CALENDAR

OF

DALHOUSIE COLLEGE AND UNIVERSITY.

HALIFAX, NOVA SCOTIA.

FOUNDED - - - 1820.
REORGANIZED - 1863.

1882-83.

HALIFAX:
PRINTED FOR THE UNIVERSITY BY NOVA SCOTIA PRINTING CO.
1882.

SINCE the Calendar has been printed, Mr. Munro has placed Dalhousie College under additional obligation by providing an endowment for a Chair of English Literature. Acting upon Mr. Munro's nomination the Governors have appointed Dr. J. Gould Schurman to this Chair, and have associated with it the subject of Metaphysics. For particulars see *slip opposite page 34.*

ERRATUM.

Page 34, second line from foot of page, for "Graduated with Second Rank Honours in History and English Literature," read "Graduated with Second Rank Honours in Mathematics and Physics."

CONTENTS.

ACT OF INCORPORATION

AND

ACTS IN AMENDMENT.

An Act for the regulation and support of Dalhousie College.

(Passed the 29th day of April, A.D. 1863.)

Whereas it is expedient to extend the basis on which the said College is established, and to alter the constitution thereof, so as the benefits that may be fairly expected from its invested capital, and its central position may, if possible, be realized, and the design of its original founders, as nearly as may be, carried out,

Be it enacted by the Governor, Council and Assembly, as follows:—

1. The Board of Governors now appointed, consisting of the Honorable William Young, the Honorable Joseph Howe, Charles Tupper, S. Leonard Shannon, John W. Ritchie, and James F. Avery, Esquires, shall be a body politic and corporate, by the name and style of the Governors of Dalhousie College at Halifax, and shall have and exercise all usual powers and authorities as such, and have the title, control, and disposition of the building on the Parade at Halifax, and of the property and funds belonging to the said College, and held for the use thereof by the present Governors; and all vacancies at the Board shall be filled up on recommendation of the remaining members thereof by the Governor in Council; and any of the Governors shall be removable by the Governor in Council, at the instance of the Board of Governors.

2. Whenever any body of Christians, of any religious persuasion whatsoever, shall satisfy the Board that they are in a condition to endow and support one or more chairs or professorships in the said College, for any branch of literature or science, approved of by the Board, such body in making such endowment

to the extent of twelve hundred dollars a year, shall have a right from time to time, for every chair endowed, to nominate a Governor to take his seat at the Board, with the approval of the Board of Governors and of the Governor in Council, and shall also have a right, from time to time, to nominate a Professor for such chair, subject to the approval of the Board of Governors; and in the event of the death, removal or resignation of any person nominated under this section, the body nominating shall have power to supply the vacancy thus created.

3. The same right of nominating a Professor from time to time shall belong to any individual or number of individuals who shall endow to the same extent and support a chair or professorship, and to the nominee of any testator by whose will a chair or professorship may be so endowed.

4. The Governors shall have power to appoint and to determine the duties and salaries of the President, Professors, Lecturers, Tutors and other officers of the College, and from time to time to make statutes and bye-laws for the regulation and management thereof, and shall assemble together as often as they shall think fit, and upon such notice as to them shall seem meet for the execution of the trust hereby reposed in them.

5. The said College shall be deemed and taken to be a University, with all the usual and necessary privileges of such institutions: and the students shall have liberty and faculty of taking the degrees of bachelor, master, and doctor, in the several arts and faculties at the appointed times; and shall have liberty within themselves of performing all scholastic exercises for the conferring of such degrees, and in such manner as shall be directed by the statutes and bye-laws.

6. No religious tests or subscriptions shall be required of the professors, scholars, graduates, students, or officers of the College.

7. The internal regulation of the said College shall be committed to the Senatus Academicus, formed by the respective chairs or professorships thereof, subject in all cases to the approval of the Governors.

8. The Legislature shall have power from time to time to modify and control the powers conferred by this Act.

9. The Acts heretofore passed in relation to Dalhousie College are hereby repealed, except the act passed in the fourth year of his late Majesty King George the Fourth, entitled, "An Act authorizing the lending a sum of money to the Governors of Dalhousie College, and for securing the repayment thereof."

An Act to amend the Act for the regulation and support of Dalhousie College.

(Passed the 6th day of May, A.D. 1875.)

Be it enacted by the Governor, Council and Assembly, as follows:—

1. The present Board of Governors consisting of nine persons, shall be increased to a number not exceeding fifteen; and the Board shall be filled up by new nominations made on the same principle as set forth in the first section of the Act hereby amended; and any of the Governors shall be removable as heretofore by the Governor in Council.

2. The Governors shall have power to affiliate to Dalhousie College any other colleges desirous of such affiliation, or any schools in arts, in theology, in law or in medicine, and to make statutes for such affiliations and for the regulation and management thereof, on the same principles as obtain in other universities, and to vary and amend such statutes from time to time. Provided always, that such statutes of affiliation, before they go into effect, shall be submitted to and receive the sanction of the Governor in Council.

3. So much of chapter 24 of the Acts of 1863, entitled, "An Act for the regulation and support of Dalhousie College," or of any other Act, as is inconsistent with this Act is repealed.

An Act to provide for the organization of a Law Faculty in connection with Dalhousie College, and for other purposes.

(Passed the 14th day of April, A.D. 1881.)

Be it enacted by the Governor, Council and Assembly, as follows:—

1. The Governors of Dalhousie College at Halifax shall, in addition to the powers conferred on them by section 2 of chapter 27 of the Acts of 1875, entitled, "An Act to amend the Act for the regulation and support of Dalhousie College," have power to organize a Faculty of Law in connection with such College; and to appoint professors or lecturers in law, and out of the revenues of the College to provide for the maintenance and support of such faculty, and to make rules for the regulation and management of such faculty, and for the granting of degrees in law on the same principles as obtain in other universities, and to vary and amend such rules from time to time.

2. Section 3 of chapter 24 of the Acts of 1863, entitled, "An Act for the regulation and support of Dalhousie College," is amended by adding the words "and governor" after the word "professor" in the said section, and any individual who has hitherto endowed a chair or chairs in the College shall have a right to nominate a governor for each chair endowed, in the same way as if section 3 aforesaid had been originally passed as now amended.

3. Section 1 of the said chapter 27 of the Acts of 1875, is amended by adding the words "provided, however, that in the event of any body of christians, individual, or number of individuals, endowing and supporting one or more chairs or professorships in the said College, as provided by sections 2 and 3 of the Act hereby amended, and of such body of christians or individuals nominating a professor or governor by virtue thereof, the number of governors may be increased beyond fifteen, but such increase shall be limited to the number of such chairs or professorships as may after the passing of this Act be founded by virtue of the said sections 2 and 3.

RECENT BENEFACTIONS.

THE MUNRO FUNDS.

In 1879, Geo. Munro, Esq., of New York, a native of this Province, placed in the hands of the Governors the funds necessary for the endowment of a Professorship of Physics. In 1881, he established a Professorship of History and Political Economy. Since 1880, he has provided the University with Exhibitions and Bursaries, to the amount of $25,700, which, according to his own desire, are so awarded as to stimulate to greater activity and efficiency the High Schools and Academies of Nova Scotia and the neighbouring Provinces.

The Governors desire to place on permanent record their high sense of Mr. Munro's enlightened public spirit, and their gratitude to him for the munificent manner in which he has come to their help in the work of building up an unsectarian University in Nova Scotia. To connect the donor's name for all time with the benefits thus conferred both on the University and on his native country, the Governors have decided that the chairs which he has founded shall be called the George Munro Chairs of Physics and of History and Political Economy respectively.

ENDOWMENT FUND.

Hon. Sir William Young	$1,000	Hon. Robert Boak	$1,000
W. J. Stairs	1,000	Adam Burns	500
Hon. Stayley Brown	1,000	Peter Jack	500
John Gibson	1,000	Hon. Jeremiah Northup	500
John P. Mott	1,000	Prof. Lawson	500
William P. West	1,000	Alex. McLeod	500
Thos. A. Ritchie	1,000	D. C. Fraser	100

SCIENTIFIC APPARATUS FUND.

Hon. Sir William Young	$500	Robert Morrow	$ 50
Alumni Association Dal. College	150	Peter Jack	50
W. J. Stairs	100	John S. Maclean	50
Hon. Jeremiah Northup	100	A Friend	50
Thos. Bayne	100	Thos. A. Brown	50
Alex. McLeod	100	Esson & Co.	50
John McNab	100	James Thomson	50
W. P. West	100	John Gibson	50
James Avery, M. D.	100	Prof. Lawson	50
Hon. Robert Boak	100	Smaller subscriptions amounting to	645
Hon. J. W. Ritchie	50		
Doull & Miller	50		

FIVE YEARS' FUND—1870-75.

Principal Grant, D.D.	$200	J. Donaldson	$100
J. Doull	200	A. K. Mackinlay	100
W. J. Stairs	200	T. A. Ritchie	100
Sandford Fleming	200	E. Smith	100
Hon. Sir William Young	150	R. H. Skimmings	100
Medical Faculty	150	Hon. Judge Ritchie	80
R. Boak, Jr	150	Prof. Macdonald	80
Dr. Avery	150	J. W. Carmichael	80
A. Burns	125	C. D. Hunter	80
Sir Charles Tupper	100	James Scott	80
Dr. Ross	100	Colonel Laurie	80
Prof. Lawson	100	J. J. Bremner	80
Prof. Johnson	100	Lawson, Harrington & Co.	80
Prof. McMill	100	J. P. Math	80
Prof. Liechti	100	Hon. S. L. Shanton	60
John S. Maclean	100	G. P. Mitchell	60
James Thomson	100	W. H. Neal	50
Robert Morrow	100	R. W. Fraser	50
J. Stairs	100	J. B. Duffus	50
Hon. Jeremiah Northup	100	G. Thomson	50
Joseph Northup	100	P. Jack	50
B. H. Collins	100	Smaller subscriptions amounting to	1289
Alex. McLeod	100		

GYMNASIUM FUND.

