

NATURAL PHILOSOPHY (Elementary).
The more elementary parts of Kinetics, Statics, Hydrostatics, Heat, Optics, and Sound, treated experimentally.

Text-book recommended:
Everett's Text book of Physics.

DEDUCTIVE LOGIC.
Text-book—Jevons' Elementary Logic.

SECOND YEAR'S COURSE.

LATIN.
The subjects are:
Virgil—Æneid, Books I. and II.
Horace—Satires and Epistles.
Prose Composition.

GREEK.
The subjects are:
Æschylus—Agamemnon,
Demosthenes—The Olynthiacs and Philippics.
Prose Composition.

ANCIENT HISTORY.
Greek History from B.C. 479 to B.C. 400.
History of Rome under the Republic.

MATHEMATICS (Elementary Applied).
The Elements of Kinetics, Statics and Hydrostatics, treated with the help of so much Pure Mathematics as is included in the first year's course.

ENGLISH LANGUAGE AND LITERATURE.
Shakespeare—Hamlet.
Earle's—Philology of the English Tongue.
Abbott—English Lessons for English people.

INDUCTIVE LOGIC.
Text-book:
Jevons' Elementary Logic and Fowler's Inductive Logic, with references to Mill's Logic.

THIRD YEAR'S COURSE.

LATIN.
The subjects are
Virgil—Æneid, Books I., II.
Horace—The Satires and Epistles.
Prose Composition.

GREEK.

The subjects are :

Æschylus—Agamemnon.

Demosthenes—Olynthiacs and Philippics.

Prose Composition.

COMPARATIVE PHILOLOGY:—Peile's Introduction to Latin and Greek Etymology.

POLITICAL ECONOMY.

Text book :

Jevon's Political Economy.

MATHEMATICS (Advanced).

The Elements of the Differential and Integral Calculus, and of Analytical Geometry of Three Dimensions, with their simpler physical applications.

Or :

Elementary Spherical Geometry and Trigonometry, Practical Astronomy, and the outlines of the theory of Elliptic motion and of the Lunar Theory (treated geometrically).

PHYSICS—

As prescribed for the third year of B.Sc. course.

MINERALOGY AND GEOLOGY.

Mineralogy.—The course of lectures in Mineralogy will comprise

1. The *physical properties* of minerals viewed principally as aiding in the practical discrimination of the various kinds. Fracture. Hardness. Tenacity. Specific Gravity. Lustre. Transparency. Refraction. Optic Axes.
2. *Crystallography.*—Classification of the crystalline forms and their chief combinations. Isometric drawing. Principles of goniometers. Cleavage, Pseudomorphism. Fossilization.
3. The use of the blowpipe, and of such chemical tests as are calculated to be serviceable when in the field. Dimorphism. Isomorphism.
4. The systematic description of the more important species, with particular reference to the mode and places of occurrence, both of those substances which bear a commercial value, and of those which derive their chief interest from geological and physical considerations.

Candidates for examination will be required to prove a practical acquaintance with crystal forms, and with minerals, and the physical and chemical methods of discriminating them.

The following text-books may be used:

Collins—A First Book of Mineralogy.

Dana—Manual of Mineralogy.

Mitchell's Crystallography.

Scheerer's Use of the Blowpipe

Geology:

I. The principles of geological dynamics, and physiography. Effects of rain; sources of water supply. Geological action of rivers. Marine denudation. Geological action of snow and ice. Formation of modern strata. Central heat. External phenomena of volcanoes. Movements of the earth's crust. Agency of organic beings in modifying earth's surface.

II. The composition and formation of the principal rocks. Disintegration of rocks. Classification and characters; metamorphism. Cleavage.

III. The structure of rock masses. Stratification. Calculation of thickness of strata. Disturbance and contortion of strata, &c., &c. Construction of geological sections and maps.

IV. The laws and generalizations of Palæontology.

V. Historical Geology. The typical rocks and characteristic fossils of the Palæozoic, Mesozoic, and Cainozoic systems of Europe.

The Azoic rocks of South Australia, their metamorphic character, igneous rocks, succession, industrial value.

The Silurian and Devonian strata in New South Wales and Victoria, South Australian equivalents.

The Carboniferous strata in New South Wales, typical rocks and fossils, Triassic and Jurassic strata in Victoria, typical rocks and fossils. Jurassic rocks of South Australia. Cretaceous fossils of Queensland and West Australia. Typical rocks; and characteristic fossils of the South Australian Tertiary epochs, and their relation to existing fauna. Bone caves. Glacial and volcanic phenomena of this period.

As text books may be used:

Jukes—Manual of Geology
Lyell—Student's Manual of Geology
Tate—Student's Class Book of Geology

but more advanced works should be consulted.

BIOLOGY (Botany and Zoology).

As prescribed for Third Year of the B.Sc. course.

OF THE DEGREE OF MASTER OF ARTS.

REGULATIONS.

I. The examination for the Degree of Master of Arts shall take place once in each year in the month of December.

II. No candidate shall be admitted to the Degree of Master of Arts until after the expiration of two academical years from the time at which he obtained the Degree of Bachelor of Arts in this or in some other University recognized by this University.

III. Every candidate shall be required to show a competent acquaintance with one at least of the following branches of knowledge :
1. *Classics and Comparative Philology.*
2. *Metaphysics, Logic, and Political Economy.*
3. *Mathematics.*

IV. Schedules fixing the special authors and works to be studied in Latin and Greek, and defining as far as may be necessary the range of questions to be set in the other subjects, shall be drawn up by the Professorial Board, subject to the approval of the Council, and shall be published not later than the month of January in the year preceding that in which the examination is held.

V. The following Form of Notice is prescribed :

Form of Notice to be sent to the Registrar by Graduates of their Intention to present themselves for Examination.

I, a Bachelor of Arts of the University of , hereby give notice that I intend to present myself at the Examination for the Degree of Master of Arts in the third term of 188 , for examination in the following branch, and send herewith the prescribed fee of £ .

Dated this day (Signed).....
188 .

The Registrar,
University of Adelaide.

Allowed : 4th January, 1882.

SCHEDULES DRAWN UP UNDER NO. IV. OF THE FOREGOING REGULATIONS.

Branch I.

Classics and Comparative Philology.

The Examiners will limit their selection of passages to the following authors, and in each year four will be prescribed for special study.

GREEK.

Homer—Odyssey, Books I. to VI.
Æschylus—Septem contra Thebas.
Sophocles—Ajax. Antigone.
Euripides—Medea and Hecuba.
Aristophanes—Knights.
Herodotus—Books III. and IV.
Thucydides—Books VI. and VII.
Plato—Apology and Phædo.
Demosthenes—De Coronâ.

LATIN.

Virgil—Georgics.
Horace—Odes and De Arte Poeticâ.
Plautus—Menæchmi and Miles Gloriosus.
Juvenal—Satires IV. and X.
Lucretius—Book I.
Cicero—The Verrine Orations.
Livy—Books XXI., XXII., XXIII.
Tacitus—The Histories, Books I., II.

Composition—Greek and Latin prose.

The papers set at the Examination will also contain questions in Geography and Grammar.

Candidates will be expected to have a general acquaintance with the History of Greece and Rome, and one or more papers will be set in Comparative Philology.

The Subjects for Special Study in December, 1883 are

GREEK.

Homer—Odyssey, Books I. to VI.
Herodotus—Books III. and IV.

LATIN.

Plautus—Menæchmi and Miles Gloriosus.
Tacitus—Histories, Books, I. and II.

The Subjects for Special Study in December, 1884 are

GREEK.

Æschylus—Septem contra Thebas.
Plato—Apology and Phædo.

LATIN.

Virgil—Georgics.
Livy—Books XXI., XXII., XXIII.

BRANCH II.

MATHEMATICS.

Candidates may present themselves for examination either in Pure Mathematics or in Applied Mathematics; but will in either case be expected to show a competent knowledge of the following preliminary portions of Mathematics, that is to say of:

Algebra, the simpler properties of Equations and Determinants.
Plane Trigonometry.
Elementary Analytical Geometry of Two and Three Dimensions.
The elements of the Differential and Integral Calculus, with their simpler applications to Geometry.
The solution of such ordinary Differential Equations as occur in Dynamics.
The Statics of Solids and Fluids.
The Kinetics of a particle.

Candidates who present themselves in Pure Mathematics will further be examined in

The Theory of Equations, the higher parts of Analytical Geometry of Two and Three Dimensions, and of the Differential Calculus, and in Differential Equations.

Candidates who present themselves in Applied Mathematics will be examined in

The Dynamics of Rigid Bodies, and of Material Systems in general.
Hydrodynamics.
The Theories of Sound and Light.
The Theory of Attractions.

BRANCH III.

METAPHYSICS, LOGIC, AND POLITICAL ECONOMY:

Philosophy.—The History and Criticism of Philosophical Systems.
Moral Philosophy.—The History and Criticism of Ethical Systems.
Logic.—History of Logic. Inductive and Deductive Logic.
Political Economy.

Candidates who present themselves for Examination in this branch will be required to possess such a knowledge of Greek, Latin, French, and German, as will enable them to exhibit a thorough acquaintance with the prescribed subjects.

The Examiners shall not be precluded from setting passages in philosophical books in the original languages.

OF THE DEGREE OF BACHELOR OF SCIENCE.

REGULATIONS.

I. To obtain the Degree of Bachelor of Science every candidate must after matriculation complete three academical years of study, and pass the Examination proper to each year.

II. The Ordinary Examinations shall be held within the last fortnight of the closing term of each academical year.

III. At the First Ordinary Examination for the Degree of Bachelor of Science every candidate shall be required to satisfy the Examiners in the following subjects :

1. Two of the following languages : *Latin, Greek, French, German.*
2. *Pure Mathematics*, or *Elementary Applied Mathematics.*
3. *Elementary Natural Philosophy.*
4. *Deductive Logic.*

IV. At the Second Ordinary Examination for the Degree of Bachelor of Science every candidate shall be required to satisfy the Examiners in each of the following subjects :

1. *Elementary Applied Mathematics*, or *Higher Pure Mathematics.*
2. *Physics.*
3. *General Biology.*
4. *Inorganic Chemistry.*
5. *Inductive Logic.*

V. At the Third Ordinary Examination for the Degree of Bachelor of Science every candidate shall be required to satisfy the Examiners in *two* of the following subjects :

1. *Mathematics.*
2. *Physics*, including *Practical Physics.*
3. *Chemistry*, especially *Organic Chemistry* and *Laboratory work.*
4. *Animal Physiology*, including *Histology, Physiological Chemistry*, and *Development.*
5. *Zoology* and *Comparative Anatomy.*
6. *Systematic Botany*, including *Vegetable Morphology, Histology*, and *Physiology.*
7. *Geology, Mineralogy*, and *Palæontology.*
8. *Metallurgy, Practical Chemistry*, and *Mineralogy.*

VI. Schedules fixing the special authors and works to be studied in Latin, Greek, French, and German, and defining as far as may be necessary the range of questions to be set in other subjects shall be drawn up by the Professorial Board, subject to the approval of the Council, and shall be published not later than the month of January in each year.

VII. No candidate shall at any Ordinary Examination be allowed to present himself in any subject in which he has failed to gain credit for attendance at the University lectures during the current academical year, except in cases where attendance on lectures may have been dispensed with by special order of the Council.

VIII. No student shall in any academical year be credited with attendance at the University lectures on any subject unless he shall have attended in each term of that year three-fourths of the lectures given in that subject, except in cases of illness or other sufficient cause to be allowed by the Council.

IX. The names of the successful candidates at each Ordinary Examination shall be arranged in three classes, in alphabetical order in each, according to the results of the whole examination.

X. At the third Ordinary Examination every candidate shall be expected to have a thorough knowledge, both practical and theoretical, of at least *one* of the subjects selected by him, and no candidate shall be placed in the *First* Class who has not displayed *great* proficiency in at least *one* such subject. Candidates may present themselves in one *additional* subject; but *no* credit in such third subject shall be given to any candidate who does not appear to the Examiners to have shown a competent knowledge of it. When a candidate is placed in the *First* Class the subject or subjects for knowledge whereof he is placed in that class shall be signified in the published lists.

XI. The Examiners at any Ordinary Examination may permit such unsuccessful candidates as they may think proper to present themselves at a Supplementary Examination to be held at the beginning of the next academical year. Candidates who pass this Supplementary Examination shall be held to have completed the preceding academical year.

XII. All other unsuccessful candidates shall be required to pass through an additional year of study before again presenting themselves for examination.

XIII. Any Student of the University may at any Ordinary Examination present himself in any subject in which he has gained credit for attendance at the University Lectures during the current Academical Year.

XIV. Any Student who shall have passed in any subject of an Ordinary Examination shall be entitled to a certificate showing in what subjects he has passed.

The following Forms of Notice are prescribed :

Form of Notice to be sent to the Registrar by Undergraduates of their intention to present themselves for Examination.

I, an Undergraduate of this University, hereby give notice that, for the purpose of completing the year of the course for the Degree of Bachelor of Science, I intend to present myself at the Ordinary Examination in the Term of 188 , for examination in the undermentioned subjects, viz. :

1. 4.
2. 5.
3.

I send herewith the prescribed fee of £ , being for each of the above subjects.

(Signed).....

Dated this day of , 188 .

The Registrar,
University of Adelaide.

Form of Notice to be sent to the Registrar by Students not studying for Degrees of their intention to present themselves for Examination.

I, a Non-Matriculated Student of this University, hereby give notice that I intend to present myself at the Ordinary Examination in the Term, for examination in the following subjects :

1. 4.
2. 5.
3.

And I send herewith the prescribed fee of £ , being for each of the above subjects.

(Signed).....

Dated this day of 188 .

The Registrar,
University of Adelaide.

Allowed : 4th January, 1882.

SCHEDULES DRAWN UP UNDER NO. VI. OF THE FOREGOING REGULATIONS.

DETAILS OF SUBJECTS FOR THE ORDINARY EXAMINATION IN NOVEMBER, 1883, AND MARCH, 1884.

FIRST YEAR'S COURSE.

LATIN. GREEK. PURE MATHEMATICS. ELEMENTARY NATURAL PHILOSOPHY. DEDUCTIVE LOGIC.	The same as prescribed for the first year of the B.A. course.
ELEMENTARY APPLIED MATHEMATICS.	As prescribed for the second year of the B.A. Course.

FRENCH.

Molière—L'École des Femmes ;
Louis XIV. and his Contemporaries. (Clarendon Press Edition).

Brachet—Historical French Grammar. (Clarendon Press Edition).
Passages will also be set for translation from authors not previously specified; and also passages for translation from English into French.

GERMAN.

Goethe—Iphigenie.
Lessing—Minna von Barnhelm.
Passages will also be set for translation from authors not previously specified; and also passages for translation from English into German.

SECOND YEAR'S COURSE.

ELEMENTARY APPLIED MATHEMATICS.

The same as prescribed for the second year of the B.A. course.

HIGHER PURE MATHEMATICS.

The Binomial Theorem, the theory of Convergent and Divergent Series, the Exponential and Logarithmic Series, the construction of Logarithmic Tables, the elements of the theory of Probability, Notation. The solution of triangles, the properties of a triangle and its associated circles, the construction of trigonometrical tables, the geometrical representation of complex quantities, De Moivre's Theorem and the principal theorems derived from it, the simpler trigonometrical series. Analytical Geometry. The theory of lines of the first and second degrees.

PHYSICS.

Properties of Matter: Elasticity, Viscosity, Capillarity, Diffusion.
Sound: The general theory of Waves and Vibrations. Lissajous' and other optical methods of studying vibrations. Waves in Solids, Longitudinal Vibrations of Rods and of Columns of Air. Vibrations of Strings. Resonance. Analysis of Sounds, Theory of Quality. Interference of Sound, Beats.
Optics: Photometry. Theory of Optical Instruments. Dispersion, Achromatism. Measurement of Refractive Indices. Explanation of Rainbows and Haloes.
Heat: Thermometry. Methods of Calorimetry. Conduction of Heat. Radiation and Absorption. Outlines of the Molecular Theory of Gases. First Law of Thermodynamics. The Steam Engine.
Electricity and Magnetism: Modes of producing Electricity, Distribution of Electricity, Induction. Electric Potential, Lines of Force. The Quadrant Electrometer. The Frictional Electrical Machine. The Electrophorus.
Magnetism, Magnetic Induction, Magnetic Potential, and Lines of Force.
Voltaic Batteries, Electromotive Force, Ohm's Law, Resistance, Electrolysis. Evolution of Heat in the Voltaic Circuit. The Thermo-electric Couple.
Electro-magnetism. Experiments of Oersted and Ampére. Galvanometers. Laws of Induction. Construction of Induction Coils, Magneto-electric and Dynamo-electric Machines, Electromotors. Electric Transmission of Power.

Text-book:

Deschanel's *Natural Philosophy* (Sixth Edition).

GENERAL BIOLOGY.

Structure, Functions, and Life-history of the Yeast-plant, Protococcus, Bacteria, Moulds, Amœba, Bell-animalcule, Sea-anemone, Fresh-water Mussel, Slug, and Cuttle-fish.

Morphology and Histology of a Fern, of a Stonewort *(Chara)* and of a Flowering plant.

Text-books recommended :
Practical Biology : Huxley and Martin.
Zoological Exercises : Hutton.

INORGANIC CHEMISTRY.

The general principles of chemical combination by weight. Notation and Nomenclature. The classification of the elements and the principles of the leading chemical theories. Oxygen, Ozone, Hydrogen, Water, Distillation, Filtration. Nitrogen, Carbon, Carbonic oxide, and Carbonic acid. The Atmosphere, Diffusion of gases. The Oxides of Nitrogen, Ammonia. Chlorine, Bromine, and Iodine, and their Compounds with Oxygen and Hydrogen. Theory of acids and salts; of Bleaching. Sulphur. Sulphurous acid. Sulphuric acid. Sulphuretted Hydrogen. Laws of Combination by volume. Phosphorus, its Oxygen compounds, Phosphuretted Hydrogen. Principal Hydrogen-compounds of Carbon. Combustion and the structure of Flame. Boron, Boric acid.

Classification and Characters of Metals.

Description of the following elements and their compounds :—Potassium, Sodium, Silver, Barium, Strontium, Calcium, Zinc, Magnesium, Mercury, Copper, Gold, Platinum, Tin, Lead, Aluminium, Iron, Manganese, Cobalt, Nickel, Arsenic, Antimony, Bismuth, Chromium.

The chief applications of Chemistry in the Arts and Manufactures. Calculation of empirical formulæ.

Text-books recommended :
Wilson's Elementary Chemistry.
Fownes's Elementary Chemistry.

INDUCTIVE LOGIC.

Text-book recommended :
Fowler's Inductive Logic.

THIRD YEAR'S COURSE.

PHYSICS.

The subjects of the Second Examination for the Degree of B.Sc., treated more fully, with the following additions—

Mechanics : Moment of Inertia, Centre of Oscillation, Kater's Pendulum, Measurement of Intensity of Gravity. The motion of Liquids and Gases, Toricelli's Theorem.

Sound : Vibrations of Bars and Plates. Theory of Consonance and Dissonance. Combination Tones.

Optics : Methods of measuring the Velocity of Light. Spherical Aberration, Caustics. Focal Lines. Study of Spectra. Fluorescence. Theory of Colour. The elements of Physical Optics; viz., the laws of Reflection and Refraction, the simple phenomena of Interference and Diffraction, Polarization, and Double Refraction, with their explanations.

Heat : General theory of Radiation and Absorption, the Law of Exchanges. The Second Law of Thermodynamics. The Dissipation of Energy.

Electricity and Magnetism : Specific Inductive Capacity. Residual charge of the Leyden Jar. Atmospheric Electricity. Electrometers. The theory of Electrical Machines acting by Induction and Convection.

Terrestrial Magnetism, including the methods of observation. Magnetism and Diamagnetism.
Electrolytic Polarization. Thermo-electricity.
Practical Physics: The more important methods of measurement.

ZOOLOGY.

The principal facts of structure in the following types :—
1. Cat, Rabbit, Opossum, Pigeon, Snake, Lizard, Frog, Fish, Cuttle-fish, Mussel, Scorpion, Crayfish, Starfish, Sea anemone.
2. The development of the chick.

The structural and physiological characters of all the classes and following orders:—

Bimana, Cheiroptera, Cetacea, Perissodactyla, Proboscidea, Marsupialia, Monotremata, Struthionidae, Lacertilia, Ophidia, Chelonia, Ganoidei, Dipnoi, Elasmobranchii, Marsipobranchii, Cephalopoda, Brachiopoda, Tunicata, Coleoptera, Hemiptera, Lepidoptera, Cirripedia, Trematoda, Cestoidea, Nematoidea, Rotifera, Foraminifera, Gregarinidæ.

Text-books recommended:

Elements of Embryology: Foster and Balfour.
Manual of Zoology: Nicholson.
Forms of Animal Life: Rolleston.

PRACTICAL EXAMINATION.

Each Candidate must be prepared to examine and dissect and describe such animals or such parts of animals as may be placed before him selected from the above list of types, and to examine prepared specimens illustrative of any of the Orders above enumerated, and to write descriptions of them.

ANIMAL PHYSIOLOGY:

Chemical composition of food. The quantities and kinds of food required to balance the losses of economy.
The several processes to which food is subjected in Digestion.
Absorption in general, chyliferous and lymphatic absorption.
The Blood, its organic and chemical constitution, phenomena and mechanism of Circulation.
Respiration, its mechanical and chemical actions, effects of its suppression.
Temperature of the body; production and regulation of Animal Heat.
Secretion and Excretion; construction and operation of secreting apparatus. Chemical composition and amount of the Urinary, Cutaneous, and Pulmonary excretions.
Muscular and Contractile substance; phenomena presented by acting Contractile substance.
Nutrition, Growth, and Reparation.
The Mechanism of Locomotion, Voice, and Speech.
Constitution and Functions of Nervous System. Distinction of Motor and sensory Nerves or Nerve-fibres. Phenomena presented by nerves in action. Influence on Contractile Tissue.
Functions of Brain, Spinal Cord, and Ganglia. Sensation, Voluntary motion, Reflex action, Inhibitory action. Influence of Nervous System on Heart and Blood Vessels, and on Secreting Organs.
Organs of the Senses and their functions.
Reproductive Organs and their functions.
Changes produced in the Ovum by impregnation. Outline of the Development of the Embryo and its envelopes. Nutrition of the Fœtus. Changes which occur at Birth in the Fœtus and in the parent. Lactation.

Changes which take place with age in the proportions of the Body, in the Skeleton, in the Dentition, and in the Reproductive apparatus.
Differences between Man and Woman other than in the Reproductive Organs.
Senile decay.
Somatic and Molecular Death.

Text-books recommended:
Kirke's Handbook of Physiology by Morrant Baker.
Text-book of Physiology: M. Foster.

PRACTICAL EXAMINATION.

Each Candidate must be prepared (1) to examine and describe Microscopical Specimens of animal tissues and organs. (2) To make Microscopical preparations of Animal tissues and organs. (3.) To prove his practical acquaintance with the Chemistry of Albumen and its allies, milk, the digestive juices and their actions, blood, urine, and glycogen.

Also to show his practical acquaintance with the most important apparatus used in studying the Physiology of muscle, nerve, the circulatory and respiratory systems, and the organs of sense.

Text-books recommended:
A Course of Elementary Practical Physiology: Foster and Langley.
Practical Exercises in Physiology: Burdon Sanderson.
Practical Histology: Rutherford.

BOTANY.

The teaching will be conducted as far as practicable with reference to actual illustrative specimens. The chief subjects lectured upon will be:

1. The chemistry of the compounds forming the principal part of the structure of plants.
2. Vegetable Histology.
3. The general structure and physiology of a flowering plant.
4. The morphology and physiology of fungi and algæ.
5. The characters and general properties of the chief natural orders of Australian plants, including Cruciferæ, Caryophyllaceæ, Malvaceæ, Rutaceæ, Leguminosæ, Myrtaceæ, Umbelliferæ, Compositæ, Goodenovieæ, Epacrideæ, Scrophulariaceæ, Myoporineæ, Solanaceæ, Labiatæ, Chenopodiaceæ, Amarantaceæ, Proteaceæ, Euphorbiaceæ, Orchidaceæ, Liliaceæ, Cyperaceæ, and Gramineæ.
6. The broad facts of the geographical distribution of flowering plants.
   Candidates will be required to prove a practical acquaintance with the morphology and histology of plants, and with the chief constituents of the local flora.

Text-books:

Balfour. Text-book of Botany.
Bentham. Flora Australiensis.

GEOLOGY.

I. The principles of geological dynamics, and physiography. Effects of rain; sources of water supply. Geological action of rivers. Marine denudation. Geological action of snow and ice. Formation of modern strata. Central heat. External phenomena of volcanoes. Movements of the earth's crust. Agency of organic beings in modifying earth's surface.

II. The composition and formation of the principal rocks. Disintegration of rocks. Classification and characters; metamorphism. Cleavage.

III. The structure of rock masses. Stratification. Calculation of thickness of strata. Disturbance and contortion of strata, &c., &c. Construction of geological sections and maps.

IV. The laws and generalizations of Palæontology.

V. Historical Geology. The typical rocks and characteristic fossils of the Palæozoic, Mesozoic, and Cainozoic systems of Europe.

The Azoic rocks of South Australia, their metamorphic character, igneous rocks, succession, industrial value.

The Silurian and Devonian strata in New South Wales and Victoria, South Australian equivalents.

The Carboniferous strata in New South Wales, typical rocks and fossils, Triassic and Jurassic strata in Victoria, typical rocks and fossils. Jurassic rocks of South Australia. Cretaceous fossils of Queensland and West Australia. Typical rocks; and characteristic fossils of the South Australian Tertiary epochs, and their relation to existing fauna. Bone caves. Glacial and volcanic phenomena of this period.

As text-books may be used:

Jukes—Manual of Geology.
Lyell—Student's Manual of Geology.
Tate—Student's Class-Book of Geology.
But more advanced works should be consulted.

MINERALOGY.

The course of lectures in Mineralogy will comprise

1. The *physical properties* of minerals viewed principally as aiding in the practical discrimination of the various kinds. Fracture. Hardness. Tenacity. Specific Gravity. Lustre. Transparency. Refraction. Optic Axes.
2. *Crystallography.*—Classification of the crystalline forms and their chief combinations. Isometric drawing. Principles of goniometers. Cleavage, Pseudomorphism. Fossilization.
3. The use of the blowpipe, and of such chemical tests as are calculated to be serviceable when in the field. Dimorphism. Isomorphism.
4. The systematic description of the more important species, with particular reference to the mode and places of occurrence, both of those substances which bear a commercial value, and of those which derive their chief interest from geological and physical considerations.

Candidates for examination will be required to prove a practical acquaintance with crystal forms, and with minerals, and the physical and chemical methods of discriminating them.

The following text-books may be used:

Collins—A First Book of Mineralogy.
Dana—Manual of Mineralogy.
Mitchell's Crystallography.
Scheerer's Use of the Blowpipe.

The other subjects for the Third year of the B.Sc. course are under consideration.

REGULATIONS.

OF THE DEGREE OF BACHELOR OF LAWS, AND OF LECTURES AND EXAMINATIONS IN LAWS FOR STUDENTS NOT STUDYING FOR THE DEGREE.

I. To obtain the Degree of Bachelor of Laws, any student must after Matriculation complete three academical years of study, and pass the Examination proper to each year.

II. The Examinations shall be held in the first and third terms of each academical year.

III. At the First Examination for the Degree of Bachelor of Laws, every student proceeding to that Degree shall be required to satisfy the examiners in each of the following subjects :

1. Roman Law.
2. The Law of Property.

The papers to be set in Roman Law shall contain passages in Latin, which the students shall be required to translate. No student will be allowed to pass in Roman Law who does not show a competent knowledge of Latin.

IV. At the Second Examination for the Degree of Bachelor of Laws, every student proceeding to that Degree shall be required to satisfy the Examiners in each of the following snbjects :

1. Jurisprudence.
2. Constitutional Law.
3. The Law of Obligations.

V. At the Third Examination for the Degree of Bachelor of Laws' every student proceeding to that Degree shall be required to satisfy the Examiners in each of the following subjects :

1. International Law.
2. The Law of Wrongs (civil and criminal).
3. The Law of Procedure.

VI. Students who in accordance with the Regulations pass the Examinations in the Law of Property, Constitutional Law, the Law of Obligations, the Law of Wrongs (civil and criminal), and the Law of Procedure, and fulfil all other conditions prescribed by the Statutes and Regulations shall be entitled to receive a final certificate that they have passed in those subjects.

VII. A student who shall pass in any subject shall be entitled to a certificate to that effect.

VIII. Schedules fixing the books and detailed subjects of study and examination shall be drawn up by the Faculty, subject to the approval of the Council, and shall be published not later than the month of January in each year.

IX. Any student may present himself for Examination in any subject in which he has gained credit for one academical year's attendance at Lectures, but no student shall so present himself in any subject in which he has failed to gain credit for attendance at the University Lectures during so many terms as shall constitute one academical year unless

His attendance on lectures shall have been dispensed with by special order of the Council; or unless he is articled to a practitioner of the Supreme Court whose office is more than ten miles distant from the University.

The Examination need not be passed in the same academical year in which the Lectures have been attended, nor need the terms constituting an academical year be all kept in one and the same year.

X. No student shall in any term be credited with attendance at the University lectures in any subject unless he shall have attended during that term three-fourths of the lectures given in that subject, except in cases of illness or other sufficient cause to be allowed by the Council.

XI. The names of the students passing each Examination for the Degree of Bachelor of Laws shall be arranged in three classes, in alphabetical order in each.

The names of all other students passing in any subject shall be arranged in alphabetical order in lists, which shall indicate the subjects in which each student has passed.

The Council shall transmit a copy of the above-mentioned lists to the Chief Justice or (if the Chief Justice be absent from Adelaide, or if their be no Chief Justice) to the Senior Judge of the Supreme Court.

XII. Notwithstanding anything contained in the foregoing regulations, any matriculated student who shall, before the 31st day of December, 1885, have passed the intermediate or final examination prescribed by the Rules of the Supreme Court shall be entitled to obtain the Degree of Bachelor of Laws on completing the second and third years of the course for that Degree, and on passing the examination proper to each of those years. Provided that at the examination in such second year he shall pass in Roman Law, which he may substitute for Jurisprudence.

XIII. Notices by students of their intention to present themselves for examination must reach the Registrar not more than six weeks and not less than one calendar month before the commencement of the Examination.

XIV. The under-mentioned fees shall be payable in advance.

Entrance fee for students not intending to graduate in Laws but intending to attend lectures or present themselves for examination in Laws	£1 1 0
Fees payable in each term by every student attending Lectures in any subject included in the course for the Degree of Bachelor of Laws :	
For each subject	1 1 0
Examination fee for each subject	0 15 0
Fee for certificate of having passed in one or more subjects of any examination in the course for the Degree of Bachelor of Laws	0 5 0
Fee for final certificate showing all the subjects in which a Student has passed at the three Examinations in Laws ...	1 1 0
Fee for the Degree of Bachelor of Laws	3 3 0

XV. The following Forms of Notice are prescribed :

Form of Notice to be sent to the Registrar by any student proceeding to the Degree of Bachelor of Laws, and of his intention to present himself for examination.

THE UNIVERSITY OF ADELAIDE.

I, a student of this University, hereby give notice that for the purpose of completing the year of the course for the Degree of Bachelor of Laws, I intend to present myself at the Examination in the term of 18 for examination in the undermentioned subjects, viz. :

[Here state the subjects.]

I send herwith the prescribed fee of £ being for each of the above-mentioned subjects.

(If the student is an articled clerk, add) :

I am articled to Mr. , a solicitor of the Supreme Court, whose office is situated in

Dated this day of 188

(Signature of Student).....

(Address).....

To the Registrar,
University of Adelaide.

Form of Notice to be sent to the Registrar by any student not proceeding to the Degree of Bachelor of Laws of his intention to present himself for examination.

THE UNIVERSITY OF ADELAIDE.

I, , a student of this University, hereby give notice that I intend to present myself at the Examination in Laws, in the term of 188 for examination in the undermentioned subjects, viz. :

[Here state the subjects.]

I send herewith the prescribed fee of £ being the entrance fee (if not previously paid), and £ for each of the above-mentioned subjects.

(If the student is an articled clerk, add) :
I am articled to Mr. a solicitor of the Supreme Court, whose office is situated in
Dated this day of 188
(Signature of Student).....
(Address).....

To the Registrar,
University of Adelaide.

XVI. The foregoing Regulations shall come into force concurrently with the Statutes in Chapter IX.

RULES OF THE SUPREME COURT.

The rules of the Supreme Court, of which copy is annexed, were published in the *Government Gazette*, February 1st, 1883, and are published in the Calendar for convenience of reference :—

In the Supreme Court of South Australia.—General Rules and Orders made by the Judges of the Supreme Court in pursuance of an Act, No. 31 of 1855-6, intituled "An Act to consolidate the several Ordinances relating to the Establishment of the Supreme Court of the Province of South Australia." Whereas, by an Act of the Parliament of South Australia, No. 31 of 1855-6, intituled "An Act to consolidate the several Ordinances relating to the Establishment of the Supreme Court of the Province of South Australia," it is enacted that it shall be lawful for the Judges of the Supreme Court to make and practise such general rules and orders touching and concerning the admission of attorneys, solicitors, and barristers as the circumstances of the province may require: It is therefore ordered that the rules enumerated in the schedule hereto shall be of no force as regards gentlemen who, after the coming into operation of these rules, shall become articled to practitioners.

And it is further ordered that:

I. Every such articled clerk, before he applies for admission to practise in the court, must, after examination, have taken or be entitled to take the Degree of Bachelor of Laws at the University, or must, at the proper examinations of the University, pass in the Law of Property, Constitutional Law, the Law of Obligations, the Law of Wrongs (Civil and Criminal), and the Law of Procedure; and must furnish to the Board the University's final certificate that he has passed in them.

II. Notwithstanding the provisions of any rules of the court, each clerk heretofore articled to a practitioner, who shall, after examination, take or be entitled to take the Degree of Bachelor of Laws at the University, or who shall furnish the board with the said final certificate, shall thereupon be exempted from the operation of the 6th and 17th of the rules of the court of the third day of October, 1876.

III. In addition to being furnished with such final certificate, the board may require every such clerk as is mentioned in the foregoing rules to answer, verbally or in writing under his hand, such questions touching his conduct and service during his clerkship as the board shall think fit to propose. Every such clerk (and each practitioner with whom he may have served any part of his clerkship) shall, if required by the Board, and if not pre-

vented by sufficient cause from complying with such requirement, attend the board, and give such explanations as the board may require touching the said conduct and service.

IV. With respect to each such clerk as aforesaid, the board shall substitute for the report now required by the rules of the court a report in the subjoined form, or to the like effect:

REPORT.

To their Honors the Judges of the Supreme Court.

We, the examiners of the Supreme Court, hereby report:

1. That [*name of applicant*] has complied with all the conditions and passed all the examinations required of him by the rules of this Honorable Court.
2. That we believe him to be a fit and proper person to be admitted as a practitioner of this Honorable Court [*or as the case may be*].

V. Each such clerk as aforesaid shall substitute for the affidavit, now required by the rules of the court, affidavit in the subjoined form, or in such other like form as may in each instance satisfy the board:

FORM OF AFFIDAVIT.

In the Supreme Court of South Australia. } In the matter of A.B., gentleman.

I, A. B., of , in the province of South Australia, gentleman, make oath and say:

1. That I have furnished to the Board of Examiners of the Supreme Court all the certificates required of me by the rules of court.
2. That I am the person named therein.
3. That I have caused to be duly posted and published the notices required of me by the rules of this honourable court, and have otherwise complied in all respects with the said rules so far as they regard me.

Sworn at this day of , in the year 18 , before me , a Commissioner for taking affidavits in the Supreme Court of South Australia.

VI. No person shall be admitted to practise in the court until he shall have attained the age of twenty-one years.

VII. In the foregoing rules the undermentioned phrases shall respectively bear the meanings hereinafter ascribed to them, namely, "the University" means the University of Adelaide; "the court" means the Supreme Court of the province of South Australia; "the board" means the Board of Examiners of the Supreme Court of the province of South Australia, or a quorum thereof. Any three of the members of the said board shall constitute a quorum thereof. "Practitioner" means practitioner of the Supreme Court of the province of South Australia.

VIII. These rules shall be forthwith published in the *Government Gazette*, and shall commence and take effect from and after the fifteenth day of March, in the year one thousand eight hundred and eighty-three.

Schedule referred to in the foregoing Rules and Orders:

The rules of the third day of October, 1876, numbered respectively—6, 7, 8, 9, 10, 11, 17, 18, and 22.

Given under our hands and the Seal of the Supreme Court, at the Supreme Court House, at Adelaide, this twenty-fourth day of January, in the year of our Lord one thousand eight hundred and eighty-three.

(L.S.)

S. J. WAY, C. J.
JAS. P. BOUCAUT, J.
R. B. ANDREWS, J.

OF NOTICES FOR AND CONDUCT AT EXAMINATIONS.

REGULATIONS.

Every candidate for any University examination shall, not less than one calendar month and not more than six weeks before the commencement of such examination, enter his or her name for such examination by furnishing to the Registrar in the prescribed form the particulars therein specified.

No entry for any examination shall be received unless and until the fee for that examination shall have been paid.

If during any examination whatever, any candidate use book or notes, or give assistance to another candidate, or through culpable negligence allow any other candidate to copy from or otherwise use his or her papers, or accept assistance from any other candidate, or fraudulently use any paper of any other candidate, he or she shall lose that examination, and shall be liable to such further punishment by exclusion from future examinations or otherwise as the Council on the report of the Professorial Board shall award; and if detected at the time, shall be summarily dismissed from the examination room.

Academic Dress.

Regulations.

At all lectures, examinations, and public ceremonials of the University, Graduates and Undergraduates must appear in academic dress.

The academic dress shall be:

For Undergraduates—A plain black stuff gown and trencher cap.

For all Graduates—A black trencher cap with black silk tassel; and

For Bachelors and Masters of Arts, Bachelors and Doctors of Medicine, and Bachelors and Doctors of Laws—Gowns similar to those used at Oxford and Cambridge for the same Degrees; and hoods, of the shape shown in a coloured drawing marked A, to which the Seal of the University has been this day affixed, and which is countersigned by the Registrar, of a black colour, and (save as to the edging and lining thereof) of such material as the wearer shall select.

The hoods for Bachelors of the several Faculties shall have on both the inner and the outer fold an edging of silk of one and a-half inches in width. The colour of the edging shall, for Bachelors of Arts, be white; for Bachelors of Medicine, scarlet; and for Bachelors of Laws, the colour known as "Napoleon blue."

The hoods for Masters of Arts shall be lined throughout the inner fold with white silk, and have on the outer fold an edging of the same silk of one and a-half inches in width.

The hoods for Doctors of Medicine shall be lined throughout the inner fold with scarlet silk, and have on the outer fold an edging of the same silk of one and a-half inches in width.

The hoods for Doctors of Laws shall throughout the inner fold be lined with silk of the colour known as "Napoleon blue," and have on the outer fold an edging of the same silk of one and a-half inches in width.

Notwithstanding anything contained in the foregoing Regulations members of the Senate who have been admitted *ad eundem gradum* may at their option, wear the academic dress appropriate to the Degree in virtue of which they have been so admitted.

Allowed : 21st August, 1878.

SCHOLARSHIPS.

UNIVERSITY SCHOLARSHIPS.—The Department of Education offers annually for competition three *University Scholarships*, each of the value of Fifty Pounds per annum, and tenable for three years.

These Scholarships will in future be awarded on the recommendation of the Council of the University. Candidates must be under eighteen years of age on the 31st of January in the year in which the examination is held, and must have been resident in the Province for at least two years immediately preceding that day. The University will hold the third of these examinations in March, 1883, and applications for admission to it must be made to the Department of Education before the 31st January, 1883.

The full number of Scholarships will not be awarded unless the Examiners are satisfied that a sufficient number of candidates are worthy.

The successful competitors must, as soon as possible after the examination, become students at the University of Adelaide. Payment of the Scholarship will not be made unless the holder conducts himself or herself to the satisfaction of the University authorities, and passes the annual examination for the Degree of B.A.

Scholars are exempted from paying all University Fees.

The following awards have so far been made to these Scholarships :

1876	*Æq.*	Mack, Hans Hamilton
		Robin, Percy Ansell
		Wyatt, Harry Sutton (resigned)
1877		Donaldson, Arthur
1878		Moore, Edwin Canton
1879		Holder, Sydney Ernest
March		Rogers, Richard Sanders
Dec.		Gill, Alfred
1881		Kingsmill, Walter
		Murray, George John Robert
1882		Hopkins, William Fleming
		Leitch, James Westwood
		Wilkinson, Frederick William

The following are the details of the Examination to be held in March, 1883 :

Papers will be set in the following subjects ; no credit will be allowed for any paper in which a candidate fails to obtain one-third of the marks.

DIVISION I. CLASSICS.

(1.) *Latin.* Cicero in Verrem, Actio Prima.
Translation of an easy passage into Latin.

(2.) *Greek.* Demosthenes de Coronâ.
Sophocles, Oedipus Rex.
Translation of an easy passage into Greek.

DIVISION II. MATHEMATICS.

(1.) *Geometry.* The substance of Euclid, Books III., IV., and VI., with exercises. (Any purely geometrical proof will be accepted.)
(2.) *Arithmetic.* The higher rules.
(3.) *Algebra,* as far as the proof of the Binomial Theorem for a positive integral exponent.
(4.) *Plane Trigonometry,* as far as the solution of triangles, with the nature and use of logarithms.

DIVISION III. ENGLISH LANGUAGE AND LITERATURE.

(1.) *Earle's* Philology of the English Tongue, cc. I. to IX., inclusive.
(2.) History of English Literature to the Accession of Queen Elizabeth.
(3.) *Shakespeare.* Hamlet.
Spenser. Fairy Queen. Bk. I.
(4.) An English essay on a subject to be prescribed.

DIVISION IV. MODERN LANGUAGES.

(1.) French, or
(2.) German.
Passages will be set for translation and re-translation, and also questions on the Grammar.
*** A *vive voce* examination will be held in each subject, should the examiners think it desirable. The marks allowed for Divisions I. and II. will be twice as many as those allowed for Divisions III. and IV.

The following are the details of the examination to be held in March, 1884 :

DIVISION I. CLASSICS.