F. B. Chambers	$50	R. Sedgewick	$10
Sir William Young	10	D. C. Fraser	10
John Doull	10	J. G. MacGregor	10
Hon. J. F. Stairs	10	J. D. Story	5
Jas. Forrest	10	H. McKenzie	5
A. H. McKay	10	Rev. A. G. Russell	5
W. M. Doull	10	J. S. McKay	5
A. Lipsircott, M. D.	10	H. A. Bayne	5
Rev. D. H. Smith	10	S. G. Chambers	2
H. McD. Henry	10	Rev. J. L. George	2
Doull & Ross	10		

UNIVERSITY CALENDAR, 1882-83.

WINTER SESSION.

1882.			
Oct.	2.	M.	Meeting of Governors.
	9.	M.	Last day for receiving applications and certificates for Munro Exhibitions and Bursaries.
	20.	F.	Meeting of Senate, 11 A. M.
	23.	M.	Winter Session begins. Examinations for Exhibitions and Bursaries:—10 A. M., Latin; 3 P. M., Mathematics.
	24.	Tu.	Examinations for Exhibitions, &c., continued:—10 A. M., Mathematics; 3 P. M. Greek.—Matriculation Examination:—10 A. M. Mathematics; 3 P. M. Classics, French and German.—Supplementary Examinations, 10 A. M.
	25.	W.	Examinations for Exhibitions, &c., continued:—10 A. M., English, Logic and English Literature; 3 P. M., Chemistry and Botany. Matriculation Examination continued:—10 A. M., English.
	27.	F.	Meeting of Senate and Faculty of Science, 10 A. M. Matriculation, Registration and Issue of Library Tickets, 2 P. M.
	30.	M.	Classes opened and Class Tickets issued. Entrance Examinations in Classical History and Geography, 3 P. M.
	31.	Tu.	Meeting of Convocation, 3 P. M.—Opening Address by Professor Lyall.
Nov.	8.	W.	Final Matriculation and Supplementary Examinations, 3 P. M.
	9.	Th.	Meeting of Senate and Faculty of Science, 4 P. M.
Dec.	19.	Tu.	Meeting of Senate, 1 P. M.
	22.	F.	No Lectures. Christmas Vacation begins.
1883.			
Jan.	2.	Tu.	Meeting of Governors.
	4.	Th.	Lectures resumed. Supplementary Examinations in Classical History and Geography, 3.30 P. M.
	9.	Tu.	Meeting of Senate and Faculty of Science, 4 P. M.
	17.	W.	George Munro Commemoration Day. No Lectures.
Feb.	6.	Tu.	Meeting of Senate, 4 P. M.
	7.	W.	Ash Wednesday. No Lectures.
March	1.	Th.	Last day for receiving M. A. Theses.
	20.	Tu.	Meeting of Senate, 1 P. M.
	23.	F.	Good Friday. No Lectures.
April	2.	M.	Meeting of Governors.
	4.	F.	Last day of Lectures. Meeting of Senate, 4 P. M.
	11.	W.	Sessional Examinations begin. 10 A. M., Latin; 3 P. M., Extra Latin and Honour Classics.
	12.	Th.	10 A. M., Logic, Metaphysics, Ethics and Honour Mathematics.
	13.	F.	10 A. M., Greek; 3 P. M., Extra Greek and Honour Classics.
	16.	M.	10 A. M., Geology, Botany, Zoology, Honour Physics, and Honour Classics.
	17.	Tu.	10 A. M., Mathematics, Mathematical Physics, Astronomy, and Honour Classics; 3 P. M., Mathematics, Experimental Physics and Honour Classics.
	18.	W.	10 A. M., Rhetoric and History; 3 P. M., Extra Physics, Honour Classics and Honour Mathematics.
	19.	Th.	10 A. M., French and German; 3 P. M., French, German, Hebrew and Extra Mathematics.
	20.	F.	10 A. M., Chemistry, Honour Classics and Honour Mathematics. Last day for returning books to the Library.
	21.	Sa.	10 A. M. Practical Chemistry.
	23.	M.	Meeting of Senate, 10 A. M.
	24.	Tu.	Meeting of Senate, 10 A. M. Results of Examinations declared.
	25.	W.	Meeting of Convocation, 3 P. M. Meeting of Alumni Association, 10 A. M.

SUMMER SESSION.

April	30.	M.	Summer Session begins. Registration of Students, 10 A. M. Meeting of Senate, 11 A. M. Class Tickets issued 12 M.
May	24.	Th.	Queen's Birthday. No Lectures.
June	21.	Th.	Halifax settled, 1749. No Lectures.
	27.	W.	Sessional Examinations.
	28.	Th.	" "
	29.	F.	Results declared. Session closes.
July	2.	M.	Meeting of Governors.

Dalhousie College & University.

BOARD OF GOVERNORS.

HON. SIR WILLIAM YOUNG, LL.D., Ex-Chief Justice, *Chairman.*
HON. SIR CHARLES TUPPER, K.C.M.G., C.B., M.D., M.P.
HON. J. W. RITCHIE, Judge, Supreme Court of Nova Scotia.
HON. S. L. SHANNON, Q.C., Judge of Probate.
VERY REV. G. M. GRANT, D.D., Principal and Vice-Chancellor, Queen's University, Kingston, Ont.
JAMES F. AVERY, ESQ., M.D.
WILLIAM J. STAIRS, ESQ., Vice-Chancellor of the University of Halifax.
REV. JOHN MACMILLAN, M.A., B.D.
REV. JOHN FORREST.
HON. ALFRED G. JONES.
JOHN S. MACLEAN, ESQ.
PETER JACK, ESQ.
JOHN DOULL, ESQ.
REV. ROBERT MURRAY.
HIS WORSHIP THE MAYOR OF HALIFAX, *ex officio.*
D. C. FRASER, ESQ., B.A., President Alumni Association, *ex officio.*

GEORGE THOMSON, ESQ., *Treasurer.*
WILLIAM M. DOULL, ESQ., *Secretary.*

SENATE OF THE UNIVERSITY.

VERY REV. JAMES ROSS, D.D., *Principal.*
REV. WILLIAM LYALL, LL.D.
CHARLES MACDONALD, M.A., *Corresponding Secretary.*
JOHN JOHNSON, M.A.
GEORGE LAWSON, PH.D., LL.D., F.I.C.
JAMES GORDON MACGREGOR, M.A., D.SC., *Recording Secretary.*
REV. JOHN FORREST.

FACULTY OF ARTS.

VERY REV. PRINCIPAL ROSS, D.D., *Professor of Ethics.*
REV. WILLIAM LYALL, LL.D., F.R.S.C., *Professor of Logic and Metaphysics, and Interim Professor of Rhetoric.*
CHARLES MACDONALD, M.A. (Aber.), *Professor of Mathematics.*
JOHN JOHNSON, M.A. (Dub.), *Professor of Classics.*
GEORGE LAWSON, PH.D., LL.D., F.I.C., F.R.S.C., *Professor of Chemistry and Mineralogy.*
JAMES GORDON MACGREGOR, M.A. (Dal.), D.Sc. (Lond.), F.R.SS.E.& C., *George Munro Professor of Physics.*
REV. JOHN FORREST, *George Munro Professor of History and Political Economy.*
PROFESSOR LIECHTI, M.A., (Vind.), *Tutor in Modern Languages.*

FACULTY OF SCIENCE.

THE PROFESSORS OF THE FACULTY OF ARTS, with
JAMES LIECHTI, M.A. (Vind.), *Professor of Modern Languages.*
REV. DAVID HONEYMAN, D.C.L., F.S.A., F.R.S.C., *Professor of Geology and Palæontology.*

Librarian:

PROFESSOR FORREST.

Instructor in Gymnastics:

GEORGE S. SMITH.

Janitor:

ARCHIBALD DUNLOP.

REGULATIONS.

§ I.—SESSIONS.

In the academic year there are two Sessions, a Winter and a Summer Session.

The Winter Session of 1882–3 will commence on Monday, October 23rd, 1882, and end on Wednesday, April 25th, 1883.

The Summer Session of 1883 will commence on Monday, April 30th, and end on June 29th.

§ II.—ADMISSION OF STUDENTS.

Students may enter the College, as Undergraduates, with the intention of applying for a University Degree in Arts or Science at the end of their course; or, as General Students, who do not look forward to a University Degree.

The ordinary course for Undergraduates in either Arts or Science extends either over four Winter Sessions, or over three Winter Sessions with the two intervening Summer Sessions. The latter alternative is, however, contingent on arrangements to be made by the Governors. Undergraduates taking either of these courses are required to pass the Matriculation Examination for the First Year, in Arts or Science, as the case may be, (see § III.) and to take the classes prescribed for their respective courses.

Students may also complete their course in three Winter Sessions without the intervening Summer Sessions, by passing the Matriculation Examination for the Second Year in Arts or Science, as the case may be, (see § III.) and taking the usual undergraduate course for the Second, Third and Fourth Years.

The Matriculation Examinations will begin this year on October 24th, at 10 o'clock, A. M. Candidates are expected to bring their own writing materials, except paper.

General Students are not required to pass a Matriculation Examination, and may attend such classes as they choose.

No person can be admitted as an Undergraduate after ten days from the opening of the classes, without the special permission of the Senate.

Undergraduates from other Universities will, on producing satisfactory certificates, be admitted to similar standing in this University, if, on examination, they be found qualified to enter the classes proper to their year. But if their previous courses have not corresponded to the courses on which they enter in this College, they may be required by the Senate to take extra classes.

Students who have passed the Matriculation Examination at the University of Halifax, are admitted as Undergraduates without further examination, and Students who have passed the first B. A. Examination of that University, will be admitted to the standing of Undergraduates in Arts who have completed two Winter Sessions.

§ III.—MATRICULATION EXAMINATIONS.

(A) IN ARTS.

FOR THE FIRST YEAR.

The Examinations are partly oral and partly written. The subjects for entrance into the First Year of the course are :

I. In Classics.—Latin Grammar, Greek Grammar, one Latin subject, one Greek subject. The following subjects are recommended :

In Latin.—For 1882 : *Cæsar*, Gallic War, Book VI.; or *Ovid*, Metamorphoses, Book I.
For 1883 : *Cæsar*, Gallic War, Book V.; or *Ovid*, Metamorphoses, Book I.

In Greek.—For 1882 : *Xenophon*, Anabasis, Book III.
For 1883 : *Xenophon*, Anabasis, Book IV., or Book V.

Instead of the above, equivalents may be offered, if they be not parts of the undergraduate course, on giving a week's notice to the Secretary of the Senate.

II. In Mathematics.— Arithmetic; Euclid's Elements of Geometry, Books I. and II.; Algebra,—Simple Rules, and Simple Equations of one unknown quantity, not involving Surds.

III. In English.—Grammar; History of England; Geography; Composition.

Competitors for Munro Exhibitions and Bursaries, whose examinations are approved by the Senate, shall be exempt from further examination for matriculation.

FOR THE SECOND YEAR.

I. In Classics.—The subjects of the First Year's course as specified in § XIV., or their equivalents, together with one additional subject in Greek and one in Latin (not being parts of the undergraduate course for the year.)

II. In Mathematics.—The subjects of the First Year's course as specified in § XIV.

III. In English.—The subjects of the Matriculation Examination for the First Year.

IV. In Roman History and Ancient Geography.—As specified in §§ IV. and XIV.

Candidates for this Examination who have previously passed in any one or more of the above subjects either at the Matriculation Examination or at the Sessional Examinations of the First Year shall be exempt from further examination in such subjects.

(B) IN SCIENCE.

FOR THE FIRST YEAR.

I. In Mathematics.—The subjects of the Matriculation Examination for the First Year in Arts.

II. In English.—The subjects of the Matriculation Examination for the First Year in Arts.

III. In Latin or German or French :

Latin.—The subjects of the Matriculation Examination for the First Year in Arts.
German.—Adler's Reader, Part I., Nos. 1–15.
French.—Voltaire's *Charles XII.*, Book I.

Grammatical questions in the Modern Languages based upon the passages selected.

FOR THE SECOND YEAR.

I. In Mathematics.—The subjects of the First Year's course as specified in § XIV.

II. In English.—The subjects of the Matriculation Examination for the First Year.

III. In Latin or German :

Latin.—The subjects required for Matriculation in the Second Year of the Arts Course.
German.—Adler's Reader, Part II., first fifteen pieces. First twenty lessons in Otto's German Grammar.

IV. In Inorganic Chemistry.—The subjects of the First Year's Course.

§ IV.—COURSES FOR DEGREE OF B. A.

COURSE OF FOUR WINTER SESSIONS.

First Year.—(1) Latin. (2) Greek. (3) Mathematics. (4) English Language and Rhetoric.

Second Year.—(1) Latin. (2) Greek. (3) Mathematics. (4) Inorganic Chemistry. (5) Logic and Psychology.

Undergraduates of the Second Year are required to pass an examination in Roman History and Ancient Geography, on the second Monday of the Winter Session. (See § XIV.)

Third Year.—(1) Latin. (2) Mathematical Physics. (3) Experimental Physics. (4) Metaphysics. (5) and (6) Any two of the following: French, German, Greek.

Undergraduates of the Third Year are required to pass an examination in Grecian History and Ancient Geography on the second Monday of the Winter Session. (See § XIV.)

Fourth Year.—(1) Latin. (2) Ethics. (3) Political Economy. (4) History. (5) and (6) Any two of the following: French, German, Greek, Astronomy, Hebrew.

An undergraduate who takes a modern language in the Third Year must take the same language in the Fourth Year, and one who omits Greek in the Third Year cannot take it in the Fourth.

COURSE OF THREE WINTER SESSIONS AND TWO SUMMER SESSIONS.

First Winter.—(1) Latin. (2) Greek. (3) Mathematics. (4) English Language and Literature.

First Summer.—(1) Latin and Greek, or Mathematics.* (2) French or German. (3) English Literature.

An Undergraduate may take whichever modern language he pleases, but he must take the same language during both summers.

Second Winter.—(1) Latin. (2) Greek. (3) Mathematics. (4) Inorganic Chemistry. (5) Logic and Psychology.

Second Summer.—(1) Astronomy, or Latin and Greek.* (2) French or German. (3) Ethics. (4) Political Economy.

Third Winter.—(1) Latin. (2) Metaphysics. (3) Mathematical Physics. (4) Experimental Physics. (5) and (6) Any two of the following: French, German, Greek.

The taking of this course is contingent on arrangements to be made by the Governors.

* The Student must take that subject of these two on which lectures are being given.

§ V.—COURSES FOR DEGREE OF B.Sc.

COURSE OF FOUR WINTER SESSIONS.

First Year.—(1) Mathematics. (2) Inorganic Chemistry. (3) English Language and Rhetoric. (4) Latin or German.

If German be taken the First Year it must be taken throughout the course; but Latin may be taken the first two years, and German the last two.

Second Year.—(1) Mathematics. (2) Botany or Zoology.* (3) Organic Chemistry. (4) Latin or German. (5) French. (6) Either (A) Extra Mathematics and Chemical Laboratory or (B) Chemical Laboratory (more extended course).

Whichever group, (A) or (B), is taken in the Second Year must be taken in subsequent years.

Third Year.—(1) Logic. (2) Latin or German. (3) French. (4) Geology. (5) Mathematical Physics. (6) Either (A) Mathematics or (B) Chemical Laboratory.

Fourth Year.—(1) Latin or German. (2) French. (3) Experimental Physics. (4) Geology. (5) Either (A) Mathematics and Astronomy or (B) Organic Chemistry and Chemical Laboratory.

COURSE OF THREE WINTER SESSIONS AND TWO SUMMER SESSIONS.

First Winter.—(1) Mathematics. (2) Inorganic Chemistry. (3) English Language and Rhetoric. (4) Latin or German.

If German be taken the first winter session it must be taken throughout the course; if Latin, German may be substituted for it in the third winter session.

First Summer.—(1) Mathematics or Logic.* (2) Botany. (3) German. (4) Histological Laboratory.

Second Winter.—(1) Mathematics. (2) Zoology. (3) Organic Chemistry. (4) Latin or German. (5) French. (6) Either (A) Extra Mathematics and Chemical Laboratory or (B) Chemical Laboratory (extended) or (C) Geology and Chemical Laboratory.

Whichever group, (A) or (B) or (C), is taken in the second winter session must be taken in subsequent sessions.

Second Summer.—(1) Logic or Ethics and Political Economy.* (2) German. (3) French. (4) Either (A) Astronomy or (B) Chemical Laboratory and Biology (Field and Laboratory work), or (C) Geology and Biology (Field, Museum and Laboratory work).

* The student must take that subject on which lectures are being given.

Third Winter.—(1) Latin or German. (2) French. (3) Mathematical Physics. (4) Experimental Physics. (5) Either (A) Mathematics and additional Mathematical Physics or (B) Organic Chemistry and Chemical Laboratory, or (C) Geology and Biological Laboratory.

The taking of this course is contingent on arrangements to be made by the Governors.

§ VI.—HONOUR COURSES.

Honour courses are intended for Undergraduates whose tastes and ability lead them to prosecute special subjects of the Curriculum; and remissions of classes are granted to those studying such courses.

Honour Courses are provided in the following departments: * (1) Classics; (2) Mathematics and Physics; (3) Mental and Moral Philosophy; (4) Experimental Physics and Chemistry; (5) Botany and Geology. Instruction of an advanced kind is provided in the first two and in the fourth of these departments during the third and fourth winters of the Curriculum. In the fifth department summer work will be prescribed.

Examinations in these courses are held at the final examinations for Degrees; and a student passing First or Second Class in any of the above departments obtains the Degree of Bachelor, with First or Second Rank Honours in such department. But First Rank Honours shall not be awarded to any one who has not passed First Class in the corresponding subjects of the Ordinary Course of the Fourth Year; nor Second Rank Honours to one who has not passed Second Class in the Ordinary Course.

Students studying for Honours must attend the Honour Lectures of their respective courses, and their progress must be satisfactory to their Professors. Students who intend to take the Honour Course in Mental and Moral Philosophy must give notice of their intention to the Secretary of Senate before the close of the lectures of their Third Year.

No student will be allowed to enter on an Honour Course who has not stood in the First or Second Class at the previous examination in the corresponding part of the Ordinary Course.

A student taking an Honour Course, but failing to obtain Honours, will receive an Ordinary Degree, if his examination in the course be approved.

An Undergraduate in Arts, studying for Honours in Classics may in the Third Year omit any two and in the Fourth Year any one of the ordinary subjects of the year, provided they are not in immediate connection with his Honour Course.

* For details of subjects see § XVI.

An Undergraduate in Arts, studying for Honours in Mathematics and Physics, may in the Third and Fourth Years omit any two of the subjects of those years, provided they are not in immediate connection with his Honour Course.

An Undergraduate in Arts, studying for Honours in Mental and Moral Philosophy, may in the Fourth Year omit any one of the subjects of the year except Ethics.

An Undergraduate in Science, studying for Honours in Mathematics and Physics, or in Experimental Physics and Chemistry, may in the Third and Fourth Years omit any one of the subjects of these years, provided they are not in immediate connection with his Honours Course, and may take the Experimental Physics class in the Third Year instead of the Fourth.

A candidate for Honours may defer his Honours examination until a year after he has passed the Ordinary examinations in the necessary subjects of the Fourth Year. But he shall not be entitled to the degree of Bachelor until he has passed the Honours examination.

§ VII.—FEES.

The class fee to each Professor or Lecturer is *six dollars* for the Winter Session, and *three dollars* for the Summer Session.

An Undergraduate in Arts pays only one fee during the Winter Sessions of his course to the Professors of Logic, Physics, and History and Political Economy, and to the Tutor in Modern Languages.

An Undergraduate who has completed two years of his course in this University, may attend the Classics and Mathematics during the remaining Winter Sessions of his Undergraduate course without the payment of additional fees.

An Undergraduate in Science pays during the Winter Sessions of his course only one class fee to the Professor of Physics, and only two class fees to the Professors of Chemistry, Biological Science, and Modern Languages.

A fee of *six dollars* is charged for every three months of practical work in the Chemical Laboratory, but Undergraduates in Science pay one fee of *six dollars* for the Session. Students taking this class are required to provide their own materials, which, if they wish, will be supplied to them at first cost. The use of the larger articles of apparatus will be given in the Laboratory free of expense, and students will be charged with breakage.

General Students pay a fee for every class they attend, and Undergraduates taking classes in addition to the prescribed Curriculum pay additional fees.

In addition to the class fee, there is a matriculation fee of *two dollars*, payable by Undergraduates at their first entrance. General Students pay a sessional registration fee of *one dollar*.