(1.) *Latin.* Tacitus, Agricola.
Horace : Odes, Books III and IV.
Translation of an easy passage into Latin.
(2.) *Greek.* Homer : Odyssey, Book 1.
Euripides, Orestes.
Translation of an easy passage into Greek.

DIVISION II. MATHEMATICS.

(1.) *Geometry.* The substance of Euclid, Books III., IV., and VI., with exercises. (Any purely geometrical proof will be accepted.)
(2.) *Arithmetic.* The higher rules.
(3.) *Algebra,* as far as the proof of the Binomial Theorem for a positive integral exponent.
(4.) *Plane Trigonometry,* as far as the solution of triangles, with the nature and use of logarithms.

DIVISION III. ENGLISH LANGUAGE AND LITERATURE.

(1.) *Earle's* Philology of the English Tongue, cc. I. to IX., inclusive.
(2.) History of English Literature to the Accession of Queen Elizabeth.
(3.) *Shakspeare.* Midsummer Night's Dream.
Gray's Elegy.
(4.) An English essay on a subject to be prescribed.

DIVISION IV. MODERN LANGUAGES.

(1.) French, or
(2.) German.

Passages will be set for translation and re-translation, and also questions on the Grammar.

*** A *vive voce* examination will be held in each subject, should the examiners think it desirable. The marks allowed for Divisions I. and II. will be twice as many as those allowed for Divisions III. and IV.

THE SOUTH AUSTRALIAN SCHOLARSHIP.

The Department of Education offers annually for competition a Scholarship of the value of Two Hundred Pounds per annum and tenable for four years, which is called the *South Australian Scholarship*, and will be awarded on the recommendation of the Council of the University. Candidates must be under twenty-one years of age on the 31st of December in the year in which the examination is held, and must have been resident in the Province at least five years immediately preceding the examination. The successful candidate must, as soon as possible after the examination, become a student at some European University, to be approved by the Department of Education, and payment of the Scholarship will not be made unless the holder conducts himself or herself to the satisfaction of the authorities of such University, and passes such examinations as may be decided by the Minister Controlling Education.

The following awards have been made to this Scholarship:

1879. Beare, Thomas Hudson.
1880. Robin, Percy Ansell, B.A.
1881. Holder, Sydney Ernest, B.A.
1882. Cooke, William Ernest.

Subjoined are the subjects of the examination to be held in December, 1883, and the rules relating to it:

Classics, with History and English Composition.
Mathematics.
Physics.
Natural Science.

The range of questions to be set in Classics, Mathematics, Physics, and Natural Science, will be defined by the Schedules of the corresponding parts of the three examinations for the Degree of B.A. as published in the University Calendar.

All candidates will be expected to show a knowledge of Classics and Mathematics up to the standard of the First examination for the Degree of B.A.

The Examiners will award the Scholarship by preference to a candidate who shall show special excellence either in

(a). Classics, with History and English Composition; or in
(b). Mathematics and Physics; or in
(c). Physics, Chemistry, and Natural Science.

If in the opinion of the Examiners no candidate is of sufficient merit, the Scholarship will not be awarded.

Each candidate must send to the Registrar of the University, on or before 1st November, 1883, a certificate signed by the Minister Controlling Education that the candidate is entitled to compete for the Scholarship in the December following.

ANGAS ENGINEERING SCHOLARSHIP.

J. H. Angas, Esquire, has founded in connection with the University a Scholarship, of which the object is to " Encourage the training of Scientific men, and especially Civil Engineers, with a view to their settlement in South Australia."

The following are the conditions upon which the Scholarship has been founded.

1. The Scholarship shall be tenable for three years, and shall be of the annual value of £200.

2. It shall be competed for triennially ; but if on any competition the Examiners shall not consider any candidate worthy to receive the scholarship, it shall for that year lapse, but shall be competed for during the following year.

3. The Scholarship shall be held conditionally on good behaviour and continuous progress in engineering studies to the satisfaction of the Council.

4. The award shall be determined by a special examination in Mathematics, Natural Science, Mechanics, and Drawing, and such other subjects as the Council of the University shall from time to time direct, and the examination shall be conducted by Examiners appointed by the Council.

5. Each Candidate for the Scholarship must be under twenty-eight years of age at the commencement of the examination, and must have resided in South Australia for at least five years.

6. Each Candidate must also have graduated in Arts or Engineering at the University of Adelaide, and have passed, to the satisfaction of the Council of the University, through such courses of special studies and practical training for the purpose of qualifying him to be a Civil Engineer as shall from time to time be prescribed by the Statutes or Regulations of the University.

7. Within such time after gaining the Scholarship as the Council of the University shall in each case allow the Scholar must proceed to the United Kingdom, and there article himself to such Civil Engineer and for such time as the Council shall approve, or enter himself as a student in such College or University there and prosecute such studies suitable to qualify him to be a Civil Engineer, as the Council shall approve, or enter himself as such student and prosecute such studies for part of the time during which he shall hold such Scholarship, and for the remainder of such time shall article himself to such Civil Engineer as aforesaid.

8. On his returning to settle in South Australia within five years from the time of gaining the Scholarship and in possession of such Degree, Diploma, or Certificate as a Civil Engineer as the Council shall approve, and upon his writing to the approval of the Council a report of his

proceedings and engineering work, he shall receive the further sum of £100 towards his travelling expenses.

The Statutes, of which a copy is subjoined, have been made by the University in reference to this Scholarship.

STATUTES.

1. The Scholarship shall be tenable for three years, and shall be of the annual value of £200.

2. Each Candidate must be under twenty-eight years of age at the commencement of the examination, and must have resided in South Australia for at least five years.

3. Candidates must have graduated in Arts at the University of Adelaide, and have passed to the satisfaction of the Council through courses of special study and practical training in the subjects hereinafter mentioned.

4. The Scholarship shall be competed for triennially, in the month of March; but if on any competition the Examiners shall not consider any candidate worthy to receive it, the Scholarship shall for that year lapse, but shall be again competed for in the month of March next ensuing.

5. Candidates shall give at least three calendar months' notice, in the prescribed form, of their intention to compete, and shall with their notice forward to the Registrar an Examination Fee of £5 5s., together with evidence satisfactory to the Council of having fulfilled the conditions hereinbefore stated.

6. The examination shall be in the following subjects:

(1) *Mathematics.*
(2) *Mechanics.*
(3) *Physics.*
(4) *Geology.*
(5) *Chemistry.*
(6) *Mechanical and Engineering Drawing.*
(7) *Use of the Theodolite, Level, Sextant, and other engineering instruments.*
(8) *Engineering Surveying.*
(9) *Theory of the Steam Engine.*

And in such other subjects as the Council shall from time to time direct.

Schedules defining the scope of the examination in the above subjects shall be drawn up by the Professorial Board, subject to the approval of the Council, and shall be published in the University Calendar in each year.

7. Within such time after gaining the Scholarship as the Council shall in each case allow, the Scholar must proceed to the United Kingdom

and there article himself to such Civil Engineer and for such time as the Council shall approve; *or* enter himself as a student in such College or University there, and prosecute such studies suitable to qualify him to be a Civil Engineer, as the Council shall approve; *or* enter himself as such student and prosecute such studies for *part* of the time during which he shall hold such Scholarship, and for the *remainder* of such time shall article himself to such Civil Engineer as aforesaid. The successful candidate shall, within one month after the publication of the results of the examination, furnish, in writing, to the Registrar, for the approval of the Council, a statement of the mode in which he proposes to comply with these conditions.

8. Payment of the Scholarship, computed from the first day of April next succeeding the award thereof, shall be made quarterly, at the Office of the Agent-General, subject to the previous receipt of satisfactory evidence of good behaviour and continuous progress in Engineering Studies, according to the course proposed to be followed by the Scholar.

9. Whenever such evidence is not satisfactory, the Council may altogether withhold, or may suspend for such time as they may deem proper, payment of the whole or of such portion as they may think fit of any moneys due, or to accrue due, to the Scholar on account of the Scholarship, or may deprive him of his Scholarship.

10. On his returning to settle in South Australia within five years from the time of gaining the Scholarship, and in possession of such Degree, Diploma, or Certificate as a Civil Engineer as the Council shall approve, and upon his writing to the approval of the Council a report of his proceedings and engineering work, he shall receive the further sum of £100 towards his travelling expenses.

11. Should any successful candidate not retain the Scholarship for the full period of three years, notice of the vacancy shall be published by the Council in the Adelaide daily papers; and an examination shall be held in the month of March next ensuing.

The following award has been made of this Scholarship :—

1882. Donaldson, George, B.A.

NOTICE BY CANDIDATE OF INTENTION TO COMPETE FOR THE "ANGAS ENGINEERING SCHOLARSHIP."

I hereby give notice that it is my intention to present myself as a Candidate for the "Angas Engineering Scholarship" at the Special examination for it, which is to be held in the month of March, 188 , and I send herewith the examination Fee of £5 5s., and the documentary evidence specified in the underwritten schedule.

Signature of Candidate .....

Address of Candidate .....

Dated this.....day of.....188 .

This is the Schedule referred to in the above-written notice:

1. Proof of date of my birth .....
2. Proof of residence for five years in South Australia .....
3. Proof of graduation in Arts at the University of Adelaide.....
4. Proof of having passed to the satisfaction of the Council of the University the prescribed courses of special studies and practical training .....

Signature of Candidate .....

Allowed on 13th January, 1880.

An examination for this Scholarship will be held in March, 1885, and should the Scholarship not be awarded an examination for this Scholarship will, if required, be held in March, 1886.

The following schedule has been drawn up in accordance with No. 6 of the foregoing Statutes:

1. MATHEMATICS.—The compulsory Mathematical subjects of the first Ordinary Examination for the B.A. Degree, together with

The solution of Triangles.

2. MECHANICS.—The applied Mathematics of the second year of the B.A. course.

Questions will also be set in the higher Mathematical subjects of the Second and Third Ordinary Examinations, more especially in Applied Mathematics; but a knowledge of these will not be regarded as indispensable.

3. PHYSICS.—A general outline of Physics, such as is required in the First Examination of the B.A. course; with the following portions of the advanced course in Physics:

The properties of matter.

The theory of heat, with special reference to heat as a motive power.

The theory of optical instruments.

4. GEOLOGY.
   (1) As prescribed in the Third year's course in Arts.
   (2) The application of the science to drainage and water supply, architecture, road construction, and cognate branches.
   (3) The candidates will be required to prove a practical acquaintance with the methods of constructing geological sections and maps. In this particular, specimens of actual work done may be submitted in evidence of practical knowledge.

5. CHEMISTRY.—As prescribed in the First and Second year's courses. Special attention to be given to the rock forming minerals, and the chemistry of the same, disintegration of rocks; limes, cements, and clays. The chemistry of explosives. A general practical acquaintance with the methods of water analysis. And in general, the application of chemistry to the elucidation of the causes of decay of building materials, and of the means whereby the same may be arrested or prevented.

THE SOUTH AUSTRALIAN COMMERCIAL TRAVELLERS' ASSOCIATION (INCORPORATED) SCHOLARSHIP.

This Scholarship, which is tenable only by children of members of the Association, has been established by the deed of which a copy is subjoined :

Articles of Agreement made this 26th day of September, 1879, between the University of Adelaide, hereinafter called "The said University" of the one part, and the "South Australian Commercial Travellers' Association," incorporated, hereinafter called "The said Association" of the other part, witnesseth as follows :

1. The said Association shall pay to the said University the sum of £150 in cash.

2. In consideration of such payment the said University shall provide a Scholarship, tenable for the period hereinafter provided, the holder whereof shall have the advantages hereinafter specified.

3. The said Scholarship shall be awarded by the said University to any matriculated student thereof, who being a son or daughter of a member of the said Association shall be nominated by the Committee of Management of the said Association, and such student so nominated shall hold such scholarship for one or more consecutive years, as the Committee of Management of the said Association shall from time to time declare ; and it shall be lawful for the Committee of Management of the said Association from time to time, at the end of any academical year, to substitute another student for the holder of the said Scholarship for the time being, and such substitute shall thereupon have all the advantages connected with the holding of such Scholarship.

4. The holder of the said Scholarship shall have the following advantages, that is to say : he shall be exempt from payment of all University fees during such time as he shall hold the Scholarship up to and including the fees payable on taking the B.A. Degree ; but in case any student shall cease to hold the Scholarship, such student shall not be exempt from payment of such fees after the time at which he shall cease to hold such Scholarship. And any holder of such Scholarship taking the B.A. Degree while holding such Scholarship shall be entitled to have his matriculation fee returned to him.

5. Every such scholar shall be in all respects subject to the discipline and to the Statutes and Regulations for the time being of the said University.

6. Save by permission of the Council of the said University, no such scholar shall be entitled to exemption from University fees during more than nine consecutive Academic Terms computed from the day next preceding the commencement of the Academic year in which, or in the vacation preceding which, he or she becomes a scholar.

7. No such scholar, who shall be a daughter of a member of the said Association, shall be entitled to claim or to receive any Degree, unless power to confer Degrees on women shall hereafter be granted to the said University by Letters Patent under the sign manual of a Sovereign of England.

JOHN HOWARD CLARK SCHOLARSHIPS.

STATUTES.

Whereas various persons have subscribed and have agreed to pay to the University of Adelaide a sum of money for the purpose of constituting a fund for founding the Scholarships hereinafter named : And the Council of the said University have agreed to invest that sum, when received by them, and to apply the income thereof, in the manner specified in these Statutes : And whereas it has been agreed that the word "income" shall include as well interest to accrue from investments of the said fund as grants to be received from the Government in respect thereof :

It is hereby provided that from and after the receipt by the said Council of the said sum :

1. There shall be two Scholarships, tenable for two years each, one of which shall be competed for in the month of April in each year by Matriculated Students of the University who shall, at the next preceding Ordinary or Supplementary Ordinary Examination, have completed the first year of their course for the Bachelor of Arts Degree. The Scholarships shall be called the "John Howard Clark" Scholarships.

2. Each Scholarship shall be competed for at a special examination in English Literature in subjects prescribed by the Council one year previously, but if on any competition the Examiners shall not consider any candidate worthy to receive the Scholarship it shall for that year lapse.

3. Only one Scholarship shall be awarded in any one year so long as there are only two Scholarships.

4. Each scholar shall pass the Ordinary Examinations proper to his year, and shall also pass in the month of April at the end of the first year of his Scholarship such examination in the subjects thereof as the Council shall from time to time prescribe. Those subjects shall be published by the Council twelve months before the examination.

5. Every such scholar shall be in all respects subject to the discipline and to the Statutes and Regulations for the time being of the University.

6. Each scholar shall receive one half of the annual income so long as that income does not exceed sixty pounds. Whenever the annual income shall exceed sixty pounds, each scholar shall receive thirty pounds per annum.

7. The Fund for founding the Scholarships shall be invested by the Council in such a manner as will entitle the Council to claim

from the Government an annual grant in respect thereof. Any surplus interest, and any sums accumulating from the non-awarding of the Scholarships, shall be considered part of the Fund and be invested in the like manner until there shall have accumulated a sum sufficient to found a third Scholarship, which shall be competed for and awarded at such times as the Council shall direct: Provided that no portion of the annual grant shall be so accumulated. All subsequent accumulations shall be applied at the discretion of the Council towards the carrying out of the general objects of the John Howard Clark Scholarships.

Allowed: 31st December, 1880.

The Council have prescribed the following subjects for the examination to be held, if required, in April, 1883:

Milton's L'Allegro and Il Penseroso.
Shakespeare's Hamlet.
The Prologue to the Canterbury Tales.

The Council have prescribed the following subjects for the examination to be held, if required, in April, 1884:

Milton—Comus.
Shakespeare—Othello.
Chaucer—Prologue to the Canterbury Tales.

The following award has been made of this Scholarship:—

1882. Murray, George John Robert.

CADETSHIPS AT THE ROYAL MILITARY COLLEGE, SANDHURST.

The University of Adelaide, having now received a Charter by Royal Letters Patent, is entitled to nominate, in each year, to one Cadetship at the Royal Military College at Sandhurst.

Candidates recommended for Cadetships must join the R. M. College within six months after passing the qualifying examination at this University; and at the date of joining must be within the limits of seventeen and twenty-two years of age.

The terms at the R. M. College commence in each year on 10th February and 1st September respectively, and certificates of the age and of the moral character for the preceding four years of the nominated candidate, must reach the Military Secretary at the Horse Guards at least one month before the candidate joins at Sandhurst. Those certificates must be accompanied by the certificate of a military or naval medical officer at the Australian colonies, in which it shall be stated that the candidate is in all respects physically fit for military service. The candidate will be carefully examined as regards eyesight and hearing, as well as in regard to the general soundness of his body.

The question of the literary qualification of candidates having been left to the determination of the nominating University, the Council have prescribed the subjoined rules and scheme of examination.

I. Candidates must have completed the First Year of the B.A. or of the B.Sc. course.

II. Candidates will be required to pass a further examination in

1. *Geometrical Drawing.*
2. *French* or *German.*
3. *Elementary Applied Mathematics.*

and in *two* at least of the following subjects :

4. *Latin* or *Greek.*
5. *Higher Pure Mathematics.*
6. *Physics.*
7. *Chemistry.*
8. *English History, Literature,* and *Composition.*

III. The standard of examination in the subjects numbered 3, 4, 5, 6, 7, shall be that of the corresponding subjects in the Second Examinations for the Degrees of B.A. and B.Sc.

IV. Candidates shall furnish such evidence of date of birth, good character, and physical fitness as the Council shall require.

V. The examination shall ordinarily be held once in each academical year in the last term ; but whenever no candidate shall have

been adjudged worthy of nomination, a Supplementary examination shall be held in the first term of the ensuing academical year.

VI. The University will give not less than three calendar months' notice of the date of each examination.

VII. At least one calendar month before the date fixed for the examination candidates must give notice of their intention to compete.

The examination for the Cadetship will, if required, be held in the third term of 1883, and will commence on 11th September.

PRIZES.

SIR THOMAS ELDER'S PRIZES.

Sir Thomas Elder having given £20 for prizes to the best Students in Physiology, the following awards have been made:—

First prize—Dornwell, Edith Emily.

Second prize—Knight, Mary Adela McCulloch.

APPENDIX.

CONTENTS :

UNIVERSITY SCHOLARSHIPS EXAMINATION,

MARCH, 1882

GREEK.

PROFESSOR KELLY.

I. Translate—

'Ωκεανοῦ τις ὕδωρ στάζουσα πέτρα λέγεται στρ. ά.
βαπτὰν κάλπισι ῥυτὰν
παγὰν προϊεῖσα κρημνῶν
ὅθι μοί τις ἦν φίλα,
φάρεα πορφύρεα
ποταμίᾳ δρόσῳ
τέγγουσα, θερμᾶς δ' ἐπὶ νῶτα πέτρας
εὐαλίου κατέβαλλ'· ὅθεν μοι
πρώτα φάτις ἦλθε δέσποινας
τειρομέναν νοσερᾷ κοιτᾳ δέμας ἐντὸς ἔχειν ἀντ. ά.
οἴκων, λεπτὰ δὲ φάρη
ξανθὰν κεφαλὰν σκιάζειν.
τριτάταν δέ νιν κλύω
τάνδε κατ' ἀμβροσίου
στόματος ἀμέραν
Δάματρος ἀκτᾶς δέμας ἀγνὸν ἴσχειν,
κρυπτῷ πάθει θανατοῦ θέλουσαν
κέλσαι ποτὶ τέρμα δύστανον.
σύ γὰρ ἔνθεος, ὦ κούρα, στρ. β'.
εἴτ' ἐκ Πανὸς εἴθ' Ἑκάτας
ἢ σεμνῶν Κορυβάντων
φοιτᾶς, ἢ ματρὸς ὀρείας.
σὺ δ' ἀμφὶ τὰν πολύθηρον
Δίκτυνναν ἀμπλακίαις
ἀνίερος ἀθύτων πελάνων τρύχει.

II. Translate—

φεῦ τῆς βροτείας, ποῖ προβήσεται, φρενός;
τί τέρμα τόλμης καὶ θράσους γενήσεται;
εἰ γὰρ κατ' ἀνδρὸς βίοτον ἐξογκώσεται,
ὁ δ' ὕστερος τοῦ πρόσθεν εἰς ὑπερβολὴν

πανοῦργος ἔσται, θεοῖσι προσβαλεῖν χθονὶ
ἄλλην δεήσει γαῖαν, ἢ χωρήσεται
τοὺς μὴ δικαίους καὶ κακοὺς πεφυκότας.
σκέψασθε δ' ἐς τόνδ', ὅστις ἐξ ἐμοῦ γεγὼς
ἤσχυνε τἀμὰ λέκτρα, κἀξελέγχεται
πρὸς τῆς θανούσης ἐμφανῶς κάκιστος ὤν.
δεῖξον δ', ἐπειδή γ' ἐς μίασμ' ἐλήλυθας,
τὸ σὸν πρόσωπον δεῦρ' ἐναντίον πατρί.
σὺ δὴ θεοῖσιν, ὡς περισσὸς ὢν ἀνὴρ,
ξύνει; σὺ σώφρων καὶ κακῶν ἀκήρατος;
οὐκ ἂν πιθοίμην τοῖσι σοῖς κόμποις ἐγὼ,
θεοῖσι προσθεὶς ἀμαθίαν φρονεῖν κακῶς.
ἤδη νυν αὔχει καὶ δι' ἀψύχου βόρᾶς
σίτοις καπήλευ', Ὀρφέα τ' ἄνακτ' ἔχων
βάκχευε, πολλῶν γραμμάτων τιμῶν καπνούς,
ἐπεί γ' ἐλήφθης. τοὺς δὲ τοιούτους ἐγὼ
φεύγειν προφωνῶ πᾶσι· θηρεύουσι γὰρ
σεμνοῖς λόγοισιν, αἰσχρὰ μηχανώνενοι.

III. Translate—

Ἐκ δὲ τῶν εἰρημένων τεκμηρίων ὅμως τοιαῦτα ἄν τις νομίζων μάλιστα ἃ διῆλθον οὐχ ἁμαρτάνοι, καὶ οὔτε ὡς ποιηταὶ ὑμνήκασι περὶ αὐτῶν ἐπὶ τὸ μεῖζον κοσμοῦντες μᾶλλον πιστεύων, οὔτε ὡς λογογράφοι ξυνέθεσαν ἐπὶ τὸ προσαγωγότερον τῇ ἀκροάσει ἢ ἀληθέστερον, ὄντα ἀνεξέλεγκτα καὶ τὰ πολλὰ ὑπὸ χρόνου αὐτῶν ἀπίστως ἐπὶ τὸ μυθῶδες ἐκνενικηκότα, εὑρῆσθαι δὲ ἡγησάμενος ἐκ τῶν ἐπιφανεστάτων σημείων ὡς παλαιὰ εἶναι ἀποχρώντως. καὶ ὁ πόλεμος οὗτος, καιπερ τῶν ἀνθρώπων ἐν ᾧ μὲν ἂν πολεμῶσι τὸν παρόντα ἀεὶ μέγιστον κρινόντων, παυσαμένων δὲ τὰ ἀρχαῖα μᾶλλον θαυμαζόντων, ἀπ' αὐτῶν τῶν ἔργων σκοποῦσι δηλώσει ὅμως μείζων γεγενημένος αὐτῶν.

IV. Translate—

"Τῆς μὲν γνώμης, ὦ Ἀθηναῖοι, ἀεὶ τῆς αὐτῆς ἔχομαι μὴ εἴκειν Πελοποννησίοις, καίπερ εἰδὼς τοὺς ἀνθρώπους οὐ τῇ αὐτῇ ὀργῇ ἀναπειθομένους τε πολεμεῖν καὶ ἐν τῷ ἔργῳ πρασσοντας, πρὸς δὲ τὰς ξυμφορὰς καὶ τὰς γνώμας τρεπομένους. ὁρῶ δὲ καὶ νῦν ὁμοῖα καὶ παραπλήσια ξυμβουλευτέα μοι ὄντα, καὶ τοὺς ἀναπειθομένους ὑμῶν δικαιῶ τοῖς κοινῇ δόξασιν, ἢν ἄρα τι καὶ σφαλλώμεθα, βοηθεῖν, ἢ μηδὲ κατορθοῦντας τῆς ξυνέσεως μεταποιεῖσθαι. ἐνδέχεται γὰρ τὰς ξυμφορὰς τῶν πραγμάτων οὐχ' ἧσσον ἀμαθῶς χωρῆσαι ἢ καὶ τὰς διανοίας τοῦ ἀνθρώπου· διόπερ καὶ τὴν τύχην, ὅσα ἂν παρὰ λόγον ξυμβῇ, εἰώθαμεν αἰτιᾶσθαι. Λακεδαιμόνιοι δὲ πρότερόν τε δῆλοι ἦσαν ἐπιβουλεύοντες ἡμῖν καὶ νῦν οὐχ ἥκιστα. εἰρημένον γὰρ δίκας μὲν τῶν διαφόρων ἀλλήλοις διδόναι καὶ δέχεσθαι, ἔχειν

δὲ ἑκατέρους ἃ ἔχομεν, οὔτε αὐτοὶ δίκας πω ᾔτησαν οὔτε ἡμῶν διδόντων δέχονται, βούλονται δὲ πολέμῳ μᾶλλον ἢ λόγοις τὰ ἐγκλήματα διαλύεσθαι, καὶ ἐπιτάσσοντες ἤδη καὶ οὐκέτι αἰτιώμενοι πάρεισι. Ποτιδαίας τε γὰρ ἀπανίστασθαι κελεύουσι καὶ Αἴγιναν αὐτόνομον ἀφιέναι καὶ τὸ Μεγαρέων ψήφισμα καθαιρεῖν· οἱ δὲ τελευταῖοι οἵδε ἥκοντες καὶ τοὺς Ἕλληνας προαγορεύουσιν αὐτονόμους ἀφιέναι. ὑμῶν δὲ μηδεὶς νομίσῃ περὶ βραχέος ἂν πολεμεῖν, εἰ τὸ Μεγαρέων ψήφισμα μὴ καθέλοιμεν, ὅπερ μάλιστα προὔχονται εἰ καθαιρεθείη, μὴ ἂν γίγεσθαι τὸν πόλεμον, μηδ' ἐν ὑμῖν αὐτοῖς αἰτίαν ὑπολιπησθε ὡς διὰ μικρὸν ἐπολεμήσατε. τὸ γὰρ βραχύ τι τοῦτο πᾶσαν ὑμῶν ἕξει τὴν βεβαίωσιν καὶ πεῖραν τῆς γνώμης, οἷς εἰ ξυγχωρήσετε, καὶ ἄλλο τι μεῖζον εὐθὺς ἐπιταχθήσεσθε ὡς φόβῳ καὶ τοῦτο ὑπακούσαντες· ἀπισχυρισάμενοι δὲ σαφὲς ἂν καταστήσαιτε αὐτοις ἀπὸ τοῦ ἴσου ὑμῖν μᾶλλον προσφέρεσθαι."

V. Write notes on any difficulties that occur in the above passages.

N.B.—*Special credit will be given for neatness and accuracy in translation.*

VI. What is the meaning of crasis, asyndeton, zeugma, ἓν διὰ δύοιν? Form a crasis of the words—(1) καὶ ἔτι; (2) τοὶ ἄν; (3) καὶ ὅτι; (4) καὶ εἶτα; (5) καὶ εἰ; (6) τὸ ἕτερον.

VII. Correct the following sentences where you find them wrongly constructed:—

Τοῖς κακοῖς μὴ ὁμιλῇς,
Οἶδά σε καλὸν κἀγαθὸν εἶναι,
Εἰ τοῦτο ποιῇς τὰ δίκαια πείσει.

VIII. Explain and give examples of the construction of οὐ μή with future indicative and aorist subjunctive.

IX. Translate into Greek Prose—

"It is said that Hercules, having left Gades, came into the region which is now called Scythia, and that, being overtaken by storm and frost, he drew his lion's skin about him, and fell asleep, when it chanced that as he slept his mares, which he had loosed from his chariot to graze, disappeared. Therefore, when he woke he went in quest of them, and, after searching for a long time in vain, he fell in with a woman, of whom he inquired whether she had seen his mares anywhere. She answered that they were in her stables, but that she would never give them back unless he took her for his wife."

LATIN.

PROFESSOR KELLY.

I. Translate :—

(1.) DE. Itane tandem uxórem duxit Antipho iniussú meo ?
néc meum imperium : ac mítto inperium : nón simultatém meam
reveréri saltem ! nón pudere ! o fácinus audax, ó Geta monitór
GE. vix tandem. DE. quíd mihi dicent aút quam causam réperient ?
demíror. PH. atqui réperiam : aliud cúra. DE. an hoc dicét mihi :
'invítus feci. léx coëgit ' ? aúdio, fateór. GE. places.
DE verúm scientem, tácitum causam trádere advorsáriis,
etiámne id lex coëgit ? PH. illud dúrum. GE. ego expediám : sine.
DE. incértumst quid agam, quía praeter spem atque íncredible hoc mi óbtigit :
ita sum ínritatus, ánimum ut nequeam ad cógitandum instítuere
quam obrem ómnis, quom secúndae res sunt maxume, tum maxume.
meditári secum opórtet, quo pacto ádvorsam aerumnám ferant.
perícla, damna péregre rediens sémper secum cógitet aut fíli
peccatum aút uxoris mórtem aut morbum fíliae,
commúnia esse haec, néquid horum umquam áccidat animó novom :
quidquíd praeter spem evéniat, omne id députare esse ín lucro.
GE. o Phaédria, incredíbilest quantum erum ánteeo sapiéntia.
meditáta mihi sunt ómnia mea incómmoda, erus si rédierit :
molendum*st* in pistríno, vapulándum, habendae cómpedes,
opus rúri faciundum : hórum nil quicquam áccidet animó novom.

(2.) GE. a primo homo insaníbat. CH. cedo quid póstulat ?
GE. quid ? nimium quantum. CH. *quantum ?* dic. GE. siquís daret
taléntum magnum. DE. immó malum hercle : ut níl pudet ?
GE. quod dixi adeo eï : 'quaéso, quid si fíliam
suam únicam locáret ? parvi rétulit
non súscepisse : inventast quae dotém petat.'
ut ad paúca redeam ac míttam illius inéptias,
haec dénique eius fuít postrema orátio :
'ego' ínquit 'a princípio amici fíliam,

ita ut aéquom fuerat, vólui uxorem dúcere.
nam míhi venibat ín mentem eius incómmodum,
in servitutem paúperem ad ditém dari.
sed mi ópus erat, ut apérte tibi nunc fábuler,
aliquántulum quae adférret, qui dissólverem
quae débeo : et etiám nunc, si volt Démipho
dare quántum ab hac accípio, quae sponsást mihi,
nullám mihi malim quam ístanc uxorém dari.'
AN. utrúm stultitia fácere ego hunc an málitia
dicám, scientem an ímprudentem, incértus sum.
DE. quid si ánimam debet ? GE, ' áger oppositust pignori
decem ób minas' inquit. DE. áge age, iam ducat ? dabo :
GE. ' aedículae item sunt ób decem alias.' DE. oíeï,
nimiúmst. CH. ne clama : pétito *ill*asce a mé decem.
GE. ' uxóri emunda ancillulast : tum plúscula
supellêctile opus est : ópus est sumptu ad núptias :
his rébus sane pône' inquit ' decém minas.'
DE. sescéntas proinde scríbito iam míhi dicas :
nil do : ínpuratus me ílle ut etiam inrídeat ?

II. Translate and explain with notes Terence Phormio :—

ACTA · LVDIS · ROMANIS · L · POSTVMIO · ALBINO · L · CORNELIO · MERVLA · AEDILIBVS CVRVLIBVS · EGIT · L · AMBIVIVS · TVRPIO MODOS · FECIT · FLACCVS · CLAVDI · TIBIIS INPARIBVS · TOTA · GRAECA · APOLLODORV EPIDICAZOMENOS · FACTAST · IIII · C · FANNIO · M · VALERIO · COS

III. Translate the phrases :—

Suum defrudans genium
Scapulas perdidi
Qui illum di omnes perduint
Ne te saevidicis dictis protelet
Tute hoc intristi, tibi omne est exedendum
Ego amplius deliberandum censeo
Auribus teneo lupum

IV. Translate :—

Per eosdem dies speculator Karthaginiensis, qui per biennium fefellerat, Romae deprehensus, praecisisque manibus dimissus : et servi quinque et viginti in crucem acti, quod in campo Martio conjurassent. indici data libertas et aeris gravis viginti millia. Legati et ad Philippum Macedonum regem missi ad deposcendum Demetrium Pharium, qui, bello victus, ad eum fugisset : et alii in Ligures ad expostulandum,

quod Poenum opibus auxiliisque suis juvissent: simul ad visendum ex propinquo, quae in Bojis atque Insubribus gererentur. Ad Pineum quoque regem in Illyrios legati missi ad stipendium, cujus dies exierat, poscendum; aut, si diem proferre vellet, obsides accipiendos. adeo, etsi bellum ingens in cervicibus erat, nullius usquam terrarum rei cura Romanos, ne longinqua quidem, effugiebat. In religionem etiam venit, aedem Concordiae, quam per seditionem militarem biennio ante L. Manlius praetor in Gallia vovisset, locatam ad id tempus non esse. itaque duumviri ad eam rem creati a M. Aemilio praetore urbis, Cn. Pupius et K. Quinctius Flamininus, aedem in arce faciendam locaverunt. Ab eodem praetore ex senatusconsulto literae ad consules missae, ut, si iis videretur, alter eorum ad consules creandos Romam veniret: se in eam diem, quam jussissent, comitia edicturum. Ad haec a consulibus rescriptum, *Sine detrimento reipublicae abscedi non posse ab hoste. itaque per interregem comitia habenda esse potius, quam consulum alter a bello avocaretur.* Patribus rectius visum est, dictatorem a consule dici comitiorum habendorum caussa. dictus L. Veturius Philo, M'. Pomponium Mathonem magistrum equitum dixit. His vitio creatis, jussisque die quartodecimo se magistratu abdicare, ad interregnum res rediit.

Quum in hanc sententiam pedibus omnes issent, submotaque foro per magistratus turba, Patres diversi ad sedandos tumultus discessissent; tum demum literae a Terentio consule adlatae sunt: *L. Aemilium consulem exercitumque caesum; sese Canusii esse, reliquias tantae cladis velut ex naufragio conligentem. ad decem millia militum ferme esse incompositorum inordinatorumque. Poenum sedere ad Cannas, in captivorum pretiis praedeque alia, nec victoris animo, nec magni ducis more, vundinantem.* Tum privatae quoque per domos clades vulgatae sunt: adeoque totam urbem opplevit luctus, ut sacrum anniversarium Cereris intermissum sit; quia nec lugentibus id facere est fas, nec ulla in illa tempestate matrona expers luctus fuerat. Itaque, ne ob eamdem caussam alia quoque sacra publica aut privata desererentur, senatusconsulto diebus triginta luctus est finitus. Ceterum quum, sedato urbis tumultu, revocati in curiam Patres essent aliae insuper ex Sicilia literae adlatae sunt ab T. Otacilio propraetore, *Regnum Hieronis classe Punica vastari: cui quum opem inploranti ferre vellet, nunciatum sibi esse, aliam classem ad Aegates insulas stare, paratam instructamque; ut, ubi se versum ad tuendam Syracusanam oram Poeni sensissent, Lilybaeum extemplo provinciamque aliam Romanam adgrederentur. itaque classe opus esse, si regem socium Siciliamque tueri vellent.*

V. Explain aes grave, vitio creatis, pedibus issent.

VI. Give the English for sicubi, utique, perquam, alioqui, usque, dumtaxat, identidem, admodum prorsus, adeo. Derive them, connecting the meanings of primitive and derivative.

VII. Translate the following sentences, explaining the construction of the words in italics :—

It clamor *caelo.*

Amplius *biennium* est.

Crucior *animo.*

Cum gladio interfectus est.

VIII. For Latin prose :—

At the moment of his defeating the Lacedaemonians at Mantinea, Epaminondas was severely wounded and lost consciousness. When he opened his eyes the first thing that he asked was, whether his shield were safe? When his weeping friends had replied in the affirmative, he next inquired if the enemy were put to flight! Here, too, he received the same answer that he wished, upon which he ordered his attendants to draw forth the spear from the wound. A great rush of blood followed, and Epaminondas died, in all the joy of victory.

ENGLISH LANGUAGE AND LITERATURE.

PROFESSOR FLETCHER.

I. What are the sources from which the words in the English language are derived? What proportion of them is Anglo-Saxon?

II. Give a dozen examples of words radically the same but of different forms because entering our language through different channels.

III. State and illustrate Grimm's law.

IV. What is the theory of a perfect alphabet? Wherein is the English alphabet defective or redundant or erroneous? How do you account for the order of the English letters?

V. State the various methods by which the plural of nouns is formed in English? What is the origin of these forms?

VI. What is meant by dividing words into presentive and symbolic? Under which head would you place the words "thing," "do," "shall," "will," "methinks," "forsooth?"

VII. What are the chief Anglo-Saxon poems? In what respects does early English poetry differ from modern poetry?

VIII. What do you know of Surrey, and for what is he remarkable in English literature?

IX. Who was Sir Thomas Moore? Describe his Utopia.

X. Into how many periods may English literature be divided? Describe briefly the characteristics of each period.

XI. Distinguish by their etymology the following groups of words :—
(a) hearty, cordial; *(b)* abandon, desert, forsake, relinquish; *(c)* fertile, fruitful, prolific; *(d)* lodgings, apartments; *(e)* living, benefice.

XII. Give the derivations in common use from the following roots :.

1. *Anglo-Saxon.*—Brennan, ham, magan.
2. *Latin.*—Ago, caput, lego.
3. *Greek.*—γράφειν, τόπος, δικος.

ENGLISH LITERATURE.

PROFESSOR FLETCHER.

I. What indications are to be found in the play of Coriolanus by which the date of its composition may be approximately fixed?

II. From what source did Shakespeare derive the materials of this play, and what liberties has he taken with the usual form of the legend of Caius Martius?

III. *Brutus :* He's a lamb indeed that baes like a bear.

Menius: He's a bear indeed that lives like a lamb.—Act II. Sc. 1.
Which of these is the truer estimate of the character of Coriolanus? How would you describe his character? Contrast it with Brutus in "Julius Cæsar."

IV. *Lartius :*

Thou wast a soldier
Even to Cato's wish, not fierce and terrible,
Only in strifes, &c.

Give instances in this or any other play of similar chronological anachronisms. On what principle can these "great chronological improprieties" be justified?

V. Explain the construction in the following passages from Coriolanus :—

(a.) *Marcius :* Tullus Aufidius, is he within your walls?
First Senator: No, nor a man that fears you less than he;
That's lesser than a little.—Act I. Sc. 4.

(b.) *Lartius:*

Bold gentleman,
Prosperity be thy page!

Marcius:

Thy friend no less
Than those she placeth highest.—Act I. Sc. 5.

(c.) *Aufidius:*

We hate alike;
Not Africa owns a serpent I abhor
More than thy fame and envy.—Act I. Sc. 8.

(d.) *Cor.:*

I mean to stride your steed; and at all times
To undercrest your good addition
To the fairness of my powers.—Act I. Sc. 9.

VI. *Aufid.:*

First he was
A noble servant to them; but he could not
Carry his honors *even*; whether 'twas pride
Which out of daily fortune ever taints
The happy man; whether defect of judgment,
To fail in the disposing of those chances
Which he was lord of; or whether nature,
Not to be other than one thing, not moving
From the *casque to the cushion*, but commanding peace
Even with the same austerity and garb
As he controlled the war; but one of these
(As he hath spices of them all—not all,
For I dare so far free him) made him feared,
So hated, and so banished: but he has *a merit*
To choke it in the utterance. So our virtues
Lie in the interpretation of the time;
And power, unto itself most commendable,
Hath not *a tomb* so evident as *a chair*
To extol what it hath done.
One fire drives out one fire; one nail one nail;
Rights by rights fouler, strengths by strengths do fail.
Act IV. Sc. 7.

Paraphrase this passage in prose so as to make the meaning clear, especially of those words printed in italics.

VII. When was Gray's Elegy written? Contrast its metre and its rhythm with the metre and rhythm of the above passage. Quote any phrases from the Elegy that have become proverbial expressions.

VIII. Subject for an English essay:—The advantages and disadvantages of spelling reform.

GERMAN.

PROFESSOR LAMB.

I. Translate :

Die Eingebornen sind meistens blutarm und leben vom Fischfang, der erst im nächsten Monat im Oktober, bei stürmischem Wetter seinen Anfang nimmt. Viele dieser Insulaner dienen auch als Matrosen auf fremden Kauffahrteischiffen und bleiben jahrelang von Hause entfernt, ohne ihren Angehörigen irgend eine Nachricht von sich zukommen zu lassen. Nicht selten finden sie den Tod auf dem Wasser. Ich habe einige arme Weiber auf der Insel gefunden, deren ganze männliche Familie solcherweise umgekommen, was sich leicht ereignet, da der Vater mit seinen Söhnen gewöhnlich auf demselben Schiffe zur See fährt.

Das Seefahren hat für diese Menschen einen großen Reiz; und dennoch, glaube ich, daheim ist ihnen Allen am wohlsten zu Muthe. Sind sie auch auf ihren Schiffen sogar nach jenen südlichen Ländern gekommen, wo die Sonne blühender und der Mond romantischer leuchtet, so können doch alle Blumen dort nicht den Leck ihres Herzens stopfen, und mitten in der duftigen Heimath des Frühlings sehnen sie sich wieder zurück nach ihrer Sandinsel, nach ihren kleinen Hütten, nach dem flackernden Herde, wo die Ihrigen, wohlverwahrt in wollenen Jacken, herumkauern, und einen Thee trinken, der sich von gekochtem Seewasser nur durch den Namen unterscheidet, und eine Sprache schwatzen, wovon kaum begreiflich scheint, wie es ihnen selber möglich ist, sie zu verstehen.

II. Translate:

Im Frühjahr 1609 machte Galilei eine Reise nach Venedig, und hörte dort von den kurz zuvor (1608) in Holland erfundenen Fernröhren, oder wie Andere wohl ohne hinlänglichen Grund behaupten, er sah daselbst ein dorthin gebrachtes holländisches Fernrohr. Dies war für ihn ein Sporn über die Vervollkommnung und Anwendung dieses damals mit Recht so sehr angestaunten Instrumentes ernstlich nachzudenken. Sogleich nach seiner Rückkehr nach Padua ging er an's Werk, und so rasch war der Erfolg seiner Bemühungen, daß er schon im August desselben Jahres dem Senat von Venedig ein Fernrohr übersenden konnte, das mehr leistete als jenes, welches dieser aus Holland bekommen hatte. Der Senat belohnte dies Geschenk überaus freigebig; unter dem 25. August, 1609 setzte er dem Galilei eine lebenslängliche Pension aus und das Dreifache seines Gehalts, welches er als Lehrer in Padua bezog.

III. Give the principal parts of the following verbs : nimmt, bleiben, zukommen, lassen, finden, fährt, verstehen.

IV. State the gender, and give the plural of each of the following nouns: Schiff, Weib, Land, Frühling, Höhe, Erfahrung, Feuer, Lauf.

V. Decline Herz with the definite article and the adjective fromm.

VI. Explain the force of the prefix in each of the following words: entfernen, umkommen, herumkauern, unterſcheiden, begreifen, erfinden; and give other examples of the use of the same prefixes in the same senses.

VII. What English words are akin in derivation to Tod, gewöhnlich, Muth, nach, ſcheiden? Explain (where necessary) *how* the words correspond.

VIII. Translate into German:

Great is the courage of the Maori people! You have now heard how they made war against the noble people of England, and were not quite exterminated, as many expected they would be. But Heke, their chief, is a very knowing man; he is learned even in European knowledge. I will tell you how he has become possessed of this knowledge, which enabled him to make war successfully against the soldiers. He has a European friend who has been a very great warrior—a very experienced warrior indeed. It was he who overcame the great soldier of France, Buonaparte, and afterwards in a great sea-fight he defeated and killed the great war-chief of England, Wellington. Besides, he gained many other battles by sea and land, and he wrote all his wars in two books. Now, he lent Heke the first of these books to show him how to fight with the soldiers, which is the reason he has been so successful, but if he had had the second book he would have taken Auckland, and been King of New Zealand long ago; but he will get it by-and-by.

MATHEMATICS I.

PROFESSOR LAMB.

I. Parallelograms on the same base and between the same parallels are equal in area.

II. Make a square having a given straight line as diagonal.

III. In an obtuse-angled triangle, the square on the side opposite the obtuse-angle is greater than the sum of the squares on the other two sides by twice the rectangle contained by &c.

IV. If a straight line be divided equally and unequally, the squares on the unequal parts are together double of &c.

P is any point in a given straight line AB; prove that the sum of the squares on AP, PB is least when P is the middle point of AB.

Hence prove that if a straight line be divided into a given number n of parts, the sum of the squares on these parts is least when all the parts are equal.

V. The angle at the centre of a circle is double the angle at the circumference standing on the same arc.

The circumference of a circle is divided, by two chords at right angles to one another, into four unequal segments; prove that the sum of either pair of opposite segments is equal to half the circumference.

VI. Draw two tangents to a circle from a given external point.

VII. Construct a triangle having each of the base angles double of the vertical angle.

The diameter of a circle is 10 feet; find the perimeter of the inscribed regular decagon.

VIII. If the vertical angle of a triangle be bisected by a straight line which also meets the base, the segments of the base are proportional to the sides of the triangle.

IX. Define the *tangent* of an angle; and write down the tangents of the following angles: 45°, 60°, 150°, 300°.

Prove the formula:

$$\sec^2 A = 1 + \tan^2 A.$$

MATHEMATICS, II.

PROFESSOR LAMB.

I. Simplify

(i.) $\dfrac{(x+1)^3 - (x-1)^3}{(x+1)^4 - (x-1)^4}$

(ii.) $\dfrac{3}{a-b} - \dfrac{ab}{a^3-b^3} + \dfrac{a-b}{a^2+ab+b^2}$

II. Solve the equations

(i.) $\dfrac{3x+1}{13} - \dfrac{2x+1}{3} = \dfrac{4x-1}{15} - \dfrac{5x+1}{7}$

(ii.) $\begin{cases} x + 19y = 79 \\ 9x + y = 31 \end{cases}$

III. Investigate the relations between the roots and the co-efficients of the equation $x^2 + px + q = 0$, and deduce the conditions that the roots of this equation may be real, &c.

Solve the equations

(i.) $5x^2 - 26x + 5 = 0.$

(ii.) $\begin{cases} x^2 + 2xy = 32 \\ 2y^2 + xy = 16. \end{cases}$

IV. Find the sum of n terms of an Arithmetical Progression whose first term and common difference are given.

If the number of terms be $2n$, and the two middle terms be p, q, find the sum.

V. If the quantity of water which flows through pipes in a given time vary as the squares of their diameters, and two vessels whose contents are in the ratio of 8 to 3 be filled by two pipes respectively in 6 and 4 minutes, compare the diameters of the pipes.

VI. Two passengers have together 400 lbs. of luggage, and are charged 5s. and 7s. 6d. respectively for the excess above the weight allowed. If all the luggage had belonged to one of them he would have been charged 18s. 9d. How much luggage is a passenger allowed free of charge?

VII. Write down the expansions of

$$(1-x)^7,\ (2-3x)^4,\ (1-x)^{-\frac{1}{2}}.$$

What restriction is there to the validity of the expansion of the last of these?

VIII. Prove the formulæ

(i.) $\cos(A-B) = \cos A \cos B + \sin A \sin B.$

(ii.) $\dfrac{1+\cos 2A}{\sin 2A} = \cot A.$

IX. Prove that the sides of a triangle are proportional to the sines of the opposite angles.

If $a\cos A = b\cos B$, the triangle is either isosceles or right-angled.

X. Define the terms *Logarithm*, *Characteristic*, *Mantissa*, and state the rules for writing down the characteristic by inspection.

Divide $\bar{4}\cdot 4771213$ by 11.

If $\log 3 = \cdot 4771213$ find how many cyphers there are between the decimal point and the first significant digit in $(\frac{1}{3})^{1000}$.

SOUTH AUSTRALIAN SCHOLARSHIP AND ANGAS ENGINEERING SCHOLARSHIP EXAMINATIONS.

PHYSICS, I.

PROFESSOR LAMB.

I. Describe Attwood's machine, and explain how far the laws of motion can be verified by means of it.

II. Describe the essential parts of a sensitive balance, pointing out the objects of the various adjustments.

Given a box of weights which are not quite correct, explain how you would ascertain the value of each in terms of some one of them taken as a standard. [You may not assume that the arms of your balance are accurately equal.]

III. State the various corrections which have to be made to an observed reading of the barometer.

What is the object of the "reduction to sea-level?"

Explain the terms *isobar*, *barometric gradient*, *cyclone*, *anticyclone*.

Describe by means of a diagram the wind system which usually accompanies a cyclone in the southern hemisphere.

IV. Explain the construction and action of some common form of air-pump. Give a careful diagram.

What circumstances limit the degree of rarefaction which can be obtained with the instrument you describe?

V. Define accurately the *conductivity* of a substance for heat.

In a well-known experiment the transmission of heat along two bars heated at a common extremity is compared by observing the rate at which a coating of wax is melted on each bar. Explain why this method does not give a true comparison of the *conductivities*.

VI. Describe the construction of the double-siren, and explain what parts of acoustical theory it is peculiarly fitted to illustrate.

Give a sketch of Helmholtz' theory of Consonance and Dissonance.

VII. Explain, and illustrate by a careful diagram, the formation of an image by a concave lens.

Explain, with the help of a diagram, the construction and action of Galileo's telescope. What are the defects of this instrument?

VIII. Explain the arrangement for the formation of a pure spectrum (1) on a screen, (2) in a spectroscope.

Why did Newton conclude that the construction of an achromatic refracting telescope was impossible?

Explain the construction of a direct-vision spectroscope.

PHYSICS, II.

PROFESSOR LAMB.

I. Explain the phenomena of Newton's rings, pointing out clearly the influence of the wave-length of the light employed.

If the rings be formed as usual between two slightly curved plates of glass, what is the effect of interposing a drop of water before bringing the glasses into contact?

II. Explain the formation of spectra by a diffraction grating.

How are these spectra utilized for measurements of wave-lengths?

III. Describe the usual experiments in illustration of the phenomenon of Magnetic Induction, pointing out the inferences to be drawn from them. [Include the case of induction by the earth.]

IV. Describe a simple form of Thomson's Quadrant Electrometer, pointing out clearly the functions of the various parts.

V. Define the terms *Electric Potential*, and *Line of Force*. State the chief properties of Lines of Force and Equipotential Surfaces, and sketch their arrangement in the neighbourhood of an uninsulated sphere to which a small electrified body is presented.

VI. State Ohm's Law, defining clearly the term *Resistance*.

Explain, giving a clear diagram of the connections, some galvanic method of comparing the E.M.F.'s of two given voltaic cells.

VII. Describe the fundamental experiments on Electromagnetic Induction; and state Lenz's law.

It was once asserted that the exact reverse of Lenz's law was the truth; show that independently of any exact knowledge of the laws of induction this supposition is quite inadmissible.

VIII. Describe and explain fully, with diagrams, any *two* of the following:—

(a.) Holtz's Electrical Machine (explaining also the function of the Leyden Jars);

(b.) The Induction Coil;

(c.) An Electromotive Engine;

(d.) A single telegraph line arranged on Morse's system (also the same with a relay).

MATHEMATICS I.

PROFESSOR LAMB.

I. The opposite angles of a quadilateral inscribed in a circle are supplementary.

Prove that the circle which passes through the feet of the perpendiculars of a given triangle also passes through the middle points of the sides.

II. Find a fourth proportional to three given straight lines.

Construct a square whose area shall be a fourth proportional to the areas of three given squares.

III. Investigate the relations between the roots and the coefficients of a quadratic equation.

If α, β be the roots of

$$ax^2 + bx + c = 0,$$

form the equation whose roots are $\alpha + \frac{1}{\beta}$, $\beta + \frac{1}{\alpha}$.

IV. Find the number of permutations of n things taken r at a time.

How many different arrangements can be made of the letters of the word "meminisse?"

V. Prove that the successive convergents to a continued fraction are alternately greater and less than the true value of the fraction, and that they continually approach the true value of the fraction.

Prove that every recurring continued fraction is the root of a quadratic equation.

Find the value of

$$1 + \frac{1}{2+}\ \frac{1}{3+}\ \frac{1}{1+}\ \frac{1}{2+}\ \frac{1}{3+}\ \&c.$$

VI. Prove that the probability of the concurrence of two independent events is equal to the product of their separate probabilities.

Also *state* the rule for finding the probability of the concurrence of two events which are not independent.

A grocer sells eggs of which three out of every dozen are bad; find the chance that a man who buys six will not get more than two bad ones.

VII. Prove the formula for $\cos(A - B)$; and assuming it to be true for all values of A and B, deduce the formula for $\sin(A + B)$.

Find the simplest form of

$$\frac{\cos 6\theta - \cos 4\theta}{\sin 6\theta + \sin 4\theta}.$$

VIII. A, B, C are three stations in a horizontal plane, explain how you would ascertain the height of a spire at C by means of observations made at A and B combined with the measurement of the distance AB.

As an example assign some definite numerical values to the several measured quantities, and work out the result by logarithms.

IX. State and prove De Moivre's Theorem, and give its geometrical interpretation.

Sum the series

$\sin\theta + \sin 2\theta + \sin 3\theta +$ &c., to n terms.

MATHEMATICS II.

PROFESSOR LAMB.

I. Prove that the value of any given determinant D can be expressed in the form

$$D = a_1 A_1 + a_2 A_2 + a_3 A_3 + \text{ &c.},$$

where A_1, A_2, A_3, &c., are the minors corresponding to the constituents a_1, a_2, a_3, &c., of any one column.

Solve by determinants the following system of equations :—

$$\left.\begin{aligned} x + 5y + 17z &= 19 \\ 3x + 3y - 3z &= 32 \\ 4x + 8y + 17z &= 52 \end{aligned}\right\}$$

II. Investigate the equation to a circle in rectangular co-ordinates.

Find the equation to the circle which touches the axis of x at the origin and also touches the straight line

$$x \cos \alpha + y \sin \alpha - p = 0.$$

III. Find the equation to the tangent at (x^1, y^1) to the ellipse

$$\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1.$$

Prove that the product of the perpendiculars from the foci on any tangent is equal to the square on the semi-axis minor.

IV. Define the terms *Velocity* and *Acceleration*. If the value of g when a foot and a second are taken as units be 32, find its value when a kilometre and an hour are taken as units. [A metre=39.37 inches.]

V. Explain carefully the method of treating problems relating to projectiles; and state clearly the fundamental principles on which the method rests.

Draw, and explain the properties of, the hodograph of a projectile.

VI. Define the terms Linear and Angular Momentum; and state and prove the theorems which connect the charges in those quantities with the external forces acting on the system.

A cat is spinning round and round as it falls from the top of a house; how can it regulate its rate of spinning so as to alight on its feet?

VII. Define the terms Centre of Gravity, Centre of Inertia. Has the earth a true centre of *gravity*?

Prove the formula for finding the distance of the centre of inertia of a system of given masses from a given plane, in terms of the distances of the separate masses from that plane.

VIII. Work out the theory of the Balance, and explain why, in a sensitive balance, the three knife-edges should be in the same straight line.

IX. Draw the Diagram of Forces for the frame shown in the sketch given to you.

BOTANY.

PROFESSOR MCCOY, F.R.S.

I. Describe the chief non-nitrogenous contents of cells, and mention the parts of plants in which each is to be found.

II. Describe the chief tissues entering into the composition of Dicotyledonous plants.

III. Describe the parts of the flowers of any of the higher Orders of Plants.

IV. Describe the functions of the Pollen of plants.

V. Describe the chief modifications of the ovule in the higher Orders of Plants.

VI. How are *Algæ* multiplied?

VII. How are *Fungi* distinguished from other Plants?

VIII. Contrast the structure of a *Dicotyledonous* and a *Monocotyledonous* stem.

IX. Give the systematic characters by which the Order *Myrtaceæ* may be recognised.

X. What are the main characters of the Order *Leguminosæ*, and how is it divided into sections or sub-orders?

CHEMISTRY.

PROFESSOR MCCOY, F.R.S.

I. Detail the methods of determining the specific gravity of solids, whether insoluble, soluble, or in powder, of liquids, and of gases respectively, with the special precautions to be observed to insure accuracy.

II. Explain what is meant by the Atomicity or Quantivalence of bodies, and enumerate the Elementary Bodies in groups indicated by this consideration.

III. Give some examples of the method of calculating the specific gravity of Gases from their Formulæ.

IV. Explain clearly the difference between an Atom and a Molecule, and give some examples of the atomic and molecular quantities in the measurement of combining quantities of bodies in the gaseous state by weight and by volume respectively.

V. How do you approximately derive the Atomic weight of bodies from their Specific Heat, and how has this influenced the doubling or halving the number of the old atomic weights of various Elements? Give some exact examples.

VI. Enumerate as many Elements as you can in the order of their Quantivalence.

VII. Describe the methods of preparing all the Oxides of Nitrogen; give their characteristic properties, and explain fully the modern view of the composition of such of them as were formerly called Acids.

VIII. Explain the theory of compound radicles, and give some examples of the nature and constitution of the different Ethers.

IX. What is the chemical nature of the chief animal materials of the Albumen group, and why is their composition expressed usually as percentages?

X. Describe the constitution and characters of some of the more important Starches, Sugars, and Alcohols.

MINERALOGY AND GEOLOGY.

PROFESSOR MCCOY, F.R.S.

I. Write down the optic and the geometric characters of each of the systems of crystals in which minerals occur.

II. Give the notation, according to any system in general use, for each face of the three fundamental forms in the cubic system, with the characteristic angular value of the inclination of each face upon the adjoining one.

III. Enumerate the chief groups into which mineral species may be classified by adopting the Electro-negative constitutent as the most important.

IV. Define all the chief Igneous Rocks, and give the chemical and physical characters of the minerals of which they are composed.

V. Describe the characters, modes of occurrence, and origins of the chief metamorphic rocks.

VI. What observations are required, and what is the formula used, to calculate the depths at which a given stratum might be found by sinking a vertical shaft at a given point?

VII. Enumerate all the Fossiliferous Formations in correct order of superposition.

VIII. How would you distinguish limestones of the Lower Silurian, Devonian, Carboniferous, Permian, Liassic, and Purbeck Ages from each other?

IX. Give the characters by which you may recognise the following fossil genera, and state the geological range of each, viz.:—(1) *Ceratites*, (2) *Ichthyosaurus*, (3) *Diprotodon*, (4) *Lepidodendron*, (5) *Ammonites*, (6) *Phacops*.

X. Describe the methods of forming a geological map, with the precautions to be observed in the field observations; and the method of forming a geological section from a geological map.

ZOOLOGY.

PROFESSOR McCOY, F.R.S.

I. Explain what is understood by (1) Analogy; (2) Special, serial, and general Homologies in the structure of animals.

II. What is the general structure of the Foraminifera, and how are they divided into subordinate groups by d'Orbigny?

III. What is understood by the terms Parthenogenesis and Alternation of Generations?

IV. What are the names of all the external organs, parts, and regions of the exoskeleton of Crustacea used in definitions of the systematic groups?

V. Describe the external and internal structural characters of a starfish, and set forth the reasoning by which Agassiz established the bilateral symmetry of the *Asteriadæ*.

VI. Give the general internal structure and external characters of the Hexapod Insecta.

VII. Describe the nervous system characteristic of the *Mollusca*, and define the classes of that sub-kingdom.

VIII. Enumerate the bones of the trunk and limbs of any *Mammal*.

IX. Describe the circulation in each of the classes of *Vertebrata*.

X. Define the Orders of Fishes according to the system of Müller.

ANGAS ENGINEERING SCHOLARSHIP.

MECHANICAL AND ENGINEERING DRAWING, USE OF ENGINEERING INSTRUMENTS.

MR. R. C. PATERSON, M. INST. C.E.

I. Set theodolite up in Victoria Square and take angles to such spires and other points as may be indicated. Repeat the angles and give the magnetic bearings in each case.

II. Show how the theodolite may be used for taking rough sections in ordinary country, and for taking cross sections in steep, side-long ground.

III. Plot the field notes of the first page in each of the two books handed to you herewith. The section to a scale of two chains and twenty feet, and the plan to a scale of two chains to an inch.

IV. Make plan, elevation, and section of the model of stone-breaking machine now on the table to full size.

V. Make plan, elevation, and two cross sections of the model of timber breakwater designed for Largs Bay, and now lying on the table, to a scale of four feet to one inch.

VI. Set up the level and take such levels and sections as may be pointed out to you upon the ground.

THEORY OF STEAM ENGINE.

MR. R. C. PATERSON, M. INST. C.E.

I. Explain and illustrate the principles concerned in working steam expansively.

II. Describe the fly wheel, the governor, and the throttle valve, and state what mechanical difficulties in working were obviated by their introduction.

III. Define the duty and power of an engine.

IV. Explain the construction of Giffard's injector, and state the theory which is supposed to govern its action.

V. Explain the design of the screw propeller and the mechanical principles involved in its working.

VI. Describe some of the principal improvements effected by James Watt in the steam engine.

VII. Make an outline sketch of steam diagram and explain its value and indications.

VIII. Illustrate the application of the spring balance and safety valve, and show the process of calculation from assumed dimensions and pressures.

ENGINEERING SURVEYING.

MR. R. C. PATERSON, M. INST. C.E.

I. Define the art of levelling, and explain what is meant by an error in the line of collimation and how you would proceed to adjust the same.

II. Make a rough sketch of a transit theodolite, and explain the method of taking angles.

III. Make an enlarged drawing of the Vernier scale and explain the principles of its design.

IV. How would you find the distance to an inaccesible point on the other side of a river without the use of any instrument to measure angles?

V. In making a survey I wish to lay down true north with the theodolite and so ascertain the magnetic variation of the needle. How would you do this?

VI. Explain the method adopted by engineers of setting out railway curves with theodolite by tangential angles.

VII. Explain the principal adjustments of the transit theodolite.

VIII. Determine by absolute observation with theodolite from middle Victoria Square the height of Post Office Tower, without chaining to foot of same.

(a) by construction
(b) by calculation.

SUPPLEMENTARY ORDINARY EXAMINATION

FIRST YEAR.

CHEMISTRY.

DR. CLELAND.

I. What is the law of multiples in chemical combination? Give the names and formulæ of the oxides of nitrogen in illustration.

II. For filling a balloon 132·74 kilogr. of hydrogen were required. How much zinc and sulphuric acid had to be taken?
Zn = 65·2, H = 1, S = 32, O = 16.

III. What are the properties of hydrogen, and what compound is formed when it is burned in air?

IV. What is meant by the term allotrophy? Take carbon as an illustration. What are the characteristic properties of charcoal?

V. What is the formula for marsh gas? What are the properties of this gas, and what action has chlorine upon it?

VI. How is hydrochloric acid produced? What are the properties of this acid?

VII. What impurities would you suspect in a commercial sample of nitric and sulphuric acid respectively? By what tests would you detect them?

VIII. What are the properties of hydrogen sulphide? What is a delicate test for traces of this gas? State the action of chlorine upon it.

IX. How would you prepare a solution of hydriodic acid?

X. When phosphorus is burned with an abundant supply of air what compound is formed? What are the properties of this compound? Under what circumstances will phosphoric acid displace sulphuric acid from a salt?

ELEMENTARY NATURAL PHILOSOPHY.

PROFESSOR LAMB.

I. What is the precise meaning of the statement 'g=32,' a foot and a second being the units?

A stone is dropped from a balloon which is ascending at the rate of 10 feet per second; find its velocity and position at the end of 10 seconds.

II. Explain the Law of Action and Reaction.

A gun whose weight is 50 lbs. is suspended by strings, so that it can swing freely in the direction of its length, which is horizontal. The gun is loaded with a ball whose weight is 4 ozs., and the charge of powder is such as will give the ball an initial velocity of 1,000 feet per second. Find the velocity with which the gun will recoil when fired by a match.

III. Define the *center of gravity* of a body, and state its chief properties.

A cylindrical pillar of stone 1 foot in diameter and 10 feet high rests with its base on a horizontal plane. Find (graphically) through what angle it can be tilted without falling over.

IV. State and prove the Principle of Archimedes; and describe an application of it to compare the densities of two given fluids.

V. State Boyle's Law, and describe experiments in verification of it.

The capacity of the barrel of an ordinary condensing syringe is 20 cubic inches, and the capacity of the receiver is a cubic foot. Find the pressure (in lbs. per square inch) on the inner surface of the receiver after 50 strokes. [Assume that the atmospheric pressure is 15 lbs. per sq. in.]

VI. Define the terms *Specific Heat, Latent Heat of Liquefaction.*

Explain a method of measuring the latter quantity in the case of water.

VII. Explain the vibration of the air within an open organ pipe, and state the positions of the *nodes* and *loops* for the fundamental tone and for the first harmonic. Describe an experimental verification of your statements.

VIII. Give the explanation of *Beats.* On what does the rapidity of the beats depend?

IX. State the Law of Refraction.

Make a diagram showing the course of a pencil of rays proceeding from a point beneath the surface of water and emerging into air.

How, and why, does a stick appear bent when partially immersed in water in an oblique position? When the stick is held *vertically*, is the part beneath the water seen as it really is?

X. Explain the formation of a real image by a convex lens.

If the focal length of the lens be 2 feet, and the diameter of the object be 6 inches, find by a diagram the position and size of the image when the object is 3 feet from the lens.

MATHEMATICS I.

PROFESSOR LAMB.

I. Parallelograms on the same base and between the same parallels are equal in area.

II. The square on the hypothenuse of a right-angled triangle is equal to the sum of the squares on the other two sides.

III. State and prove the geometrical proposition which corresponds to the algebraical formula—

$$a^2 + (a+b)^2 = b^2 + 2a(a+b).$$

IV. State and prove Apollonius' Theorem.

Find the following loci:

(1.) Of a point the *sum* of the squares of whose distances from two given points is constant;

(2.) Of a point the *difference* of the squares of whose distances from two given points is constant.

V. The angle in a semicircle is a right angle, &c.

VI. Define a tangent to a curve. Draw a tangent to a circle from a given external point.

VII. In a given circle inscribe a triangle having the same angles as a given triangle.

VIII. Two parallelograms have an angle of one equal to an angle of the other, and are also equal in area; prove that the sides about the equal angles are reciprocally proportional.

IX. Define the *tangent* of an angle; and trace the variations in magnitude and sign of $\tan A$, as A increases from 0° to 360°. Also illustrate these changes by a diagram.

Again, do the same for $\sec^2 A$.

MATHEMATICS II.

PROFESSOR LAMB.

I. State and prove the Commutative and Associative Laws of Multiplication.

II. Simplify

(i) $\dfrac{(x+1)^3-(x-1)^3}{(x+1)^4-(x-1)^4}$

(ii.) $\dfrac{3}{a-b}-\dfrac{ab}{a^3-b^3}+\dfrac{a-b}{a^2+ab+b^2}$

III. Investigate the conditions that the roots of the equation

$$ax^2+bx+c=0$$

should be real and different, &c.

Solve the equations

(i.) $5x^2-26x+5=0$,

(ii.) $\begin{cases} x^2+2xy=32 \\ 2y^2+xy=16. \end{cases}$

IV. Find the sum of n terms of a Geometrical Progression whose first term is a and common ratio x.

Sum to n terms, and also to infinity,

$$\frac{1}{2}+\frac{1}{3}+\frac{2}{9}+\text{&c.}$$

V. Two passengers have together 400 lbs. of luggage, and are charged 5s. and 7s. 6d. respectively for the excess above the weight allowed. If all the luggage had belonged to one of them he would have been charged 18s. 9d. How much luggage is a passenger allowed free of charge?

VI. Find the number of combinations of n things taken r at a time.

How many words, each consisting of one vowel between two consonants, can be formed with the first nine letters of the alphabet?

VII. Prove the formulæ

(i.) $\cos(A-B)=\cos A\cos B+\sin A\sin B$.

(ii.) $\dfrac{1+\cos 2A}{\sin 2A}=\cot A$.

VIII. Prove that the sides of a triangle are proportional to the sines of the opposite angles.

If $a\cos A=b\cos B$, the triangle is either isosceles or right-angled.

IX. Define the terms *Logarithm*, *Characteristic*, *Mantissa*, and state the rules for writing down the characteristic by inspection.

Divide $\bar{4}.4771213$ by 11.

If log. 3 = .4771213 find how many ciphers there are between the decimal point and the first significant digit in $(\frac{1}{3})^{1000}$.

MATRICULATION EXAMINATION,

MARCH, 1882.

GREEK.

PROFESSOR KELLY.

I. Translate—

Τὸν δ' ἀπαμειβόμενος προσέφη κρείων Ἀγαμέμνων·
" Μηδ' οὕτως, ἀγαθός περ ἐὼν, θεοείκελ' Ἀχιλλεῦ,
κλέπτε νόῳ· ἐπεὶ οὐ παρελεύσεαι, οὐδέ με πείσεις.
ἦ ἐθέλεις, ὄφρ' αὐτὸς ἔχῃς γέρας, αὐτὰρ ἔμ' αὖτως
ἧσθαι δευόμενον; κέλεαι δέ με τήνδ' ἀποδοῦναι;
ἀλλ' εἰ μὲν δώσουσι γέρας μεγάθυμοι Ἀχαιοὶ,
ἄρσαντες κατὰ θυμὸν, ὅπως ἀντάξιον ἔσται·—
εἰ δέ κε μὴ δώωσιν, ἐγὼ δέ κεν αὐτὸς ἕλωμαι
ἢ τεὸν, ἢ Αἴαντος ἰὼν γέρας, ἢ Ὀδυσῆος
ἄξω ἑλών. ὁ δέ κεν κεχολώσεται, ὅν κεν ἵκωμαι.
ἀλλ' ἦτοι μὲν ταῦτα μεταφρασόμεσθα καὶ αὖτις·
νῦν δ' ἄγε, νῆα μέλαιναν ἐρύσσομεν εἰς ἅλα δῖαν,
ἐς δ' ἐρέτας ἐπιτηδὲς ἀγείρομεν, ἐς δ' ἑκατόμβην
θείομεν, ἂν δ' αὐτὴν Χρυσηΐδα καλλιπάρῃον
βήσομεν, εἷς δέ τις ἀρχὸς ἀνὴρ βουληφόρος ἔστω,
ἢ Αἴας, ἢ Ἰδομενεὺς, ἢ δῖος Ὀδυσσεὺς,
ἦὲ σὺ, Πηλεΐδη, πάντων ἐκπαγλότατ' ἀνδρῶν,
ὄφρ' ἡμῖν Ἑκάεργον ἱλάσσεαι ἱερὰ ῥέξας."

Write explanatory notes on—(1) the sentence ἦ ἐθέλεις to δευόμενον; (2) ἐγὼ δὲ κὲν αὐτὸς ἕλωμαι; (3) ἐπιτηδὲς; (4) θείομεν.

II. Translate—

Τὴν δὲ βαρυστενάχων προσέφη πόδας ὠκὺς Ἀχιλλεύς
" Οἶσθα· τίη τοι ταῦτα ἰδυίῃ πάντ' ἀγορεύω;
ᾧχόμεθ' ἐς Θήβην, ἱερὴν πόλιν Ἠετίωνος,
τὴν δὲ διεπράθομέν τε καὶ ἤγομεν ἐνθάδε πάντα.
καὶ τὰ μὲν εὖ δάσσαντο μετὰ σφίσιν υἷες Ἀχαιῶν,
ἐκ δ' ἔλον Ἀτρείδῃ Χρυσηΐδα καλλιπάρῃον.
Χρύσης δ' αἶθ' ἱερεὺς ἑκατηβόλου Ἀπόλλωνος,
ἦλθε θοὰς ἐπὶ νῆας Ἀχαιῶν χαλκοχιτώνων

λυσόμενός τε θύγατρα φέρων τ' ἀπερείσι' ἄποινα,
στέμματ' ἔχων ἐν χερσὶν ἑκηβόλου Ἀπόλλωνος
χρυσέῳ ἀνὰ σκήπτρῳ, καὶ ἐλίσσετο πάντας Ἀχαιούς,
Ἀτρείδα δὲ μάλιστα δύω, κοσμήτορε λαῶν.
ἔνθ' ἄλλοι μὲν πάντες ἐπευφήμησαν Ἀχαιοὶ
αἰδεῖσθαί θ' ἱερῆα καὶ ἀγλαὰ δέχθαι ἄποινα·
ἀλλ' οὐκ Ἀτρείδῃ Ἀγαμέμνονι ἥνδανε θυμῷ,
ἀλλὰ κακῶς ἀφίει, κρατερὸν δ' ἐπὶ μῦθον ἔτελλεν.
χωόμενος δ' ὁ γέρων πάλιν ᾤχετο· τοῖο δ' Ἀπόλλων
εὐξαμένου ἤκουσεν, ἐπεὶ μάλα οἱ φίλος ἦεν,
ἧκε δ' ἐπ' Ἀργείοισι κακὸν βέλος· οἱ δέ νυ λαοὶ
θνῄσκον ἐπασσύτεροι, τὰ δ' ἐπῴχετο κῆλα θεοῖο
πάντα ἀνὰ στρατὸν εὐρὺν Ἀχαιῶν. ἄμμι δὲ μάντις
εὖ εἰδὼς ἀγορευε θεοπροπίας ἑκάτοιο.
αὐτίκ' ἐγὼ πρῶτος κελόμην θεὸν ἱλάσκεσθαι·
Ἀτρείωνα δ' ἔπειτα χόλος λάβεν, αἶψα δ' ἀναστὰς
ἠπείλησεν μῦθον, ὃ δὴ τετελεσμένος ἐστίν.

Parse the words—*ἰδυίῃ, δάσσαντο, δέχθαι, ἀφίει, ἄμμι.*

III. Translate—

Τώγ' ὣς βουλεύσαντε διέτμαγεν· ἡ μὲν ἔπειτα
εἰς ἅλα ἅλτο βαθεῖαν ἀπ' αἰγλήεντος Ὀλύμπου,
Ζεὺς δέ ἑὸν πρὸς δῶμα. θεοὶ δ' ἅμα πάντες ἀνέσταν
ἐξ ἑδέων, σφοῦ πατρὸς ἐναντίον· οὐδέ τις ἔτλη
μεῖναι ἐπερχόμενον, ἀλλ' ἀντίοι ἔσταν ἅπαντες.
ὣς ὁ μὲν ἔνθα καθέζετ' ἐπὶ θρόνου· οὐδέ μιν Ἥρη
ἠγνοίησεν ἰδοῦσ' ὅτι οἱ συμφράσσατο βουλὰς
ἀργυρόπεζα Θέτις, θυγάτηρ ἁλίοιο γέροντος.
αὐτίκα κερτομίοισι Δία Κρονίωνα προσηύδα
"Τίς δ' αὖ τοι, δολομῆτα, θεῶν συμφράσσατο βουλάς;
αἰεί τοι φίλον ἐστὶν, ἐμεῦ ἀπονόσφιν ἐόντα,
κρυπτάδια φρονέοντα δικαζέμεν· οὐδέ τί πώ μοι
πρόφρων τέτληκας εἰπεῖν ἔπος ὅττι νοήσῃς."

IV. State the rules for the sequence of tenses in Greek, and translate into Greek :—

The General destroyed the City that it might not be a retreat (*καταφυγή*) for his enemies.

On the arrival of the Ambassadors the citizens show them a great quantity of plate (*ἄργυρος*), that they might report to Athens the great wealth of their City.

V. Write down the 1st person singular indicative mood of the tenses in use of *φέρω, ῥήγνυμι, πάσχω, τύπτω.*

VI. Give the comparative and superlative of ἡδύς, γεραιος, μέσος, πολύς, ταχύς, and decline in full πολύς and ταχύς, in both positive and comparative degrees.

VII. State what you know of the Life of Homer and the History of his Works.

LATIN.

PROFESSOR KELLY.

I. Translate :—

At memoria minuitur. Credo, nisi eam exerceas; aut si sis naturā tardior. Themistocles omnium civium nomina perceperat: num igitur censetis eum, quum ætate processisset, qui Aristides esset, Lysimachum salutare solitum? Equidem non modò eos novi qui sunt, sed eorum patres etiam et avos. Nec sepulcra legens vereor, quod aiunt, ne memoriam perdam: his enim ipsis legendis redeo in memoriam mortuorum. Nec verò quemquam senum audivi oblitum quo loco thesaurum obruisset. Omnia, quæ curant, meminerunt; vadimonia constituta: qui sibi, quibus ipsi, debeant. Quid jurisconsulti? quid pontifices? quid augures? quid philosophi senes? quàm multa meminerunt! Manent ingenia senibus, modò permaneat studium et industria; nec ea solùm in claris et honoratis viris, sed in vitā etiam privatā et quietā. Sophocles ad summam senectutem Tragedias fecit; quod propter studium, quum rem familiarem negligere videretur, à filiis in judicium vocatus est, ut, quemadmodùm nostro more malè rem gerentibus patribus bonis interdici solet, sic illum, quasi desipientem, à re familiari removerent judices. Tum senex dicitur eam Fabulam, quam in manibus habebat et proximè scripserat, *Œdipum Coloneum*, recitâsse judicibus, quæsisseque, num illud carmen desipientis videretur. Quo recitato, sententiis judicum est liberatus.

Venio nunc ad voluptates agricolarum quibus ego incredibiliter delector; quæ nec ullā impediuntur senectute, et mihi ad sapientis vitam proximè videntur accedere. Habent enim rationem cum terrā, quæ nunquam recusat imperium, nec unquam sine usurā reddit, quod accepit; sed aliàs minore, plerumque majore, cum fenore. Quamquam me quidem non fructus modò, sed etiam ipsius terræ vis ac natura delectat. Quæ quum gremio mollito ac subacto semen sparsum excepit, primùm id occæcatum cohibet—ex quo *occatio*, quæ hoc efficit, nominata est—deinde tepefactum vapore et compressu suo diffindit et elicit herbescentem ex eo viriditatem: quæ, nixa

fibris stirpium, sensim adolescit, culmoque erecta geniculato, vaginis jam quasi pubescens includitur ; è quibus quum emersit, fundit frugem spici ordine structam, et contra avium minorum morsūs munitur vallo aristarum. Quid ego vitium satūs, ortūs, incrementa, commemorem? Satiari delectatione non possum, ut meæ senectutis requietem oblectamentumque noscatis. Omitto enim vim ipsam omnium, quæ generantur è terrā ; quæ ex fici tantulo grano, aut ex acino vinaceo, aut ex ceterarum frugum ac stirpium minutissimis seminibus tantos truncos ramosque procreat. Malleoli, plantæ, sarmenta, viviradices, propagines, nonne ea efficiunt, ut quemvis cum admiratione delectent? Vitis quidem, quæ naturā caduca est, et, nisi fulta sit, ad terram fertur ; eadem, ut se erigat, claviculis suis, quasi manibus, quidquid est nacta, complectitur : quam, serpentem multiplici lapsu et erratico, ferro amputans coërcet ars agricolarum, ne silvescat sarmentis et in omnes partes nimia fundatur.

II. Decline virgo, jecur, similis, altior, ferax.

III. Give the comparatives and superlatives of arduus, munificus, prope, diu, saepe.

IV Give the perfects, supines, and infinitives of jaceo, tondeo, mano, placo, gigno, cerno, amicio, haurio, obliviscor.

V. Give the present imperative and imperfect subjunctive of morior, proficiscor, patior.

VI. Give an idiomatic Latin equivalent for—

You and I will go home.

By this time he is asleep.

He was *at once* a good and an active man.

He wanted to do it and he did it *too*.

This is *quite* ridiculous.

Was the man useful to you? *Yes, very.*

For Latin prose :—

You formerly observed to me that nothing made a more ridiculous figure in a man's life than the disparity we often find in him sick and well. Sickness is a sort of early old age : it teaches us a diffidence in our earthly state, and inspires us with the thoughts of a future better than a thousand volumes of philosophers and divines.

FRENCH.

MR. D'ARENBERG.

I. Mention the principal cases in which the indefinite article (a or au) though used in English is not employed in French. Give examples.

II. How are adverbs formed from adjectives in French?

Form adverbs from Fidèle, Gracieux, Élégant, Patient, Lent, Présent, Gai, Bref, Nouveau, Traitre, Énorme, Profond, Impuni.

III. How do nouns in s, x, ou, and al form the plural? How do compound nouns?

Give plural of fou, sou, évantail, bal, garde-fou, eau-de-vie, tête-à-tête, sapeur-pompier, chef-d'œuvre, arc-en-ciel, cure-dent.

IV. What gender must be given to adjectives when used to qualify gens? Give examples.

V. Give the feminine and English of âne, cochon, compère, gouverneur, cheval, nègre, larron, bâilleur, compagnon.

VI. Translate into English—

a, à; la, là; ou, où; du, dû; cru, crû; sur, sûr; mur, mûr; tache, tâche.

VII. Write out the temps primitifs of chercher, aller, punir, couvrir, fuir, apercevoir, voir, attendre, conclure, plaire, craindre vaincre.

VIII. Translate into English—

Il a beau dire, il ne réussira jamais.
Je n'ai pas lieu d'être satisfait de vous.
Dites tout net que vous êtes au bout de votre latin.
Elle foula aux pieds tous mes cadeaux.
Tranchez le mot; est-ce que vous m'en voulez encore?

Translate—

Ses conducteurs furent touchés de sa situation; ils se cotisèrent pour lui acheter une pelisse de mouton qui dans le pays ne coûte que cinq roubles; malheureusement il ne s'en trouva point à vendre; aucun des habitants de cette ville isolée ne voulut faire le sacrifice de la sienne, parce qu'il était difficile de la remplacer. Les paysans offrirent jusqu'à sept roubles à une fille de l'auberge, qui les refusa. Dans cette perplexité un des plus jeunes conducteurs proposa tout-à-coup un expédient des plus singuliers, et qui permit à Prascovie de profiter de leur bonne volonté. "Nous lui

prêterons," dit-il, "tour-à-tour nos pelisses, ou bien elle prendra la mienne une fois pour toutes, et nous changerons entre nous à chaque verste." Ils y consentirent tous avec plaisir. On fit aussitôt le calcul de la distance et du nombre de fois que les pelisses devaient être changées : les paysans Russes veulent savoir leur compte, et se laissent difficilement tromper. La voyageuse fut placée sur un traineau bien enveloppée dans sa pelisse. Le jeune homme qui la lui avait cédée se couvrit avec la natte dont elle s'était servie jusqu'alors, et, s'asseyant sur ses pieds, se mit à chanter à tue-tête et ouvrit la marche. L'échange des pelisses se fit exactement à chaque poteau des verstes, et le convoi parvint très heureusement et très vite à Ekatherinembourg.

La Jeune Sibérienne.

Plein de ces tristes pensées, j'oubliai qu'il est un Être Consolateur, je m'oubliai moi-même. "Pourquoi, me disais-je, la lumière me fut-elle accordée? Pourquoi la nature n'est elle injuste et marâtre que pour moi? S'emblable à l'enfant déshérité, j'ai sous les yeux le riche patrimonie de la famille humaine, et le ciel avare m'en refuse ma part. Non, non, m'écriai-je, enfin dans un accès de rage, il n'est point de bonheur pour toi sur la terre ; meurs, infortuné, meurs ! Assez longtemps tu as souillé la terre par ta présence ; puisse-t-elle t'engloutir vivant et ne laisser aucune trace de ton odieuse existence !" Ma fureur insensée s'augmentant par degrés, le désir de me détruire s'empara de moi et fixa toutes mes pensées. Je conçus enfin la résolution d'incendier ma retraite et de m'y laisser consumer avec tout ce qui aurait pu laisser quelque souvenir de moi. Agité, furieux, je sortis dans la campagne ; j'errai quelque temps dans l'ombre autour de mon habitation : des hurlements involontaires sortaient de ma poitrine oppressée, et m'effrayaient moi-même dans le silence de la nuit. Je rentrai plein de rage dans ma demeure en criant : "Malheur à toi, lépreux ! malheur a toi !"

Et comme si tout avait dû contribuer à ma perte, j'entends l'écho qui, du milieu des ruines du chateau de Bramafan, répéta distinctement "Malheur à toi !" Je m'arrêtai saisi d'horreur sur la porte de la tour, et l'écho faible de la montagne répéta longtemps après "Malheur à toi !"

Le Lépreux de la Cité d'Aoste.

Translate into French—

My Lord,—I have lately been informed by the proprietor of *The World* that two papers in which my dictionary is recommended to the public were written by your Lordship. To be

so distinguished is an honor which, being very little accustomed to favours from the great, I know not well how to receive or in what terms to acknowledge. When upon some slight encouragement I first visited your Lordship I was overpowered, like the rest of mankind, by the enchantment of your address, and could not forbear to wish that I might boast myself le vainqueur du vainqueur de la terre.