Both Undergraduates and General Students are required, at the beginning of each Winter Session to pay a Library fee of *one dollar*. Undergraduates and General Students attending more classes than one are required to pay a Gymnasium fee of *one dollar*, at the beginning of each Session.

Matriculation or registration tickets, and class tickets, must be taken out before attending lectures, no students being allowed to enter a class without them.

The total fees of Undergraduates, who take the course of four Winter Sessions in Arts, are as follows:—

First Year	$22 00
Second "	25 00
Third "	14 00
Fourth "	14 00

The total fees of Undergraduates in Science depend upon the course which they take.

§ VIII.—GRADUATION.

DEGREES OF B. A. AND B. SC.

The Degrees of Bachelor of Arts and Bachelor of Science may be obtained by passing the proper Matriculation Examination, attending the prescribed courses of lectures, and passing the Sessional examinations of the several years. Undergraduates in Arts have also to pass the Entrance Examinations of the Second and Third Years, as mentioned in § IV.

The fee for the Diploma, payable before the Final Sessional Examination, is *five dollars*. The fee is returned in case of failure at the examination.

DEGREE OF M. A.

A Bachelor of Arts, of at least three years' standing, maintaining meanwhile a good reputation, shall be entitled to the Degree of Master of Arts, on producing a satisfactory thesis on some literary, philosophical or scientific subject, previously approved by the Senate.

Fee for Diploma, which must accompany the thesis, *twenty dollars*. Thesis to be handed in on or before the 1st March. The fee is returned if the thesis is not sustained.

§ IX.—REGULATIONS FOR EXAMINATIONS.

1. If any Undergraduate absent himself from any University examination, except from such cause as may be held good by the Senate, he shall lose his Session.

2. If any Undergraduate fail to pass in any subject at the Sessional Examinations, he will be allowed a Supplementary Examination on the first Tuesday of the following Winter Session, or of a subsequent Winter Session, on giving notice to the Secretary of the Senate at least one week before the opening of such Session; but failure in more than two subjects at the Sessional Examinations will involve the loss of the Session. A second Supplementary Examination in the same Session in any subject of the Sessional Examinations will not be allowed.

3. In the case of a student having to take a Session over again, the Senate may remit attendance on classes the examinations of which he has already passed with credit.

4. An Undergraduate who, at the end of the first year of the Four Years' course, fails in more than two subjects, shall not be disqualified by Rule 2 from presenting himself for matriculation into the Three Winters' course, provided he give a week's notice to the Secretary of the Senate before the opening of the Winter Session.

5. In all cases, a student who presents himself for Supplementary Examination on any day except that specified in Rule 2, will be required to pay an extra fee of *two dollars*.

6. Undergraduates in Arts of the Second and Third Years who fail to present themselves for the Entrance Examinations in Ancient History and Geography on the second Monday of the Winter Session may, on payment of a fine of *two dollars*, and on giving notice to the Secretary of the Senate at or immediately after the opening of the Winter Session, have another day appointed them for such examinations.

7. Students are forbidden to bring any book or manuscript into the Examination Hall, unless by direction of the Examiner, or to give or receive assistance, or to hold any communication with one another at the examinations. If a student violate this rule he shall lose his Sessional Examinations for the year; and it shall be at the discretion of the Senate whether he be allowed Supplementary Examinations.

8. Students who pass the examinations in the several subjects of the respective years are arranged in three classes, First Class, Second Class and Passed, according to the merit of their answers in these subjects.

§ X.—ATTENDANCE AND CONDUCT.

1. All Undergraduates and General Students attending more classes than one, except such as may be specially exempted by the Senate, are required to provide themselves with caps and gowns, and to appear in academic costume at Lectures, and at all meetings of the University.

2. Professors will mark the presence or absence of Students immediately before commencing the work of the class, and will note as absent those who enter thereafter, unless satisfactory reasons be assigned.

3. Absence without sufficient excuse, or lateness, or inattention, or disorder in the class room, if persisted in after due admonition by the Professor, will be reported to the Senate.

4. The amount of absence which shall disqualify for the keeping of a Session will be determined by the Senate.

5. Injuries to the building or furniture will be repaired at the expense of the person or persons by whom they have been caused, and such other penalty will be imposed as the Senate may think proper.

6. Any improper conduct on the part of a student, whether in the College or elsewhere, may subject him to the censure of the Senate; and the Senate may fine, reprimand (either privately or in the presence of the Students), report to the parents or guardians, disqualify for competing for Prizes or for holding Certificates of Merit, or report to the Governors for suspension or expulsion.

7. Students not residing with parents or guardians must report to the Principal their places of residence and the churches they propose to attend, within one week after their entering College. The Principal may disallow such residence if he see good cause. Any change of residence must also be reported. Persons with whom such students propose to reside must furnish the Principal with satisfactory references.

§ XI.—MUNRO EXHIBITIONS AND BURSARIES.

IN THE FACULTY OF ARTS.

The following Exhibitions and Bursaries are offered by George Munro, Esq., of New York, for competition at the commencement of the Winter Sessions of 1882-3, 1883-4, 1884-5:

In October, 1882.....	Five Junior Exhibitions, Ten Junior Bursaries, Seven Senior Bursaries.
In October, 1883.....	Five Senior Exhibitions, Ten Senior Bursaries.
In October, 1884.....	Five Senior Exhibitions, Ten Senior Bursaries.

The Exhibitions and the Seven Senior Bursaries (1882) are each of the value of $200 per annum; the other Bursaries are each of the value of $150 per annum. Both Exhibitions and Bursaries are tenable for two years.

CONDITIONS OF COMPETITION.

1. *The Junior Exhibitions and Bursaries* are offered for competition (as limited by sections 4 and 6) to candidates for matriculation in Arts, provided they have previously neither matriculated* at any University conferring Degrees in Arts, nor appeared as candidates for these Exhibitions and Bursaries more than once.

2. *The Senior Exhibitions and Bursaries* are offered for competition to Undergraduates entering the Third year of the Arts course. Candidates must have completed two and only two years of their course in Arts either at this or some other University,† and must have matriculated within three academic years of the date of competition. Candidates from other Universities must comply with the conditions of § II.

3. *The Exhibitions* are open to all candidates satisfying the conditions of sections 1 and 2.

4. *The Bursaries* (the seven Senior Bursaries of 1882 excepted) are limited to candidates from the undermentioned districts, according to the following scheme:

Four Bursaries to District No. 1, comprising the Counties of Halifax, Colchester, Pictou and Yarmouth.

Two Bursaries to District No. 2, comprising the remaining Counties of Nova Scotia proper.

One Bursary to District No. 3, viz.: the Island of Cape Breton.

Two Bursaries to District No. 4, viz.: Prince Edward Island.

One Bursary to District No 5, viz.: New Brunswick.

---

*An exception will be made in 1882 in the case of candidates who during the two preceding years may have matriculated in the University of Halifax or in the Science course of this University. This privilege will not hereafter be granted to Undergraduates in Science of this University.

†Undergraduates of the University of Halifax, who have passed the first B. A. Examination, shall be regarded as having completed two years of their Arts course.

5. The district under which a candidate competes shall be determined either by the locality of the last school or academy* which he has attended for one school or academic year within the two calendar years immediately preceding (for Junior Exhibitions and Bursaries) the date of the competition, (for Senior Exhibitions and Bursaries) the date of his matriculation; or in the event of his not having attended for a school or academic year any school or academy within these two years, by his permanent or usual residence previously to matriculation.

6. *The Seven Senior Bursaries* of 1882 are limited to candidates from the following districts, to each of which one Bursary is allotted.

No. 1.—The Island of Cape Breton.
No. 2.—The Counties of Pictou, Antigonish and Guysboro'.
No. 3.—The Counties of Colchester, Cumberland and Hants.
No. 4.—The Counties of Halifax, Lunenburg and Kings.
No. 5.—The Counties of Annapolis, Digby, Yarmouth, Shelburne and Queens.
No. 6.—New Brunswick.
No. 7.—Prince Edward Island.

CONDITIONS OF TENURE.

7.—*The Junior Exhibitions and Bursaries* shall be held during two years, provided the holder *(a)* attend in consecutive years the classes proper to the first and second years of the Four Years Arts Course to the satisfaction of the Senate, *(b)* shew special proficiency in at least two† of the subjects of examination at the end of the first year, besides passing in the others, and *(c)* pass either the entrance and Sessional Examinations or the Supplementary Examinations of the second year.

8. *The Senior Exhibitions and Bursaries* shall be held during the third and fourth years of the Arts course on conditions similar to those for Junior Exhibitions and Bursaries. But in the case of an Undergraduate studying for Honours in any department, the favorable report of the Professor or Professors in that department on his Honours work in the Third Year shall be considered equivalent to special proficency in one of the two subjects mentioned in section 7.

---

* A College not having University powers shall, for the purposes of this rule, be considered a school or academy.

† For the purposes of this condition Mathematics shall be reckoned as two subjects.

GENERAL REGULATIONS.

9. The annual amounts of the above Exhibitions and Bursaries will be paid in three instalments, the first on the first Monday after the opening of the classes, the second on the first Monday after the Christmas vacation, and the third on the day of the Spring Convocation, the payment of each instalment being dependent upon the fulfilment of the conditions of tenure at the date at which it becomes due.

10. Candidates are required to make application for the above Exhibitions and Bursaries by means of a printed form, to be obtained from the Principal, which must be filled up and returned to him with the necessary certificates, at least one fortnight before the date of the competition,—this year, on or before October 9th.

11. A certain standard of answering at the Examinations, fixed by the Senate, will be required for obtaining any of the above Exhibitions or Bursaries. A higher standard will be required for Exhibitions than for Bursaries.

12. The Senate shall have in all cases the right of deciding as to the fulfilment of the above rules and conditions.

13. The Examinations for the Exhibitions and Bursaries which are offered for 1882 will begin on October 23rd.

SUBJECTS OF EXAMINATION.

14. The subjects of examination for the *Junior Exhibitions and Bursaries* in 1882 shall be as follows:—

In Latin.—*Cæsar*, Gallic War, Book VI.; *Ovid*, Metamorphoses, Book I. Grammar: Accidence, Syntax, Prosody, Scansion of Hexameter Verse. *Text Book:* Smith's Smaller Latin Grammar or Bryce's.