When I had once addressed your Lordship in public I had exhausted all the art of pleasing which a retired and uncourtly scholar can possess; I had done all that I could; and no man is well pleased to have his all neglected, be it ever so little.

To be so distinguished—une semblable distinction.

Could not forbear to wish—et je conçus malgré moi le désir.

That interest for which I saw the world contending—cet interet dont je voyais le monde jaloux.

GERMAN.

PROFESSOR LAMB.

I. Translate—

„Ja, Harun ist ein weiser Mann!" erwiderte die Fee; „aber leider ist er auch nur ein Mensch. Er traut seinem Großkämmerer Mesfour so viel als sich selbst, und er hat Recht, denn er hat Mesfour erprobt und treu gefunden. Mesfour aber traut seinem Freund Kalum-Bek auch wie sich selbst, und darin hat er Unrecht, denn Kalum ist ein schlechter Mann, wenn er schon Mesfours Verwandter ist. Kalum ist zugleich ein verschlagener Kopf und hat, sobald er hieher kam, seinem Vetter Großkämmerer eine Fabel über Dich erdichtet und angeheftet, und dieser hat sie wieder dem Kalifen erzählt, so daß Du, kämst Du auch jetzt gleich in den Palast Haruns, schlecht empfangen werden würdest, denn er traute Dir nicht. Aber es giebt andere Mittel und Wege, sich ihm zu nahen, und es steht in den Sternen geschrieben, daß Du seine Gnade erwerben sollst."

II. Translate—

Von jetzt an wurde Peter Munk ein fleißiger und wackerer Mann. Er war zufrieden mit dem, was er hatte, trieb sein Handwerk unverdrossen, und so kam es, daß er durch eigene Kraft wohlhabend wurde und angesehen und beliebt im ganzen Wald. Er zankte nie mehr mit Frau Lisbeth, ehrte seine Mutter und gab den Armen die an seiner Thür pochten. Als nach Jahr und Tag Frau Lisbeth von einem schönen Knaben genas, ging Peter nach dem Tannenbühl und sagte sein Sprüchlein. Aber das Glasmännlein zeigte sich nicht. „Herr Schatzhauser!" rief er laut, „hört mich doch, ich will ja nichts Anderes, als Euch zu Gevatter bitten bei meinem Söhnlein!" Aber er gab keine Antwort; nur

ein kurzer Windstoß sauste durch die Tannen und warf einige Tannenzapfen herab in's Gras. „So will ich dies zum Andenken mitnehmen, weil Ihr Euch doch nicht sehen lassen wollet," rief Peter, steckte die Zapfen in die Tasche und ging nach Hause; aber als er zu Hause das Sonntagswamms auszog und seine Mutter die Taschen umwandte und das Wamms in den Kasten legen wollte, da fielen vier stattliche Geldrollen heraus, und als man sie öffnete, waren es lauter gute, neue badische Thaler, und kein einziger falscher darunter. Und das war das Pathengeschenk des Männleins im Tannenwald für den kleinen Peter.

III. Give the plurals of Mann, Mensch, Kopf, Fabel, Kraft.

IV. Decline ein weiser Mann, der alte Freund.

V. Give the principal parts of the following verbs :—gefunden, angeheftet, kämst, geschrieben, wurde, trieb, genas, bitten, mitnehmen, auszog.

VI. Explain the meanings of the verbal prefixes er-, an-, ver-, um-, and give examples.

VII. Give three prepositions which may govern either the dative or the accusative ; and point out the distinction of meaning in each case.

VIII. What English words are akin in derivation to erzählen, trauen, Knabe, Zapfe, ziehen, Dach?

IX. Translate into English—

Im Frühjahr 1609 machte Galilei eine Reise nach Venedig, und hörte dort von den kurz zuvor in Holland erfundenen Fernröhren, oder wie Andere ohne hinlänglichen Grund behaupten, er sah daselbst ein dorthin gebrachtes holländisches Fernrohr. Dies war für ihm ein Sporn über die Vervollkommnung und Anwendung dieses damals mit Recht so sehr angestaunten Instrumentes ernstlich nachzudenken. Sogleich nach seiner Rückkehr nach Padua ging er an's Werk, und so rasch war der Erfolg seiner Bemühungen, daß er schon im August desselben Jahres dem Senat von Venedig ein Fernrohr übersenden konnte, das mehr leistete als jenes, welches dieser aus Holland bekommen hatte. Der Senat belohnte dies Geschenk überaus freigebig: unter dem 25. August, 1609, setzte er dem Galilei eine lebenslängliche Pension aus, und das dreifache des Gehalts, welches er als Lehrer in Padua bezog.

X. Translate into German :

" John Trott was desired by two witty peers,
To tell them the reason why asses had ears ;
'An't please you,' quoth John, ' I'm not given to letters,
Nor dare I pretend to know more than my betters ;
Howe'er from this time I shall ne'er see your graces,
As I hope to be saved !—without thinking on asses.'"

ENGLISH LANGUAGE.

PROFESSOR FLETCHER.

I. Correct the spelling of the following passage from Wyclif, and point out any archaic words or forms which are still occasionally used in modern English.

> And he seide, a man hadde tweie sones: and the yunger of hem seide to the fadir, fadir geue me the porscioun of catel that fallith to me, and he departid to hem the catel, and not after many daies whenne alle thingis weren gadered to gidre, the yunger sone wente forth in pilgrimage in to a fer countre and there he wastid his goodis in lyvynge leccherousli, and aftir that he hadde endid alle thingis, a strong hungir was made in that cuntre and he begaune to have nede. And he wente and drouze him to oon of the citeseyns of that cuntre, and he sente hym in to his towne to fede swyne, and he coueted to fille his wombe of the coddis that the hoggis eten and no man gav to hym.

II. Analyse the following sentences:—

> "With ravished ears,
> The monarch hears
> Assumes the god
> Affects to nod
> And seems to shake the spheres."—*Dryden.*
>
> "He that comes to seek after knowledge with a mind to scorn and censure shall be sure to find enough for his humour but nothing for his instruction."—*Bacon.*

III. What is meant by describing verbs as regular and irregular? Into how many classes can irregular verbs be conveniently divided? Give examples.

Give the past and participal forms of the following verbs—bear, cleave, dress, drink, chide, hew, lie, lay, seethe, shape, thrive, wax.

IV. Parse the following sentences:—

A. "In 1661 the justices fixed the labourers' wages at seven shillings a week, wheat seventy shillings the quarter, and the labourer worked twelve hours a day."—*Macaulay.*

B. "Some of his characters have been found fault with as insipid?"—*Hazlitt.*

V. What is meant by the indirect object of a verb? Give three examples.

VI. What are the personal and the relative pronouns in English? What rules should govern their use in composition?

Rewrite with proper punctuation the following sentences so as to make their meanings clear.

A. "They were summoned occasionally by their kings when compelled by their wants and by their fears to have recourse to their aid."—*Robertson.*

B. "The Earl of Falmouth and Mr. Coventry were rivals who should have most influence with the Duke who loved the Earl best but thought the other the wiser man who supported Pen who disobliged all the courtiers even against the Earl who, &c."—*Clarendon.*

C. And he said saddle me the ass and they saddled him.

VII. Correct or justify the following sentences:—

a. I am taller than him.

b. I have aided you more than he.

c. Satan—than whom none higher sat.—*Milton.*

d. Two and two is four and one is five.—*Pope.*

e. This Thyre with her twelve children were notorious robbers.

f. Both minister and magistrate are compelled to choose between his duty and his reputation.

VIII. Give the derivation of the following words:—beef, monster, egg, voice, cunning, housewife, powder, doubt, empire, empirical, compliment, complement.

IX. By what changes or additions are the plurals of nouns formed? Give examples of each method.

X. Complete, after hearing it read, the paragraph on classical education of which the first half of each line is printed.

We are apt, in the first place,
benefits which the study of the classics
kind; and to feel for those models
has been formed, something like
obligation. This is all well enough
to be a mere feeling; but as soon
it nourishes dangerous prejudices
will do in the pursuit of knowledge but
the moment we have got up the
down; as soon as we have passed
it rot; when we have got upon the

we must look over their heads.
friends of his childhood in real life
to the props of his childhood in life
remain as ignorant as he was when
forget, disown, and deny—to think
which has been of use to him in time
that exclusively from which he expects
short, to do everything for the
which it would be infamous to do
fortune. If mankind still derive
rature proportionate to the labour they
labour and their study proceed ;
read Latin and Greek for the solid
it would be a very romantic application
so from any feeling of gratitude, and —*Sydney Smith.*

ENGLISH HISTORY.

PROFESSOR FLETCHER.

I. Give some particulars of the Danish invasion of England. Give the names of the Danish kings and the dates of their accession.

Describe the character of Canute and of his influence on English history.

II. Narrate carefully the circumstances which led to the calling of the first true Parliament.

III. What was the nature of the claim of the English kings to the sovereignty of France? In whose reign was the British occupation of France most conspicuous, and when did it finally cease? Indicate that occupation by a sketch map of France.

IV. Who was Joan of Arc? What part did she play in English history?

V. Give what particulars you can concerning Roger Bacon and his literary works.

VI. Mention with dates the chief events of the reign of Henry VIII.

VII. When and under what circumstances did England first gain possession of Ireland.

VIII. Under whose reigns did the following historical personages flourish?

State briefly for what they were remarkable.

Alcuin	Colet
Francis Bacon	William Caxton
Thomas-á-Beckit	General Fairfax
Richard Baxter	John Eliot
George Villiers	Ben Jonson
Cædmon	Reginald Pole

IX. State briefly the circumstances which led to the independence of the American colonies of Great Britain.

GEOGRAPHY.

MR. SUTHERLAND.

I. Draw an outline map of North America.

II. Mark on the above map and name on a separate list the principal rivers.

III. Explain fully what is meant by each of the following terms. *(a)* The Earth's Rotation. *(b)* A Neap Tide. *(c)* An Isothermal Line. *(d)* Tropical Rains.

IV. Name six of the principal active volcanoes on the earth's surface, and indicate roughly the volcanic region to which each belongs.

V. Name the capital of each of the following countries, and state after each what form of government it is under:—Mexico, Italy, Turkey, France, Canada, Russia, Brazil, Spain, China.

VI. Draw a rough outline map of England and Wales.

VII. Mark on the above map and name on a separate list as many of the coast towns and cities as you know.

VIII. Describe the course of the River Murray, giving the tributaries which it receives, the nature of the land through which it passes, the towns on its banks, and any other information which might help to convey an idea of the river itself.

ARITHMETIC AND ALGEBRA.

PROFESSOR LAMB.

I. Prove the ordinary rule for multiplication of integers.
Ex.: 3628801×721

II. How many articles, each of which costs £1 14s. 3d. can be bought for £1,289 10s. 3d.?

III. Define a Fraction; and state and prove the rule for dividing one fraction by another.

Simplify

$$\frac{\frac{1}{2}-\frac{1}{4}+\frac{1}{6}-\frac{1}{8}}{1-\frac{1}{3}+\frac{1}{5}-\frac{1}{7}}$$

IV. Convert $\frac{3}{64}$ and $\frac{5}{11}$ into decimals.

How can you tell whether a given vulgar fraction will on conversion give a rise to a terminating or to a circulating decimal, respectively? Give reasons for your answer.

V. Explain the terms *Interest* and *Discount;* and point out the distinction between "True Discount" and "Banker's Discount."

The excess of the present value of a sum due in one year, reckoning interest at 4 per cent., over the present value when interest is reckoned at 5 per cent. is 10s. Find the sum.

VI. The volume of a solid sphere is approximately $\frac{11}{21}$ of that of a cube whose side is equal to the diameter. Find the weight in lbs. of a hollow spherical shell of iron whose outside diameter is 5 in. and whose thickness is $\frac{3}{4}$ in. [Assume that iron is 7 times as heavy as water, and that a cubic foot of water weighs 62 lbs.]

VII. (1.) Find the value of

$$1-\frac{x^2}{2}+\frac{x^4}{24}-\frac{x^6}{720},$$

when $x=.03$.

(2.) Simplify

$$(b-c)^2+(c-a)^2+(a-b)^2-(c-a)(a-b)-(a-b)(b-c)-(b-c)(c-a)$$

VIII. Express the following statement in algebraical symbols:—

"If from the sum of the squares of three numbers we subtract the sum of the products taken two and two, and then multiply by the sum of the three numbers, the final result is less than the sum of the cubes of the given numbers by three times their product."

Also prove this statement.

IX. Solve the equations

$$(1.)\ \frac{5}{7}\left(\frac{3x}{5}-1\right)=\frac{2}{3}\left(\frac{x}{8}-6\right)+4\frac{9}{28}.$$

$$(2.)\ a(xq-br)+b(ar-xp)+c(bp-aq)=0.$$

X. The sum of the numerator and denominator of a certain fraction is 100, and if the numerator and denominator be each increased by unity the value of the fraction becomes $\frac{1}{2}$. Find the fraction.

XI. A person walks up a hill at the rate of 3 miles an hour, and down again by the same way at the rate of 5 miles an hour, and accomplishes the whole walk in 4 hours. Find the distance.

GEOMETRY.

PROFESSOR LAMB.

I. Explain the terms *Problem*, *Theorem*, *Converse*, and give examples.

Give an instance of a theorem being true whilst its converse is not true.

II. The angles at the base of an isosceles triangle are equal.

$ABCD$ is a quadrilateral, having $AB=AD$, and $CB=CD$; prove that the angles ABC, ADC are equal.

III. Define *Parallel Straight Lines*, and state the axiom relating to parallels.

If a straight line meets two parallels, it makes the alternate angles equal.

IV. Parallelograms on the same base and between the same parallels are equal in area.

V. Make a square having a given straight line as diagonal.

VI. ABC is a triangle, and the square on BC is equal to the sum of the squares on AB, AC; prove that the angle BAC is a right angle.

VII. State and prove the geometrical proposition which corresponds to the algebraical formula :—

$$a^2+(a+b)^2=b^2+2a(a+b).$$

VIII. If a straight line be divided equally and unequally, the square on the unequal parts are together double of the squares on half the line and on the line between the points of section.

P is any point in a given straight line AB; prove that the sum of the squares on AP, PB is least when P is the middle point of AB.

Hence, prove that, if a straight line be divided into a given number n of parts, the sum of the squares on these parts is least when all the parts are equal.

NATURAL PHILOSOPHY.

PROFESSOR LAMB.

I. Explain the terms *velocity*, *mass*, *momentum*. A train is travelling at the rate of 60 miles an hour; What is this in metres per second? [A metre = 39.37 inches.]

II. What is the precise meaning of the statement 'g=32,' a foot and a second being the units?

A stone is dropped from a balloon which is ascending at the rate of 10 feet per second, find its velocity at the end of ten seconds.

III. Explain the law of action and reaction.

A gun whose weight is 50 lbs. is suspended by strings, so that it can swing freely in the direction of its length, which is horizontal. The gun is loaded with a ball, whose weight is 4 ozs., and the charge of powder is such as will give the ball an initial velocity of 1,000 feet per second. Find the velocity with which the gun will recoil when fired by a match.

IV. State the "Parallelogram of Forces," and describe some experimental illustrations of it.

Explain by a diagram the action of the wind in propelling a vessel in the case where the wind is at right angles to the ship's course.

V. Define the *centre of gravity* of a body, and state its chief properties.

A cylindrical pillar of stone 1 foot in diameter and 10 feet high rests with its base on a horizontal plane. Find (graphically) through what angle it can be tilted without falling over.

VI. What is the fundamental property of a fluid?

Prove that in a fluid at rest under the action of gravity the pressure is everywhere the same at the same level.

VII. Define *specific gravity.*

Given a balance, a set of weights, and two vessels containing water and oil respectively, explain how you would find the specific gravity of the oil.

VIII. Explain fully the action of the common lift pump. Give a clear diagram. What limitations are there to the action of this pump, and how may they be evaded?

IX. Describe the process of construction of a mercurial thermometer. Also, describe some form of maximum thermometer.

CHEMISTRY.

DR. CLELAND.

I. What is meant by the terms *element*, *molecule* and *atomic weights?* Illustrate your answer by taking hydrogen and oxygen as examples.

II. What is an oxide? How are they grouped according to their chemical action upon one another? State the chemical constitution and general characteristics of an acid.

III. Give the names and formulæ of six compounds formed by hydrogen with six separate elements respectively.

IV. What gas is generated when sal-ammoniac (NH_4Cl) and lime (Ca O) are gently heated together? Show by means of an equation the re-action.

V. 48-lbs. of oxygen are wanted. How much potassium chlorate ($KClO_3$) would be required to produce this?—K = 39·1, Cl = 35·5, 0 = 16.

VI. How much carbonic acid gas could be obtained by acting on 100 grs. of chalk, ($CaCo_3$) with a sufficiency of hydrochloric acid.
Ca = 40, C = 12, 0 = 16.

BOTANY.

MR. HARTLEY.

I. Draw the following leaves :
(*a*) An obcordate simple leaf.
(*b*) A palmately divided simple leaf.
(*c*) An imparipinnate compound leaf.

II. Describe the leaf of a pea.

III. Draw a stamen; name the separate parts; state its function.

IV. What do you understand by the following parts of the flower of the wild oat—glume, palea, awn? How many stamens has it? How many styles? How many cells in the ovary?

V. Compare the fruits of the wallflower and the pea.

VI. Describe the leaves of the orange from the accompanying specimen.

VII. Make schedules showing (or describe in words) the number, adhesion, and cohesion of the various parts of the flowers supplied (fuchsia and snapdragon).

VIII. Is the lily monocotyledonous or dicotyledonous? Explain these terms.

IX. Examine under the microscope the slides provided; describe them, and state what you conclude them to be.

PHYSICAL GEOLOGY.

MR. HARTLEY.

I. What is a glacier? What do you know about its motion and its action on the rocks over which it passes?

II. Explain how icebergs are formed on the coast of Greenland.

III. What do you understand by denudation?

IV. Explain the terms dip, fault, unconformable; and show how unconformable strata may be produced.

V. In the course of ages the Niagara Falls have receded considerably, what is the cause of this?

VI. Show clearly how land is disintegrated by the action of frost.

VII. If on pouring dilute acid on a stone little bubbles of gas are disengaged, what sort of a rock do you conclude it to be, and why?

VIII. State the component parts of granite.

IX. What is an atoll and how has it been formed?

X. Mention some examples, *(a)* of the formation, *(b)* of the destruction of land by water.

XI. Define and give examples of aqueous, igneous, and metamorphic rocks.

XII. How is it known that land now high above the ocean was once submerged?

NOVEMBER, 1882.

ORDINARY EXAMINATIONS.

FIRST YEAR.

LATIN.

PROFESSORS STRONG AND KELLY.

I. Translate into English—

Quid dedicatum poscit Apollinem
Vates? quid orat de patera novum
Fundens liquorem? Non opimae
Sardiniae segetes feraces,
Non aestuosae grata Calabriae
Armenta, non aurum aut ebur Indicum,
Non rura, quae Liris quieta
Mordet aqua taciturnus amnis.
Premant Calena falce quibus dedit
Fortuna vitem; dives et aureis
Mercator exsiccet cululis
Vina Syra reparata merce,
Dis carus ipsis, quippe ter et quater
Anno revisens aequor Atlanticum
Impune. Me pascunt olivae,
Me cichorea levesque malvae.
Frui paratis et valido mihi,
Latoë, dones et precor integra
Cum mente nec turpem senectam
Degere nec cithara carentem.

HOR. OD., I., 31.

In the above explain the constructions in lines 1, 9, 17; and explain the words cululis, reparata.

II. Translate into English—

Septimi, Gades aditure mecum et
Cantabrum indoctum juga ferre nostra et
Barbaras Syrtes, ubi Maura semper
Aestuat unda ;
Tibur Argeo positum colono
Sit meae sedes utinam senectae,
Sit modus lasso maris et viarum
Militiaeque !
Unde si Parcae prohibent iniquae,
Dulce pellitis ovibus Galaesi
Flumen et regnata petam Laconi
Rura Phalantho.
Ille terrarum mihi praeter omnes
Angulus ridet, ubi non Hymetto
Mella decedunt viridique certat
Baca Venafro.
Ver ubi longum tepidasque praebet
Jupiter brumas, et amicus Aulon
Fertili Baccho minimum Falernis
Invidet uvis.
Ille te mecum locus et beatae
Postulant arces ; ibi tu calentem
Debita sparges lacrima favillam
Vatis amici. HOR. OD., II., 6.

Explain pellitis ovibus ; and give the derivation of bruma.

III. Translate and explain the following passages, referring them to their context—

(1.) Docte sermones utriusque linquae.
(2.) Dulces docta modos et citharae sciens.
(3.) Splendide mendax.
(4.) Te flagrantis atrox hora Caniculae Nescit tangere.
(5.) male ominatis Parcite verbis.
(6.) diffidit urbium Portas vir Macedo.
(7.) Grande certamen, tibi praeda cedat Maior an illi.
(8.) Damna tamen celeres reparant caelestia lunae.
(9.) bona iam peractis Jungite fata.
(10.) Quindecim Diana preces Virorum Curat.

IV. Write down any words or constructions which Horace has borrowed from the Greek.

V. What seem to have been Horace's religion or philosophical opinions? Illustrate by quotations.

VI. Comment on the following constructions—

(1.) Velox amœnum sœpe Lucretilem Mutat Lycaeo Faunus.

(2.) Nigro compulerit Mercurius gregi.

(3.) Ornare pulvinar deorum Tempus erat dapibus sodales.

(4.) Quid quisque vitet nunquam homini satis Cautum est in horas.

VII. Translate—

Quo, quo scelesti ruitis? aut cur dexteris
Aptantur enses conditi?
Parumne campis atque Neptuno super
Fusum est Latini sanguinis?
Non, ut superbas invidae Carthaginis
Romanus arces ureret,
Intactus aut Britannus ut descenderet
Sacra catenatus via,
Sed ut secundum vota Parthorum sua
Urbs haec periret dextera.
Neque hic lupis mos nec fuit leonibus
Unquam nisi in dispar feris.
Furorne caecus, an rapit vis acrior?
An culpa? Responsum date!—
Tacent et albus ora pallor inficit
Mentesque perculsae stupent.
Sic est: acerba fata Romanos agunt
Scelusque fraternae necis,
Ut immerentis fluxit in terram Remi
Sacer nepotibus cruor.

HOR. EPODES., VII.

GRAMMAR.

VIII. Decline, *Vesper*, *jugerum*, *puppis*, and give the gender and genitive singular of *adeps*, *pecten*, *ordo*, *humus*, *porticus*.

IX. What are the principal terminations of adverbs in Latin and of Patronymics? Give examples.

X. In what case or cases is a word put in Latin to (1) express quality, and (2) denote price?

XI. Decline and accentuate πλοῦς κύων, οὐς, ἀκριβής, πολύς.

XII. What is the pure stem of ἐρέσσω, κράζω, σαλπίζω, στάζω?—Give their futures. How do you account for the formation of the present tense in these verbs?

XIII. Write out in full the present indicative active of πλέω—What is its future?

GREEK.

PROFESSORS STRONG AND KELLY.

I. Translate into English—

εἶδόν ποτ' ἤδη Φινέως γεγραμμένας
δεῖπνον φερούσας· ἄπτεροί γε μὴν ἰδεῖν
αὗται, μέλαιναι δ' ἐς τὸ πᾶν βδελύκτροποι.
ῥέγκουσι δ' οὐ πλατοῖσι φυσιάμασιν·
ἐκ δ' ὀμμάτων λείβουσι δυσφιλῆ λίβα·
καὶ κόσμος οὔτε πρὸς θεῶν ἀγάλματα
φέρειν δίκαιος, οὔτ' ἐς ἀνθρώπων στέγας.
τὸ φῦλον οὐκ ὄπωπα τῆσδ' ὁμιλίας,
οὐδ' ἥτις αἶα τοῦτ' ἐπεύχεται γένος
τρέφουσ' ἀνατὶ μὴ μεταστένειν πόνον.

Æsch. Eumen., 50-59

Why is μὴ used in the last line?

II. Translate into English—

ΧΟ. ἰὼ θεοὶ νεώτεροι, παλαιοὺς νόμους ἀντ.
καθιππάσασθε, κἀκ χερῶν εἵλεσθέ μου.
ἐγὼ δ' ἄτιμος ἃ τάλαινα βαρύκοτος
ἐν γᾷ τᾷδε, φεῦ,
ἰὸν ἰὸν ἀντιπενθῆ μεθεῖσα καρδίας,
σταλαγμὸν χθονὶ
ἄφορον· ἐκ δὲ τοῦ λιχὴν ἄφυλλος,
ἄτεκνος, ὦ δίκα, πέδον ἐπισύμενος,
βροτοφθόρους κηλῖδας ἐν χώρᾳ βαλεῖ·
στενάζω; τί ῥέξω; γένωμαι
δυσοίστα πολίταις ἄπαθον;
ἰώ, μεγάλα τοι, κόραι δυστυχεῖς
Νυκτὸς ἀτιμοπενθεῖς.

Æsch. Eumen., 775-787.

III. Translate and explain the following passages, referring them where possible to their context—

(1.) *καλεῖ δ' ἀκούοντας οὐδὲν ἐν μέσῳ δυσπαλεῖ τε δίνᾳ.*
(2.) *καὶ προστραπέσθαι τούσδ' ἐπέστελλον δόμους.*
(3.) *ἀυονὰ βροτοῖς.*
(4.) *πέδας μὲν ἄν λύσειεν, ἔστι τοῦδ' ἄκος.*
(5.) *τῶν ἀρειφάτων δ' ἐγὼ*
πρεπτῶν ἀγώνων οὐκ ανέξομαι, τὸ μὴ οὐ
τήνδ' ἀστύνικον ἐν βροτοῖς τιμᾶν πόλιν.

IV. Explain the following expressions—

(1.) A Trilogy.
(2.) *ἡ πάροδος.*
(3.) *τὸ στάσιμον μέλος.*
(4.) Protagonist.
(5.) Thymele.

And give some account of the way in which a Greek play was put upon the stage.

V. Give some account of the religious ideas of Æschylus as discovered in his Eumenides.

VI. Scan the first five lines of the first piece set for translation.

VII. Translate into English—

Ταῦτα μὲν Λακεδαιμόνιοι λέγουσι μοῦνοι Ἑλλήνων. τάδε δὲ, κατὰ ταὐτὰ λεγόμενα ὑπὸ Ἑλλήνων, ἐγὼ γράφω· τούτους γὰρ δὴ τοὺς Δωριέων βασιλέας μέχρι μὲν Περσέος τοῦ Δανάης, τοῦ θεοῦ ἀπεόντος, καταλεγομένους ὀρθῶς ὑπὸ Ἑλλήνων, καὶ ἀποδεικνυμένους ὡς εἰσι Ἕλληνες· ἤδη γὰρ τηνικαῦτα ἐς Ἕλληνας οὗτοι ἐτέλεον. ἔλεξα δὲ, μέχρι Περσέος, τοῦδε εἵνεκα, ἀλλ' οὐκ ἀνέκαθεν ἔτι ἔλαβον, ὅτι οὐκ ἔπεστι ἐπωνυμίη Περσέϊ οὐδεμία πατρὸς θνητοῦ, ὥσπερ Ἡρακλέϊ Ἀμφιτρύων. ἤδη ὦν ὀρθῷ λόγῳ χρεωμένῳ, μέχρι τοῦ Περσέος ὀρθῶς εἴρηταί μοι. ἀπὸ δὲ Δανάης, τῆς Ἀκρισίου, καταλέγοντι τοὺς ἄνω αἰεὶ πατέρας αὐτῶν, φαινοίατο ἂν ἐόντες οἱ τῶν Δωριέων ἡγεμόνες Αἰγύπτιοι ἰθαγενέες. ταῦτα μέν νυν, κατὰ τὰ Ἕλληνες λέγουσι, γεγενεηλόγηται.

Herod. Lib., vi., cap. 53.

Also,

Χειρωσάμενοι δὲ τὴν Ἐρέτριαν, καὶ ἐπισχόντες ὀλίγας ἡμέρας, ἔπλεον ἐς τὴν Ἀττικὴν, κατέργοντές τε πολλὸν, καὶ δοκέοντες ταὐτὰ τοὺς Ἀθηναίους ποιήσειν τὰ καὶ τοὺς Ἐρετριέας ἐποίησαν. καὶ ἦν γὰρ ὁ Μαραθὼν ἐπιτηδεώτατον χωρίον τῆς Ἀττικῆς ἐνιππεῦσαι, καὶ ἀγχοτάτω τῆς Ἐρετρίης, ἐς τοῦτό σφι κατηγέετο Ἱππίης ὁ Πεισιστράτεω. Ἀθηναῖοι δὲ, ὡς ἐπύθοντο ταῦτα,

ἐβοήθεον καὶ αὐτοὶ ἐς τὸν Μαραθῶνα. ἦγον δέ σφεας στρατηγοὶ δέκα· τῶν ὁ δέκατος ἦν Μιλτιάδης, τοῦ τὸν πατέρα Κίμωνα, τὸν Στησαγόρεω, κατέλαβε φυγεῖν ἐξ Ἀθηνέων Πεισίστρατον τὸν Ἱπποκράτεος.

Herod. Lib., vi., cap. 102.

COMPOSITION—LATIN AND GREEK.

PROFESSOR STRONG.

I. Translate the following sentences into Latin :—

(1.) The Aequi, elated with victory, threatened that they would besiege Rome itself.

(2.) Thou sleepest much and drinkest often; and both these things are hurtful to the body.

(3.) Having tried adversity I find that not even prosperity has more danger.

(4.) He will come from Carthage to Rome in a week.

(5.) I have asked him to come and see me to-morrow.

II. Translate into Latin the following :—

A bull, seeing that a lion was chasing him, hastened, seeking refuge, into the stable of a goat. The goat withstood the bull who wished to enter and would not admit him within the stable doors. Then the bull said : if I were not compelled by a stronger than myself you should experience the strength of the bull : for it is greater than the strength of the goat. Sometimes we are compelled to tolerate the insults of those weaker than ourselves because we fear those who are stronger.

III. Translate into Greek the following sentences :—

(1.) I fear that he would not come even if I asked him.

(2.) Had I been present I would have said what I think.

(3.) The sun shines in winter as in summer, does it not?

(4.) It is not true is it that the ruler is dead? It is not true.

(5.) Sometimes men err without knowing it.

Translate into Greek the following passage :—

"Being oppressed by the calamities which befel my children, I send again to ask the god what I should do that I might finish in happiness the remainder of my life? But he answered me 'By knowing yourself, Crœsus, you will pass your

life happily. Hearing this oracle I was pleased; for I thought that he gave me happiness by commanding me to do what was indeed a very easy thing. For I thought that in the case of others it was possible to know some and not to know others: but as to one's self, I thought that every one knew what kind of man one's self is.'"

ELEMENTARY PURE MATHEMATICS I.

PROFESSOR NANSON.

I. Any two sides of a triangle are together greater than the third side.

The sum of the four sides of any quadrilateral is greater than the sum of the diagonals.

II. Parallelograms on the same base and between the same parallels are equal.

Show that one of the parallelograms may be divided into parts which can be applied to the other so as exactly to cover it.

III. Divide a given straight line into two parts, so that the rectangle contained by the whole and one of the parts shall be equal to the square on the other part.

The rectangle contained by the sum and difference of the parts is equal to the rectangle contained by the parts.

IV. Draw a straight line from a given point, either without or in the circumference, which shall touch a given circle.

Show that two tangents can be drawn to a circle from a given external point, and prove that they are of equal length.

V. Chords POQ, ROS in a circle PQR intersect in a point O within the circle; prove that the rectangles contained by OP, OQ and by OR, OS are equal.

State and prove the converse of this proposition.

VI. Describe a circle passing through three points which are not in the same straight line.

O is the centre of the circle circumscribing the triangle ABC; D, E, F are the feet of the perpendiculars from A, B, C on the opposite sides: show that OA, OB, OC are perpendicular to EF, FD, DE respectively.

VII. Similar rectilinear figures may be divided into the same number of similar triangles.

Any regular polygon inscribed in a circle is a mean proportional between the inscribed and circumscribed regular polygons of half the number of sides.

VIII. Define the sine of an angle of any size, and trace the changes in its sign and magnitude as the angle increases from 0° to 360°.

Find the sines of the following angles; 60°, 120°, 240°, 300°.

IX. Investigate a general expression for all angles which have a given tangent.

Find all the values of θ which satisfy the equation

$$\tan^2\theta = \tan^2\alpha.$$

X. Given $\tan\theta = \frac{a}{b}$, find the values of $\sin\theta$ and $\cos\theta$.

Solve the equation

$$\tan\theta + \cot\theta = 2.$$

ELEMENTARY PURE MATHEMATICS II.

PROFESSOR LAMB.

I. Resolve into factors—

(i.) $14x^2 + 5x - 1$,

(ii.) $(x+y)^5 - x^5 - y^5$,

(iii.) $bc\,(b-c) + ca\,(c-a) + ab\,(a-b)$.

Show by the theory of remainders that

$$3x^4 - 4x^3 + 6x^2 + 9x - 1$$

is not divisible by $x+1$. What number must be added to the expression to make it so divisible?

II. Define a^m, and prove from the definition that $(a^m)^n = a^{mn}$.

What meanings are assigned to such symbols as a^0, a^{-1}, $a^{\frac{2}{3}}$, and why?

Simplify

$$\left(\frac{x^p}{x^q}\right)^{p+q} \div \left(\frac{x^{p+q}}{x^{p-q}}\right)^{\frac{p^2}{q}}$$

III. Define a Fraction. What meaning is assigned to a "Compound Fraction," and why?

Simplify

$$\cfrac{a-b}{a-b+\cfrac{1}{a-b+\cfrac{1}{a-b}}}$$

IV. Solve the simultaneous equations

$$\left.\begin{aligned} x+5y+17z&=19\\ 3x+3y-3z&=32\\ 4x+8y+17z&=52 \end{aligned}\right\}$$

V. If α, β be the roots of

$$ax^2+bx+c=0,$$

prove that

$$ax^2+bx+c=a(x-\alpha)(x-\beta).$$

What values of x make $5x^2-9x-2$ positive?

VI. Prove the rule for the extraction of the square root of an algebraical expression.

Exhibit *in full* the process of extracting the square root of 16176484.

What is the object of "rationalizing" the denominator of a surd expression?

Rationalize

$$\frac{1}{1+\sqrt{2}+\sqrt{3}},$$

and find its value to four places of decimals.

VII. Prove the formula for the sum of n terms of an Arithmetical Progression whose first term a and common difference b are given.

Ex.: $a=\frac{n^2-1}{2}$, $b=1-n$.

VIII. Prove the formula for the number of combinations of n things taken r at a time.

If n coins are tossed up, in how many ways may they fall; and in how many of these ways do two and only two heads appear?

IX. Prove the following formulæ—

(i.) $\tan(A+B) = \dfrac{\tan A + \tan B}{1 - \tan A \tan B}$;

(ii.) $\cos 2A = 2\cos^2 A - 1$;

(iii.) $\sin^4 2\theta + 8\cos^2 2\theta = 8\sin^8\theta + 8\cos^8\theta$.

X. In any triangle prove that

$$\frac{\sin A}{a} = \frac{\sin B}{b} = \frac{\sin C}{c},$$

and that

$$c = a\cos B + b\cos A.$$

Deduce that $c^2 = a^2 + b^2 - 2ab\cos C$.

NATURAL PHILOSOPHY I.

R. L. J. ELLERY, ESQ., F.R.S., F.R.A.S.

MECHANICS AND HYDROSTATICS.

I. The resultant of two forces acting at right angles is 112 lbs.; one component is 62 lbs. What is the other?

II. Show by an example that in a lever the power is to the resistance inversely as the arms of the lever.

III. Where are the centres of gravity of a cylinder and of a cone of homogeneous material?

IV. State the principle laws of friction. What is the work done in dragging a mass of iron one ton weight up an inclined surface of iron, the height of which is 5 feet and base 50 feet, the coefficient of adhesion of iron upon iron being 0.159?

V. Describe any method of demonstrating that pressure exerted on a mass of liquid is transmitted undiminished in all directions.

VI. What is meant by the "hydrostatic paradox?"

VII. Explain how you would determine the specific gravity—(1) of a liquid, (2) of a solid.

VIII. Two equal cubes of iron, one at a temperature of 62°, the other 98°; which has the greatest specific gravity, and why?

IX. Explain the principal of the *spirit level.*

X. What are the conditions of equilibrium of a floating body?

NATURAL PHILOSOPHY II.

PROFESSOR LAMB.

I. State the laws of Boyle and Charles. What advantage is there in taking the air thermometer as the basis of a scale of temperature? Does the scale so obtained agree with that of a mercurial thermometer? How is an alcohol thermometer graduated?

II. What is meant by *Latent Heat of Fusion?*

Ten grammes of iron at 100° C. are immersed in a mixture of ice and water; how much ice will be melted? Also what change will be produced in the total volume of the mixture? [Specific heat of iron = ·1098; specific gravity of ice = ·917; latent heat of fusion of ice = 79·5.]

III. Distinguish between a *gas* and a *vapour*. What is meant by *saturated vapour?*

Explain carefully how the boiling point of a liquid depends on the pressure to which it is exposed. Explain the action of a *geyser*.

IV. State the Law of Reflection of Light; and explain the formation of an image by a plane mirror.

A ray of light is reflected twice, by two mirrors at right angles to one another; prove that its first and last directions are parallel.

V. What is meant by the *Focal Length* of a lens? Explain fully the formation of a virtual image by a convex lens. Give a careful diagram.

Also give a geometrical construction for finding the position of the image of a given point.

A person whose least distance of distinct vision is three feet wishes to have a pair of spectacles which will enable him to read a book at a distance of one foot from his eyes. Find, by geometrical construction, the focal length of the lenses required?

VI. Describe and explain the formation of a spectrum on a screen. What means are employed to obtain a *pure* spectrum? How can the colours of the spectrum be re-combined so as to produce white light?

VII. What are the characteristics of *wave motion?* Define *transversal* and *longitudinal* waves, respectively. Give examples.

Explain the propagation of a sound-wave through the air.

VIII. In what respects does one musical note differ from another? And what are the physical differences between the corresponding vibrations?

Describe the construction of the *Siren*. What important facts of Acoustics can be verified with this instrument?

DEDUCTIVE LOGIC.

REV. D. PATON, M.A., AND PROFESSOR FLETCHER.

I. Discuss the various definitions of Logic known to you, stating which you prefer, and why.

II. What is meant by the three terms of logical doctrine and the correlative operations of the mind?

III. Determine to which class each of the following terms belongs:

Emperor, The Library, Book, Brilliance, Weight, Sensation, India, Forest, Triangle, The Laity, Her Majesty, Wealth, The Government.

IV. Distinguish between the several meanings of the following terms, and if possible trace their relations to each other:

Air, Division, Glass, Kind, Order, Scalè, Table, Volume.

V. Give the connotation and denotation of the following terms:

Animal, Duke of Wellington, English Nation, Wisdom, Planet, 10th Regiment, Redness, Tallest man in the world, Tiger, Human.

VI. Specify the parts of a proposition and the principles according to which propositions are arranged.

VII. What propositions are true, false, or doubtful when (1) A, (2) E, (3) I, (4) O, respectively, are false?

VIII. Give the logical opposite of the following proposition and the converse of its contradictory:

He cannot become rich who will not labour.

IX. What rules of syllogism are broken by any of the following Moods without regard to Figure:

AIA, EEI, IEA, IOI, IIA, AEI?

X. Reduce the Moods Cesare and Camenes by indirect method or reductio ad impossibile.

XI. Exhibit the following argument in the form by a Sorites, and (2) draw it out in a series of syllogisms.

The prisoner should be executed, for it has been proved that he administered arsenic to the person who died; and, as arsenic is poison, it is clear he is guilty of murder.

XII. What kinds of fallacies are contained in the following:

(*a*) By printing seditious doctrines are rapidly spread, therefore printing should be prohibited.

(*b*) I failed indeed in the examination, but the papers were not fair.

(*c*) Mr. N. N., an old gentleman, must be talkative, as old men are subject to this fault.

XIII. Point out wherein the Aristotelian logic is defective, and explain what is meant by the quantification of the predicate.

XIV. Explain Jevons' principle of logical identity, and give another answer to question 9, according to his method of substitution.

SECOND YEAR.

LATIN.

PROFESSORS STRONG AND KELLY.

I. Translate into English—

TY. Iám deliraménta loquitur : lárüae stimulánt virum.
HE. Quíd hercle, quid, si hunc cómprehendi iússerim? TY. Sapiás magis.
AR. Crúcior, lapidem nón habere mé, ut illi mastígiae
cérebrum excutiam, quí me insanum vérbis concinnát suis!
TY. Aúdin', lapidem quaéritare? AR. Sólus te solúm volo,
Hégio. HE. Istinc lóquere, si quid vís, procul tamen aúdiam.
TY. Námque edepol si adbítes propius, ós denasabít tibi
mórdicus. AR. Neque pól me insanum, Hégio, esse créduis,
nèque fuisse unquám, neque esse mórbum, quem istic aútumat;
vérum si quid métuis a me, iúbe me vincirí. Volo,
dum ístic itidem vínciatur. TY. Imo enimvero, Hégio,
ístic, qui volt, vínciatur. AR. Táce modo! ego te, Phílocrates
fálse, faciam, ut vérus hodie réperiare Tyndarus?
Quíd mi abnutas? TY. Tíbi ego abnuto? Quíd agat, si absis lóngius?
HE. Quíd ais? quid, si adeam húnc insanum? TY. Núgas ludificábitur;
gárriet, quod néque pes unquam néque caput compáreat.

Plautus, Captivi, Act iii., Scene iv., Lines 66-81.

In the above passage explain *laruae; mastigiae; concinnare; adbito; creduis; autumat.* What is the metre of these lines?

II. Translate into English—

TR. Quíd tibi visum ést hoc mercimóni? TH. Totus gaúdeo.
TR. Núm nimio emtae tíbi videntur? TH. Núnquam edepol ego mé scio
vídisse usquam abiéctas aedes, nísi modo hasce. TR. Ecquíd placent?
TH. Ecquid placeant, mé rogas? Imo hércle vero pérplacent.
TR. Cúiusmodi gynaéceum! quid pórticum? TH. Insanúm bonam.
Nón equidem ullam in público esse máiorem hac exístumo.
TR. Quín ego ipse et Phílolaches in público omnes pórticus

súmus commensi. TH. Quíd igitur? TR. Longe ómnium longíssuma est.
TH. Di ímmortales, mércimoni lépidi! Si hercle núnc ferat
séx talenta mágna argenti pro ístis praesentária,
núnquam accipiam. TR. Si hércle accipere cúpias, ego nunquám sinam.

Plautus, Mostellaria, Act iv., Scene ii., Lines 1-11.

III. Translate and explain the following phrases, referring them where possible to their context—

(1.) abi dierecta

(2.) die crastini

(3.) elixus esse quam assus soleo suavior.

(4.) Vel hominem iube mancupio aedes posci.

(5.) istum pro suis factis pessumis pessum premam

(6.) Nunc illud est quum me fuisse quam esse nimio mavelim.

(7.) patent praestigiae.

(8.) qui sputatur morbus.

(9.) mantiscinatus ero

(10.) praetruncavit tribus tergoribus glandia

IV. Give some account of the different standing characters of Roman comedy.

V. What was the origin of Roman comedy, and in what sense, if any, may it, or any portion of it, be said to be original?

VI. Translate—

Diruta marte tuo Lyrnesia moenia vidi,
Et fueram patriae pars ego magna meae.
Vidi consortes pariter generisque necisque
Tres cecidisse. tribus, quae mihi, mater erat.
Vidi, quantus erat, fusum tellure cruenta,
Pectora iactantem sanguinolenta virum.
Tot tamen amissis te compensavimus unum:
Tu dominus, tu vir, tu mihi frater eras.
Tu mihi, iuratus per numina matris aquosae,
Utile dicebas ipse fuisse capi...
Scilicet ut, quamvis veniam dotata, repellas,
Et mecum fugias quae tibi dantur, opes.

Ovid, Heroides iii., vv. 45-56.

Also—

Se quoque nympha tuis ornavit Iardinis armis,
Et tulit e capto nota tropaea viro.
I nunc, tolle animos et fortia gesta recense.
Quod tu non esses iure, vir illa fuit.
Qua tanto minor es, quanto te, maxime rerum,
Quam quos vicisti, vincere maius erat.
Illi procedit rerum mensura tuarum :
Cede bonis, heres laudis amica tuae.
O pudor ! hirsuti costas exuta leonis
Aspera texerunt vellera molle latus.
Falleris et nescis. non sunt spolia illa leonis,
Sed tua. tuque feri victor es, illa tui.

Ovid, Heroides ix., vv. 103-114.

Also—

Forsitan antiquae Tatio sub rege Sabinae
Maluerant, quam se, rura paterna coli :
Cum matrona, premens altum rubicunda sedile,
Assiduum duro pollice nebat opus,
Ipsaque claudebat quos filia paverat, agnos,
Ipsa dabat virgas caesaque ligna foco.
At nostrae matres teneras peperere puellas.
Vultis inaurata corpora veste tegi,
Vultis odoratos positu variare capillos,
Conspicuas gemmis vultis habere manus :
Induitis collo lapides oriente petitos,
Et quantos onus est aure tulisse duos.
Nec tamen indignum, si vobis cura placendi,
Cum comptos habeant saecula nostra viros.
Feminea vestri poliuntur lege mariti,
Et vix ad cultus nupta, quod addat, habet.

Ovid, de Med Faciei, vv. 11-26.

Also—

Si quis es, insultes qui casibus, improbe, nostris,
Meque reum dempto fine cruentus agas,
Natus es e scopulis, nutritus lacte ferino,
Et dicam silices pectus habere tuum.
Quis gradus ulterior, tua quo se porrigat ira,
Restat ? quidve meis cernis abesse malis ;
Barbara me tellus et inhospita litora Ponti
Cumque suo borea Maenalis ursa videt.
Nulla mihi cum gente fera commercia linguae :

Omnia solliciti sunt loca plena metus.
Utque fugax avidis cervus deprensus ab ursis,
Cinctaque montanis ut pavet agna lupis,
Sic ego belligeris a gentibus undique saeptus
Terreor, hoste meum paene premente latus.

Ovid, Tristia Lib. iii., Eleg. 2, vv. 1-14.

VII. Emend the following lines found in the MSS.—

(1.) Praeposuit Theseus nisi manifesta negemus,

(2.) Troas invideo quae sic lacrimosa suorum.

(3.) Cur venit a verbis multa querela tens.

And explain the principle on which you make your emendations.

LATIN PROSE AND GRAMMAR.

PROFESSOR STRONG AND KELLY.

I. Translate into Latin Prose :—

"LONDON, February 8th, 1750.

"MY DEAR FRIEND—

"You have, by this time, I hope and believe, made such a progress in the Italian language that you can read it with ease: I mean the easy books in it: and indeed, in that, as well as in every other language, the easiest books are generally the best; for whatever author is in his own language obscure and difficult certainly does not think clearly. This is in my opinion the case of a celebrated Italian author, to whom the Italians from the admiration they have of him, have given the epithet of 'il divino;' I mean Dante. Though I formerly knew Italian extremely well, I never could understand him, for which reason I had done with him, fully convinced that he was not worth the pains necessary to understand him. The good Italian authors are in my mind but few; I mean authors of invention; for there are undoubtedly very good historians and excellent translators. The two poets worth your reading, and I was going to say the only two, are Tasso and Ariosto."—Lord Chesterfield's Letters (clxxxv).

II. Turn the following passage into *Oratio obliqua* :—

Diogenes was wont to argue thus—"How much do I surpass the king of the Persians in my life and fortune: nothing

is wanting to me; to him nothing will ever be sufficient; I do not desire pleasures with which he can never be satisfied; and my pleasures he can in no way attain."

GRAMMAR.

III. What was the original force of ὁ, ἡ, τὸ, and ὅς, ἥ, ὅ? Give instances of the survival of these meanings in the Attic dialect.

IV. Write down as many of the compounds with prepositions of ἔχω, δίδωμι, *rogo*, *fero*, as you can, and give their meaning.

V. What is remarkable in the following:—

(α.) μήθ' ὁ λυμεὼν ἐμός. Soph.

(β.) πόλιν ὅλην διαφθεῖραι μᾶλλον ἢ οὐ τοὺς αἰτίους. Thucyd.

(γ.) Quis non malarum quas amor curas habet
Hæc inter obliviscitur?

VI. What is the meaning and derivation of dumtaxat, utique, nempe, admodum, adeo?

VII. Write in Latin Prose a short essay on the late campaign in Egypt.

GREEK.

PROFESSORS STRONG AND KELLY.

I. Translate into English—

Ἤματα δ' ἐκ Διόθεν πεφυλαγμένος εὖ κατὰ μοῖραν
πεφραδέμεν δμώεσσι· τριηκάδα μηνὸς ἀρίστην
ἔργα τ' ἐποπτεύειν ἠδ' ἁρμαλιὴν δατέασθαι,
εὖτ' ἂν ἀληθείην λαοὶ κρίνοντες ἄγωσιν.
αἵδε γὰρ ἡμέραι εἰσὶ Διὸς μάρα μητιόεντος
πρῶτον ἔνη τετράς τε καὶ ἑβδόμη, ἱερὸν ἦμαρ.
τῇ γὰρ Ἀπόλλωνα χρυσάορα γείνατο Λητώ·
ὀγδοάτη τ' ἐνάτη τε δύω γε μὲν ἤματα μηνὸς
ἔξοχ' ἀεξομένοιο βροτήσια ἔργα πένεσθαι·
ἑνδεκάτη τε δυωδεκάτη τ', ἄμφω γε μὲν ἐσθλάι,
ἥ μὲν ὄϊς πείκειν, ἥ δ' εὔφρονα καρπὸν ἀμᾶσθαι.
ἡ δὲ δυωδεκάτη τῆς ἑνδεκάτης μέγ' ἀμείνων.
τῇ γάρ τοι νεῖ νήματ' ἀερσιπότητος ἀράχνης.
ἤματος ἐκ πλείου, ὅτε τ' ἴδρις σωρὸν ἀμᾶται.

Hesiod—Works and Days, vv. 765-777.

II. Translate into English—

Ἴδαν ἐς πολύδενδρον ἀνὴρ ὑλητόμος ἐλθών,
παπταίνει, παρεόντος ἄδην, πόθεν ἄρξεται ἔργου.
τί πρῶτον καταλέξω ; ἐπεὶ πάρα μυρία εἰπεῖν,
οἷσι θεοὶ τὸν ἄριστον ἐτίμασαν βασιλήων.
ἐκ πατέρων οἷος μὲν ἔην τελέσαι μέγα ἔργον
Λαγιάδας Πτολεμαῖος, ὅκα φρεσὶν ἐγκατάθοιτο
βουλάν, ἂν οὐκ ἄλλος ἀνὴρ οἷός τε νοῆσαι !
τῆνον καὶ μακάρεσσι πατὴρ ὁμότιμον ἔθηκεν
ἀθανάτοις, καί οἱ χρύσεος δόμος ἐν Διὸς οἴκῳ
δέδμηται· παρὰ δ' αὐτὸν Ἀλέξανδρος φίλα εἰδὼς
ἑδριάει, Πέρσαισι βαρὺς θεὸς αἰολομίτραις.

Theocritus, Idyll xvii., vv. 9-19.

III. Explain the following words and expressions, and refer them to their context—

(1.) Χαῶν των ἐπάνωθεν.
(2.) ἐπίταδες.
(3.) ὁ φαλαρὸς.
(4.) ἐς νέωτ' ἐυθυμήσαις.
(5.) πολλοὺς δ' εὖ ἕρξαι παῶν.
(6.) σκνιπᾶιον.
(7.) παθὼν δέ τε νήπιος ἔγνω.
(8.) ἐπεὶ βλαβερὸν το θύρηφιν.
(9.) γυμνὸν σπείρειν.
(10.) ὀκτάβλωμον.

IV. In what works has Virgil copied Hesiod and Theocritus, respectively? Cite any such passages. Has he ever mistranslated either of your two authors?

V. Translate into English—

δέσποιν', ἃ Γολγώς τε καὶ Ἰδάλιον ἐφίλασας,
αἰπεινόν τ' Ἔρυκα, χρυσῷ παίσδοισ' Ἀφροδίτα,
οἷόν τοι τὸν Ἄδωνιν ἀπ' ἀενάω Ἀχέροντος
μηνὶ δυωδεκάτῳ μαλακαίποδες ἄγαγον Ὧραι.
βάρδισται μακάρων Ὧραι φίλαι, ἀλλὰ ποθειναὶ
ἔρχονται, πάντεσσι βροτοῖς αἰεί τι φέροισαι.
Κύπρι Διωναία, τὺ μὲν ἀθανάταν ἀπὸ θνατᾶς,
ἀνθρώπων ὡς μῦθος, ἐποίησας Βερενίκαν,
ἀμβροσίαν ἐς στῆθος ἀποστάξασα γυναικός·
τὶν δὲ χαριζομένα, πολυώνυμε καὶ πολύναε,
ἃ Βερενικεία θυγάτηρ, Ἑλένᾳ εἰκυῖα,
Ἀρσινόα πάντεσσι καλοῖς ἀτιτάλλει Ἄδωνιν.

Theocritus, Idyll xv., vv. 100-111.

Give some account of the contents of the Idyll wherein it is contained.

ΒΔ. ἀκρόασαί νυν, ὦ παππίδιον, χαλάσας ὀλίγον τό μέτωπον·
καὶ πρῶτον μὲν λόγισαι φαύλως, μὴ ψήφοις, ἀλλ' ἀπὸ χειρὸς
τόν φόρον ἡμῖν ἀπὸ τῶν πόλεων συλλήβδην τὸν προσιόντα·
κἄξω τούτου τὰ τέλη χωρὶς καὶ τὰς πολλὰς ἑκατοστάς,
πρυτανεῖα, μέταλλ', ἀγοράς, λιμένας, μισθοὺς καὶ δημιόπρατα.
τούτων πλήρωμα τάλαντ' ἐγγὺς δισχίλια γίγνεται ἡμῖν.
ἀπὸ τούτων νυν κατάθες μισθὸν τοῖσι δικασταῖς ἐνιαυτοῦ,
ἓξ χιλιάσιν, κοὔπω πλείους ἐν τῇ χώρᾳ κατένασθεν,
γίγνεται ἡμῖν ἑκατὸν δήπου καὶ πεντήκοντα τάλαντα.
ΦΙ. οὐδ' ἡ δεκάτη τῶν προσιόντων ἡμῖν ἄρ' ἐγίγνεθ' ὁ μισθός.
ΒΔ. μὰ Δί' οὐ μέντοι. ΦΙ. καὶ ποῖ τρέπεται δὴ 'πειτα τὰ χρήματα τἄλλα;
ΒΔ. ἐς τούτους τοὺς, οὐχὶ προδώσω τὸν Ἀθηναίων κολοσυρτὸν,
ἀλλὰ μαχοῦμαι περὶ τοῦ πλήθους ἀεί. σὺ γάρ, ὦ πάτερ, αὐτοὺς
ἄρχειν αἱρεῖ σαυτοῦ, τούτοις τοῖς ῥηματίοις περιπεφθείς.
κᾆθ' οὗτοι μὲν δωροδοκοῦσιν κατὰ πεντήκοντα τάλαντα
ἀπὸ τῶν πόλεων, ἐπαπειλοῦντες τοιαυτὶ κἀναφοβοῦντες,
δώσετε τὸν φόρον, ἢ βροντήσας τὴν πολιν ὑμῶν ἀνατρέψω.

Aristophanes, Vespæ, 655-671.

Also,

ΒΛ. αὐλητρὶς ἐνεφύσησεν· οἱ δὲ συμπόται
εἰσὶν Θέωρος, Αἰσχίνης, Φανὸς, Κλέων,
ξένος τις ἕτερος πρὸς κεφαλῆς Ἀκέστορος.
τούτοις ξυνὼν τὰ σκόλι' ὅπως δέξει καλῶς.
ΦΙ. ἆληθες; ὡς οὐδεὶς Διακρίων δέξεται.
ΒΔ. ἐγὼ εἴσομαι· καὶ δὴ γάρ εἰμ' ἐγὼ Κλέων,
ᾄδω δὲ πρῶτος Ἁρμοδίου· δέξει δὲ σύ.
οὐδεὶς πώποτ' ἀνὴρ ἔγεντ' Ἀθήναις
ΦΙ. οὐχ οὕτω γε πανοῦργος οὐδὲ κλέπτης
ΒΔ. τουτὶ σὺ δράσεις; παραπολεῖ βοώμενος·
φήσει γὰρ ἐξολεῖν σε καὶ διαφθερεῖν
καὶ τῆσδε τῆς γῆς ἐξελᾶν.
ΦΙ. ἐγὼ δέ γε,
ἐὰν ἀπειλῇ, νὴ Δί' ἑτέραν ᾄσομαι.
ὤνθρωφ', οὗτος ὁ μαιόμενος τὸ μέγα κράτος,
ἀντρέψεις ἔτι τὰν πόλιν· ἃ δ' ἔχεται ῥοπᾶς.

Idem., 1219-1235

Translate and explain—

(1.) ἅπασι τιμῶν τὴν μακράν.
(2.) ἐκ κηθαρίου λαγαριζόμενον.
(3.) κωλαγρέτου γάλα πίνειν.

(4.) διεκερματίζετ' ἐν τοῖς ἰχθύσιν.
(5.) μία λόχμη κλέπτα δύο.

What were the distinguishing points of Old, Middle, and New Comedy? Who were the chief writers of each?

GREEK.—COMPOSITION, PHILOLOGY, AND HISTORY.

PROFESSORS STRONG AND KELLY.

I. Translate into Greek prose—

Hunting is a game for princes and noble persons; it hath been highly prized in all ages; it was one of the qualifications that Xenophon bestowed on his Cyrus, that he was a hunter of wild beasts. Hunting trains up the younger nobility to the use of manly exercises in their riper age. What more manly exercise than hunting the wild boar, the stag, the fox, or the hare? How doth it preserve health and increase strength and activity?

And for the dogs that we use, who can commend their excellency to that height which they deserve? For my hounds, I know the language of them, and they know the language and meaning of one another as perfectly as we know the voices of those with whom we discourse daily. (Walton's complete Angler.)

PHILOLOGY.

II. What words in Latin and Greek are formed from the following roots—

tan, dvi, tar, da, dha, dak, div, par, pu, i?

III. Explain the formation of the following words—

(1.) amabo.
(2.) amavi.
(3.) tetigit.
(4.) j'aimerai.
(5.) ἀνδρός.
(6.) μᾶλλον.
(7.) femina.
(8.) luscinia.
(9.) χαμαί.
(10.) πότνια.
(11.) περισσός.
(12.) βαρβαρος.

HISTORY.

Write an account of the life and doings of the Gracchi and their effect on Roman politics afterwards.

What were the causes, real and ostensible, which led to the Peloponnesian War?

IV. Turn the following sentences into Greek—

(1.) Unless you had told me that news I should certainly have gone to Athens, but by telling me you prevented me from going.

(2.) I was sent away without being heard, and I was accused of theft.

ELEMENTARY APPLIED MATHEMATICS I.

PROFESSOR NANSON.

I. Two forces P and Q act at a given point, and their directions make an angle θ with each other. Find an expression for the magnitude of their resultant, and find also its direction.

A small ring P can slide along the circumference of a smooth circle, of which AB is a diameter. The ring P is acted on by two forces, whose magnitudes are μAP and μBP, and whose directions are AP and BP respectively. Prove that the ring is in equilibrium in all positions, and find the pressure on the circle.

II. If three forces acting in one plane maintain a rigid body in equilibrium, prove that their lines of action either all meet at a point or are all parallel.

What additional conditions must be satisfied in each case?

Four equal rods are hinged at their extremities so as to form a square. One side AB is held at rest in a vertical position, and its middle point E is joined by a string to the middle point F of the lower horizontal rod. Find the reactions at the four hinges and the tension of the string.

III. Any number of forces act on a body in one plane with different points of application and in different directions. Investigate necessary and sufficient conditions of equilibrium.

Three forces act along the sides of a triangle taken in order, and are represented in magnitude by those sides. Is the triangle in equilibrium? If two angular points be fixed,

determine if the pressures at these points are parallel or not. Find also the moment of each pressure about the point of application of the other.

IV. The positions of any number of weights in a straight line are determined by their distances from a fixed point in that straight line. Find the position of their centre of gravity.

Two circles touch each other internally; find the centre of gravity of the area between the two, and show that when the radii become equal it bisects the radius opposite to the point of contact.

V. Investigate the relation between the power and the weight on a rough inclined plane.

A body of known weight rests on a rough inclined plane in a state just bordering on motion. If the inclination of the plane to the horizon be 30°, find the least force acting up the plane which will move the body.

VI. Enunciate the principle of virtual velocities, and prove it in the case of a rigid body acted on by forces in one plane.

Find the position of equilibrium of a uniform heavy rod which rests in a vertical plane with its extremities on two smooth inclined planes which are at right angles to one another and to the vertical plane through the rod, and show that the equilibrium is unstable.

VII. A quantity of heavy incompressible fluid is at rest; find an expression for the pressure at any point.

The specific gravity of sea water is 1·02; at what depth under the surface of the sea is the pressure equal to 700 lbs. on the square inch?

VIII. Define the centre of pressure of a plane area, and find the centre of pressure of a triangle (1) when one side is in the surface, and (2) when one angular point is in the surface and the opposite side is horizontal.

In the first case, if the triangle turn round the side in the surface, find the locus of the centre of pressure.

IX. Show how to find the resultant horizontal pressure in a given direction of a heavy liquid on any surface.

A cylinder with its axis vertical is filled with equal volumes of two liquids of different densities which do not mix; find the resultant horizontal pressure on either of the portions of the cylinder into which it is divided by a vertical plane through its axis.

X. Investigate the conditions which must be satisfied if a body float freely in a liquid.

A conical vessel floats freely in water with its vertex downwards and a certain part of its axis immersed; when filled with water up to the depth originally immersed, it sinks till its mouth is on a level with the surface of the water. Find what portion of the axis was originally immersed.

ELEMEMTARY APPLIED MATHEMATICS II.

PROFESSOR LAMB.

I. Define the *Curve of Velocities* of a moving point, and state how the acceleration at a given instant, and the space described in a given interval, may be obtained from it. Deduce the formulæ for uniformly accelerated motion.

II. State and explain fully Newton's second law of motion so far as is necessary for the treatment of rectilinear motion. Define the absolute unit of force on the C.G.S. system.

A body moves through a medium of uniformly distributed particles at rest. If all the particles on which the body impinges adhere to it, prove that when the total mass of the body is m its velocity will be $m_0 v/m$, where m_0 is the original mass, and v the original velocity.

III. Investigate the acceleration of a particle down a smooth inclined plane; and find the locus of the points reached in the same time down different inclined planes having the same vertex.

IV. Two weights are hung by a string over a fixed pulley; show that neglecting the inertia of the pulley the spaces described by the weights in successive equal intervals of time are in arithmetical progression. What inference can be drawn from the magnitude of the common difference of the progression?

V. Define Simple Harmonic Motion; and find the velocity and the acceleration at any phase of the motion.

A horizontal board is made to execute S.H. motion in a vertical direction, the complete period being one second and the amplitude 10 centimetres. A known weight rests on the board; find the pressure on the board in any position [$g = 981$].

VI. Define the Hodograph of a moving point, and state its chief properties.

Prove that the hodograph in any case of S.H. motion is a straight line which is also described with S.H. motion.

VII. Explain the terms *Work, Power, Energy, Kinetic Energy, Static Energy.*

A man of 12 stone ascends a mountain 11,000 feet high in 7 hours, and the difficulties in the way are equivalent to carrying a weight of 3 stone; one of Watt's horses could pull him up the same height, without impediment, in 56 minutes; show that the horse can do as much work as 6 such men in the same time.

VIII. Explain briefly the principles on which problems of impact are treated.

Investigate a formula for the amount of kinetic energy lost in a case of direct impact.

A bullet weighing 50 grammes is fired into a target with a velocity of 500 metres a second. The target is supposed to weigh a kilogramme, and to be free to move. Find in kilogrammeters the loss of energy in the impact.

IX. State the Law of Universal Gravitation; and from it deduce Kepler's Third Law, assuming the orbits of the planets to be circular.

Having given that the Earth's mean density is $5\frac{2}{3}$, that the density of iron is 7·5, and that the earth's radius is 6,300,000 metres, find the pressure due to the mutual attraction between two spheres of iron 1 metre in diameter, the spheres being in contact, and supported on a smooth horizontal table.

X. Draw the diagram of forces for the frame sketched on the blackboard; and point out which members are in a state of extension, and which in a state of compression.

HIGHER PURE MATHEMATICS I.

PROFESSOR LAMB.

I. Show how to convert a number from one scale of notation to another.

Ex.: Express 123·24 in the scale of 5. Prove that in the scale of 10 the figure 9 cannot occur in the decimal part of a fraction whose denominator is less than 9.

II. Prove the Binomial Theorem for the case of a positive integral exponent.

Prove that

$$(x+y)^7-x^7-y^7 = 7xy\,(x+y)\,(x^2+xy+y^2)^2.$$

III. Prove the law of formation of the successive convergents to a continued fraction.

Prove that if p_m/q_m be the mth convergent to the continued fraction.

$$\frac{p}{q} = a_1 + \frac{1}{a_2 +} \; \frac{1}{a_3 +} \; \cdots \frac{1}{+ a_n},$$

then

$$\frac{p}{p_{n-1}} = a_n + \frac{1}{a_{n-1} +} \; \frac{1}{a_{n-2} +} \cdots \frac{1}{a_1}.$$

IV. When is an infinite series said to be *convergent*, and when *divergent*?

State and prove a test of convergency, and apply it to prove that the series

$$1 + \frac{x^2}{2.2m+3} + \frac{x^4}{2.4.2m+3.2m+5} + \&c.$$

is convergent for all values of x.

V. State and prove the Exponential Theorem.

Sum to infinity the series in the preceding question in the particular case $m = 0$.

VI. Prove the rule for finding the probability of the concurrence of two independent events of which the separate probabilities are known. How is the rule to be modified when the events are not independent?

If five coins be tossed up in the air, find the probability that two and only two heads will appear.

VII. Show *a priori* that when $\sin A$ is expressed in terms of $\sin 2A$ four values are in general to be expected.

If $\sin 2A = a$, for what values of A is the following equation true:

$$2\sin A = -\sqrt{(1+a)} + \sqrt{(1-a)}\,?$$

VIII. Investigate expressions for the area of a triangle (i.) when the three sides are given, and (ii.) when two angles and a side are given.

One side of a triangle is 50 feet, and the adjacent angles are 45° and 60° respectively; find the area.

IX. Find expressions for the perimeter and for the area of a regular polygon of n sides inscribed in a circle of radius a.

Find the perimeter of a (regular) "magic pentagon," in terms of the radius of the circumscribing circle.

X. $ABCD$ is a convex quadrilateral; and $AB = 20$, $BC = 15$, $CD = 25$, $DA = 18$, $BD = 15$; find AC. [Use tables.]

HIGHER PURE MATHEMATICS II.

PROFESSOR NANSON

I. Enunciate and prove De Moivre's Theorem, and give a geometrical interpretation of it.

Show how to find the n nth roots of an expression of the form $a + b\sqrt{-1}$.

II. Find an expression for $\cos {}^n\theta$ in terms of cosines of multiples of θ, and verify the result by the method of induction.

Hence find an expression for $\sin {}^n\theta$ in terms of sines or cosines of multiples of θ.

III. Sum to n terms the series

$$\operatorname{cosec}\alpha\operatorname{cosec}2\alpha + \operatorname{cosec}2\alpha\operatorname{cosec}3\alpha + \operatorname{cosec}3\alpha\operatorname{cosec}4\alpha + \ldots;$$

and to infinity the series

$$x \sin\theta + x^2 \sin 2\theta + x^3 \sin 3\theta + x^4 \sin 4\theta + \ldots,$$

x being less than unity.

IV. Investigate the equation to a straight line in the form

$$\frac{x}{a} + \frac{y}{b} = 1,$$

and prove that if p, q be the perpendiculars from the origin and the point x, y upon the line then

$$\frac{q}{p} = 1 - \frac{x}{a} - \frac{y}{b}.$$

V. Obtain formulæ for transforming from one set of rectangular axes to another set having the same origin.

From the results obtained show that if r, θ; r^1, θ^1 be the polar co-ordinates of the same point referred to the same pole but to different initial lines

$$r^1 = r,\ \theta^1 = \theta + \alpha,$$

where α is the angle between the initial lines.

VI. Find the equation to a circle referred to oblique axes.

Form the equation to the circle which meets the axes where the straight lines

$$ax + by = c$$
$$bx + ay = d$$

meet them. Examine the case in which $ad = bc$.

VII. Prove that from any external point two tangents can be drawn to a parabola.

If the two tangents are at right angles prove that the point from which they are drawn must be on the directrix.

VIII. Define the excentric angle of any point on an ellipse and find the relation between the excentric angles of the extremities of conjugate diameters.

Find the locus of the intersection of tangents to an ellipse which are parallel to conjugate diameters.

IX. Prove that whatever be the value of λ the conics represented by the equation

$$\frac{x^2}{a^2+\lambda}+\frac{y^2}{b^2+\lambda}=1$$

have the same foci.

If two such conics meet prove that they cut one another at right angles.

X. Find the equation to a conic referred to two tangents as axes.

An ellipse touches the asymptotes of a hyperbola at P, Q and cuts the hyperbola in the four points L, M, N, R. Prove that the line joining L to one of the points M, N, R is parallel to PQ.

PHYSICS I.

R. L. J. Ellery, Esq., F.R.S., F.R.A.S.

I. Describe the method of demonstrating that the intensity of heat from any source varies inversely as the square of the distance.

II. The co-efficient of linear expansion of glass between 32° and 212° Fahr. is $\frac{1}{1200}$ and of zinc $\frac{1}{240}$. A rod of each of these substances are exactly the same length at 62° Fahr.; when both are heated to the same temperature, the zinc is $\frac{1}{100}$ of an inch longer than the glass. What is the temperature?

III. What effect has atmospheric pressure on ebullition? Describe the method of determining heights by ebullition of water.

IV. Describe the principle of action of modern refrigerating engines by condensation of air, and the conditions necessary to obtain low temperature.

V. How do you account for the "residual charge" in a *Leyden jar* or *condenser*?

VI. Describe the principle of construction and mode of action of Thomson's quadrant electrometer.

VII. Define the terms resistance, electromotive force and current. By what names are the units of these called? Describe what is known as *Ohm's law.*

VIII. What is meant by the moment of a magnet? Describe the method of measuring the horizontal intensity of the earth's magnetism.

IX. State how you would re-magnetise a compass needle so that the *marked end* should still remain a North Pole.

X. Describe a Siemen's armature; state its advantages over armatures formerly used, and explain its action in a dynamo machine.

PHYSICS II.

PROFESSOR LAMB.

I. Define the terms *Resilience of Volume*, *Rigidity*, *Young's Modulus*

Find the velocity of propagation of waves of longitudinal disturbance along a brass wire, the value of Young's modulus being 1.075×10^{12}, and the density 8.471 [C. G. S. units.]

II. Explain the rise of water in a capillary tube.

Describe and explain some of Plateau's experiments with soap films.

III. What is meant by the *Intrinsic Brightness*, and what by the *Apparent Brightness*, of an object?

Why does a luminous object appear equally bright at all distances? What limitations are there to the accuracy of this statement?

Explain carefully some method of comparing the intensities of two sources of light.

IV. Describe accurately the configuration of a complete system of rays issuing from a convex lens, the source of light being at an infinite distance.

Account for the *focal lines* of a small oblique pencil.

V. Give a geometrical construction for finding the position and magnitude of the image of a given object formed by a convex lens.

Explain what is meant by the *Cardinal Points* of an optical system symmetrical about an axis; and show how, when they are known, the image of any given point can be found.

Two similar convex lenses are placed at a distance apart equal to their focal length; find by a diagram drawn (approximately) to scale the image of a point whose distance from the first lens is four times the focal length.

VI. Explain carefully, with diagrams, the arrangements necessary for obtaining a pure spectrum (i.) on a screen, (ii.) in a spectroscope.

What is the function of the collimator in a spectroscope? Is it necessary in the cases (i.) and (ii.) above to place the prism in the position of mimimum deviation? Explain.

VII. Describe some experimental method of compounding together two simple harmonic motions in perpendicular directions.

What facts of importance in Acoustics can be illustrated in this way?

Show how to draw to scale the curves formed when the frequencies of the components are as 1 : 2.

VIII. On what does the *Quality* of a musical sound depend?

Account for the differences of quality in the following cases:—an open organ pipe, a stopped organ pipe, a string struck at its middle point, a string struck at about one-seventh of its length from one end.

IX. Investigate the various modes of longitudinal vibration of a rod. Calculate the frequencies of the first three modes of a brass rod one metre long. [See Question I.]

If you wished to make the rod sound its first overtone, how would you arrange the experiment?

X. Explain the interference of sound, and describe some experiments in illustration of this phenomenon.

State and prove the law of frequency of beats. How would you verify it experimentally?

CHEMISTRY.

T. C. Cloud, Esq., F.C.S., F.I.C.

Candidates are required to answer five questions from each series.

Series I.

I. Describe in outline the process employed in the manufacture of phosphorous, and represent the reactions which take place by formulæ.

II. How would you proceed in order to obtain the gases, hydrogen and oxygen, from water without the use of electricity, and explain by formulæ the reactions which take place?

III. Describe the composition and mode of preparation of hydric chlorate.

IV. Describe the mode of preparation, composition, and some of the characteristic properties of the compounds of nitrogen and oxygen.

V. How much sodium is required to furnish 6·5 litres of hydrogen from water; the gas to be measured at $0°C \times 760^{mm.}$ Bar.?

VI. Describe the process employed for obtaining bromine, and mention some of the chief properties of that element.

VII. Describe two methods of producing ozone, and mention the properties by which it is distinguished from ordinary oxygen.

VIII. Given a mixture of hydrogen, carbonic anhydride, and oxygen; how would you proceed to determine the relative volume of each present in the mixture?

IX Describe the chemical reactions involved in the etching of glass.

Series II.

I. State how you would proceed with the detection and separation of the following elements if presented to you in solution, viz., magnesium, iron, and calcium.

II. How would you proceed to determine the amount of available oxygen in a sample of manganic dioxide, and illustrate by formulæ the reactions involved in the process?

III. Describe in outline, the process of manufacturing potassic dichromate.

IV. By what blowpipe reactions would you distinguish between salts of potassium, strontium, and aluminium?

V. Deduce the formulæ of the substance, the percentage composition of which is

Iron	...	...	20.15
Oxygen	...	...	23.02
Sulphur	...	...	11.51
Water	...	...	45.32
			100.00

Fe = 56, O = 16, S = 32, H = 1.

Give such details as will show the mode of calculation.

VI. Mention the chief chemical reaction concerned in the processes employed for extracting the metals from the undermentioned ores, viz., the sulphuretted ores of mercury, lead, copper, antimony, and zinc, and the oxides of iron.

VII. How would you proceed to make strontic nitrate and carbonate from celestine ($Sr\ SO_4$)?

VIII. State what chemical change is effected by exposing the following substance to a red heat:—Argentic oxide, mercuric oxide, manganic dioxide, arsenic anhydride, and plumbic dioxide.

INDUCTIVE LOGIC.

Rev. D. Paton, M.A.

I. Discuss the terms Deduction, Induction, and Traduction.

II. Explain and exemplify the law, principle, or assumption on which the process of Induction rests.

III. In the division and sub-division of Inferences made by Fowler, give the differentia of Inductive Inference, Deductive Inference, Mediate Inference, and Immediate Inference.

IV. "Logic is the theory of classification." Explain, criticise, and illustrate the proposition.

V. What are the objects and conditions of a valid hypothesis?

VI. Distinguish between Observation and Experiment, giving rules for both and examples of the use of each of the two methods.

VII. Construct three instances of the inductive syllogism and show that they may be thrown into a disjunctive form.

VIII. What is meant by the cause of an event—pointing out the difference between cause, occasion, and antecedent with an example?

IX. State and explain in your own words the various Canons of the Inductive Method.

X. What can you infer from the following instances:

A.B.E.	———	p.q.t.
A.D.E.	———	t.s.p.
A.B.F.G.	———	p.q.u.v.
A.B.D.E.	———	s.t.q.p.
B.H.K.	———	z.q.u.
B.F.G.	———	v.q.u.
B.C.D.	———	q.s.r.

XI. What questions would have to be settled in investigating the follcwing phenomena?

(*a*). Friction alters the temperature of bodies rubbed together.

(*b*). The sun is supposed to move through space.

(*c*). A ray of light passing into or out of a denser medium is deflected.

XII. What methods would be used in solving the following problems if unknown:

(*a*). The connection between the barometer and the weather.

(*b*). A person poisoned at a meal.

(*c*). The connection between the hands of a clock.

(*d*). The effect of the gulf-stream on the climate of Great Britain.

ENGLISH LITERATURE

PROFESSOR FLETCHER.

I. What are the peculiarities of Shakespeare's Iambic metre? Wherein does it differ from the metre of Paradise Lost? How may a metrical test be applied in determining the chronological order of Shakespeare's plays?

II. At what period in Shakespeare's literary career were "Macbeth" and the "Tempest" written?

III. Give a short sketch of the life of Milton.

IV. Give in brief the argument of Paradise Lost, Bk. I.

V. "High on a throne of royal state, which far
Outshone the wealth of Ormus and of Ind,
Or where the gorgeous East with richest hand
Show'rs on her kings barbaric pearl and gold,
Satan exalted sat; by *merit* raised
To that bad eminence; and from despair
Thus high uplifted beyond hope, aspires
Beyond thus high, insatiate to pursue
Vain war with Heav'n; and by *success* untaught
His proud imagination thus display'd."

Scan this passage, noting especially the place of the pause. Explain the allusions in lines 2-4, and the words "merit" and "success" in lines 5 and 9.

VI. "Another part in squadrons and gross bands,
On bold adventure to discover wide
That dismal world—if any clime perhaps
Might yield them easier habitation,—bend
Four ways their flying march, along the banks
Of four infernal rivers that disgorge
Into the burning lake their baleful streams.
Abhorred Styx, the flood of deadly hate;
Sad Acheron, of sorrow black and deep;
Cocytus named of lamentation loud
Heard on the rueful stream; fierce Phlegethon
Whose waves of torrent fire inflame with rage."

Explain the allusions in this passage, and give generally the cosmography which is assumed in Paradise Lost. What reason is there to believe that Milton understood and accepted the modern view of the construction of the solar system?

VII. Whence does Milton obtain the names and characters of his principal demons, and what is his theory about the origin of the different forms of earthly idolatry?

VIII. What is the meaning of the following words and phrases:—"*astonished*," "*nathless*," "the *cope* of Hell," "*pioneers*," "*admire*," "his *fatal* throne," "when he who most excels in *fact* of arms," "the *scope* of all his aim," "drive out the *puny* inhabitants," "their frail *original*," "*advise* if this be worth attempting," "his *uncouth* way," "*senteries*," "world," "the *purlieus* of heaven."

IX. "Milton's hell is devoid of terror, and Milton's Satan moves his readers to admiration." How do you account for this impression? Did Milton intend it, or is it a defect in his artistic management of his theme? Ordinary Ex. 2nd Year.

X. Quote instances of Milton's use of words according to their classical meaning.

XI. Quote any phrases from the first two books of Paradise Lost which have become proverbial.

THIRD YEAR.

LATIN
GREEK
PHILOLOGY & HISTORY
LATIN & GREEK COMPOSITION

Same as in Second Year.

ADVANCED MATHEMATICS I.

PROFESSOR NANSON.

I. Define the polar triangle of a given spherical triangle, and prove that the sides and angles of the polar triangle are respectively the supplements of the angles and sides of the primitive triangle.

Prove that a triangle and its polar cannot be equivalent unless the two triangles are coincident.

II. If two sides of a spherical triangle are equal, the opposite angles are equal, and conversely, if two angles of a spherical triangle are equal, the opposite sides are equal.

III. Prove that in any spherical triangle :

$$\frac{\sin A}{\sin a} = \frac{\sin B}{\sin b} = \frac{\sin C}{\sin c}.$$

If θ, ϕ, ψ be the lengths of arcs of great circles drawn from A, B, C perpendicular to the opposite sides prove that

$$\text{Sin}a\sin\theta = \sin b\sin\phi = \sin c\sin\psi.$$

IV. State Napier's rules connecting the elements of a right-angled triangle.

If c be the hypotenuse prove that

$$\text{Sin}\,(c-b) = \sin(c+b)\tan^2\frac{A}{2}.$$

Deduce the corresponding formula in the case of a plane triangle.

V. Show how to solve a spherical triangle, having given two sides and the included angle, and show that the triangle is always possible. Ordinary Ex. 3rd Year

VI. Describe the different systems of co-ordinates which are used to determine the position of a star.

Prove that the least angle which can be made with the horizon by a great circle passing through the place of a star at a given time is measured by the star's altitude.

VII. Describe briefly some experimental proof of the earth's rotation.

A particle is let fall from a height h at a place in latitude λ; if t be the time of falling and ω the angular velocity of the earth, prove that the easterly deviation is approximately equal to $\frac{2}{3}h\omega t\cos\lambda$.

VIII. Describe the errors of adjustment of a transit instrument and explain how the collimation error may be found by means of two collimators.

If the error in the time of transit of two given stars of different declinations, due to errors of level and deviation, combined be the same, it will be the same for all stars.

IX. Describe the mural circle, and explain the method of making a double observation therewith.

X. Describe and explain the use of the ring micrometer.

ADVANCED MATHEMATICS II.

PROFESSOR LAMB.

I. Investigate a formula for finding the sun's azimuth at sunrise.

Shew that when the sun rises at the N.E. point at a place in latitude l the time of sunrise is $\frac{1}{30}$ arc cos $(-\cos^2 l)$.

II. Define the *Equation of Time*, and trace the changes in its components throughout a year. Also represent by a curve what would be the variations in the equation of time if the line of nodes of the earth's orbit coincided with the apse line.

III. Explain the term *Parallax*. Describe the observations necessary for determining the parallax of the moon; and investigate the requisite formulæ.

Why is the same method not applicable to Jupiter?

IV. Explain the peculiarities in the apparent motions of the planets, as viewed from the earth.

Ordinary Ex. 3rd Year.

How much would it be necessary to accelerate the earth's motion of rotation in order that the moon might exhibit stationary points as viewed from the equator?

V. Explain, in principle, one of the methods by which the distance of the sun may be determined from observations of a Transit of Venus.

Account for the irregular intervals at which the transits happen.

VI. Prove that a body moving under the action of a force tending always to a fixed centre describes equal areas in equal times.

Deduce an expression for the velocity at any point of the orbit.

VII. A body describes an ellipse under the action of a force tending towards the centre; find the law of force.

A particle suspended by a string of length l is drawn aside from the vertical through a small angle, and projected obliquely; prove that it will describe an ellipse. If initially the string makes an angle α with the vertical, and if the velocity v of projection be at right angles to the vertical plane through the string, find the semiaxes of the orbit.

VIII. A body describes a parabola under the action of a centre of force in the focus; find the law of force.

If the acceleration at unit distance be μ, and the latus rectum l, find the time of passing from one extremity of the latus rectum to the other.

IX. Explain precisely what is meant by the "disturbing force" of the sun on the moon; and analyze it into two components, one towards the sun, the other towards the earth.

Investigate what would be the nature of the effect of the disturbing forces on the moon's orbit if the undisturbed orbits of the earth round the sun, and of the moon round the earth were circles in the same plane.

X. Examine the effect, in different parts of the orbit, of a small *tangential* disturbing force on the line of apses, and on the eccentricity of an elliptic orbit.

If a meteorite revolves in an elliptic orbit round the sun in a resisting medium, trace the gradual changes in its orbit.

PHYSICS.

Same as in Second Year.

NOVEMBER AND DECEMBER, 1882.

JUNIOR EXAMINATION.

1, 2, 3. ENGLISH (COMPULSORY).

PROFESSOR LAMB.

I. Write out, and punctuate, the passage dictated by the Examiner. (You are not allowed to make a fair copy of the passage.)

II. Give the plurals of cow, penny, valley, roof, life, strife, potato, tobacco.

III. Give the principal parts of the following verbs:—stay, travel, travail, work, lie, lay, see, saw, strive, weave, wive, sit, set, ring, wring.

IV. Give the rules for the proper use of *shall* and *will*, with examples.

V. Give the meanings of the following prefixes and affixes, with two examples of the use of each: en-, be-, with-, anti-, para-, counter-, re-, super-, -ship, -ness, -let, -ize, -fy.