Composition: Easy sentences to be translated into Latin. *Text Book:* Smith's Principia Latina, Part IV. Exs. 1–35.

In Greek.—*Xenophon*, Anabasis, Books III. and IV. Grammar: Accidence (omitting accentuation), chief rules of Syntax. *Text Book:* Hadley's Elements of Greek Grammar.

In Mathematics.—Arithmetic: the ordinary rules of arithmetic, Vulgar and Decimal Fractions, Proportion and Interest. Algebra: as far as Simple Equations and Surds, with Theory of Indices. Geometry: First, Second and Third Books of Euclid or the subjects thereof.

In English.—Grammar, Analysis, Outlines of English and Canadian History and General Geography.

The relative values of these subjects shall be as follows: Classics, 200; Mathematics, 200; English, 100.

15. The subjects of examination for the *Seven Senior Bursaries* of 1882 and for the *Senior Exhibitions and Bursaries* of 1883 shall be as follows:—

Classics.

Latin: *Horace*, Odes, Books III., IV.; *Livy*, Book XXI. Composition: An easy English passage on some classical subject to be turned into Latin prose. *Text Book:* Smith's Principia Latina, Parts IV. and V.

Greek: *Xenophon*, Hellenics, Book I.; *Demosthenes*, the Olynthiacs. Composition: *Text Book*—Smith's Initia Græca, Part III.

Classical History and Geography: History of Greece to death of Alexander; Geography of Græcia, Asia. *Text Books* Smith's Students' Greece; Toser's Primer of Classical Geography.

Mathematics.

Algebra: Algebraic Proportion and Variation. Permutations and Combinations. Compound Interest and Annuities. Simple and Quadratic Equations. The properties and use of Logarithms.

Geometry: The relations of Similar Figures. The Eleventh Book of Euclid to Prop. 21, or the subjects thereof. The Mensuration of the Simpler Plane and Solid Figures, including the Cylinder and the Cone.

Plane Trigonometry: The solution of the various cases of Plane Triangles. The general values of the Trigonometrical Functions of angles. The Functions of the sum and of the difference of two or more angles, and of multiple angles. The relations of the angles, area, inscribed and circumscribed circles of a triangle to the sides of the triangle.

Logic or English Literature.

Logic: Sir Wm. Hamilton's Lectures on Logic. Ennoematic: the Doctrine of Concepts. Apophantic: the Doctrine of Judgments. The Doctrine of Reasonings. Syllogisms: their Divisions according to internal form, their Divisions according to external form. Reasoning in Comprehension, and Reasoning in Extension. Fallacies.

English Literature: Spenser's "Faerie Queene," 1st Book: Six Cantos. Shakespeare: "As you like it," "Richard II," "King Lear." The principal writers of the Augustan Age.

Inorganic Chemistry or Botany.

Inorganic Chemistry: Affinity. Definite Proportions by weight. Equivalents. Volumetric Proportions. Atomic Theory. Non-metallic Elements (except F, Se and B), their distribution in nature, preparation, properties, their oxides, acids or other compounds of theoretical importance. The Metals, general chemical character and classification. Constitution of Salts. Details relating to the following Metals so far as regards their mode of occurrence in nature, their oxides and most important salts, and common processes and manufactures, illustrating their chemical characters:—K, Na, Ba, Ca, Mg, Al, Fe, Zn, Mn, Cr, Bi, Sn, Pb, Cu, Hg, Ag, Au, Pt. Reactions are required to be given in form of chemical equations.

Botany: The Cell, its structure, contents and development. Tissues. External conformation of Plants. The Axis. Leaves, structure, functions, principal forms and modifications in form in the principal families of plants. Reproductive process in flowering plants. The Fruit, morphology, principal modifications. The Seed, embryo. Reproduction of Ferns, Mosses, Algæ, Fungi. General principles of the Natural System of Classification, with examples of the principal divisions. Details of structure, relations, and geographical distribution in North America of the following orders:—Ranunculaceæ, Nymphæaceæ, Cruciferæ, Violaceæ, Vitaceæ, Leguminosæ, Rosaceæ, Onagraceæ, Cucurbitaceæ, Cactaceæ, Grossulariaceæ, Umbelliferæ, Cinchonaceæ, Compositæ, Ericaceæ, Convolvulaceæ, Boraginaceæ, Solanaceæ, Chenopodiaceæ, Polygonaceæ, Urticaceæ, Betulaceæ, Coniferæ, Orchidaceæ, Liliaceæ, Cyperaceæ, Gramineæ, Polypodiaceæ.

The relative values of the above subjects shall be as follows:—Classics, 200; Mathematics, 200; Logic or English Literature, 150; Chemistry or Botany, 150.

§ XII.—MEDALS, PRIZES AND CERTIFICATES OF MERIT.

Medals.

The Governor-General's Gold Medal.

This medal shall be awarded to the Undergraduate standing highest among those taking Honours in the department of Classics, the winner of the Sir William Young Medal being excluded.

THE SIR WILLIAM YOUNG GOLD MEDAL.

This medal shall be awarded to the Undergraduate standing highest among those taking Honours in the department of Mathematics and Physics, the winner of the Governor-General's Gold Medal being excluded.

THE GOVERNOR-GENERAL'S SILVER MEDAL.

This medal shall be awarded to the Undergraduate standing highest among those taking Honours in one of the following departments, viz.: (1) Experimental Physics and Chemistry, and (2), Botany and Geology, in this order of preference, the winner of a gold medal being excluded. If there should be no candidate for Honours in either of these departments, it shall be given to the Undergraduate standing next the gold medallist in any department of Honours in the order of preference in which these departments are enumerated in § VI.

PRIZES.

(The Senate reserves to itself the right of withholding Prizes and Bursaries, unless sufficient merit be shewn.)

THE UNIVERSITY PRIZES.

These Prizes will be awarded to those Students who stand first in the several subjects at the Sessional Examinations.

No Student will be allowed to hold a Prize more than once in the same class.

THE ST. ANDREW'S CHURCH PRIZE.

This Prize will be awarded this year to the Undergraduate who shall stand first in Classics at the Sessional Examinations of the Second Year, the winner of the Waverley Prize being excluded.

NORTH BRITISH SOCIETY BURSARY.

A Bursary, of the annual value of $60, has been founded in connection with Dalhousie College by the North British Society of Halifax, to be competed for at the Sessional Examinations of the Second Year's Course in Arts, and held by the successful competitor for two years, namely, during the Third and Fourth Years of the Undergraduate Course in Arts. Candidates must be Undergraduates who have completed two years of the Curriculum, and must be eligible, at the proper age, to be members of the North British Society. The next competition will take place in April, 1884, at the Sessional Examinations. In awarding this Bursary, Classics, Mathematics, and Chemistry will be reckoned each 150; Logic, 100.

THE WAVERLEY PRIZE.

This Prize, the interest of an endowment of $1000, (which comes in the place of the Waverley Bursary) will be awarded to the Student of the Second Mathematical Class who stands highest at the Sessional Examinations in the Mathematics of the year, the winner of the North British Society Bursary being excluded. The first annual competition will take place at the Sessional Examination in April, 1883.

THE DR. AVERY PRIZE.

A Prize of the value of $25 is offered by Dr. Avery for competition to the Undergraduates in Arts of the Fourth Year, who are not studying for Honours. It will be awarded to the Student who stands highest at the Sessional Examinations.

CERTIFICATES OF MERIT.

Certificates of Merit of the First or Second Rank will be given to Students who have respectively obtained a First or Second Class standing in the aggregate of the branches of study proper to any one year.

§ XIII.—THE LIBRARY.

All Students are entitled to the use of the Library on payment of the Sessional fee of one dollar. A Student must deposit *two dollars* with the Librarian before he can take books out. When all such books are returned, this deposit will be repaid. The Library closes on the 20th April. All books must be returned on or before that date. Students who fail to comply with this rule will forfeit half the amount of their deposit. No Student can have his attendance and examination certificates signed until he returns the books he has taken out.

Graduates and members of the Alumni Association are also entitled to the use of the Library, and may take books out on making the above deposit with the Librarian.

§ XIV.—THE GYMNASIUM.

All students, graduates and members of the Alumni Association who pay the Sessional fee of *one dollar*, and agree to comply with the regulations are entitled to the use of the Gymnasium. This fee entitles students to instruction in Gymnastics also. If the classes are not too full, graduates and members of the Alumni Association may be admitted to them on payment of a fee of *three dollars*. The Gymnasium will be under the control of a Committee of Students who will be responsible for the carrying out of the regulations.

§ XV.—ORDINARY COURSES OF LECTURES.

CLASSICS.

LATIN.

FIRST YEAR.—*Cicero:* Pro Milone; *Pro Lege Manilia.
Virgil: Eclogues.
Composition: Smith's Principia Latina, Part IV., (second half).

SECOND YEAR.—*Horace:* Odes, Book I.; *Odes, Books III., IV.
Livy: Book I.
Composition: Smith's Principia Latina, Parts IV., V.

†THIRD AND FOURTH YEAR.—*Horace:* Satires, Book I., 1, 3, 4, 5, 6, 9; Book II., 4, 6, 7, 8.
Tacitus: Annals, Book I.
Composition: Smith's Principia Latina, Part V.
Philology: Peile's Primer of Comparative Philology.

GREEK.

FIRST YEAR.—*Lucian:* Select Dialogues.
**Xenophon:* Cyropædia, Book I.
Grammar: Hadley's Elements of Greek Grammar.

SECOND YEAR.—*Xenophon:* Memorabilia, Book III.
Homer: Odyssey, Book IX.
**Demosthenes:* Olynthiacs.
Composition: Smith's Initia Græca, Part III.

†THIRD AND FOURTH YEAR.—*Demosthenes:* Philippics, I., IV.
Sophocles: Antigone.
Composition: Smith's Initia Græca, Part III.

‡CLASSICAL HISTORY AND GEOGRAPHY.

SECOND YEAR.

History of Rome to B. C. 31; Geography of Italia, Sicilia, Gallia, Hispania.

THIRD YEAR.

History of Greece to the death of Alexander. Geography of Græcia, Asia, Africa.

Books recommended: Liddell's Students' History of Rome; Smith's Students' or Cox's History of Greece; Pillans' Classical Geography, or Tozer's Primer.