VI. Give the meanings of the following words, and explain their origin: consider, equinox, exasperate, intrinsic, exotic, atom, impediment, scandal, prologue, extenuate, arbitrary, incessant, æsthetic.

VII. Analyse the following—

> "Is it then nought to have left our temperate clime,
> With its old calendared and humdrum time,
> Where the slow days in measured dulness run,
> So much divided dark, and so much sun?"

VIII. Correct or justify the following—

a. "You may deny that you were not the cause
Of my lord Hastings' late imprisonment."

b. "Of all men else I have avoided thee."

Junior Ex.

c. "The venom of such looks, we fairly hope,
Have lost their quality."

d. "I know you what you are."

e. "Rather proclaim it, Westmoreland, through our host,
That he which hath no stomach to this fight,
Let him depart."

f. "Silver and gold have I none."

g. "Bring forth that fatal screech-owl to our house."

h. "I have read the two first books of Virgil."

j. "I do not care if he object ever so much."

k. "These kind of questions are very embarrassing."

l. "Sydney, Melbourne, and Adelaide are the chief metropoli of Australia."

IX. Write a short English Composition on *one* of the following subjects :—

a. The Egyptian war.

b. The proposed railway to Victoria.

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4. ARITHMETIC (COMPULSORY).

PROFESSOR LAMB.

I. This morning's *Register* is numbered 11,245. Assuming the paper to have been published every week-day since it was started, what was the date of the first number?

II. Find the cost of asphalting a tennis-court 78 feet long by 36 feet wide, with a border of 5 feet all round, at 3s. per square yard.

III. Find the weight of a rectangular block of copper whose dimensions are 1ft. 3in., by 1ft. 6in., by 8in., having given that copper is $8\frac{3}{5}$ times as heavy as water, and that a cubic foot of water weighs 1,000 oz.

IV. Find the value of the mass of copper described in the preceding question ; having given that the price of copper is £70 per ton.

V. A steamer goes 10 miles an hour in still water ; how long will it take to go 10 miles up stream and to return, the velocity of the stream being 2 miles an hour ?

VI. A sovereign is worth 4 dollars 6 cents in American, and 25 francs 2 centimes in French money. How many cents will a man lose who changes £15 at the rate of 25 francs for £1. [A franc = 100 centimes ; a dollar = 100 cents.] Junior Ex.

VII. Owing to the earth's rotation a point on the equator moves at the rate of 46,510 centimetres per second. What is this in miles per hour? [A foot = 30·48 centimetres.]

VIII. A milkman buys pure milk at 11½d. per gallon. How much water must he add that he may sell at 5d. a quart, and obtain a gross profit of 100 per cent.?

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5. GEOGRAPHY (COMPULSORY).

PROFESSOR KELLY.

I. Draw a map showing the seaboard of the United States, and marking the states which touch the sea, and the principal seaports.

II. Describe accurately the position of the following islands:

Bornholm, Heligoland, Elba, Lewis, the Crozets, the Falkland Islands, Luzon, Barbadoes.

III. Draw a map of Egypt, marking the principal towns and the course of the Nile through it.

IV. Where are the following places:

Barcelona, Pondicherry, Tokio, Quito, Chicago, Sacramento, Bangkok, Ghent, Metz, Ballinasloe, Dunbar, Khartoum?

V. Sketch a map of India, showing the courses of its principal rivers and the chief towns situated on them.

VI. State in round numbers the area in square miles of each of the Australasian colonies, and their populations.

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6. ENGLISH HISTORY (COMPULSORY).

PROFESSOR KELLY.

I. Write down a list of the Plantagenet sovereigns of England and the dates of their succession to the throne. Give a short account of the character of each, and their relationship.

II. Give an account of the quarrel between Henry II. and Thomas A Beckett.

Junior Ex.

III. Write a brief outline of the connection of Scotland with English history up to the union of the two countries.

IV. What do you know of the history of the following :—Simon de Montfort, Lord Verulam, Sir Walter Raleigh, George Villiers?

V. What were the dates and circumstances connected with the following events? The taking of Calais by the English; the Field of the Cloth of Gold; the Treaty of Versailles; the Battles of Poictiers, Tewkesbury, Worcester, Killiecrankie, Fontenoy.

VI. Write a short account of the life and deeds of Graham of Claverhouse, and of the cause in which he was engaged.

OPTIONAL SUBJECTS.

A. I. ENGLISH HISTORY.

PROFESSOR FLETCHER.

I. Arrange in parallel columns the Sovereigns of Scotland, France, Germany, and Spain, and the Popes of Rome that were contemporary with Henry VIII, Edward VI, Mary, and Elizabeth, adding the dates of the English Sovereigns.

II. Give a short sketch of the career of Wolsey.

III. How did Henry VIII gain the title of "Defender of the Faith?"

IV. What was the occasion of the quarrel between Henry and the Pope?

V. In what years was Parliamentary sanction given to the separation of the Church in England from Papal authority; and what were the statutes that gave effect to that separation?

VI. What were the claims of Lady Jane Grey, and Mary Queen of Scots to the throne of England?

VII. What was the occasion of the Spanish armada?

VIII. Contrast the differences between the reformation in England and in Scotland.

IX. What effect did the discovery of America have on English History during the reign of Elizabeth?

X. Mention briefly for what the following persons were noted—

Dean Colet.

Erasmus.

Thomas Cromwell.

Sir Thomas More.

Sir Francis Drake.
Edmund Spenser.
Ben Jonson.
Cardinal Pole.
John Lyly.
Archbishop Cranmer.

XI. Give the dates of the following events--
The fall of Wolsey.
The marriage of Ann Boleyn.
The pilgrimage of grace.
The suppression of the greater monasteries.
The execution of Queen Mary of Scotland
The colonization of Virginia.
The murder of Darnley.
Shakespeare's removal to London.
The execution of Essex.

A. 2. ENGLISH LITERATURE.

PROFESSOR FLETCHER.

I. At what period in Shakespeare's life was "The Tempest" written? How is this known?

II. Give a short sketch of the plot of "The Tempest."

III. What is the meaning and derivation of the following words:
Yarely, welkin, bootless, coil, kibe, meander, villain?

IV. Quote any passages containing words that have altered their meaning since Shakespeare's time.

V. Investigate and explain the grammatical peculiarities of the following passages:

A. ARIEL: You are three men of sin, whom destiny,
That hath to instrument this lower world
And what is in't, the never-surfeited sea
Hath caused to belch up you; and on this island
Where man doth not inhabit, you 'mongst men
Being most unfit to live.

Junior Ex.

B. PROSPERO: In these fits I leave them, while I visit
Young Ferdinand, whom they suppose is drowned
And his and mine loved darling.

C. FERD.: The ditty doth remember my drowned father,
This is no mortal business, nor no sound
That the earth owes.

VI. In what metre is "The Tempest" written? Quote any six lines and mark carefully the metrical feet and the pauses. How would you analyse the metre of Ariel's Song:

"Full fathoms five thy father lies;
Of his bones are coral made;
Those are pearls that were his eyes;
Nothing of him that doth fade
But doth suffer a sea change
Into something rich and strange.
Sea nymphs hourly sing his knell—
Ding-dong."

VII. Analyse grammatically the lines in the last question printed in italics.

VIII. Illustrate Shakespeare's accuracy in detail in his description of "The Shipwreck" in Act I.

IX. Write out in metrical form the following passage, correcting the spelling and adding the proper marks of punctuation:

POSPERO: You do look my son in a moved sort as if you were dismaid be cheerfull Sir our revells now are ended these our actors as I foretold you were all spirits and are melted into aire into thin air and like the bassless fabrick of this vision the clowd-cap'd towers the gordgeous pallaces the solemn temples the great globe itself yea all which it inherrit shall disolve and like this insubstantial paggeant faded leave not a wrack behind we are such stuf as dreams are made on and our little life is rounded with a sleep Sir I am vexed bare with my weakness my old brane is troubled be not disterbed with my infermity if you be pleased retire into my cell and there repose a turn or two I'll walk to still my beatting mind.

B. I. LATIN.

PROFESSOR KELLY.

I. Translate—

Quæret quispiam: quid? illi ipsi summi viri, quorum virtutes litteris proditæ sunt, istane doctrina, quam tu effers

Junior Ex.

laudibus, eruditi fuerunt? Difficile est hoc de omnibus confirmare; sed tamen est certum, quid respondeam. Ego multos homines excellenti animo ac virtute fuisse, et sine doctrina naturæ ipsius habitu prope divino per seipsos et moderatos et graves exstitisse fateor. Etiam illud adjungo, sæpius ad laudem atque virtutem naturam sine doctrina, quam sine natura valuisse doctrinam. Atque idem ego contendo, quum ad naturam eximiam atque illustrem accesserit ratio quædam conformatioque doctrinæ, tum illud nescio quid præclarum ac singulare solere exsistere. Ex hoc esse hunc numero, quem patres nostri viderunt, divinum hominem, Africanum; ex hoc C. Lælium, L. Furium, moderatissimos homines et continentissimos; ex hoc fortissimum virum et illis temporibus doctissimum, M. Catonem illum senem: qui profecto, si nihil ad percipiendam colendamque virtutem litteris adjuvarentur, numquam se ad earum studium contulissent. Quod si non hic tantus fructus ostenderetur, et si ex his studiis delectatio sola peteretur, tamen, ut opinor, hanc animi adversionem humanissimam ac liberalissimam judicaretis. Nam ceteræ neque temporum sunt, neque ætatum omnium neque locorum; hæc studia adolescentiam agunt, senectutem oblectant, secundas res ornant, adversis perfugium ac solatium præbent; delectant domi, non impediunt foris, pernoctant nobiscum, peregrinantur, rusticantur.

II. Conjugate all the verbs in this passage.

III. What kind of verbs are *propulso, imperito, coalesco, esurio?* How are such verbs formed?

IV. How are diminutives formed in Latin, and what is their gender? Form diminutives from the words *liber, puer, filius, oculus, rex, lapis.*

V. Decline *bos, situs, vis, jusjurandum, senatusconsultum.*

VI. Write down the comparative and superlative of *liber, nequam, senex, benevolus, amans, locuples, multus.*

VII. Translate into Idiomatic Latin—

α. There are some who are men not in reality but in name only.

β. We ought to be readier to advert our own dangers than those of others.

γ Whoever thinks that there is less advantage to be gained from Greek than from Latin literature, makes a terrible mistake.

δ. Had there been no Iliad, the same grave that covered his body would have buried his name as well.

Junior Ex.

VIII. Translate—

Nunc, quoniam, Quirites, sceleratissimi periculosissimique belli nefarios duces captos jam et comprehensos tenetis, existimare debetis, omnes Catilinæ copias, omnes spes atque opes, his depulsis Urbis periculis, concidisse. Quem quidem ego quum ex Urbe pellebam, hoc providebam animo, Quirites, remoto Catilina, non mihi esse P. Lentuli somnum, nec L. Cassii adipem, nec Cethegi furiosam temeritatem pertimescendam. Ille erat unus timendus ex his omnibus; sed tamdiu, dum mœnibus Urbis continebatur.

B. 2. GREEK.

PROFESSOR KELLY.

I. Decline in full and accentuate πατηρ, λεων, βραχυς, πολυς, ναυς, ταμιας, θηρ.

II. What is the meaning of πόσος, τοιόσδε, ὅποι, ἔνθεν, ἐνταῦθα, δήποτε, ὡς, ὅθεν, αὐτός, ὁστισοῦν?

III. Write out the Greek numerals, cardinal and ordinal, from 7 to 14 inclusive. What is the Greek for 19, 28, 30, 50, 200?

IV. Give in full the present subjunctive active of ὁράω, ἀλγέω, πολεμόω; also the nominatives, singular and plural, of their present participles active.

V. Write down the principal tenses in use of αἱρέω, ὁράω, δάκνω, διδάσκω, ἱκνέομαι, θνήσκω, λανθάνω, μιμνήσκω.

VI. Translate into Greek—

(1.) Often good sons are born from bad fathers and mothers.
(2.) In the temple of Hera there are two handsome peacocks.
(3.) The ocean means all the water which surrounds the earth.
(4.) The poet improves the minds of men.

Translate—

ἐθέλω δ' οὖν σοι, ὦ Ἑρμῆ, εἰπεῖν, ᾧτινί μοι ἐοικέναι ἔδοξαν οἱ ἄνθρωποι καὶ ὁ βίος ἅπας αὐτῶν. ἤδη ποτὲ πομφόλυγας ἐν ὕδατι ἐθεάσω ὑπὸ κρουνῷ τινι καταράττοντι ἀνισταμένας; τὰς φυσαλίδας λέγω, ἀφ' ὧν συναγείρεται ὁ ἀφρός· ἐκείνων τοίνυν τινὲς μὲν μικραί εἰσι καὶ αὐτίκα ἐκραγεῖσαι ἀπέσβησαν, αἱ δ' ἐπὶ πλέον διαρκοῦσι καὶ προσχωρουσῶν αὐταῖς τῶν ἄλλων αὖται ὑπερφυσω-

μεναι ἐς μέγιστον ὄγκον αἴρονται, εἶτα μέντοι κἀκεῖναι πάντως ἐξερράγησάν ποτε· οὐ γὰρ οἷόν τε ἄλλως γενέσθαι. τοῦτό ἐστιν ὁ ἀνθρώπου βίος· ἅπαντες ὑπὸ πνεύματος ἐμπεφυσημένοι οἱ μὲν μείζους, οἱ δ' ἐλάττους· καὶ οἱ μὲν ὀλιγοχρόνιον ἔχουσι καὶ ὠκύμορον τὸ φύσημα, οἱ δὲ ὕμα τῷ συστῆναι ἐπαύσαντο· πᾶσι δ' οὖν ἀπορραγῆναι ἀναγκαῖον. Junior Ex.

Lucian Charon, cap. 19.

Parse all the verbs in this passage.

Also—

6. ὁ μέν οὖν Πλούτων, ὡς ἐκεῖνοι ἔφασαν, καὶ ἡ Φερσεφόνη δυναστεύουσι καὶ τὴν τῶν ὅλων δεσποτείαν ἔχουσιν, ὑπηρετοῦσι δ' αὐτοῖς καὶ τὴν ἀρχὴν συνδιαπράττουσιν ὄχλος πολὺς ἐρινύες τε καὶ ποιναὶ καὶ φόβοι καὶ ὁ Ἑρμῆς, οὗτος μέν γε οὐκ ἀεὶ συμπαρών. 7. ὕπαρχοι δὲ καὶ σατράπαι καὶ δικασταὶ κάθηνται δύο, Μίνως τε καὶ Ῥαδάμανθυς οἱ Κρῆτες, ὄντες υἱοὶ τοῦ Διός.

Lucian, de Luctu, cap. 6.

C. I. FRENCH.

Mr. J. Walter Tyas.

1. Translate into English—

Depuis quelques années un petit chien s'était donné á nous ; ma sœur l'avait aimé, et je vous avoue que, depuis qu'elle n'existait plus, ce pauvre animal était une véritable consolation pour moi. En reconnaissance de la faveur que Dieu nous avait accordée en nous donnant cet ami, ma sœur l'avait appelé *Miracle ;* et son nom, qui contrastait avec sa laideur, ainsi que sa gaieté continuelle, nous avait souvent distraits de nos chagrins. Malgré le soin que j'en avais, il s'échappait quelquefois, et je n'avais jamais pensé que cela pût être nuisible à personne. Cependant quelques habitants de la ville s'en alarmèrent, et crurent qu'il pouvait porter parmi eux le germe de ma maladie ; ils se déterminèrent, á porter des plaintes au commandant, qui ordonna que mon chien fût tué sur-le-champ. Des soldats, accompagnés de quelques habitants, vinrent aussitôt chez moi pour exécuter cet ordre cruel ; ils lui passèrent une corde au cou en ma présence et l'entraînèrent. Lorsqu 'il fut á la porte du jardin, je ne pus m'empêcher de le regarder encore une fois ; je le vis tourner ses yeux vers moi pour me demander un secours que je ne pouvais lui donner. On voulait le noyer dans la Doire ; mais la populace, qui l'at-

Junior Ex.

tendait en dehors, l'assomma à coups de pierres. J'entendis, ses cris, et je rentrai dans ma tour plus mort que vif: mes genoux tremblants ne pouvaient me soutenir ; je me jetai sur mon lit dans un état impossible à décrire. Ma douleur ne me permit de voir, dans cet ordre juste, mais sévère, qu 'une barbarie aussi atroce qu'inutile ; et quoique j'aie honte aujourd 'hui du sentiment, qui m'animait alors, je ne puis encore y penser de sang-froid.

Le Lepreux de la Cité d'Aoste.

II. Translate into French—

The other day the north wind was blowing, and everybody exclaimed, how hot the weather is ! how hot I am !

I am in want of everything, said a poor man ; I am hungry and thirsty, and have neither house nor hut which I can call my own.

William the First died at Rouen ; William the Second, his son, in England ; Henry the Fifth at Corbeuil when he was only thirty-three years of age.

Do you think that the vessels belonging to the Orient Company will come to Adelaide again ? Yes, I think so ; but some people fear they will not.

Are you an Englishman or Frenchman ? Neither one nor the other. I am a Scotchman. A Scotchman ! Yes, I am.

Do you like this house or that the best ? I like that one ; but most people prefer this.

III. How many accents are there in French ? Name them. State how the pronunciation of a word is affected by the absence or presence of an acute accent over the final *e*. Accents are used frequently to distinguish one word from another—distinguish between *à* and *a*, *là* and *la*, *dés* and *des*, *où* and *ou*, *pût* and *put*, *sûr* and *sur*, *fût* and *fut*. What is the *cedilla*, and what effect has it on the pronunciation of the letter to which it is suffixed ?

IV. Correct the following phrase.—

Les portraits de le roi et de les princes ne plurent pas au reine.

V. Give the plurals of *rideáu*, *jeu*, *genou*, *cheval*, *amiral*, *travail*, *œil*.

VI. Give the feminine of the following adjectives, *affreux*, *cruel*, *divin*, *elegant*, *faux*, *leger*, *pareil*, *naif*, *neuf*, *vif*, *ancien*, *bon*, *bas*, *gentil*, *gros*, *blanc*, *beau*, *fou*.

VII. How many conjugations are there in French? Give the distinguishing terminations of the infinitives of each conjugation? Give the present infinitive, the present and past participles, the first persons singular of the present and perfect definite indicative, and the first person singular of the present and imperfect tenses subjunctive of the verbs *recevoir*, *aimer*, *finir*, and *vendre*. Junior Ex.

Write out fully the present and imperfect tenses subjunctive of *finir* and *vendre*.

VIII. When does the past participle used after the auxiliary *avoir* agree with its direct object, and when does it remain invariable.

Translate into French.—

The house which I lived in; the letter I wrote.

IX. Translate into English.—

Un homme qui, par la majesté de ses traits; paraissait commander aux autres, élève la voix: "Nous fuyons de Constantinople, dit-il; nos frères sont morts ou captifs; l'empereur est tué; le temple de Sainte Sophie est souillé[1] par Mahomet; et nous venons chercher un asile dans cette Europe Chrétienne qui n'a pas voulu nous secourir." Ces paroles, cette image de deuil,[2] cette soudaine apparition d'une si grande infortune[3] frappent vivement les voyageurs Italiens et quelques habitants accourus au bord de la mer. On entoure les fugitifs; on les conduit dans un monastère élevé sur la côte, et dont les bâtiments extérieurs étaient, suivant l'usage, un asile ouvert aux étrangers.

LASCARIS, PAR VILLEMAIN.

(1) Souiller—To profane.
(2) Deuil—Sorrow, mourning.
(3) Infortune—Calamity.

C. 2.—GERMAN.

PROFESSOR LAMB.

I. Translate:

"O König, ſchöner König
Mit deinem goldnen Haar,
Mit deinen blauen Augen,
Gefangner ſtolzer Aar!
Wie Renos Welle ſchallet
Dein Lied ſo luſtig und frei;
Im Kerker und in Banden
Bricht nicht dein Herz entzwei?"—

Junior Ex.

„Im Kerker und in Banden
Blieb Luft und Hoffen mir treu,
Und ob ſie den Leib mir umwanden
Mit Ketten, die Seele blieb frei.
Noch leuchtet am Himmel die Sonne,
Die Sterne, ſie glänzen noch hell,
Noch trägt mein Vater die Krone,
Der rettet, der rettet mich ſchnell."—

„O König, ſchöner König,
Wirf Luft und Hoffen ins Meer!
Die Sonne leuchtet am Himmel,
Die goldene Sonne nicht mehr!
Laß alle Schleuſen ſpringen
Des Schmerzes blutigroth!
Dein Vater iſt geſtorben,
Der Kaiſer, der Kaiſer iſt todt."—

II. Translate:

Es wohnt ein Müller ſorgenfrei
In ſeiner kleinen Mühle.
Das Mühlchen klappert Brot herbei
Bei Sonnenbrand und Kühle.

Nicht weit davon ein König hatt'
Ein Schloß ſich aufgebauet.
Wär' nicht die Mühl, man hätte Stadt
Und Land draus überſchauet.

Der König bot dem Müller Geld:
„Verkauf' mir deine Hütte!
Bau neu ſie auf, wo dir's gefällt,
Nach größerm Maß und Schnitte."—

„Mein Mühlchen iſt mir gut genug,
Das laſſ' ich meinen Erben;
Es trägt des Vaters Segensſpruch,
Hier will ich ruhig ſterben."—

III. Translate:

Das war eine Schlacht!
Drei Tage lang
Vom Morgen bis zur ſinkenden Nacht
Der männermordende Donner kracht'
Und des Todes mähende Sichel klang.

Das war eine Schlacht!
Zwiſchen Kampf und Kampf
Hat der Tod je einen Raſttag gemacht,
Umnebelt vom ſchwebendem Pulverdampf,
Satt und überſatt
Des Blutes, das er zu gierig trank,
Vom blutigen Mähen ſo müd' und matt,
Daß dem knöchernen Arm die Sichel entſank.

Junior Ex.

Das war eine Schlacht!
Und als des dritten Tages Geſtirn
Zur Rüſte ging und von der Berge Firn'
Ihren Schattenſchleier ſenkte die Nacht,
Da lagen, Freund und Feind,
An die Dreißigtauſend vereint,
Im ſtummen Tode friedlich geſellt —
Ein unabſehbar Leichenfeld.
Und auf das klaffende Völkergrab
Lächelt der Mond vom Sternenzelt
Schweigend des Todes Frieden herab.

IV. Decline, with the definite article, Tag, Nacht, Land, Herz.

V. Decline ein tapferer Held, die ſchöne Blume, das alte Haus.

VI. Give the principal parts of the following verbs:—blieb, trägt, aufgebauet, laſſen, ziehen.

VII. Give the comparative and superlative of warm, ſtreng, hoch.

VIII. State the accusation of the pronouns ich, du, er, wir, ihr, and ſie.

IX. Write out in German words the following numerals, 1882, 72nd, $3\frac{3}{4}$, $7\frac{2}{3}$.

X. Translate:

Es war ein König im Norden
Gar ſtolz, gewaltig und reich;
Ihm gleich iſt Keiner geworden,
Und nie wird Einer ihm gleich.

Und als es galt zu ſterben,
Er ſaß am öden Meer;
Es ſchlichen herbei ſeine Erben,
Der Wolf, die Eule, der Bär.

Da ſprach er zum zottigen Bären;
Dir laſſ' ich Forſt und Wald;
Kein Jagdherr wird Dich ſtören
Im luftigen Aufenthalt.

Und weiter ſprach er zur Eule:
Ich laſſe ſonder Zahl
Dir Burgen und Städte, vertheile
Sie Deinen Töchtern zumal!

Und ſprach zum Wolfe desgleichen:
Dir laſſ' ich ein ſtilles Feld,
Mit Leichen und aber Leichen,
So weit ich geherrſcht, beſtellt.

Und wie er Solches geſprochen,
So ſtreckt' er ſich aus zur Ruh; —
Ein Sturm iſt angebrochen,
Der deckte mit Schloſſen ihn zu.

öde.....barren
Erbe.....heir
Eule.....owl
zottig.....shaggy
Forſt.....forest
Burg.....castle
beſtellen.....sow
Schloſſe.....hailstone.

Junior Ex.

XI. Translate into German :

Have you seen the pictures in the Exhibition (Ausſtellung)? Some of them are very beautiful. The one that pleases me most represents (vorſtellen) a horse endeavouring to escape from a burning stable (Stall). I hear that some new pictures which had been bought for the exhibition have been lost at sea. It is to be hoped that they will soon be replaced (erſetzen).

D. I. ALGEBRA.

PROFESSOR LAMB.

I. If $a=4$, $b=3$, $c=7$, find the value of
$$(a+b)^3-3c(a+b)^2+3c^2(a+b)-c^3$$

II. Multiply $x^2+3x-28$ by $x^2+4x-12$, and divide the product by $x^2+13x+42$.

III. Express the following statement in algebraical symbols :—

"If the sum of the cubes of two numbers be divided by the sum of the numbers the quotient is equal to the sum of the squares of the two numbers diminished by their product."

Also express the corresponding statement relating to the *difference* of the cubes of two numbers.

IV. Find the Highest Common Divisor of $x^4+3x^3-7x+3x+28$ and $x^3+2x^2-11x+20$.

V. Define a Fraction, and prove the rules for dividing a fraction by an integer.

Simplify—
$$\frac{x^4-y^4}{x^3+y^3} \div \frac{x^2+y^2}{x^2-xy+y^2}$$

VI. Solve the equations—

(i.) $$\frac{3x-10}{3x-1}+\frac{4x-9}{4x-1}=\frac{4x-8}{2x+1},$$

(ii.) $$\frac{a}{x-a}-\frac{b}{x-b}=\frac{a-b}{x-c}.$$

VII. A man buys a block of land for £3,800, and cuts it up into 35 allotments, which he sells by auction. What ought to be the average selling price of an allotment in order that after paying the auctioneer's commission of 5 per cent. on the selling price he may make a profit of 250 per cent. on his original outlay?

VIII. A man leaves two-fifths of his property to his eldest son, half the remainder equally between two younger sons, and the other half equally between three daughters; what was the value of the property if the younger sons each get £1,250 more than each of their sisters? Junior Ex.

IX. Prove that the difference between a number of two digits and the number obtained by reversing the digits is always divisible by 9.

D. 2. GEOMETRY.

PROFESSOR LAMB.

I. Define a Plane, a Circle, Parallel Straight Lines.

What is meant by the *Converse* of a given theorem? Give examples.

II. If two triangles have two sides of the one equal to two sides of the other, each to each, and have also the included angles equal, they are equal in all respects.

PQ is drawn at right angles to a straight line AB at its middle point P, and QA, QB are joined; what follows? Prove.

III. If a straight line falling on two other straight lines makes the alternate angles equal, those two straight lines are parallel.

IV. ABC, DBC are two triangles of equal area on the same base BC and on the same side of it; prove that AD is parallel to BC.

V. ABC is a triangle such that the square on AC is equal to the sum of the squares on AB, BC; prove that the angle at B is a right angle.

The hypothenuse of a right angled triangle is 101, and one of the other sides is 20; find the third side.

Prove also that if the square on AC were *greater* than the sum of the squares on AB, BC then the angle at B would be obtuse.

VI. P is any point in a straight line AB; the squares on AB, PB are together equal to, &c.

Complete the statement, and prove the theorem.

Also state the corresponding algebraical identity.

Junior Ex.

VII. In a straight line AB find a point P such that the rectangle AB, AP shall be equal to the square on BP.

Prove that the squares on AB, AP are together equal to three times the square on BP.

VIII. Make a square equal to a given rectangle.

A. 1. CHEMISTRY.

PROFESSOR TATE.

I. Describe accurately the tests which you would employ to ascertain whether a colourless gas is oxygen, hydrogen, or nitrogen.

II. By what chemical means would you ascertain whether a room is properly ventilated?

III. Name the gas that may be prepared from salt, black oxide of manganese, and sulphuric acid. Describe how you would collect the gas.

IV. Give an account of the general properties of carbon.

V. How is sulphuretted hydrogen prepared? What is its use in the laboratory?

VI. The gas which accumulates in wine-vats is said to be carbonic acid. Describe how you would test by experiments the correctness of the assertion.

VII. Describe what happens if an aqueous solution of chlorine is exposed to sunlight.

VIII. Express in words $FeCl_2$, AsH_3, $CuSO_4$, HNO_3, and CaH_2O_2; and represent by symbols *hydrated carbonic acid*; *disulphide of iron*, *trihydride of phosphorus*, *common salt*, and *monoxide of nitrogen*

IX. What is the weight of sulphur contained in 129 grains of sulphuretted hydrogen?

E. 2. ELEMENTARY PHYSICS.

No candidates.

E. 3. BOTANY.

Junior Ex.

PROFESSOR TATE.

I. Represent by drawings (*a*) the flower bud, and (*b*) the expanded flower of a gum-tree; append explanatory references.

II. Arrange the following names in a column :—wallflower, castor-oil-tree, pea, snapdragon, sowthistle, lily, gumtree, and wild oat, and write opposite to each the characters of the flower of the plants so named in regard to the *position of the calyx*, *form of corolla*, and *number of stamens*.

III. Describe and give an opinion as to the nature of each one of the accompanying specimens.

IV. Fill up the accompanying schedules with reference to the two plants placed before you.

V. Where are bracts situated? what are they usually like, and what other appearances do they sometimes present?

VI. Draw the outlines of the leaves (*a*) cordate-ovate with a serrate margin; (*b*) peltate with a crenate margin; (*c*) pinnatifid; (*d*) pinnate of 10 pairs of stalked, ovate leaflets with entire margins; and (*e*) obovate bifid at the extremity.

VII. Dissect the flower of the plant placed before you; make drawings of the different parts and append explanatory references.

E. 4. PHYSIOLOGY.

E. C. STIRLING, M.A., M.D.

I. Describe the structure and characteristics of a ball and socket joint. Give instances of such joints in the human body.

II. Into what classes may the various articles of food used by man be divided? Give examples of each kind from your usual meals.

III. Where is the Pancreas situated, and what is its use in the animal economy?

IV. What are the channels by which the digested food finds its way into the blood stream?

V. How is it that while we are in health our bodies are always warm, even in cold weather? What provision is there for regulating the temperature of the body?

VI. Describe the microscopic appearance presented by human blood, and contrast it with that of a frog or fish.

Junior Ex

E. 5. PHYSICAL GEOGRAPHY.

PROFESSOR R. TATE.

[Candidates are not required to answer more than eight questions.]

I. Describe the configuration of the Continent of Australia. Draw a map indicating the Direction of the different Mountain-chains.

II. What are the conditions upon which the Climate of a place depends? Compare the region of Central Australia with that of North-east Queensland.

III. Describe the formation of a glacier.

IV. What are the most important facts revealed by the deep-sea explorations?

V. Why are the Poles colder than the Equator?

VI. Describe the physical features of Lake Torrens, and account for their origin.

VII. Explain the cause of the formation of Dew.

III. Compare the waters of the Red and Baltic Seas with regard to their movements and properties.

IX. What becomes of the rain which falls on the land? What is the average amount of the annual rainfall at Adelaide?

X. What observations have been made regarding temperature as we descend in deep mines, and what inferences have been drawn from them?

XI. What are coral-reefs and coral-islands, and how are they formed?

XII. How can you prove that the water of the River Torrens contains invisible solid matter.

NOVEMBER AND DECEMBER, 1882.

MATRICULATION EXAMINATION.

COMPULSORY SUBJECTS I—6 THE SAME AS FOR THE JUNIOR EXAMINATION.

LATIN (COMPULSORY).

PROFESSOR KELLY.

I. Translate—

Regnavit Ancus annos quattuor et viginti, cuilibet superiorum regum belli pacisque et artibus et gloria par. Jam filii prope puberem ætatem érant: eo magis Tarquinius instare, ut quam primum comitia regi creando fierent: quibus indictis sub tempus pueros venatum ablegavit: isque primus et petîsse ambitiose regnum et orationem dicitur habuisse ad conciliandos plebis animos compositam, quum se non rem novam petere, quippe qui non primus, quod quisquam indignari mirarive posset, sed tertius Romæ peregrinus regnum adfectet: et Tatium non ex peregrino solum sed etiam ex hoste regem factum, et Numam ignarum urbis non petentem in regnum ultro accitum: se, ex quo sui potens fuerit, Romam cum conjuge ac fortunis omnibus commigrâsse: majorem partem ætatis ejus, quam civilibus officiis fungantur homines, Romæ se quam in vetere patria vixisse: domi militiæque sub haud pœnitendo magistro—ipso Anco rege—Romana se jura, Romanos ritus didicisse: obsequio et observantia in regem cum omnibus, benignitate erga alios cum rege ipso certâsse—: hæc eum haud falsa memorantem ingenti consensu populus Romanus regnare jussit. Ergo virum cætera egregium sequuta, quam in petendo habuerat, etiam regnantem ambitio est: nec minus regni sui firmandi quam augendæ rei publicæ memor centum in patres legit, qui deinde minorum gentium sunt appellati, factio haud dubia regis, cujus beneficio in curiam venerant.

Turn this address into *Oratio Recta*.

Matric. Ex Nov.

II. Write notes on the following words and phrases and derive them where you can—*Legio, turma, ala, perduellio, Lupercal, Indiges, pomoerium, antistes, lictor, ultro, sollennis, templum, spolia opima, Feretrius, patres minorum gentium.* What were the divisions of the *legio*, and its officers?

III. Explain the construction of—

α. Di quorum tutelae ea loca essent.
β. Centum amplius post annos.
γ. Ut imperium regi abrogaret.
δ. Apparitores hoc genus.

IV. Conjugate the verbs *saevio, attero, egredior, sancio, peto, porrigo, audeo, sepelio, gigno*, augeo, opprimo, misceo, ordior.

V. Write down the gender and genitive case of *pars, merces, opus, ordo, virus, pubes, decus, eques, indoles.*

VI. Translate into Latin Prose—

As soon as day dawned he gives orders for both armies to be summoned to meet together in the usual way. The heralds beginning with the most distant summoned the Albans first. They, excited by this strange proceeding, stood very close to hear the harangue of the Roman King. Meanwhile a regiment under arms surrounds the assembly according to previous arrangement. The duty of executing these orders promptly was left to the centurions.

VII. Translate—

Relicto itaque castris præsidio egressi tanto cum tumultu invasere fines Romanos, ut ad urbem quoque terrorem pertulerint. Nec opinata etiam res plus trepidationis fecit, quod nihil minus quam ne victus ac prope in castris obsessus hostis memor populationis esset timeri poterat: agrestesque pavidi incidentes portis non populationem nec prædonum parvas manus sed omnia vano augentes timore exercitus et legiones adesse hostium et infesto agmine ruere ad urbem clamabant. Ab his proxime audita incerta eoque vaniora ferre ad alios: cursus clamorque vocantium ad arma haud multum a pavore captæ urbis abesse.

8. MATHEMATICS, ARITHMETIC AND ALGEBRA (COMPULSORY).

Matric. Ex. Nov.

PROFESSOR LAMB.

I. Which would yield the greater return for an investment: London and North-western stock at $161\frac{1}{2}$, or Metropolitan stock at $123\frac{1}{2}$, the former paying $6\frac{1}{2}$ per cent. and the latter 5 per cent.?

II. Assume that 4 English navvies can do as much work in a day as 5 French navvies, and that 4 French navvies do as much as 7 negroes. It is found that 84 English and 55 French do a certain piece of work in a day; how many negroes would have to be employed to do the same work in the same time?

III. Define a Fraction. State and prove the rules for multiplying a fraction by an integer.

Which is the greater of the two fractions, $\frac{22}{7}$ and $\frac{355}{113}$? What is their difference?

IV. Explain the notation of decimal fractions. Explain the reasonof the rule for converting a vulgar fraction into a decimal?

Ex: $\frac{273}{128}$.

Why do most vulgar fractions give rise on conversion to *circulating* decimals?

V. A complete plant for the production of the electric light costs £90, besides the motive power; and the light is equivalent to that of 1,400 candles. Assuming that the cost of motive power, supervision, material consumed, &c., may be represented by 8d. per hour, and allowing 8 per cent. per annum for the capital sunk in the plant, find the cost per candle per hour, when the light is used during 500 hours in the year.

VI. Prove that

$$a(b+c) = ab + c.$$

and that

$$a - (b - c) = a - b + c.$$

State precisely the meaning of each symbol.

VII. Simplify

(i) $(b-c)^2 + (c-a)^2 + (a-b)^2 + (a+b+c)^2$,

and

(ii) $\frac{(x+y)^4 - (x-y)^4}{(x+y)^2 + (x-y)^2}$.

Matric. Ex. Nov.

VIII. Solve this equation

$$\frac{3x-1}{7} - \frac{2-x}{5} = \frac{4x+7}{21},$$

and justify each step of the process.

IX. A number of two digits is diminished in the ratio of 4 to 7 by reversing the digits ; prove that one digit must be double the other.

X. A reduction of 20 per cent. in the price of copper would enable a purchaser to get 8 cwt. more for £100. What is the present price per ton?

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8. MATHEMATICS, GEOMETRY (COMPULSORY).

PROFESSOR LAMB.

I. Explain the terms *Problem*, *Theorem*, *Converse*, and give examples. What is meant by the method of "Superposition?" Quote three theorems which can be proved by this method.

II. The angles at the base of an isosceles triangle are equal.

III. The exterior angle of a triangle is equal to the two interior and opposite angles, &c.

Find the size of the angle of a regular polygon of twenty-four sides.

IV. The straight lines which join the extremities of equal and parallel straight lines towards the same parts are themselves equal and parallel.

If $ABCD$ be a parallelogram and AP,BQ be one pair of parallel straight lines and CQ, DP another pair of parallel straight lines, then PQ will be equal and parallel to AB and DC.

V. On a given straight line construct a rectangle equal to a given rectangle.

VI. The square on the hypothenuse of a right angled triangle is equal to the sum of the squares on the other two sides.

Construct a square which shall be three quarters of a given square.

VII. If a straight line be divided into any two parts the squares on the two parts shall be together double of, &c.

Also state the corresponding algebraical identity.

VIII. Make a square equal to a given rectilinear figure. Matric. Ex. Nov.

In a given straight line AB find a point P such that the rectangle AP,PB shall be equal to a given square. Is this always possible?

OPTIONAL SUBJECTS.

A. I. LATIN.

PROFESSOR KELLY.

I. Translate, adding notes where required—

Tu ne quaesieris, scire nefas, quem mihi, quem tibi
Finem Dî dederint, Leuconoë nec Babylonios
Tentaris numeros. Ut melius, quidquid erit, pati!
Seu plures hiemes seu tribuit Jupiter ultimam,
Quae nunc oppositis debilitat pumicibus mare
Tyrrhenum, sapias, vina liques et spatio brevi
Spem longam reseces. Dum loquimur, fugerit invida
Aetas. Carpe diem quam minimum credula postero.

HOR. OD., I., 11.

Also—

O matre pulchra filia pulchrior,
Quem criminosis cunque voles modum
Pones iambis, sive flamma
Sive mari libet Hadriano.
Non Dindymene, non adytis quatit
Mentem sacerdotum incola Pythius,
Non Liber aeque, non acuta
Sic geminant Corybantes aera,
Tristes ut irae, quas neque Noricus
Deterret ensis nec mare naufragum
Nec saevus ignis nec tremendo
Jupiter ipse ruens tumultu.
Fertur Prometheus, addere principi
Limo coactus particulam undique
Desectam, et insani leonis
Vim stomacho apposuisse nostro.
Irae Thyesten exitio gravi
Stravere, et altis urbibus ultimae
Stetere causae, cur perirent
Funditus, imprimeretque muris
Hostile aratrum exercitus insolens.

Matric Ex. Nov.

Compesce mentem ; me quoque pectoris
Tentavit in dulci juventa
Fervor, et in celeres iambos
Misit furentem. Nunc ego mitibus
Mutare quaero tristia, dum mihi
Fias recantatis amica
Opprobriis animumque reddas.

HOR. OD., I., 16.

Translate—

Poscimur. Si quid vacui sub umbra
Lusimus tecum, quod et hunc in annum
Vivat et plures, age dic Latinum,
Barbite, carmen,
Lesbio primum modulate civi ;
Qui ferox bello tamen inter arma
Sive jactatam religarat udo
Litore navim,
Liberum et Musas Veneremque et illi
Semper haerentem puerum canebat
Et Lycum nigris oculis nigroque
Crine decorum.
O decus Phoebi et dapibus supremi
Grata testudo Jovis, o laborum
Dulce lenimen, mihi cunque salve
Rite vocanti.

HOR. OD., I., 32.

Also—

Nolis longa ferae bella Numantiae
Nec dirum Hannibalem nec Siculum mare
Poeno purpureum sanguine mollibus
Aptari citharae modis,
Nec saevos Lapithas et nimium mero
Hylaeum domitosque Herculea manu
Telluris juvenes, unde periculum
Fulgens contremuit domus
Saturni veteris ; tuque pedestribus
Dices historiis proelia Caesaris,
Maecenas, melius ductaque per vias
Regum colla minacium.
Me dulces dominae Musa Licymniae
Cantus, me voluit dicere lucidum
Fulgentes oculos et bene mutuis

Fidum pectus amoribus;
Quam nec ferre pedem dedecuit choris
Nec certare joco nec dare brachia
Ludentem nitidis virginibus sacro
Dianae celebris die.
Num tu, quae tenuit dives Achaemenes,
Aut pinguis Phrygiae Mygdonias opes
Permutare velis crine Licymniae,
Plenas aut Arabum domos?—
Dum flagrantia detorquet ad oscula
Cervicem aut facili saevitia negat,
Quae poscente magis gaudeat eripi,
Interdum rapere occupat.

HOR. OD., II., 12.

II. Translate and explain—

(1.) Attalicis conditionibus.

(2.) Acer et Mauri peditis cruentum vultus in hostem.

(3.) Quinta parte sui nectaris imbuit.

(4.) Tu nisi ventis debes ludibrium cave.

(5.) Tu frustra pius, heu, non ita creditum poscis Quintilium deos.

(6.) Quamvis clipeo Trojana refixo tempora testatus.

(7.) O utinam nova incude diffingas retusum in Massagetas Arabasque ferrum.

(8.) Lascivis hederis ambitiosior.

(9.) Grande munus Cecropio repetes cothurno.

(10.) Quem Venus arbitrum dicet bibendi?

Scan the first line of the first passage set above and the first stanza of each of the others.

III. Translate—

Faune, Nympharum fugientum amator,
Per meos fines et aprica rura
Lenis incedas abeasque parvis
Aequus alumnis,
Si tener pleno cadit haedus anno,
Larga nec desunt Veneris sodali
Vina craterae, vetus ara multo
Fumat odore.