---

*Students seeking a First or Second Class at the Sessional Examinations are examined in this additional subject which is not read in class: such students are also required to show special accuracy in grammar.

† A passage taken from a work not prescribed to be read will be set for translation to Students seeking a First or Second Class in these years.

‡ The examinations in these subjects will be held at the beginning of the Winter Session. (See § IV.)

MATHEMATICS.

FIRST YEAR.

ARITHMETIC.—Revision of the Theory of Proportion, Vulgar and Decimal Fractions.

ALGEBRA.—Common Measure, Involution, Evolution, the Arithmetical Extraction of Roots, Fractions, Equations of the First and Second Degree, Proportion, Inequalities, Variation, Progressions, Indeterminate Equations.

GEOMETRY.—First and Second Books of Euclid revised, Third and Fourth Books, Definitions of Fifth, and Sixth Book to the Twentieth Proposition, with Geometrical Exercises and Practical applications.

PLANE TRIGONOMETRY.—Solution of Plane Triangles.

SECOND YEAR.

GEOMETRY.—Sixth Book of Euclid finished; Geometrical Exercises continued; Geometrical Drawing.

PLANE TRIGONOMETRY.—Circular and Gradual Measure; Functions of sum and difference of angles, &c.; Relations of the sides and angles of Triangles; Measuration of Heights and Distances; Elementary Problems in Navigation; Use of Logarithms.

SPHERICAL TRIGONOMETRY.—As far as the solution of Right-angled Triangles.

ALGEBRA.—Propositions in Theory of Equations; Binomial Theorem; Properties of Logarithms; Compound Interest; Annuities.

EXTRA.

GEOMETRY.—21 Propositions of the Eleventh Book of Euclid; Geometrical Exercises.

TRIGONOMETRY.—Extension of Ordinary Course.

ALGEBRA.—Permutations, Combinations, Probabilities, Life Assurance, Investigation of Binomial Theorem and Theory of Logarithms; Indeterminate Co-efficients, with application to Expansions and Series.

Books recommended: For First Year—Hamblin Smith's (Miller & Co.) Elements of Geometry, or Colenso's or Todhunter's; Colenso's or H. Smith's Algebra. For Second Year—Colenso's Algebra, 2nd part; Colenso's, Trigonometry, 1st part; Todhunter's Spherical Trigonometry; or Hann's Trigonometry, (Weale's Series); Chamber's Logarithmic, &c., Tables.

PHYSICS.

MATHEMATICAL PHYSICS.

Kinematics.—Dynamics of a Particle, and of a Rigid Body, including Kinetics and Statics. Hydrostatics. The above subjects are treated in an elementary manner; but students are assumed to be familiar with the Mathematics taught in the First and Second Years' classes.

The following books are recommended for consultation: Thomson and Tait's Elements of Natural Philosophy, Part I., (2nd Ed., 1879, Pitt Press, Cambridge) and Garnett's Dynamics (Deighton, Bell & Co., Cambridge) or Wormell's Principles of Dynamics (Rivingtons). Portions of Thomson and Tait's Elements will be prescribed for private reading to students wishing a First Class position in the Final Examinations.

EXPERIMENTAL PHYSICS.

Properties of Solids, Liquids, and Gases; the Law of the Conservation of Energy; Heat, Electricity and Magnetism, Light and Radiant Heat, Sound.

The following books are recommended for consultation: Stewart's Lessons in Experimental Physics (Macmillan & Co.); Maxwell's Theory of Heat (Longmans); S. P. Thompson's Lessons in Electricity and Magnetism (Macmillan & Co.) Portions of the last two books will be prescribed for private reading to students wishing a First Class position at the Final Examinations.

ASTRONOMY.

Spherical and Physical Astronomy; with the elements of Geometrical Optics and their application to Astronomical Instruments.

The following books are recommended for consultation: Loomis's Treatise on Astronomy (Harper & Bros.) or Ball's Elements of Astronomy (Longmans' Text Books of Science series); Osmund Airy's Geometrical Optics (Macmillan & Co.) or Aldis' Geometrical Optics (Deighton, Bell & Co.).

ETHICS.

(*Fourth Year.*)—*Text Books:* Stewart's Active and Moral Powers of Man. Whewell's Elements of Morality.

LOGIC AND PSYCHOLOGY.

Text Books: Sir William Hamilton's Lectures on Logic. Prof. Lyall's "Intellect, the Emotions, and the Moral Nature."

METAPHYSICS AND ÆSTHETICS.

(*Third Year.*)—*Text Books:* Sir William Hamilton's Lectures on Metaphysics. Mansel's Metaphysics. Lewes' Biographical History of Philosophy. Cousin on the Beautiful. Allison's Essays on the Nature and Principles of Taste.

RHETORIC.

The course includes Style, Figures of Speech, Composition, Description, Narration, Exposition, Oratory, Poetry.

Text Book: Rhetoric and English Composition, by Alex. Bain, LL. D.

HISTORY.

Fourth Year: TEXT BOOKS.—Taylor's Modern Europe; Green's History of the English People. *Books recommended:* Gibbon's Decline and Fall of the Roman Empire; Hallam's Middle Ages; Kohlrausch's History of Germany; Coxe's History of the House of Austria; Students' History of France; Sismondi's Italian Republics; Hallam's Constitutional History; Stubb's Constitutional History of England.

POLITICAL ECONOMY.

Fourth Year: TEXT BOOKS.—Mill's Political Economy; Senior's Political Economy. *Books recommended:* Smith's Wealth of Nations; Fawcett's Manual of Political Economy; Perry's Elements of Political Economy.

ENGLISH LITERATURE AND METAPHYSICS.

It is impossible this year to describe in detail the work pertaining to this Chair.

There will be a course of lectures on the general history of English Literature, with *pari passu* Critical Reading of classical authors selected as representative of the various periods into which the subject will be divided. In this way the class will, so far as the time permits, read with the Professor, or under his guidance, selections from Chaucer, Spencer, Shakespeare, Bacon, Milton, Addison, Pope, and other English Classics, as edited in the Clarendon Press Series.

One hour a week will be devoted to practical work in English Composition, when students' essays will be returned with corrections and criticisms.

The course in Metaphysics will be announced at the opening of the Session.

HEBREW.

Fourth Year: TEXT BOOK.—Green's Elementary Hebrew Grammar, with reading and writing lessons and vocabularies.

CHEMISTRY.

THEORETICAL CHEMISTRY.

INORGANIC.—(*Second Year of Arts Course and First Year of Science Course.*) General principles; Chemical Affinity; Combination; Mixture; Solution; Suspension; Laws of Combination, by weight, by volume; Equivalent Numbers; Atomic Numbers; Atomic Theory; Nomenclature; Notation; Formulæ; Equations; Elements and their modes of occurrence in nature, their preparation, their compounds, important chemical processes, natural and artificial, and manufactures, to which they are related; the Metals, their general characters, classification, occurrence in nature; Metallurgical Processes; Alloys; description of all the important metals, their salts and other compounds, and of chemical processes and manufactures connected with them, modes of testing, &c.

Class Book: Green's edition of Wurtz's Elements of Chemistry, or Fownes' Manual of Chemistry, or Roscoe.

ORGANIC.—(*Second Year of Science Course.*) Principles of Classification; Organic Series; Comparison of the principal Series of the Fatty Group, *viz.*, Paraffines and Olefines; Monatomic, Diatomic, Triatomic and Hexatomic Alcohols and Ethers; Monatomic, Diatomic and Tetratomic Acids; Aldehydes; Cyanogen; Comparison of Amines, Diamines, Triamines; Artificial Bases; Alkaloids; Phosphines, Stibines, Arsines; Amides (including Urea and its derivatives); Uric Acid; Colouring Matters; Outline of Animal Chemistry: Tissues, Blood, Milk, Urine; Respiration, Digestion, Nutrition.

MEDICAL CHEMISTRY.—The Class for Medical Chemistry meets daily throughout the winter session. This course embraces a discussion of the principles of Inorganic and Organic Chemistry, with special reference to elements and compounds used in Medicine, and processes employed for detection of poisons, &c.

PRACTICAL CHEMISTRY.

LABORATORY PRACTICE.—Preparation and examination of Gases, Liquids and Solids, chiefly the Metalloids and their combinations with each other; Collection of Gases; Use of Pneumatic Trough; Fitting up of Glass Apparatus; Analysis and Synthesis of Water; Air; Illustration of meaning of terms: Base, Acid, Salt, Neutralization, Combustion, Solubility, Affinity, &c.; Illustration of processes of Crystallization, Distillation, Oxidation, &c.; Systematic Analysis (commenced); Flame Reactions; Use of Spectroscope.

Text Book: Laboratory Practice and Qualitative Analysis by Thorpe and Muir. The class meets three times a week in the afternoon.

QUALITATIVE CHEMICAL ANALYSIS.—Systematic Qualitative Analysis; Detection of Bases and Acids, separate and in mixtures.

Text Books: Will's Tables of Chemical Analysis; Qualitative Analysis, Fresenius, Thorpe, or Appleton. Class meets in the afternoon.

QUANTITATIVE CHEMICAL ANALYSIS.—The Laboratory will be open daily (except Saturday) from 9 A.M. to 1 P.M., for work in this department. There is a reference library in the balance room for the use of students.

BOTANY

Morphology of the Cell, of the Tissues, and of the External Conformation of Plants; Special Morphology of Thallophytes, Characeæ, Muscineæ; Muscular Forces in the Plant; Aggregation of Organized Structures, Movements of Water and Gases; Chemical Processes, Constituents of Plant Food, Assimilation, Respiration; Influence of Temperature, Light, Electricity, Gravitation; Mechanical Laws of Growth, Tension, Pressure, Friction; Periodicity of Growth, Periodic Movements, Reproduction; Hybridization; Origin of Species; Origin of Varieties; the Theory of Descent; Classification, including a Description of the Principal Natural Orders of American Plants; Geographical Botany; Outline of Vegetable Palæontology.

HISTOLOGY.—(In connection with the Botanical Class). Instruction will be given in the general use of the Microscope, the preparation and mounting of Vegetable Tissues, and the Microscopical Observation of vital phenomena in living plants.

On Saturdays during favorable weather there will be Field Excursions for collecting botanical specimens.

GEOLOGY.

FIRST WINTER SESSION: *(Historical Geology.)*—Text Book: Dana's Text Book (last edition).

SUMMER SESSION: *(Practical Geology and Mineralogy.)*—In the Field and Museum.

SECOND WINTER SESSION: *(Petrography, Stratigraphy, Dynamics, Physiography, Palæontology.)*—Lecture notes.

MODERN LANGUAGES.

FRENCH.

THIRD YEAR IN ARTS AND SECOND YEAR IN SCIENCE.—Voltaire's *Charles XII.*, Book II.; Scribe's *Le verre d'eau"* (or its equivalent). Grammar: The Accidence; Translation from English writers; Dictation; Parsing.

FOURTH YEAR IN ARTS AND THIRD YEAR IN SCIENCE.—Racine's *Athalie*; Molière's *L'Avare.*

FOURTH YEAR IN SCIENCE.—Corneille's *Le Cid*; Molière's *Les femmes savantes.* Grammar, Fourth Year (Arts and Science): Syntax; Translation from English writers.

Text Books: Brachet's Public School French Grammar; Exercises in Accidence and Syntax. *For Junior Classes*—Brachet's Public School Elementary French Grammar.

GERMAN.

THIRD YEAR IN ARTS AND FIRST OR THIRD* IN SCIENCE.—Adler's *Reader*; Schiller's *Wilhelm Tell.* Grammar as in French.

FOURTH YEAR IN ARTS AND SECOND OR FOURTH* YEAR IN SCIENCE.—Schiller's *Wilhelm Tell* (continued); Goethe's *Hermann und Dorothea.*

THIRD AND FOURTH YEARS IN SCIENCE.—Lessing's *Nathan der Weise;* Goethe's *Egmont.*

Text Book: Otto's German Grammar.

* In the case in which the student does not begin German until the Third Year.

§ XVI.—HONOUR COURSES.

I.—CLASSICS.

LATIN.—*Plautus:* Trinummus.
Terence: Heautontimorumenos.
Virgil: Georgics, Books I., IV.
Horace: Epistles, Books I., II., Ars Poetica.
Juvenal: Satires, VII., VIII., XIV.
Cicero: De Oratore, Books I., II.
Tacitus: Germania, Agricola.

GREEK.—*Æschylus:* Agamemnon.
Sophocles: Œdipus Coloneus.
Homer: Odyssey, Books V.–VIII.
Thucydides: Book VII.
Plato: Phædo.
Demosthenes: De Corona.

COMPOSITION.—Latin Prose.

PHILOLOGY.—Müller's Science of Language, vol. 1, chaps. 1–7.
Peile's Introduction to Greek and Latin Etymology.
Class Lectures.

LITERATURE.—Müller and Donaldson's History of Ancient Greek Literature (the portions bearing on the authors and subjects of the course); Roman Classical Literature (Brown's), selected chapters; Theatre of the Greeks (Donaldson), selected portions.

II.—MATHEMATICS AND PHYSICS.

MATHEMATICS.

TRIGONOMETRY.—DeMoivre's Theorem and Angular Analysis. Theory of Equations, with Horner's Method of Solution, and Sturm's Theorem.

ANALYTICAL GEOMETRY.—The Straight Line, the Circle, Parabola, Ellipse, Hyperbola; The Locus of the General Equation of the Second Degree between two Variables.

DIFFERENTIAL CALCULUS.—Differentiation; Theorems of Leibnitz, Maclaurin, and Taylor; Maxima and Minima of Functions of one Variable; Expansion of Functions of two Variables; Maxima and Minima of such Functions; Radius of Curvature, Osculating Circle; Envelopes; the tracing of Curves by means of their Equations.

INTEGRAL CALCULUS.—Integration of Simple Forms; Integration by Parts, and Formulæ of Reduction; Integration by Substitution, &c.; Applications to determine Lengths of Curves, Surfaces, Volumes, &c.; Differential Equations (selected course); Application to Physical Investigation, *e. g.*, Centre of Gravity, Attraction, Central Forces, &c.

Books recommended (in order of preference): Todhunter's Spherical Trigonometry; Todhunter's Plane Trigonometry, or Colenso's (2nd part); Todhunter's, Puckle's, or Salmon's Conic Sections; Hall's, Hind's, or Todhunter's Differential and Integral Calculus; Todhunter's or Young's Theory of Equations; Boole's Differential Equations.

PHYSICS.

Kinematics; Dynamics of a Particle and of a Rigid Body; Hydrodynamics; Thermodynamics; Electrostatics.

The following works are recommended for consultation: Thomson and Tait's Treatise on Natural Philosophy, Vol. I., Part I. (Camb. Univ. Press); Minchin's Statics (Longmans, Green & Co.); Tait and Steele's Dynamics of a Particle (Macmillan & Co.); Pirie's Lessons on Rigid Dynamics (Macmillan); Besant's Hydromechanics (Deighton Bell & Co.); Tait's Sketch of Thermodynamics (Douglas, Edinburgh).

III.—MENTAL AND MORAL PHILOSOPHY.

LOGIC.

Sir William Hamilton's Lectures on Logic. Whateley's Logic, Books II., III., IV. Mill's Logic, I., II. Bacon's Novum Organum.

METAPHYSICS AND ÆSTHETICS.

Descartes' Principles of Philosophy. Reid's Essays, VI. Sir William Hamilton's Lectures on Metaphysics. Sir William Hamilton's Philosophy of Perception and Philosophy of the Unconditioned. Lewes' Biographical History of Philosophy. Cousin's Philosophy of the Beautiful. Allison's Essays on the Principles of Taste. Burke on the Sublime and Beautiful.

ETHICS.

Mackintosh's Dissertation on the Progress of Ethical Philosophy.
Butler's Sermons on Human Nature, with the Preface and the Dissertation on the Nature of Virtue.
Smith's Theory of Moral Sentiments.
Thomson's Christian Theism.
Aristotle's Ethics, Books I., III., VI., X. (in English.)

IV.—EXPERIMENTAL PHYSICS AND CHEMISTRY.

EXPERIMENTAL PHYSICS

Properties of Solids, Liquids and Gases, including the principles of the Kinetic Theory of Gases.

Heat, including the principles of the Dynamical Theory.

Sound, Light and Radiant Heat, including the principles of the Undulatory Theory.

Electricity and Magnetism.

The Conservation of Energy as the great experimental law of physical phenomena.

No more profound mathematical knowledge will be demanded than is necessary for the Bachelor degree. Candidates will be required to shew considerable familiarity with both the theory and the practice of the methods of determining physical constants, such as *the specific heat, the specific inductive capacity, the electrical and thermal conductivity, the velocity of light, the declination*, &c., and especially with the physical methods and instruments usually employed in chemical research.

The following works are recommended to candidates for consultation:—Magnus' Hydrostatics and Pneumatics (Longmans); Stewart's Treatise on Heat (Clarendon Press); Maxwell's Theory of Heat (Longmans); Stone's Elementary Lessons on Sound (Macmillan); Aldis' Geometrical Optics (Deighton, Bell & Co.); Lloyd's Wave Theory of Light (Longmans); Roscoe's Spectrum Analysis (Macmillan); S. P. Thompson's Electricity and Magnetism (Macmillan).

Practice in experimental work may be had in the Physical Laboratory, Laboratory book: Kohlrausch's Physical Measurements.

CHEMISTRY.

A Course of Extra Study will be prescribed by the Professor, who will explain the nature and extent of the work to be done, and advise what books should be read and consulted.

V.—BOTANY AND GEOLOGY.

BOTANY.

Candidates for Honours will be required to form a Herbarium, consisting of properly prepared specimens of the Native Plants of the District in which they reside during the Summer, all carefully named and classified according to the Natural System. The determination of species must be done from books, without other assistance, and the examination questions will be so framed as to test the Candidate's knowledge of the distinctive characters of the species contained in his Herbarium.

GEOLOGY.

Candidates will be examined in Dana's Manual of Geology (last edition), Chapman's Outline of the Geology of Canada, and Nicholson's Manual of Palæontology, and will be required to make a report on a field selected by the Professor.

TIME TABLE—WINTER SESSION, 1882-83.

HOURS.	FIRST YEAR.	SECOND YEAR.
9—10 A. M.	Inorganic Chemistry (Sci.) (Tu. W. F.)	Inorganic Chemistry (Arts) (Tu. W. F.)
10—11 A. M.	Mathematics (daily). Chem. Laboratory (M.W.F.)	Latin (M. W. F.) Greek (Tu. Th.) Botany (Tu. Th.) Chem. Laboratory (M.W.F.)
11—12 M.	Latin (M. W. F.) Greek (Tu. Th.) Medical Chemistry (daily.)	Mathematics (daily.)
12—1 P. M.	Rhetoric (M. W. F.) Chem. Laboratory (M.W.F.)	Extra Mathematics (F.) Organic Chemistry (Tu. Th.) Chem. Laboratory (M.W.F.)
1—2 P. M.		
2—3 P. M.	German (Sci.) (M. W. F.)	French (Sci.) (Tu. Th.)
3—4 P. M.		Logic (M. W. F.) German (Sci.) (M. W. F.)
4—5 P. M.		

TIME TABLE—WINTER SESSION, 1882-83.

HOURS.	THIRD YEAR.	FOURTH YEAR.
9—10 A. M.	Hon. Classics (M. F.) French (Sci.) (Tu. Th.) German (Sci.) (M. W. F.)	Hon. Classics (M. F.) French (Arts) (Tu. Th.) German (Sci.) (M. W. F.)
10—11 A. M.	Chem. Laboratory (M.W.F.)	History (daily). Organic Chemistry ( ) Chem. Laboratory (M.W.F.)
11—12 M.	Math. Physics (Tu. Th.) Exp. Physics (M. W. F.)	Ethics (M. W. F.) Exp. Physics (M. W. F.) Political Economy (Tu. Th.)
12—1 P. M.	Latin (M. W. F.) Greek (Tu. Th.) Hon. Mathematics (Tu. Th.) Chem. Laboratory (M.W.F.)	Latin (M. W. F.) Greek (Tu. Th.) Astronomy (Tu. Th.) Hon. Mathematics (M. W.) Hon. Physics. (F.) Chem. Laboratory (M.W.F.)
1—2 P. M.	Hon. Mathematics (F.)	Hon. Mathematics (F.) Hon. Physics (M.)
2—3 P. M.	German (Arts) (M. W. F.) French (Arts) (Tu. Th.)	
3—4 P. M.	Metaphysics (Tu. Th.) Logic (M. W. F.)	German (Arts) (M. W. F.) French (Sci.) (Tu. Th.) Hebrew (Tu. Th.)
4—5 P. M.	Geology ( ).	Geology ( ).