Matric. Ex. Nov.

Ludit herboso pecus omne campo,
Quum tibi Nonae redeunt Decembres ;
Festus in pratis vacat otioso
Cum bove pagus :
Inter audaces lupus errat agnos ;
Spargit agrestes tibi silva frondes ;
Gaudet invisam pepulisse fossor
Ter pede terram.

HOR. OD., III., 18.

IV. Translate into Latin Prose—

In the decline of the Roman Empire Constantine the Great transferred the capital from Rome to Byzantium, as Constantinople was then called, and attempted to make the latter city rival the former in monumental grandeur by erecting immense public edifices. Here, however, as in Italy, art and science took a retrograde course, and the elegant orders invented by the Greeks lost their original purity and simplicity.

A. 2. GREEK.

PROFESSOR KELLY.

Translate—

Ὣς φάτο, τῇ δ' ἄρα θυμὸν ἐνὶ στήθεσσιν ὄρινεν.
Καί ῥ' ὡς οὖν ἐνόησε θεᾶς περικαλλέα δειρὴν
Στήθεά θ' ἱμερόεντα καὶ ὄμματα μαρμαίροντα,
Θάμβησέν τ' ἄρ' ἔπειτα, ἔπος τ, ἔφατ', ἔκ τ' ὀνόμαζεν.
"Δαιμονίη, τί με ταῦτα λιλαίεαι ἠπεροπεύειν ;
Ἦ πῄ με προτέρω πολίων εὐναιομενάων
Ἄξεις ἢ Φρυγίης ἢ Μηονίης ἐρατεινῆς,
Εἴ τίς τοι καὶ κεῖθι φίλος μερόπων ἀνθρώπων ;
Οὕνεκα δὴ νῦν δῖον Ἀλέξανδρον Μενέλαος
Νικήσας ἐθελει στυγερὴν ἐμὲ οἴκαδ' ἄγεσθαι,
Τοὔνεκα δὴ νῦν δεῦρο δολοφρονέουσα παρέστης ;
Ἧσο παρ' αὐτὸν ἰοῦσα, θεῶν δ' ἀπόεικε κελεύθου,
Μηδ' ἔτι σοῖσι πόδεσσιν ὑποστρέψειας Ὄλυμπον,
.Αλλ' αἰεὶ περὶ κεῖνον ὀΐζυε καί ἑ φύλασσε,
Εἰς ὅ κέ σ' ἢ ἄλοχον ποιήσεται ἢ ὅ γε δούλην.
Κεῖσε δ' ἐγὼν οὐκ εἶμι—νεμεσσητὸν δέ κεν εἴη—
Κείνου πορσυνέουσα λέχος· Τρωαὶ δέ μ' ὀπίσσω
Πᾶσαι μωμήσονται· ἔχω δ' ἄχε' ἄκριτα θυμῷ."

Hom. Il. iii., vv. 395-412.

Parse στήθεσσιν, παρέστης, ἧσο, εἴ, πορσυνέουσα.

Also—

Matric. Ex. Nov.

Τὴν δ' αὖτ' Ἀντήνωρ πεπνυμένος ἀντίον ηὔδα·
"Ὦ γύναι, ἦ μάλα τοῦτο ἔπος νημερτὲς ἔειπες·
Ἤδη γὰρ καὶ δεῦρό ποτ' ἦλυθε δῖος Ὀδυσσεὺς
Σεῦ ἕνεκ' ἀγγελίης, σὺν ἀρηϊφίλῳ Μενελάῳ·
Τοὺς δ' ἐγὼ ἐξείνισσα καὶ ἐν μεγάροισι φίλησα,
Ἀμφοτέρων δέ φυὴν ἐδάην καὶ μήδεα πυκνά.
Ἀλλ' ὅτε δὴ Τρώεσσιν ἐν ἀγρομένοισιν ἔμιχθεν,
Στάντων μὲν Μενέλαος ὑπείρεχεν εὐρέας ὤμους,
Ἀμφὼ δ' ἑζομένω, γεραρώτερος ἦεν Ὀδυσσεύς
Ἀλλ' ὅτε δὴ μύθους καὶ μήθεα πᾶσιν ὕφαινον,
Ἤτοι μὲν Μενέλαος ἐπιτροχάδην ἀγόρευεν,
Παῦρα μέν, ἀλλὰ μάλα λιγέως, ἐπεὶ οὐ πολύμυθος
Οὐδ' ἀφαμαρτοεπὴς, ἦ καὶ γένει ὕστερος ἦεν.

Hom. Il. iii., vv. 203-215.

Parse ηὔδα ἐδάην ἐμίχθεν, and explain the construction of σεῦ ἕνεκ' ἀγγελίης and στάντων.

Translate—

ΑΔ. ἐπίσταμαί τε κοὐκ ἄφνω κακὸν τόδε
προσέπτατ'· εἰδὼς δ' αὖτ' ἐτειρόμην πάλαι.
ἀλλ' ἐκφορὰν γὰρ τοῦδε θήσομαι νεκροῦ,
πάρεστε καὶ μένοντες ἀντηχήσατε
παιᾶνα τῷ κάτωθεν ἀσπόνδῳ θεῷ.
πᾶσιν δὲ Θεσσαλοῖσιν ὧν ἐγὼ κρατῶ
πένθους γυναικὸς τῆσδε κοινοῦσθαι λέγω
κουρᾷ ξυρήκει καὶ μελαμπέπλῳ στολῇ·
τέθριππά θ' οἳ ζεύγνυσθε καὶ μονάμπυκας
πώλους, σιδήρῳ τέμνετ' αὐχένων φόβην.
αὐλῶν δέ μὴ κατ' ἄστυ, μὴ λύρας κτύπος
ἔστω σελήνας δώδεκ' ἐκπληρουμένας·
οὐ γάρ τιν' ἄλλον φίλτερον θάψω νεκρὸν
τοῦδ οὐδ' ἀμείνον' εἰς ἔμ'· ἀξία δέ μοι
τιμᾶν, ἐπεὶ τέθνηκεν ἀντ' ἐμοῦ μόνη.

Eurip. Alcestis., vv. 420-434.

Scan the first two lines of this piece.

Also—

ΧΟ. ὦ πολύξεινος καὶ ἐλεύθερος ἀνδρὸς ἀεί ποτ' οἶκος,
σέ τοι καὶ ὁ Πύθιος εὐλύρας Ἀπόλλων
ἠξίωσε ναίειν,
ἔτλα δὲ σοῖσι μηλονόμας
ἐν δόμοις γενέσθαι,

Matric. Ex. Nov.

δοχμιᾶν διὰ κλιτύων
βοσκήμασι σοῖσι συρίζων
ποιμνίτας ὑμεναίους.
σὺν δ' ἐποιμαίνοντο χαρᾷ μελέων βαλιαί τε λύγκες
ἔβα δὲ λιποῦσ' Ὄθρυος νάπαν λεόντων
ἁ δαφοινὸς ἴλα·
χόρευσε δ' ἀμφὶ σὰν κιθάραν,
Φοῖβε, ποικιλόθριξ
νεβρὸς ὑψικόμων πέραν
βαίνουσ' ἐλατᾶν σφυρῷ κούφῳ,
χαίρουσ' εὔφρονι μολπᾷ.
τοιγὰρ πολυμηλοτάταν
ἑστίαν οἰκεῖ παρὰ καλλίναον
Βοιβίαν λίμναν· ἀρότοις δὲ γυᾶν
καὶ πεδίων δαπέδοις ὄρον ἀμφὶ μὲν ἀελίου κνεφαίαν
ἱππόστασιν αἰθέρα τὰν Μολοσσῶν τίθεται,
πόντιόν τ' Αἰγαιῶν' ἐπ' ἀκτὰν
ἁλίμενον Πηλίου κρατύνει.

Eurip. Alcestis., vv. 569-596.

In what does the dialect of this passage differ from the first, and why?

Decline δρῦς, ἀιών, Σωκράτης, and compare μακρός, ταχύς, ὀλίγος, μέσος.

What is the difference between σπενδειν-σπένδεσθαι, πολιτεύω-πολιτεύομαι, μισθοῦν-μισθοῦσθαι, θεῖναι νόμους-θέσθαι νόμους. πορεύειν-πορεύεσθαι. γαμεῖν-γαμεῖσθαι.

Translate—

οὐκ ἔστι τοῦδε παισὶ κάλλιον γέρας,
ἢ πατρὸς ἐσθλοῦ κἀγαθοῦ πεφυκέναι,
γαμεῖν τ' ἀπ' ἐσθλῶν· ὃς δὲ νικηθεὶς πόθῳ
κακοῖς ἐκοινώνησεν, οὐκ ἐπαινέσω
τέκνοις ὄνειδος οὔνεχ' ἡδονῆς λιπεῖν.
τὸ δυστυχὲς γὰρ ηὐγένει' ἀμύνεται
τῆς δυσγενείας μᾶλλον· ἡμεῖς γὰρ κακῶν
ἐς τοὔσχατον πεσόντες ηὕρομεν φίλους
καὶ ξυγγενεῖς τούσδ', οἵ τοσῆσδ' οἰκουμένης
Ἑλληνίδος γῆς τῶνδε προὔστησαν μόνοι.

Eurip. Heracleidæ, vv. 296-306.

Translate into Greek—

(1.) He said he would slay all who did not do what he ordered them.

(2.) Who is so foolish as not to know this?

(3.) This evil is too great for us to bear. Matric. Ex.
(4.) He asked if there was anybody wiser than I.
(5.) He was indignant when he heard that they had contracted an alliance.

B. MATHEMATICS.

PROFESSOR LAMB.

I. State and prove the rule for forming the square of any polynomial.

Find the square root of

$$4a^4 + 9(1 + 2a) + 3a^2(7 + 4a).$$

II. A ship's company have provisions on board for sixty days, but encountering a storm they lose one-third of their provisions, and five men are washed overboard; the ship is so damaged that it is calculated that it will take eighty-five days to reach the nearest port, and it is found that it will be necessary to put the survivors on half rations. How many men were on board at first?

III. Solve the equations

(i) $$\left.\begin{aligned} 2x + 3y &= 16 \\ \frac{2}{y+3} &= \frac{3}{2+x} \end{aligned}\right\}$$

(ii) $7x^2 + 6x - 1 = 0.$

(iii) $$\left.\begin{aligned} x - y &= 3 \\ x^2 + xy + y^2 &= 93 \end{aligned}\right\}.$$

IV. The sum of three numbers in arithmetical progression is 24, and their product is 480; find the numbers.

V. To what extent does the relation

$$a^m \times a^n = a^{m+n}$$

admit of proof, and to what extent is it a matter of convention?

VI. Prove the formula for the sum of an Arithmetical Progression.

The sum of 20 terms of an A.P. is 500, and the last term is 45; find the first term.

VII. Expand $(1 - x)^7$ and $(2 - 3x)^4$ by the Binomial Theorem.

Prove that

$$(x + y)^5 - x^5 - y^5 = 5xy(x + y)(x^2 + xy + y^2).$$

Matric. Ex.

VIII. Prove the formula for $\cos(A-B)$, and verify it for the following cases: (i) $A = 60°$, $B = 30°$, (ii) $A = 150°$, $B = 30°$.

IX. A man standing on the top of a mountain a little before sunset notices that the shadow of the mountain extends to a place on a plain at the base which he knows to be n miles distant horizontally. If α be the altitude of the sun; find the height of the mountain.

B. MATHEMATICS.

PROFESSOR LAMB.

I. A straight line AB passes through the middle point of another straight line CD, and is at right angles to it; prove that the triangles ACB, ADB are equal in all respects.

II. ABC, DBC are two equal triangles on the same base BC; prove that AD is either parallel to BC or is bisected by BC.

III. ABC is a triangle, and AE, BF are drawn perpendicular to BC, AC, respectively; prove that the rectangle CE, CB is equal to the rectangle CF, CA.

IV. Define an Angle in a Segment, a Mean Proportional, Duplicate Ratio, Similar Figures.

V. Angles in the same segment of a circle are equal.

Also state and prove the converse of this theorem.

VI. Inscribe a circle in a given triangle.

VII. If a straight line cut the sides of a triangle proportionately, it is parallel to the base.

$ABCD$ is any quadrilateral, and P,Q,R,S are the middle points of its sides, taken in order. Prove that $PQRS$ is a parallelogram.

VIII. Prove that the ratio of the circumference to the diameter is the same for all circles.

If an arc of ten feet on a circle of eight feet diameter subtend at the centre an angle 143° 14′ 22″, find the value of π to four decimal places.

IX. Define the sine and the cosine of an angle, and prove the formulæ—

$$\sin^2 A + \cos^2 A = 1,$$
$$\cos(90° + A) = -\sin A.$$

Find cos 135°, sec 120°, sin 150°.

C. I. FRENCH.

Matric. Ex.

MR. J. WALTER TYAS.

I. Translate into English—

C'etait pendant l'horreur d'une profonde nuit,
Ma mère Jézabel devant moi s'est montrée,
Comme au jour de sa mort pompeusement parée.
Ses malheurs n'avaient point abattu sa fierté ;
Même elle avait encore cet éclat emprunté
Dont elle eut soin de peindre et d'orner son visage,
Pour réparer des ans l'irréparable outrage—
"Tremble," m'a-t-elle dit, "fille digne de moi.
Le cruel Dieu des Juifs l'emporte aussi sur toi.
Je te plains de tomber dans ses mains redoutables,
Ma fille"—En achevant ces mots épouvantables,
Son ombre vers mon lit a paru se baisser ;
Et moi, je lui tendais les mains pour l'embrasser.
Mais je n'ai plus trouvé qu'un horrible mélange
D'os et de chairs meurtris, et traînés dans la fange,
Des lambeaux pleins de sang, et des membres affreux
Que des chiens dévorans se disputaient entre eux.

ATHALIE, ACT II. SC. v. 490

In what metre are the above verses? Is *pompeusement* (line 5) pronounced as a word of three or four syllables?

Is *pompeusement* formed from the masculine or feminine adjectives? Turn the adjectives *elégant prudent naif, franc,* and *vrai* into adverbs.

Chairs meurtris (v. 15) compare this verse with the following from this play.

"Allez, sacrés vengeurs de vos princes meurtris"—

and point out the difference in meaning and pronunciation of the word *meurtris* in the two passages. Is *meurtris* in the sense of "murdered" used now? From what substantive still in use does it derive this meaning?

II. Translate into English—

Est ce là tout? Vous voila bien embarrassés tous deux pour une bagatelle! C'est bien là de quoi se tant alarmer! N'as-tu point de honte, toi, de demeurer court a si peu de chose? Que diable! te voilà grand et gros comme père et mère et tu ne saurais trouver dans ta tête, forger dans ton esprit quelque ruse galante, quelque honnête petit stratagème pour ajuster vos affaires! Fi! peste soit du butor! Je voudrais bien que l'on m'eût donné autrefois nos vieillards à duper; je les aurais

Matric. Ex.

joués tous deux par-dessous la jambe ; et je n'étais pas plus grand que cela, que je me signalais déjà par cent tours d'adresse jolis.

LES FOURBERIES DE SCAPIN, ACT I, SC. II., PAGE 22.

Saurais, give the present infinitive, present and past participles, the first persons singular of the present, perfect definite, and future indicative—and the first persons singular of the present and imperfect subjunctive of this verb.

Explain why circumflex accents are used in the words *tête*, *honnête*, and *eût* in the above passage.

III. Translate into French—

Molière was neither too stout[1] nor too thin. In stature[2] he was rather tall than short—his carriage[3] was noble, his leg handsome—he walked with dignity—had a very serious expression[4], a big nose, a wide mouth, thick lips, a dark complexion, black and bushy[5] eyebrows, and the various movements which he gave them made his face extremely comic. In character he was gentle, pleasing, and generous. He was very fond of making a speech[6], and when he read his plays to the actors[7] he asked them to bring their children in order to draw his conclusions from their simple and unaffected emotions.[8]

1 Stout—gras
2 In stature—Il avait la taille
3 Carriage—port. Expression—air.
5 Bushy—fort
6 Fond of making a speech—haranguer
7 Actors—Comédiens
8 Simple and unaffected emotions—mouvement naturel

IV. Give the feminine of the adjectives *heureux, epais nul, sot, fier, premier, Grec, caduc public sec nouveau, faux—vieux, absous, malin.*

What adjectives are *always* placed after the substantive? When adjectives qualify a proper name are they placed before or after the proper name? State the exceptions.

Compare *bon, mauvais*, petit, and the adverbs bien, mal, and peu.

When do *Vingt* and *cent* add an *s*? What is the difference between *dix mille* and *dix milles.*

V. Translate into French—

Which of these two house do you prefer: this or that? This is handsomer than that; however, I prefer that to this. I believe that that is better than this.

VI. Conjugate the present indicative and the imperative mood of the verb *s'en aller* affirmatively and negatively.

Give the infinitive mood, present and past participles, and the whole of the present tense indicative mood of the verb *se reflechir*. Matric Ex.

VII. Give the principal parts of the verbs *devoir*, *falloir* *vouloir* *pouvoir*, *faire*, *boire*, *bouillir*, *naitre*, *lire*, *mettre*.

VIII. After what verbs is the subjunctive mood employed, and after what conjunctions. Give examples.

IX. How do you know the participle present from a verbal adjective ending in *ant*? Exemplify from the following sentences—

"Les hommes sont dependants les uns des autres." "Craignant de voir notre barque se briser contre les rochers menacants nous nous jettames à la mer."

X. Translate—

Bolingbroke—Cela, mon enfant, est plus difficile à vous expliquer. Dans notre pays en Angleterre, ce n'est pas la reine, c'est la majorité qui règne; et le parti whig, dont Marlborough est le chef, a non seulement pour lui l'armée, mais le parlement. La majorité leur est acquise! et la reine Anne, dont on vante le règne glorieux, est forcée de subir des ministres qui lui déplaisent, une favorite qui la tyrannise, et des amis qui ne l'aiment pas. Bien plus ses intérêts de cœur, ses désirs les plus chers l'obligent presque à faire la cour à l'altière duchesse, car son frère, le dernier des Stuarts, que la nation a banni, ne peut être rappelé en Angleterre que par un bill du parlement, et ce bill, c'est encore la majorité, c'est le parti Marlborough qui peut seul l'appuyer et le faire réussir. La duchesse l'a promis . . aussi tout . . cède à son influence."

SCRIBE, LE VERRE D'EAU.

Le parti whig—	The Whig party
Subir	To endure
Altière	Haughty
Appuyer	Promote

C. 2. GERMAN.

PROFESSOR LAMB.

I. Translate:

Und es nahm ſich zuſammen der treffliche Jüngling und ſagte:
„Wahrlich, dem iſt kein Herz im ehernen Buſen, der jetzo
Nicht die Noth der Menſchen, der umgetriebnen, empfindet:
Dem iſt kein Sinn in dem Haupte, der nicht um ſein eigenes Wohl ſich
Und um des Vaterlands Wohl in dieſen Tagen bekümmert.
Was ich heute geſehn und gehört, das rührte das Herz mir;

Matric. Ex.

Und nun ging ich heraus und sah die herrliche, weite
Landschaft, die sich vor uns in fruchtbaren Hügeln umherschlingt;
Sah die goldene Frucht den Garben entgegen sich neigen,
Und ein reichliches Obst uns volle Kammern versprechen.
Aber ach! wie nah ist der Feind! Die Fluthen des Rheines
Schützen uns zwar; doch ach! was sind nun Fluthen und Berge
Jenem schrecklichen Volke, das wie ein Gewitter daherzieht!
Denn sie rufen zusammen aus allen Enden die Jugend,
Wie das Alter, und dringen gewaltig vor, und die Menge
Scheut den Tod nicht; es dringt gleich nach der Menge die Menge.

Hermann und Dorothea, **Euterpe**, ll. 71—86.

II. Translate:

Da versetzte sogleich der Apotheker bedächtig,
Dem schon lange das Wort von der Lippe zu springen bereit war:
„Laßt uns auch diesmal doch nur die Mittelstraße betreten!
Eile mit Weile! das war selbst Kaiser Augustus' Devise.
Gerne schick' ich mich an, den lieben Nachbarn zu dienen,
Meinen geringen Verstand zu ihrem Nutzen zu brauchen;
Und besonders bedarf die Jugend, daß man sie leite.
Laßt mich also hinaus; ich will es prüfen, das Mädchen,
Will die Gemeinde befragen, in der sie lebt und bekannt ist.
Niemand betrügt mich so leicht; ich weiß die Worte zu schätzen."

Hermann und Dorothea, Polyhymnia, ll. 79—88.

III. Translate:

Aber die Thür' ging auf. Es zeigte das herrliche Paar sich,
Und es erstaunten die Freunde, die liebenden Eltern erstaunten
Ueber die Bildung der Braut, des Bräutigams Bildung vergleichbar;
Ja, es schien die Thüre zu klein, die hohen Gestalten
Einzulassen, die nun zusammen betraten die Schwelle.

Hermann stellte den Eltern sie vor mit fliegenden Worten.
„Hier ist," sagt' er, „ein Mädchen, so wie Ihr im Hause sie wünschet.
Lieber Vater, empfanget sie gut! sie verdient es. Und, liebe
Mutter, befragt sie sogleich nach dem ganzen Umfang der Wirthschaft,
Daß Ihr seht, wie sehr sie verdient, Euch näher zu werden."

Hermann und Dorothea, Urania, ll. 55—64.

IV. Prefix the definite article and give the genitive singular and the nominative plural of the following nouns: Haus, Leid, Jahr, Hoffnung, Herz, Band, Thier, Herr.

V. Decline (in German): *the quick step, the happy maiden, an old friend* (feminine).

VI. Give the principal parts of each of the following verbs: nahm, ging, daherzieht, rufen, betreten, empfangen, bedarf.

VII. Distinguish between er wird kommen, er will kommen, er soll kommen.

VIII. Explain the precise meaning of the prefix in each of the following words: verſchließen, verſprechen, vergehen, daherzieht, umgetrieben, betreten, entgehen, erfinden. Matric. Ex.

IX. What cases are governed by the following prepositions: durch, während, ſeit, an, hinter, nach, neben? Give examples.

X. What English words are related (in derivation) to the following: Schmerz, Rauch, Noth, Waffen, Abend, Drang? Explain.

XI. Explain the structure of the metre in which Hermann und Dorothea is written. Scan the first two lines of the passage in Question I.

XII. Translate:

Der König und die Königin der Herzen ſaßen auf ihrem Throne, als ſie ankamen, und eine große Menge war um ſie verſammelt — allerlei kleine Vögel und Thiere, außerdem das ganze Pack Karten: der Bube ſtand vor ihnen, in Ketten, einen Soldaten an jeder Seite, um ihn zu bewachen; dicht bei dem Könige befand ſich das weiße Kaninchen, eine Trompete in einer Hand, in der andern eine Pergamentrolle. Im Mittelpunkte des Gerichtshofes ſtand ein Tiſch mit einer Schüſſel voll Torten: ſie ſahen ſo appetitlich aus, daß der bloße Anblick Alice ganz hungrig darauf machte. — „Ich wünſchte, ſie machten ſchnell mit dem Verhör und reichten die Erfriſchungen herum." Aber dazu ſchien wenig Ausſicht zu ſein, ſo daß ſie anfing, Alles genau in Augenſchein zu nehmen, um ſich die Zeit zu vertreiben.

Alice war noch nie in einem Gerichtshofe geweſen, aber ſie hatte in ihren Büchern davon geleſen und bildete ſich was Rechtes darauf ein, daß ſie Alles, was ſie dort ſah, bei Namen zu nennen wußte. „Das iſt der Richter," ſagte ſie für ſich, „wegen ſeiner großen Perrücke.

. Alice's Abenteuer im Wunderland.

Bube.....knave
Kaninchen.....rabbit
Pergament.....parchment
Gerichtshof.....court of justice
Schüſſel.....dish

XIII. Translate into German:

Many years ago, Hongi Hika, the great warrior chief of New Zealand, was dying. His relations, friends, and tribe were collected around him, and he then spoke to them in these words: "Children and friends, pay attention to my last words. After I am gone, be kind to the missionaries, be kind also to the other Europeans; welcome them to the shore, trade with them, protect them, and live with them as one people; but if ever there should land on this shore a people who wear red

Matric. Ex.

garments, who do no work, who neither buy nor sell, and who always have arms in their hands, then be aware that these are a people called soldiers, a dangerous people, whose only occupation is war. When you see them, make war against them. Then, O my children, be brave! then, O friends, be strong! Be brave that you may not be enslaved, and that your country may not become the possession of strangers." And having said these words, he died.

D. 1, 2, 3. ENGLISH.

PROFESSOR FLETCHER.

I. What are the chief elements that enter into the composition of the English Language?

II. Classify the following words according as they are derived from Saxon, Latin, &c., Keltic, Danish, Latin, Greek—

Brother, flannel, home, fellow, strain, monk, dew, whitby, fruit, captive, forbid, basket, bring, botany, help, tackle, rain, gentle, tough, quiet, kingly, fragile.

(1.) *implant, engraft, inculcate, instil, infuse.*

(2.) *countryman, peasant, swain, hind, rustic, churl.*

(3.) *arrogant, presumptuous, insolent, impertinent, saucy, rude.*

IV. Mention any six words in King Lear which have become obsolete, and six more which deserve to be revived.

V. What is meant by the distinction between *strong* and *weak* verbs? Give half a dozen examples of each kind. Select the strong and the weak verbs in the passage quoted from King Lear in question, No. VIII.

VI. What is a conjunction? How may they be classified, and how may they be distinguished from adverbs?

VII. Correct or justify the following sentences—

a. Verse and prose run into one another like light and shade.—*Blair.*

b. One son I had—one more than all my sons,—
The strength of Troy.—*Cowper.*

c. The question is not whether a good Indian or bad Englishman be most happy, but which state is most desirable.—*Johnson.*

d. He is such a great man there is no speaking to him.—*Junius.* Matric. Ex.

e. I make no doubt but you can help him.—*Johnson.*

f. He never doubts but that he knows their intention.—*Trench.*

VIII. Explain the words printed in italics in the following passage from King Lear—

"*Kent* :— Sir I do know you
And dare, upon the warrant of my *note*
Commend a *dear* thing to you. There is division
Although as yet the face of it be covered
With mutual cunning, 'twixt Albany and Cornwall;
Who have—as who have not, that their great stars
Throned and set high?—servants, who seem no less
Which are to France the spies and *speculations*
Intelligent of our State; what hath been seen,
Either in *snuffs* and *pickings* of the Dukes,
Or the hard rein which both of them have borne
Against the kind old king; or something deeper,
Whereof perchance these are but *furnishings*;
But, true it is, from France there comes a power
Into this scattered kingdom; who already
Wise in our negligence, have secret *feet*
In some of our best ports, and are *at point*
To show their open banner. Now, to you:
If on my credit you dare build so far
To make your speed to Dover, you shall find
Some that will thank you making just report
Of how unnatural and *bemadding* sorrow
The king hath cause to *plain*."

IX. Write out the following passage in metrical form, correcting the spelling when wrong, and inserting the stops—

"*Lear* :—Let the great gods that keep this dredful bother oer our heads find out their enimies now tremble thou wrech that hast within thee undevulged crimes unwhip'd of justice hide thee thou bloody hand thou perjured and thou similar man of virtue that art incestuous califf to pieces shake that under covert and convenient seeming hast practiced on mans' life close pent-up gilts rive your consealing contenents and cry these dreadfull sumoners grace I am a man more sinned against than sining."

X. Give a short account of the plot of King Lear. (The answer to this question will be judged as a specimen of composition.)

Matric. Ex.

E. 1. CHEMISTRY.

PROFESSOR TATE.

I. Describe the various ways in which *Ozone* can be prepared. What are its chemical characters?

II. In what respects do the chemical properties of *Iodine* resemble those of *Chlorine?*

III. Six grains of *carbon* and 22 of *oxygen* are heated to redness in a hermetically closed tube. What substance and what amount of it is produced?

IV. What is the action of *sulphuretted hydrogen* on aqueous solutions of (a), *caustic soda;* (b), *ammonia;* and (c), *sulphate of copper?*

V. How would you prepare *nitrogen monoxide?* What are the properties of this gas?

VI. How would you obtain *Iodine* from *Potassium iodide?*

VII. What test would you employ for the detection of *oil of vitriol* in *vinegar?*

VIII. How many pounds of *oxygen* could be obtained from 255·4 lbs. of *potassium chlorate?* K=39·1

IX. What do you understand by the terms "law of definite proportions" and "law of multiple proportions?" Illustrate your answers by examples.

X. State the law connecting the volume and pressure of a given weight of gas.

XI. What is meant by Specific Gravity?

XII. Describe the construction of a mercurial thermometer; and find what temperature Centigrade is equal to 113° F.

E. 2. NATURAL PHILOSOHPY.

PROFESSOR LAMB.

I. Define the terms *Mass, Momentum, Acceleration.*

A body resting on a smooth horizontal table is pulled horizontally by a force equal to the weight of 1 lb., and is found to have acquired at the end of three seconds a velocity of five feet per second. Find the mass of the body.

II. How do we know that the attractions of the earth on different bodies *at the same place* are proportional to the masses of these bodies?

Is the statement true when the words in italics are omitted?

III. State carefully the proposition known as the *Parallelogram of Forces ;* and describe an experimental verification of it. Matric. Ex

Two forces of 99 lbs. and 20 lbs. act at a point in directions at right angles to one another ; find the magnitude of their resultant.

IV. Define the *Centre of Gravity* of a body ; and state its chief properties.

Prove that a body suspended from a point about which it is free to turn cannot be in equilibrium unless its C.G. is in the same vertical with the point of suspension.

V. Explain the principle of the balance.

Explain how the true weight of a body can be found by means of a faulty balance (i.e., one whose arms are unequal).

VI. What is the fundamental property of a *Fluid?*

Explain how to calculate the pressure at a given depth in a liquid.

If the pressure at a depth of 8 feet be one third of that at a depth of 90 feet, find the height of the water barometer.

VII. State and prove the principle of Archimedes ; and describe an experiment in verification of it.

A piece of iron weighs 50 grammes in air and 43 grammes in water. Find the volume of the iron in cubic centimetres. [Assume that a gramme is the weight of a cubic centimetre of water.]

VIII. State Boyle's law ; and describe an experiment in support of it.

The capacity of the barrel of a condensing pump is 100 cubic inches ; and that of its receiver is 500 cubic inches. Find the pressure of the air in the receiver after 12 strokes.

F. I. PHYSIOLOGY.

E. C. Stirling, M.A., M.D.

I. Describe briefly the bony and cartilaginous framework of the Thorax.

II. Where is fat chiefly found in the human body? Describe its microscopic structure.

III. Point out clearly the changes in the blood which take place during its passage through the lungs, and contrast the composition of expired with ordinary atmospheric air.

Matric. Ex.

IV. Describe the position and arrangement of the valves of the heart, pointing out the exact manner in which they influence the blood current.

V. Write an account of the digestive changes undergone by a piece of bread and butter in its passage from the mouth to the large intestine.

VI. What are the various organs concerned in the elimination of the waste products of the body? State concisely the substances which are discharged through each.

F. 2. BOTANY.

No Candidates.

F. 3. GEOLOGY.

PROFESSOR TATE.

I. Distinguish between "contemporaneous eruptive rocks" and "intrusive eruptive rocks." Illustrate your answer by diagrams.

II. Explain in what manner "outliers" are proofs of denudation.

III. How would you determine the total amount of sediment in suspension in a sample of water from the Torrens Lake?

IV. How would you find the thickness of an inclined bed whose dip is known, from a horizontal measurement on the surface?

V. How have limestones been formed?

VI. Describe the structure of a volcanic cone? Illustrate by diagram.

VII. Name the rock specimens (1-6) on the table.

VIII. Account for the shape and appearance of the rock specimen No. 7.

IX. On what evidences have the alterations of level of land and sea been based?

X. Compare the waters of the Red and Baltic Seas with regard to their movements and properties.

XI. XII. *Viva voce.*

G. 1. ANCIENT HISTORY.

Matric Ex.

No Candidates.

G. 2. MODERN HISTORY.

PROFESSOR FLETCHER.

I. What was the state of parties in Europe that led to the Spanish invasion of England in the reign of Elizabeth?

II. Who were the claimants to the English Crown on the death of Elizabeth? What was James's right to the Crown?

III. What influence did the accession of James have in furthering the union of the two kingdoms, and when was that union completed?

IV. Who was Lord Bacon, and for what is he famous?

V. Give some account of the trial of Hampden, and explain what was meant by "ship-money," "tonnage," and "poundage."

VI. State the efforts made by Charles I. to secure for the Crown the right of arbitrary taxation. When was the last statute passed that was found necessary to restrain this assumed right?

VII. Give a brief history of the course of the Civil War in the reign of Charles I.?

VIII. What was the Star Chamber? When and how was it abolished?

IX. Under what circumstances was the "Petition of Rights" presented to the King? What were its leading provisions?

X. What, according to Hallam, were the acts of the Long Parliament which were subversive of the English Constitution.

XI. Mention the leading literary men who flourished in the reign of Elizabeth and James I.

SOUTH AUSTRALIAN SCHOLARSHIP.

LATIN.

PROFESSOR KELLY.

I. Translate—

SI. Iubeo Chremetem. CH. o te ipsum quaerebam.
SI. et ego te. CH. optato advenis.
aliquot me adierunt, ex te auditum qui aibant, hodie filiam
meam nubere tuo gnato : id viso tun an illi insaniant.
SI. ausculta paucis : et quid te ego velim et tu quod quaeris scies.
CH. ausculto : loquere quid velis.
SI. per te deos oro et nostram amicitiam, Chremes,
quae incepta a parvis cum aetate adcrevit simul,
perque unicam guatam tuam et guatum meum,
quoius tibi potestas summa servandi datur,
ut me adiuves in hac re, atque ita uti nuptiae
fuerant futurae, fiant. CH. a, ne me obsecra :
quasi hoc te orando a me inpetrare oporteat.
alium esse censes nunc me atque olim quom dabam ?
si in remst utrique ut fiant, arcessi iube.
sed si ex ea re plus malist quam commodi
utrique, id oro te in commune ut consulas,
quasi illa tua sit Pamphilique ego sim pater.

TERENCE, ANDRIA. vv. 533—549.

II. Translate—

Castor gaudet equis, ovo prognatus eodem
Pugnis ; quot capitum vivunt, totidem studiorum
Milia : me pedibus delectat claudere verba
Lucili ritu nostrum melioris utroque.
Ille velut fidis arcana sodalibus olim
Credebat libris, neque, si male cesserat, unquam
Decurrens alio, neque si bene ; quo fit, ut omnis
Votiva pateat veluti descripta tabella
Vita senis. Sequor hunc, Lucanus an Apulus anceps :

Nam Venusinus arat finem sub utrumque colonus,
Missus ad hoc pulsis, vetus est ut fama, Sabellis,
Quo ne per vacuum Romano incurreret hostis,
Sive quod Apula gens seu quod Lucania bellum
Incuteret violenta. Sed hic stilus haud petet ultro
Quemquam animantem et me veluti custodiet ensis
Vagina tectus; quem cur destringere coner
Tutus ab infestis latronibus? O pater et rex
Iuppiter, ut pereat positum rubigine telum,
Nec quisquam noceat cupido mihi pacis! At ille,
Qui me commorit,—melius non tangere! clamo,—
Flebit et insignis tota cantabitur urbe.

HORAT. Sat. Lib. 11. Sat 1. vv. 26—46.

III. Translate—

Visne salutari sicut Sejanus? habere
Tantundem atque illi summas donare curules,
Illum exercitibus præponere? tutor haberi
Principis angusta Caprearum in rupe sedentis
Cum grege Chaldæo? Vis certe pila, cohortes,
Egregios equites et castra domestica. Quidni
Hæc cupias? et qui nolunt occidere quenquam,
Posse volunt. Sed quæ præclara et prospera, tantum
Ut rebus lætis par sit mensura malorum?
Hujus, qui trahitur, prætextam sumere mavis,
An Fidenarum Gabiorumque esse potestas,
Et de mensura jus dicere, vasa minora
Frangere, pannosus vacuis Ædilis Ulubris?
Ergo quid optandum foret, ignorasse fateris
Sejanum: nam qui nimios optabat honores
Et nimias poscebat opes, numerosa parabat
Excelsæ turris tabulata, unde altior esset
Casus, et impulsæ præceps immane ruinæ.

JUVENAL. Sat x. vv. 90—107.

IV. Translate—

Sed tamen maiores nostri in dominum de servo quaeri noluerunt, non quin posset verum inveniri, sed quia videbatur indignum et domini morte ipsa tristius. In reum de servo accusatoris quum quaeritur, verum inveniri potest? Age vero, quae erat aut qualis quaestio? 'Heus tu, Rufio,' (verbi causa) 'cave sis mentiare; Clodius insidias fecit Miloni?' 'Fecit;' certa crux. 'Nullas fecit:' sperata libertas. Quid hac quaestione certius? Subito abrepti in quaestionem, separantur tamen a ceteris et in arcas coniciuntur, ne quis cum iis colloqui possit. Hi centum

S.A. Scholarship.

dies penes accusatorem quum fuissent, ab eo ipso [accusatore] producti sunt. Quid hac quaestione dici potest integrius? quid incorruptius?

CICERO. PRO MILONE. Cap. XXII.

V. Translate—

Cæsar avidas legiones, quo latior populatio foret, quattuor in cuneos dispertit; quinquaginta millium spatium ferro flammisque pervastat. Non sexus, non ætas miserationem attulit; profana simul et sacra, et celeberrimum illis gentibus templum, quod *Tamfanæ* vocabant, solo æquantur. Sine vulnere milites, qui semisomnos, inermos, aut palantes ceciderant. Excivit ea cædes Bructeros, Tubantes, Usipetes; saltusque per quos exercitui regressus, insedere. Quod gnarum duci, incessitque itineri et prœlio. Pars equitum et auxiliariæ cohortes ducebant, mox prima legio, et mediis impedimentis sinistrum latus unetvicesimanii dextrum quintani clausere; vicesima legio terga firmavit; post ceteri sociorum. Sed hostes, donec agmen per saltus porrigeretur, immoti, dein latera et frontem modice adsultantes, tota v, novissimos incurrere.

TACITUS ANNALS. Lib. 1. Cap. 51.

GREEK.

PROFESSOR KELLY.

I. Translate—

Ὣς φάτο· Δηίφοβος δὲ διάνδιχα μερμήριξεν,
Ἦ τινά που Τρώων ἑταρίσσαιτο μεγαθύμων
Ἂψ ἀναχωρήσας, ἦ πειρήσαιτο καὶ οἷος.
Ὧδε δέ οἱ φρονέοντι δοάσσατο κέρδιον εἶναι,
Βῆναι ἐπ' Αἰνείαν. Τὸν δ' ὕστατον εὗρεν ὁμίλου
Ἑσταότ'· αἰεὶ γὰρ Πριάμῳ ἐπεμήνιε δίῳ,
Οὕνεκ' ἄρ' ἐσθλὸν ἐόντα μετ' ἀνδράσιν οὔ τι τίεσκεν.
Ἀγχοῦ δ' ἱστάμενος ἔπεα πτερόεντα προσηύδα.
"Αἰνεία Τρώων βουληφόρε, νῦν σε μάλα χρὴ
Γαμβρῷ ἀμυνέμεναι, εἴ πέρ τί σε κῆδος ἱκάνει.
Ἀλλ' ἕπευ, Ἀλκαθόῳ ἐπαμύνομεν, ὅς σε πάρος περ
Γομβρὸς ἐὼν ἔθρεψε δόμοις ἔνι τυτθὸν ἐόντα·
Τὸν δέ τοι Ἰδομενεὺς δουρικλυτὸς ἐξενάριξεν."

Homer xiii.. 455-467.

S.A. Scholarship.

II. Translate—

ὦ τῶν ἁπάντων δὴ θεαμάτων ἐμοὶ
ἄλγιστον ὧν προσεῖδον ὀφθαλμοῖς ἐγὼ,
ὁδός θ' ὁδῶν πασῶν ἀνιάσασα δὴ
μάλιστα τοὐμὸν σπλάγχνον, ἦν δὴ νὺν ἔβην,
ὦ φίλτατ' Αἴας, τὸν σὸν ὡς ἐπῃσθόμην
μόρον διώκων κἀξιχνοσκοπούμενος.
ὀξεῖα γάρ σου βάξις ὡς θεοῦ τινὸς
διῆλθ' Ἀχαιους πάντας ὡς οἴχει θανών.
ἀγὼ κλύων δείλαιος ἐκποδὼν μὲν ὢν
ὑπεστέναζον, νῦν δ' ὁρῶν ἀπόλλυμαι.
οἴμοι.
ἴθ', ἐκκάλυψον, ὡς ἴδω τὸ πᾶν κακόν.
ὦ δυσθέατον ὄμμα καὶ τόλμης πικρᾶς,
ὅσας ἀνίας μοι κατασπείρας φθίνεις.
ποῖ γὰρ μολεῖν μοι δυνατὸν, ἐς ποίους βροτοὺς,
τοῖς σοῖς ἀρήξαντ' ἐν πόνοισι μηδαμοῦ;
ἦ πού με Τελαμὼν, σὸς πατὴρ ἐμός θ' ἅμα,
δέξαιτ' ἂν εὐπρόσωπος ἵλεώς τ' ἴσως
χωροῦντ' ἄνευ σοῦ. πῶς γὰρ οὔχ; ὅτῳ πάρα
μηδ' εὐτυχοῦντι μηδὲν ἥδιον γελᾶν.

Sophocles, Ajax, 992-1011.

III. Translate—

ΕΧ. Νὴ τοὺς θεούς, ὦ Φαίδων, συγγνώμην γε ἔχω ὑμῖν. καὶ γὰρ αὐτόν με νῦν ἀκούσαντά σου τοιοῦτόν τι λέγειν πρὸς τύχην ἂν ἐλοίμην, ἐθελόντων ἃ προσήκει ποιεῖν ὑμῶν αὐτῶν καὶ κατὰ μικρόν, ἢ τὴν ἐκείνου· πολὺ γὰρ πλείους ἀφορμὰς εἰς τὸ τὴν παρὰ τῶν θεῶν εὔνοιαν ἔχειν ὁρῶ ἡμῖν ἐνούσας ἢ ἐκείνῳ. ἐμαυτὸν ἐπέρχεται· τίνι οὖν ἔτι πιστεύσομεν λόγῳ; ὡς γὰρ σφόδρα πιθανὸς ὤν, ὃν ὁ Σωκράτης ἔλεγε λόγον, νῦν εἰς ἀπιστίαν καταπέπτωκε. θαυμαστῶς γάρ μου ὁ λόγος οὗτος ἀντιλαμβάνεται καὶ νῦν καὶ ἀεί, τὸ ἁρμονίαν τινὰ ἡμῶν εἶναι τὴν ψυχήν, καὶ ὥσπερ ὑπέμνησέ με ῥηθεὶς ὅτι καὶ αὐτῷ μοι ταῦτα προὐδέδοκτο· καὶ πάνυ δέομαι πάλιν ὥσπερ ἐξ ἀρχῆς ἄλλου τινὸς λόγου ὅς με πείσει ὡς τοῦ ἀποθανόντος οὐ συναποθνήσκει ἡ ψυχή. λέγε οὖν πρὸς Διός, πῇ ὁ Σωκράτης μετῆλθε τὸν λόγον; καὶ πότερον κἀκεῖνος, ὥσπερ ὑμᾶς φῄς, ἐνδηλός τι ἐγένετο ἀχθόμενος ἢ οὔ, ἀλλὰ πράως ἐβοήθει τῷ λόγῳ; καὶ ἱκανῶς ἐβοήθησεν ἢ ἐνδεῶς; πάντα ἡμῖν διέλθε ὡς δύνασαι ἀκριβέστατα.

Plato, Phaedo xxxviii.

IV. Translate—

Ὁ μὲν Ἀλκιβιάδης τοσαῦτα εἶπεν, οἱ δὲ Λακεδαιμόνιοι διανοούμενοι μὲν καὶ αὐτοὶ πρότερον στρατεύειν ἐπὶ τὰς Ἀθήνας,

S.A. Scholarship.

μέλλοντες δ' ἔτι καὶ περιορώμενοι, πολλῷ μᾶλλον ἐπερρώσθησαν διδάξαντος ταῦτα ἕκαστα αὐτοῦ καὶ νομίσαντες παρὰ τοῦ σαφέστατα εἰδότος ἀκηκοέναι· ὥστε τῇ ἐπιτειχίσει τῆς Δεκελείας προσεῖχον ἤδη τὸν νοῦν καὶ τὸ παραυτίκα καὶ τοῖς ἐν τῇ Σικελίᾳ πέμπειν τινὰ τιμωρίαν. καὶ Γύλιππον τὸν Κλεανδρίδου προστάξαντες ἄρχοντα τοῖς Συρακοσίοις ἐκέλευον, μετ' ἐκείνων καὶ τῶν Κορινθίων βουλευόμενον, ποιεῖν, ὅπῃ ἐκ τῶν παρόντων μάλιστα καὶ τάχιστά τις ὠφελία ἥξει τοῖς ἐκεῖ. ὁ δὲ δύο μὲν ναῦς τοὺς Κορινθίους ἤδη ἐκέλευέν οἱ πέμπειν ἐς Ἀσίνην, τὰς δὲ λοιπὰς παρασκευάζεσθαι ὅσας διανοοῦνται πέμπειν, καὶ ὅταν καιρὸς ᾖ, ἑτοίμας εἶναι πλεῖν. ταῦτα δὲ ξυνθέμενοι ἀνεχώρουν ἐκ τῆς Λακεδαίμονος.

Ἀφίκετο δὲ καὶ ἡ ἐκ τῆς Σικελίας τριήρης τῶν Ἀθηναίων ἣν ἀπέστειλαν οἱ στρατηγοὶ ἐπί τε χρήματα καὶ ἱππέας. καὶ οἱ Ἀθηναῖοι ἀκούσαντες ἐψηφίσαντο τήν τε τροφὴν πέμπειν τῇ στρατιᾷ καὶ τοὺς ἱππέας. καὶ ὁ χειμὼν ἐτελεύτα καὶ ἕβδομον καὶ δέκατον ἔτος τῷ πολέμῳ ἐτελεύτα τῷδε ὃν Θουκυδίδης ξυνέγραψεν.

Thucydides, bk. vi., cap. 93.

V. Translate—

Εἰ δέ τις ὑμῶν, ὦ ἄνδρες Ἀθηναῖοι, τὸν Φίλιππον εὐτυχοῦντα ὁρῶν ταύτῃ φοβερὸν προσπολεμῆσαι νομίζει, σώφρονος μεν ἀνθρώπου λογισμῷ χρῆται· μεγάλη γὰρ ῥοπή, μᾶλλον δὲ τὸ ὅλον ἡ τύχη παρὰ πάντ' ἐστὶ τὰ τῶν ἀνθρώπων πράγματα· οὐ μὴν ἀλλ' ἔγωγε, εἴ τις αἵρεσίν μοι δοίη, τὴν τῆς ἡμετέρας πόλεως ἀλλ' οἶμαι, καθήμεθα οὐδὲν ποιοῦντες· οὐκ ἔνι δ' αὐτὸν ἀργοῦντα οὐδὲ τοῖς φίλοις ἐπιτάττειν ὑπὲρ αὐτοῦ τι ποιεῖν, μὴ τί γε δὴ τοῖς θεοῖς. οὐ δὴ θαυμαστόν ἐστιν εἰ στρατευόμενος καὶ πονῶν ἐκεῖνος αὐτὸς καὶ παρὼν ἐφ' ἅπασι καὶ μηδένα καιρὸν μηδ' ὥραν παραλείπων ἡμῶν μελλόντων καὶ ψηφιζομένων καὶ πυνθανομένων περιγίγνεται. οὐδὲ θαυμάζω τοῦτ' ἐγώ· τοὐναντίον γὰρ ἂν ἦν θαυμαστόν, εἰ μηδὲν ποιοῦντες ἡμεῖς ὢν τοῖς πολεμοῦσι προσήκει τοῦ πάντα ποιοῦντος περιῆμεν.

Demosthenes Olynthiacs ii., 22.

COMPOSITION AND MISCELLANEOUS QUESTIONS.

PROFESSOR KELLY.

I. Translate into Greek Prose :—

"This treasure of the supposed mythical King Priam, of the mythical heroic age, which I discovered at a great depth in the ruins of the supposed mythical Troy, is at all events a dis-

covery, which stands alone in archaeology, revealing great wealth, great civilization, and a great taste for art, in an age preceding the discovery of bronze, when weapons and implements of pure copper were employed contemporaneously with enormous quantities of stone weapons and implements. This treasure further leaves no doubt that Homer must have actually seen gold and silver articles such as he continually describes; it is in every respect of inestimable value to science, and will for centuries remain the object of careful investigation." S.A. '1 Scholarship.

II. Mention as many of the substantival suffixes in Greek as you can, and give the meanings of each.

III. State the general rules for the sequence of tenses in Greek especially in conditional sentences. Compare these with the Latin constructions for the same.

IV. Write down the Latin and Greek weights and measures as accurately as you can, and their relative values.

V. What do you mean by (α) A Secondary Root, (β) The "Urvocal," (γ) A "thematic" vowel?

VI. Write down the letters of the English alphabet, beginning with the most vocalic and graduating down to the more complete check.

VII. Translate into Latin Prose:—

"The gods are essentially better in the Odyssey than in the Iliad. In the former poem there is more religion; in the latter more mythology. In the Odyssey, the gods appear not only superior to the race of men, but distinguished by many of the higher excellencies, which ought to adorn the representatives of the Deity. In the Iliad, they are exhibited as in no way better than their own creatures, and influenced, both in their relations to each other and their management of mundane affairs, by caprice, sensual passion, or a spirit of arbitrary tyranny."

ENGLISH LANGUAGE.

PROFESSOR FLETCHER.

I. Illustrate by examples the process of phonetic corruption in the English Language.

II. Give a summary of Grimm's law, with examples.

III. Show (i) that the same word may take different forms in the same language; (ii) that different words may take same the form in the same language.

S.A. Scholarship.

IV. Into what periods may the history of English literature be most conveniently divided?

V. Distinguish accurately between prose, rhythm and metre, with illustrative examples from the Elizabethan authors.

VI. Analyse the metre, explain obsolete words, or words used in an umfamiliar sense, and discuss the inflexions in these lines from Chaucer :—

"Ther was also a Doctour of Physik,
In al this world ne was ther non him lyk
To speke of physik and of surgerye:
For he was grounded in astronomye.
He kepte his pacient wonderly well
In houres by his magik naturel,
Wel cowde he fortune the ascendent
Of his ymages for his pacient.
He knew the cause of every maladye,
Were it of cold, or hete, or moyst, or drye
And where thei engendrid, and of what humour;
He was a very perfight practisour.

The cause i-knowe, and of his harm the roote,
Anon he yaf the sykeman his boote.
Ful ready hadde he his apotecaries
To sende him dragges, and his lectuaries,
For eche of hem made other for to wynne;
Here friendship was not newe to begynne.

VII. Explain any peculiarity in the grammar or idiom of the following sentences and give examples of similar usage :—

a. Cassius is a-weary of the world.

b. I found no man, but he was true to me.

c. When that the poor have cried, Cæsar hath wept.

d. Being so fathered and so husbanded.

e. There's two or three of us have seen strange sights.

VIII. Write a short essay on the relative advantages and disadvantages of the study of languages and the study of mathematics as a mental discipline.

MATHEMATICS I.

PROFESSOR LAMB.

I. Triangles on equal bases and between the same parallels are equal to one another.

Find the condition that must exist in order that it may be possible to fold the four corners of a quadrilateral piece of paper flat down on the paper so that the four angular points meet in a point, and the paper is everywhere doubled. S.A. Scholarship

II. If the vertical angle of a triangle be bisected, the segments of the base are proportional to the sides of the triangle.

Find the locus of a point P whose distances from two fixed points A, B are in a constant ratio.

Prove also that the locus cuts orthogonally, every circle passing through A, B.

III. If A, G, H be the arithmetic, geometric, and harmonic means respectively between two given numbers, prove that A, G, H are in geometric progression.

If b, c be two arithmetic, b', c' two geometric, b'', c'' two harmonic means between the same two quantities, prove that

$$b''c + bc'' = 2b'c'.$$

IV. Find the number of combinations of n things taken r at a time.

How many closed r-sided figures can be formed by joining n given points in a plane?

V. Prove that the successive convergents to a continued fraction are alternately greater and less than the fraction, and continually approach it in value.

Find the value of

$$1 + \frac{1}{2} + \frac{1}{3} + \frac{1}{1} + \frac{1}{2} + \frac{1}{3 + \&c.},$$

to infinity.

VI. Prove the Exponential Theorem.

Calculate the value of $1/e^2$ correct to six places of decimals.

VII. Prove the formulæ

(i) $\tan(A-B) = \dfrac{\tan A - \tan B}{1 + \tan A \tan B}$;

(ii) $\cos\dfrac{A}{2} = \sqrt{\dfrac{s.s-a}{bc}}$;

(iii) $\tan\dfrac{A-B}{2} = \dfrac{a-b}{a+b}.\cot\dfrac{C}{2}$,

where A, B, C are the angles of a triangle.

What is the special use of the formula (iii)?

S.A. Scholarship.

VIII. It is observed that the altitude of the top of a mountain at each of the three angular points A, B, C of a plane horizontal triangle ABC is α; show that the height of the mountain is

$$\frac{1}{2}\frac{a}{\sin A}.\tan\alpha.$$

IX. State and prove DeMoivre's Theorem, and give a geometrical interpretation.

Prove *ab initio* that

$$e^{i\theta} = \cos\theta + i\sin\theta.$$

X. Sum the series

(i) $\sin\alpha + \sin(\alpha+\beta) + \sin(\alpha+2\beta)$ + &c. to n terms;

(ii) $1 + x\cos\alpha + x^2\cos 2\alpha$ + &c. to infinity.

XI. Investigate formulæ of transformation from one set of rectangular-axes to another having the same origin.

If the expression $ax^2 + 2hxy + by^2$ becomes, on transformation, $Ax^2 + 2Hxy + By^2$, prove that $a+b = A+B$ and that $ab - h^2 = AB - H^2$.

XII. Define the terms *pole* and *polar* with respect to a conic section; and find the equation to the polar of (x_1, y_1) with respect to the ellipse

$$\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1.$$

Find the locus of the poles with respect to this ellipse of the tangents to the ellipse

$$\frac{x^2}{a^2} + \frac{y^2}{\beta^2} = 1.$$

MATHEMATICS II.

PROFESSOR LAMB.

I. Give the theory of Attwood's machine.

A string which passes over a fixed pulley A has attached to it at one end a weight $2W$, and at the other a pulley B without mass. A second string passes over B and supports two weights P and Q, each equal to W, so that the whole is in equilibrium. If a small mass be now taken from P and added to Q will B ascend or descend? Explain.

II. Prove that the acceleration of a point describing circle of radius a with a uniform angular velocity ω is towards the centre of the circle and $= \omega^2 a$.

III. G is the centre of gravity of a system of n equal particles situate at the points P_1, P_2, P_3, &c., respectively. Prove that the system of forces represented by GP_1, GP_2, GP_3, &c., is in equilibrium. S.A. Scholarship.

If G be also the centre of gravity of n equal particles situate at the points Q_1, Q_2, Q_3, &c.; prove that the system of forces represented by P_1Q_1, P_2Q_2, P_3Q_3, &c., is equivalent to a *couple*.

IV. Two equal smooth spheres of weight W and radius a are placed inside a smooth spherical bowl of radius b ($> 2a$). Find the pressure between the two spheres, and between each sphere and the bowl.

V. A cylindrical diving-bell, whose height is two metres, is sunk in water till its lower edge is 50 metres below the surface. Find the height to which the water will rise in the bell, having given that the height of the barometer is 760 millimetres, and the density of mercury 13.6.

Two exactly similar bodies float on the water, one inside, the other outside the bell. Is the same proportion of each immersed? Explain.

VI. Prove that the equilibrium of a floating body is stable for vertical displacements.

Also investigate the condition of stability for *angular* displacements when the lower surface of the body is spherical.

VII. If a straight line be at right angles to each of two other straight lines at their point of intersection, it shall also be at right angles to the plane which passes through them.

From the centre of the circle circumscribing a triangle ABC, a perpendicular to its plane is drawn of length equal to the side of the square inscribed in that circle. Show that the radius of the sphere which passes through A, B, C and the extremity of the perpendicular is three-fourths of the perpendicular.

VIII. Prove that the area of a spherical triangle is proportional to its spherical excess.

Calculate the differences between the angles of a *small* right-angled triangle and those of a plane right-angled triangle having the sides about the right-angle of the same lengths.

S.A. Scholarship.

IX. Two stars, α, β, have the R.A. 355°, 95°, respectively, and declinations 30°, 22° S. Find at what period of the year α will cross the meridian at midnight, and when β will be an evening or a morning star, respectively.

X. What are the greatest and least possible meridian altitudes of the moon about the time of full moon in midwinter and midsummer, respectively? What are the widest limits on the earth's surface within which it is possible for the moon to pass through the zenith, and what are the limits within which it must so pass in the course of one lunation?

XI. State Kepler's laws, and show what deductions can be made from each with respect to the law of gravitation in the solar system.

Prove that the hodograph of a planet is a circle. What peculiarity is there in the hodograph of a comet?

XII. Prove that the effect of a resisting medium on the instantaneous orbit of a planet would be to make the apsidal line regrede or progrede, according as the planet moved from perihelion to aphelion, or from aphelion to perihelion.

PHYSICS.

PROFESSOR LAMB.

I. Describe fully some experimental method of determining the value of 'g.'

What effect has the buoyancy of the air on the time of oscillation of a pendulum? Can you suggest a form of pendulum which shall eliminate this effect?

II. Define the terms *Capacity for Heat*, *Specific Heat*.

Describe a method of determining the specific heat of a solid. How may the effect of radiation from the calorimeter be eliminated?

III. Explain fully the method of determining the refractive index of a liquid for a given line in the spectrum.

IV. Explain the construction and action of the astronomical telescope in its simplest form; and find an expression for the magnifying power.

How do telescopes as actually constructed differ from the above form, and why?

Explain how to obtain a real image of the sun on a sheet of paper held some distance behind the eye-piece of a telescope.

V. Describe the nature of the motion of the air in a stopped organ pipe when it is sounding (i) its fundamental tone, (ii) its first harmonic. S.A. Scholarship.

VI. Describe and explain the phenomena of Resonance.

How are these phenomena utilized in the analysis of musical sounds? Give some account of the theory of *Quality*.

VII. Define the terms *Magnetic Potential* and *Line of Force*.

Sketch the arrangement of the lines of force in the neighbourhood (i) of an ideal bar magnet uniformly magnetized in the direction of its length, and (ii) of an actual bar magnet. Why cannot the case (i) be realized in practice?

VIII. State the laws of Electrostatic Induction.

Explain the action of a sheet of metal as a barrier to electrostatic action. Also describe experiments in illustration of this action.

IX. Define the *Electrostatic Capacity* (i) of an insulated conductor, (ii) of a 'condensor' or 'accumulator.' Point out any ambiguity in case (i).

Investigate a formula for the capacity of an accumulator formed of two parallel metal plates separated by a thin film of air.

X. State Ohm's Law; and calculate the resistance of a system of conductors arranged in multiple arc.

Explain the Wheatstone's Bridge method of measuring resistance; and point out its advantages.

XI. A wire conveying an electric current is placed in a magnetic field; give a rule for finding the action of the field on the wire.

Describe experiments in illustration of your rule.

XII. What is meant by the *Self-Induction* of a coil?

Describe Faraday's method of showing the extra-current at break.

A condenser of large capacity (1 microfarad) was discharged for the ten-thousandth part of a second through a resistance-box of 200 ohms, and it was found that about two-thirds of the original charge remained. When the resistance-box was replaced by a coil of the same resistance and the experiment repeated, it was found that a very much larger proportion of the charge remained. Explain this.

PRIZES.

SIR THOMAS ELDER'S PRIZES IN PHYSIOLOGY

PHYSIOLOGY.

E. C. STIRLING, M.A., M.D.

I. Describe the structure of the human stomach with especial reference to its secreting apparatus. Contrast its general arrangement with the stomach of a ruminating animal.

II. What is the approximate composition of Pancreatic juice? Compare and contrast Gastric and Pancreatic digestion.

III. Describe the phenomena of the circulation of the blood as seen in the web of a frog's foot under the microscope. Give your reasons for the assertion that the blood *circulates* in the body.

IV. Give a short description of the nervous mechanism which regulates the beat of the heart.

What are *Vaso-motor* nerves, and how do they act? Mention any occurrences or experiments by which their existence is made evident.

V. Write a short account of the human eye, and explain with diagrams the conditions which produce the optical defects *short* and *long* sight.

VI. Define the terms *Tidal*, *Complemental*, *Supplemental*, and *Residual* airs. Suppose you were designing a hospital ward, how many cubic feet of space would you allot to each inmate (adult) and how much fresh air should each patient receive per hour if the atmosphere is to be kept in a proper state of purity? State briefly the Physiological *data* necessary for such a calculation.

PRACTICAL EXAMINATION.

Sir Thomas Elder's Prizes.

E. C. STIRLING, M.A., M.D.

I. Describe briefly the appearances presented by the objects A. and B. under the microscopes.

II. Identify the specimens C. D. E., &c.

III. Prepare a microscopic specimen showing Hæmin crystals.

IV. Expose and place a ligature round the sciatic nerve of a frog. Mount in the fresh state a specimen showing the microscopic structure of nerve fibres.

ANNUAL REPORT FOR THE YEAR 1882.

To His Excellency Sir William Francis Drummond Jervois, Lieutenant General in Her Majesty's Army, Knight Grand Cross of the Most Distinguished Order of St. Michael and St. George, Companion of the Most Honorable Order of the Bath, Governor and Commander-in-Chief in and over the Province of South Australia and the Dependencies thereof, &c., &c., &c.

The Council of the University of Adelaide have the honour to present to your Excellency the following Report of the Proceedings of the University during the year 1882 :—

Changes in the Council and Officers.

On May 26th, the Venerable Archdeacon Farr and John Warren Bakewell, Esq., M.A., resigned their offices as members of the University Council, and the vacancies thus created were filled by the election on the 2nd of August of Horatio Thomas Whittell, Esq., M.D., and William Barlow, Esq., B.A.

In November Sir Henry Ayers, K.C.M.G., President of the Legislative Council, William Everard, Esq., J.P., Charles Todd, Esq., C.M.G., William Alexander Erskine West-Erskine, Esq., M.A., Alexander Stuart Paterson, Esq., M.D., in conformity with the provisions of the Adelaide University Act, ceased to hold office as members of the Council ; and on the 7th December the Senate elected the following gentlemen to fill the vacancies :—Charles Todd, Esq., C.M.G., Sir Henry Ayers, K.C.M.G., P.L.C., William Alexander Erskine West-Erskine, Esq., M.A., John Warren Bakewell, Esq., M.A., William Everard, Esq., J.P.

Appointment of a New Registrar.

William Barlow, Esq., B.A., who had filled the office of Registrar of the University from its foundation, having resigned, the Council elected Mr. J. Walter Tyas to be Registrar. Before Mr. Barlow retired the

Council ordered to be recorded on their minutes "their warm appreciation of the zeal and ability with which he had discharged the duties of his office, and their regret at his retirement."

Hughes Professorship of English Literature.

In the month of March the Council learnt that Sir W. W. Hughes was unwilling to agree to the alterations in the terms of his endowment referred to in the last Annual Report. As the appointment of the Rev. W. R. Fletcher, M.A., to be Hughes Professor of English Language and Literature and of Mental and Moral Philosophy was to terminate on the 31st December, 1882, the Council recently invited by advertisement applications for the office. From several candidates Mr. Edward E. Morris, M.A., Oxon., was elected to fill the chair. A few days after the election Mr. Morris was appointed by the Council of the University of Melbourne Professor of English and Foreign Languages in that University, on condition that the University of Adelaide would consent to release him from his engagement. At a special meeting of the Council of this University, held on the 8th December, it was resolved to allow Mr. Morris to decide which appointment he would accept. He thereupon decided to accept the Professorship in the University of Melbourne, and the Hughes Professorship of English Language and Literature became in consequence again vacant. Mr. Fletcher has been appointed to fill the chair of this Professorship until the 30th June, 1883. The necessary steps to fill the vacancy which will then occur are still under the consideration of the Council.

The Elder Professor of Natural Science.

At the request of the Minister of Education, the Council in January last granted permission to Professor Tate to accompany him on his official visit to the Northern Territory on condition that Her Majesty's Government should pay all fees and expenses for providing substitutes during Professor Tate's absence. The Professor was absent a little over three months.

Senate.

The Senate, on April 5th, elected William Gosse, Esq., M.D., to be their Warden, and the Council, on the recommendation of the Senate, appointed the Rev. John Francis Hocter, B.A., Clerk of the Senate.

Governors of the South Australian Institute.

In October, by effluxion of time, the Vice-Chancellor and Edward Charles Stirling, Esq., M.D., ceased to represent the University on the Board of Governors of the South Australian Institute. Both gentlemen were re-elected

Opening of the New Building.

Although the new University building had been partly occupied by the Professors and Students for about nine months previously, complete possession was not obtained until the beginning of the present year. In consequence of this delay the formal opening of the building was postponed until the 5th of April, when your Excellency did the University the honour to attend the Commencement, and, to declare the building formally opened.

Admission to Degrees.

The following gentlemen having completed their undergraduate course were admitted at the Commencement to the degree of Bachelor of Arts: George Donaldson, Alfred Gill, Sydney Ernest Holder, Edwin Canton Moore, Richard Sanders Rogers, and *in absentiâ* William Clare.

The following graduates of other Universities were admitted *ad eundem gradum*:—James Walter Smith, LL.D., London; E. C. Stirling, M.D., Cambridge; George Sutherland, M.A., Melbourne; Francis Henry Rennick, M.A., Melbourne; George John Shirreff Bowyear, B.A., Cambridge; James Thompson Hackett, B.A., Melbourne.

Evening Lectures.

The Council arranged for the delivery of three courses of Evening Lectures during the second and third terms. These Lectures were open to the public without charge. Two courses were delivered by Professor Tate, the first on "The physical features and natural history of the Northern Territory of South Australia," the second on "The chemistry and mineralogy of South Australian ores, and on the method of extraction of their metals." The third course on "The Scientific Principles involved in Electric Lighting, and in the Electric Transmission of Power" was delivered by Professor Lamb. All the courses were well attended.

Faculty of Law.

During the past year the Council have devoted considerable time and attention to the establishment in the University of a Faculty of Law, with the object of extending the scope of the University and of elevating the standard of legal education in the colony. The Statutes and Regulations for the proposed Faculty of Law have been adopted by the Council, approved by the Senate, and allowed and countersigned by your Excellency.

Students and Class Lists.

In 1882 four students commenced their undergraduate course; three completed the first year; one the second year; and two the third year of their studies for the degree of B.A.

Besides undergraduates, of whom there were twelve, ninety-nine students, including fifty-seven women, attended various courses of lectures. Of these forty-two entered themselves for various subjects of the Ordinary Examination.

The results of the Ordinary and Matriculation Examinations appear in the class lists in appendix A to this report.

Matriculation Examination.

Nineteen candidates, of whom two were girls, entered themselves for the Matriculation Examination, in March, and twenty-nine, of whom two were girls, for that in November and December.

Of the candidates in March, four, of whom one was a girl, passed in the first class, four in the second, and none in the third.

In November and December nine candidates, of whom two were girls, passed in the first class, six in the second, and eight in the third.

Junior Examination.

For the Junior Examination held in November and December, ninety-three candidates, of whom twenty-six were girls, entered themselves—and fifty-six, of whom sixteen were girls, passed. Ten candidates, of whom two were girls, passed in the first class; nine candidates, of whom two were girls, in the second; and thirty-seven candidates, of whom twelve were girls, in the third.

In appendix B will be found the class-lists showing the number of candidates who passed in the various optional subjects.

Cadetship at the Royal Military College.

No candidate presented himself for examination for the Cadetship in the Royal Military College at Sandhurst, to which the University is entitled to nominate annually.

Scholarships.

The University Scholarships were, on the recommendation of the Council, awarded this year to William Fleming Hopkins, James Westwood Leitch, and Frederick William Wilkinson.

The John Howard Clark Scholarship for proficiency in English Literature was awarded to George John Robert Murray.

The first award of the Angas Engineering Scholarship was made this year to George Donaldson, B.A., who, in accordance with the Statutes of the Scholarship, has proceeded to Europe, and entered himself as a student at the Owens College, Manchester.

The two candidates who competed for the South Australian Scholarship in December, 1881, having been declared equal in point of merit, the Council ordered that they should be re-examined in March of the present year. As the result of the second competition, the Council recommended the Honourable the Minister of Education to award the Scholarship to Sydney Ernest Holder, B.A.

There were two candidates for the South Australian Scholarship in December, 1882, and the Council have recommended the Honourable the Minister of Education to award the Scholarship to William Ernest Cooke.

Lectures on Physiology.

Fifty-seven students attended these lectures during the first and second terms with regularity worthy of remark. So large an attendance has more than justified the foundation of this Lectureship. In the third term the lecturer, Dr. Stirling, selected twelve of the most promising students and formed them into a class for practical instruction.

Sir Thomas Elder has generously presented the sum of £20 to the Council to be distributed in prizes to the best students in Physiology. The first prize has been awarded to Edith Emily Dornwell; the second to Mary Adela McCulloch Knight.

Accounts.

An abstract, duly audited, of the income and expenditure during the year 1882, as required by law, is annexed to this report. There is also annexed a further statement showing the actual position of the University with respect to its property, funds, and liabilities to the close of the year 1882.

Signed on behalf of the Council,

S. J. WAY,

Vice-Chancellor.

Adelaide, January, 1883.

APPENDIX A.

CLASS LISTS.

I. MATRICULATION EXAMINATION, MARCH.

First Class.

(In order of merit)

	LAST PLACE OF EDUCATION.
Meyrick, Morgan—2, 5	Prince Alfred College
Adams, Sophia Sarah—3	Mrs. Shuttleworth's
Chewings, Henry—5	Prince Alfred College
Melrose, Alexander—2, 5	Prince Alfred College.

Second Class.

(In alphabetical order.)

Davies, Alfred Joseph—5	Prince Alfred College
Hamp, John Chipp—4, 6	Glenelg Grammar School
Lindsay, Arthur Reginald Fydell—5	Rev. F. Coghlan
Scammell, Francis George—6	Adelaide Educational Institution.

The figures attached to the name of any candidate show in which, if any, of the *optional* subjects the candidate passed, as follow :

1 Passed in Greek	4 Passed in Natural Philosophy
2 " German	5 " Chemistry
3 " French	6 " Natural History

Twenty-nine Candidates, of whom six failed in the Compulsory Subjects, entered themselves for this Examination. The following Table shows the Number of Candidates who entered themselves for, and of those who (having passed in the Compulsory Subjects), passed also in various Optional Subjects:

Optional Subjects.	No. of Girls entered.	No. of Girls passed.	No. of Boys entered.	No. of Boys passed.
Latin	None.	None.	18	10
Greek	None.	None.	2	2
Mathematics	None.	None.	21	16
French	1	1	2	1
German	2	2	9	3
English	1	1	8	6
Chemistry	None.	None.	14	11
Natural Philosophy	None.	None.	3	1
Animal Physiology	2	2	None.	None.
Geology	None.	None.	2	None.
Modern History	1	1	1	None.

LIST OF STUDENTS WHO COMMENCED THE UNDERGRADUATE COURSE.

Berry, George Augustus
Leitch, James Westwood
Wilkinson, Frederick William
Wright, Charles Joseph Harvey

IV. ORDINARY EXAMINATION FOR THE DEGREE OF B.A. MARCH.

The undermentioned Undergraduates passed this examination.

FIRST YEAR.

Kingsmill, Walter

NOVEMBER.

FIRST YEAR.
FIRST CLASS.
Hopkins, William Fleming
Leitch, James Westwood
SECOND CLASS.
None
THIRD CLASS.
None
SECOND YEAR.
FIRST CLASS.
Murray, George John Robert
SECOND CLASS.
None
THIRD CLASS.
None
THIRD YEAR.
FIRST CLASS.
Cooke, William Ernest
Kerr, Donald Alexander
SECOND CLASS.
None
THIRD CLASS.
None

*** The names in each class are in alphabetical order.

V. LIST OF STUDENTS NOT STUDYING FOR A DEGREE, WHO AT THE ORDINARY EXAMINATION IN NOVEMBER, PASSED IN THE UNDERMENTIONED SUBJECTS:

NATURAL PHILOSOPHY.
Bennett, William
*Grasby, William Catton
Le Messurier, Thomas Abram
McNamara, David Joseph
Newman, George Gough
Spöndly, Henry

DEDUCTIVE LOGIC.
George, Henry Charles
Gilmour, William
Glover, George Henry
Hamp, John Chipp
*Hill, John C.
Paynter, John
Smith, Charles
*Williams, Thomas Swain

INORGANIC CHEMISTRY.
Ashton, Sarah Annie
Harford, Joseph
Hill, Henry Richard
Maughan, Minnietta
Osborne, William Henry
Penneyfield, George
Willshire, Robert Charles

ENGLISH LITERATURE.
Cox, Lois Ainsley
Goode, Grace
*Mead, Lilian Staple
Mitchell, Emma Priscilla
*Thornber, Ellen
Williams, Emily

*An asterisk denotes that the Candidate passed with credit.

VI. Table showing the subjects of the Courses of Lectures and Examinations attended by students not studying for Degrees and the numbers who attended the Lectures and passed the Examinations in those subjects :—

Subjects.	Number attending Lectures.	Entered for the Ordinary Examination.	Number passed.
English Literature ...	27	6	6
Latin	1	None	
Greek	None	None	
Elementary Pure Mathematics	None		
Elementary Applied Mathematics	None		
Elementary Natural Philosophy	11	8	6
Inorganic Chemistry ...			7
Logic	11		8
Animal Physiology ...	57		

APPENDIX B.

JUNIOR EXAMINATION.

NOVEMBER AND DECEMBER.

PART I.—CLASS LISTS.

First Class.

(In order of merit.)

	SCHOOL.
Hollidge, David Henry—B.1*, D.*, E.1, E.3	Prince Alfred College.
Price, Arthur Jennings,—B.1*, D.*, E.1*, E.3	Prince Alfred College.
Rowley, Amos Arnold Longley—B.1*, D.*, E.1, E.3*	Prince Alfred College.
Duence, Richard—B.1, D. E.1, E.3*	Prince Alfred College.
Hill, Arthur Henry—B.1, D, E.1*	Prince Alfred College.
Mead, Lilian Staple—A.*, C.1*, E.4*	Advanced School for Girls.
Campbell, Donald—A.*, C.1, C.2, D	St. Peter's College.
Jeffery, Florence,—A.*, C.1*, E.4*	Advanced School for Girls.
Knight, Percy Norwood—B.1, D., E.1, E.3*	Prince Alfred College.
Wreford, Charles Franklin—A., D., E.5	Whinham College.

Second Class.

(In order of merit.)

	SCHOOL.
Adamson, Henry Robert George—B.1*, D., E.1, E.3*	Prince Alfred College.
Sells, Caroline Ellen—A.*, C.1*, E.4*	Advanced School for Girls.
Wright, Charlotte Elizabeth Arabella—A*, C.2*, E.4	Advanced School for Girls.
Casely, William Arthur Linthorne—B.1, D.*, E.1, E.3	Prince Alfred College.
Solomon, Judah Moss—A., B.1, D.	Whinham College.
Hodgkinson, Horace Ernest—B.1, D., E.1, E.3	Prince Alfred College.
Isbister, William James—A, B.1*, E.5	St. Peter's College.
Robinson, Robert Thomson—B.1, D., E.3*	Prince Alfred College.
Prior, Samuel Henry—A.*, B.1, D.	Glenelg Grammar School.

Third Class.

(In alphabetical order)

	SCHOOL.
Adams, Anna Maria—C.1, D.	Private Tuition.
Adamson, Joseph Frederick—B.1, E.5	Christian Brothers' College.
Andrews, Richard Bullock—B.1, B.2, C.1, C.2	St. Peter's College.
Baget, Sophie Rose—A., C.1	Mrs. Bickford's School.
Ballantyne, Robert Anderson—B.1, D., E.3	Prince Alfred College.
Bollen, Christopher—D*, E.3	Prince Alfred College.
Bradley, Edgar Joseph—A., E.1, E.5	Whinham College.
Braund, Alfred Ernest—A., D.	Whinham College.
Burnett, Lily Herbert—A., C.1	Hardwicke House.
Carlin, Ethel Maud—A., C.1	Hardwicke House.
Cleave, Frederick—A., D.	St. Peter's College.
Collier, Mary—A., C.1	Hardwicke House.
Counsell, Herbert John—B.1, D., E.1, E.3	Prince Alfred College.
Day, Alfred Norwood—D., E.1, E.3*	Prince Alfred College.
Fallon, James—B.1, D., E.5	Christian Brothers' College.
Fels, Ernest—B.1, D., E.5	Christian Brothers' College.
Fischer, Alfred George—D., E.3	Prince Alfred College.
Gunson, John—B.1 C.1*, E.5	Christian Brothers' College.
Gould, Samuel—A., D., E.5	Whinham College.
Hamp, William Edward—A., E.5	Glenelg Grammar School.
Hayward, Charles Waterfield—B.1*, C.2	St. Peter's College.
Hopkins, Helena Elizabeth Lucy—A., E.5	Ladies' College, Glenelg.
Hopkins, Louisa Gulielma—A., E.5	Ladies' College, Glenelg.
Hynes, Timothy—B.1, D., E.5	Christian Brothers' College.
Jacob, Mary Eleanor—A., C.1, E.5	Mrs. Martin's School.
Kepert, Frances Alice—A., C.1*, E.5	Mrs. Harcus's School.
Kurtze, Herman—C.2*, D., E.5	Hahndorf College.
Lynch, Arthur—B.1, D., E.5	Christian Brothers' College.
Magee, Bernard—B.1, D., E.5.	Christian Brothers' College.
Marryat, Isabel—A.*, C.1*	Mrs. Bickford's School.
Padman, Joseph Ernest—C.2, D., E.1, E.3*	Prince Alfred College.
Rounsevell, Horace Vernon—D., E.1, E.3	Prince Alfred College.
Samuel-Davis, Joseph King—A., D.	Glenelg Grammar School.
Saunders, Sophia Georgina—A., C.1	Advanced School for Girls.
Seabrook, Leonard Llewelyn—B.1, D., E.5	Glenelg Grammar School.
Treloar, Nettie—A., C.1, E.4	Advanced School for Girls.
Wright, George Edward Henry—B.1, E.1, E.3	Prince Alfred College.

In the foregoing Lists an asterisk denotes that the Candidates passed *with credit* in the subject represented by the letter to which the asterisk is attached, and the letters and figures set opposite a Candidate's name denote the *optional* subjects thereby represented, as follows:

A. —English
B.1—Latin
B.2.—Greek
C.1—French
C.2—German
D. —Mathematics
E.1—Chemistry
E.2—Elementary Physics
E.3—Botany
E.4—Animal Physiology
E.5—Physical Geography

PART II. *Ninety-three Candidates entered for this Examination, and presented themselves at it; 36 failed in the Compulsory Subjects, and 1 in the Optional Subjects. Of the remaining 56, none failed to satisfy the Examiners in the Optional Subjects. The following Table shows the Number of Candidates who entered themselves for, and of those who (having passed in the Compulsory Subjects), passed also in various Optional Subjects:*

Optional Subjects.	No. of Boys entered.	No. of Girls entered.	Total.	Boys passed.	Girls passed	Total.
English	25	25	50	11	15	26
Latin	47	0	47	26	0	26
Greek	4	0	4	1	0	1
French	6	20	26	3	13	16
German	11	1	12	5	1	6
Mathematics	54	1	55	32	1	33
Chemistry	32	0	32	15	0	15
Elementary Physics ...	None	None	None	None	None	None
Botany	20	0	20	17	None	17
Animal Physiology ...	0	6	6	0	5	5
Physical Geography ...	31	20	51	14	4	18

Account of Income and Expenditure for the year 1882, *furnished in*

INCOME.

	£	s.	d.	£	s.	d.
Building—Government Contributions to: amount on account of Parliamentary vote	2,814	0	0			
Ditto private contributions, second donation from His Honor the Chief Justice	250	0	0			
				3,064	0	0
Income—H.M. Government. Subsidy on Endowments	2,000	0	0			
Fees	399	14	0			
Interest	1,455	5	0			
Rent	2,028	14	2			
Incidental Receipts	11	19	6			
H. M. Government providing substitutes for Professor Tate when in Northern Territory	53	11	0			
Prizes given by Sir T. Elder for prizes in Physiology	20	0	0			
				5,969	3	8
J. H. Clark Scholarship Fund—						
Suspense Income Account				18	16	5
Interest on Investment	26	3	7			
H. M. Government—Subsidy thereon	29	16	11			
Investment repaid	500	0	0			
				556	0	6
Angas Scholarship—From J. H. Angas, Esq.				200	0	0
Furniture—Sale of desks to Prince Alfred College				26	2	0
English, Scottish, and Australian Chartered Bank—						
Deposit repaid				20,000	0	0
				£29,834	2	7

Audited and found correct,
Adelaide, January, 1883.

OF ADELAIDE.

compliance with the 18th Section of Act 37 and 38 Victoria, No. 20 of 1874.

EXPENDITURE.

	£	s.	d.	£	s.	d.
Cash (overdraft) January 1st, 1882, repaid				1,884	7	3
Building (including Gas Fittings)				3,593	10	6
Annual Expenses—						
Salaries	4,399	8	8			
Senate	24	0	4			
Examinations	254	6	6			
Charges (including Printing, Advertising, Stationery, Freight, and Insurance	597	1	11			
Lectures	25	4	0			
Evening Lectures	14	1	6			
				5,314	2	11
Library—Binding and Purchase of Books				126	14	10
Laboratories—Purchase of Apparatus, Repairs, &c.				254	5	2
Medical School				124	5	1
Furniture				425	5	8
Sundry Loans on Mortgage				6,300	0	0
English, Scottish, and Australian Chartered Bank, on deposit at 5 % per annum	6,000	0	0			
Ditto at 6 % per annum	4,000	0	0			
				10,000	0	0
J. H. Clark Scholarship Fund—						
Amount on deposit at Bank at 6 %				500	0	0
Angas Scholarship				150	0	0
Agent-General of South Australia—Balance of Remittance to be accounted for				5	9	2
				28,678	0	7
Balance in Bank				1,156	2	0
				£29,834	2	7

HENRY AYERS, Treasurer.

W. S. DOUGLAS,
HENRY STODART, } Auditors.

THE UNIVERSITY OF ADELAIDE.

Statement showing the actual Financial Position on 31st December, 1882.

Dr.	£	s.	d.	Cr.	£	s.	d.	£	s.	d.
To General Endowment—Sir W. W. Hughes, Sir T. Elder, and others	40,750	3	0	By Value of Lands granted by H.M. Government	55,000	0	0			
Land Endowment from H.M. Government	55,000	0	0	Expended in Improvements thereon	2,879	15	1			
Contributed towards the Building by H.M. Government	16,814	0	0					57,879	15	1
Contributed towards the Building by Private Donations	1,890	5	0	Expended in University Buildings	33,627	14	7			
Prizes given by Sir T. Elder for Physiology	20	0	0	Expended in Gas Fittings for Ditto	397	1	11			
Angas Engineering Scholarship	50	0	0					34,024	16	6
Income (less annual charges)	15,930	19	3	Library—Expended to Date				1,627	2	11
Rent in Arrears	4,779	1	8	Laboratories do.				2,333	5	2
Interest in Arrears on Loans	39	10	0	Medical School do.				144	3	3
John Howard Clark Scholarship Endowment (Capital Account)	500	0	0	Museum do.				77	5	0
Ditto, Ditto (Income Account)	56	0	6	Furniture do.				1212	1	0
				E. S. & A. Ch. Bank. Deposited at £5 % per annum	6,000	0	0			
				Ditto, at £6 % per annum	4,000	0	0			
								10,000	0	0
				Sundry Mortgages from £5½ % to £7 %				21,950	0	0
				Sundry Debtors, including Rent in Arrears				4,818	11	8
				Agent-General for South Australia—Balance in his hands				106	16	10
				John Howard Clark Scholarship Fund, Deposited at 6%				500	0	0
				Balance in Bank				1,156	2	0
	£135,829	19	5					£135,829	19	5

Audited and found correct,
Adelaide, January, 1883.

W. S. DOUGLAS,
HENRY STODART, } Auditors.

HENRY AYERS, Treasurer.