DEGREES.

APRIL, 1882.

BACHELORS OF ARTS WITH HONOURS.

GEORGE MURRAY CAMPBELL .. ..Truro.
JAMES STARR TRUEMAN .. .. Carleton, N. B.

ORDINARY DEGREE OF BACHELOR OF ARTS.

GEORGE STEPHEN CARSON ....Sussex, N. B.
JOHNSON FULTON DAVIDSON .... Halifax.
WILLIAM EITCHIE FRASER ....Mt. Thom, Pictou.
JAMES HARRIS KNOWLES .. .. Milton.
ROBERT LANDELLS ....Halifax.
JAMES WALTER MCKENZIE .... Strathalbyn, P. E. I.
HUMPHREY MELLISH .. ..Halifax.
GEORGE GEDDIE PATTERSON .... New Glasgow.
EDGAR JAMES TOREY.. ....Guysborough.
THOMAS STEWART .... Wbycocomagh.

ORDINARY DEGREE OF BACHELOR OF SCIENCE.

ALEXANDER GEORGE CAMERON ....Newtown, Guysboro'.

HONOURS, PRIZES, CERTIFICATES OF MERIT, EXHIBITIONS, BURSARIES, 1881-82.

HONOURS.

CLASSICS—Second Rank—James Starr Trueman.
MATHEMATICS AND PHYSICS—Second Rank—George Murray Campbell.

UNIVERSITY PRIZES.

CLASSICS: *Fourth Year*, Trueman, J. S. *Third Year*, Bell, J. A. *Second Year*, McLeod, J. P. *First Year*, (1) Gammel, I.; (2) (Aiton, W., and McLeod, J. M.)

MATHEMATICS: *Second Year*, Murray, D. A. *First Year*, Calkin, Lillie B.

ASTRONOMY AND OPTICS: Campbell, G. M.
PHYSICS: MacGregor, T. S.
MATHEMATICAL PHYSICS: Reid, A. G.
ETHICS AND POLITICAL ECONOMY: Carson, G. S.
METAPHYSICS AND ÆSTHETICS: Taylor, W. P.
LOGIC AND PSYCHOLOGY: McLeod, J. P.
RHETORIC: McLeod, J. M.
CHEMISTRY (INORGANIC): McLeod, J. P. (ORGANIC): *Second Year*, Smith, H. M.
HISTORY: Crowe, W.
FRENCH: *Fourth Year*, Mellish, H. *Third Year*, Smith, H. M.
GEOLOGY: Cameron, A. G.
BOTANY: Smith, H. M.
HEBREW: Carson, G. S.

SPECIAL PRIZES.

THE ST. ANDREW'S CHURCH PRIZE: Murray, D. A.
THE NORTH BRITISH SOCIETY BURSARY: McLeod, J. P.
THE DR. AVERY PRIZE: Carson, G. S.

ESSAY PRIZES offered by P. JACK, ESQ: Logic—McLeod, J. P. Metaphysics—(1) Taylor, W. P.; (2) McClure, J. K.

THE GOVERNOR-GENERAL'S GOLD MEDAL: Trueman, J. S.
THE SIR WILLIAM YOUNG GOLD MEDAL: Campbell, G. M.

CERTIFICATES OF MERIT.

FACULTY OF ARTS.

FIRST CLASS: *Fourth Year*, Mellish; Trueman, J. S. *Third Year*, Bell. *Second Year*, Adams; McLeod, J. P.; Murray. *First Year*, Aiton; Calkin; Coffin, F. J.; Gammel; Kempton; Martin; McKenzie, A. S.; McLeod, J. M.; Pitolado, I.; Robinson; Tufts.

SECOND CLASS: *Fourth Year*, Carson; Davidson; Patterson. *Third Year*, Macdonald, J. A.; McLennan; Taylor, W. P. *First Year*, Crawford; Fitzpatrick; Newcombe; Thompson, A. W.

FACULTY OF SCIENCE.

FIRST CLASS: *Third Year*, Reid.
SECOND CLASS: *Fourth Year*, Cameron. *Second Year*, Smith, H. M.

THE MUNRO EXHIBITIONS (1881).

(1) I. Gammel, —Pictou Academy.
(2) W. Aiton,—Sussex School, N. B., and Pictou Academy.
(3) H. K. Fitzpatrick,—Pictou Academy.
(4) J. M. McLeod,—Prince of Wales College, Charlottetown.
(5) Not awarded.

THE MUNRO BURSARIES (1881).

DISTRICT I. (1) Lillie R. Calkin,—Normal School, Truro.
A. W. Thompson,—Pictou Academy.
(3) S. A. McKenzie,—New Glasgow and Halifax High Schools.
(4) W. M. Tufts,—Halifax High School.
DISTRICT II. (1) W. F. Kempton,—private study.
(2) Margaret Newcombe,—Cornwallis.
(3) Not awarded.
DISTRICT III. (1) J. M. McLean,—private study.
(2) Not awarded.
DISTRICT IV. (1) G. E. Robinson,—Prince of Wales Col., Charlottetown.
(2) F. J. Coffin,—Prince of Wales Col., Charlottetown.
DISTRICT V. (1) Not awarded.
(2) Not awarded.

SPECIAL MUNRO BURSARIES (1881).

($100 per annum tenable for two years.)

J. Crawford,—Prince of Wales College, Charlottetown.
K. J. Martin,—Prince of Wales College, Charlottetown.

EXAMINATIONS, 1881-82.

MATRICULATION EXAMINATIONS.

OCTOBER 1881.

(The following list contains the names of those who either passed the Matriculation Examinations, or were allowed to matriculate on report of the examiners for Munro Bursaries. The names are in alphabetical order.)

FACULTY OF ARTS.

FIRST YEAR: Aiton; Buchanan; Calkin; Coffin, F. J.; Coffin, F. S.; Crawford; Dimock; Doane; Fitzpatrick; Flemming; Freeman; Gammel; Johnson; Kempton; Locke; Logan; Martin; McKenzie, A. S.; McKinnon, T. H.; McKinnon, J.; McLean, J. M.; McLean, W.; McLeod, J. M.; McMillan; Newcombe; Pitblado, I.; Robinson; Thompson, A. W.; Thompson, W. M.; Tufts.
SECOND YEAR: Campbell, A.

FACULTY OF SCIENCE.

FIRST YEAR: Beak; Campbell, G. G.; Macrae, A. W.

ENTRANCE EXAMINATIONS IN CLASSICAL HISTORY.

OCTOBER, 1881.

(The names are in order of merit.)

THIRD YEAR: *Class I.*, Bell; McLennan. *Class II.*, Dickie. *Passed*, McDonald, J. A.; McKenzie, J. W.
SECOND YEAR: *Class I.*, Murray; Dill; McLeod, J. P. *Class II.*, None. *Passed*, Fraser, W. M., B.Sc.; Pitblado, J.; Jones; Taylor, W. B.; Adams.

SPECIAL DEGREE EXAMINATIONS.

OCTOBER, 1881.

FOURTH YEAR: Stewart, T.
SECOND YEAR (three years' course). *Classics, Ethics and Political Economy*, and *French*, McKenzie, J. W.

SUPPLEMENTARY EXAMINATIONS.

OCTOBER, 1881.

THIRD YEAR: *Latin*, Davidson. *Physics*, Cameron. *Logic*, Cameron.
SECOND YEAR: *Logic and Psychology*, McLeod, J. *Mathematics*, Dickie.

JANUARY, 1882.

THIRD YEAR: *Classical History*, MacGregor; Taylor, W. P.
SECOND YEAR: *Classical History*, Blair, G. H.; Campbell, A.; McDonald, D. *Mathematics*, McLeod, J.
FIRST YEAR: *Greek*, Hamilton.

SESSIONAL EXAMINATIONS.

APRIL, 1832.

GENERAL PASS LIST.

(Containing the names of Undergraduates who have passed in all the subjects proper to their years.—The names are arranged alphabetically.)

FACULTY OF ARTS.

FOURTH YEAR: Campbell, G. M.; Carson; Davidson; Fraser, W. R.; Knowles; Landells; Mellish; Patterson; Torey; Trueman, J. S.

THIRD YEAR: Bell; Dickie; Macdonald, J. A.; MacGregor; McKenzie, J. W.; McLennan; Taylor, W. P.

SECOND YEAR: Adams; Dill; Jones; McDonald, D.; McLeod, J. P.; Murray; Pitblado, J.

FIRST YEAR: Aiton; Calkin; Coffin, F. S.; Coffin, F. J.; Crawford; Doane; Fitzpatrick; Flemming; Freeman; Gammel; Kempton; Locke; Martin; McKinnon; McKenzie, A. S.; McLean, J. M.; McLeod, J. M.; Newcombe; Pitblado, I.; Robinson; Thompson, A. W.; Thompson, W. M.; Trueman, H.; Tufts.

FACULTY OF SCIENCE.

FOURTH YEAR: Cameron.
THIRD YEAR: McColl; Reid.
SECOND YEAR: Miller; Smith, H. M.
FIRST YEAR: Boak; Macrae.

CLASS LISTS.

(Containing the names of Undergraduates and General Students who passed in the various subjects of the course, the names being in order of merit.)

LATIN.

THIRD AND FOURTH YEARS: *Class I.*—Trueman, J. S.; Bell; Reid. *Class II.*—Taylor, W. P.; Macdonald, J. A.; Carson; McLennan; Davidson. *Passed.*—MacGregor; Patterson; Torey; Dickie; Knowles; Fraser, W. R.; Landells; McLeod, J.; McKenzie.

SECOND YEAR: *Class I.*—McLeod, J. P.; Murray; Adams. *Class II.*—Jones; Dill; Taylor, W. B.; Pitblado, J. *Passed.*—Smith, H. M.; Elliott; McDonald, D.; Fraser, W. M.; Miller.

FIRST YEAR: *Class I.*—Gammell; (McLeod, J. M.; Robinson); (Martin; Pitblado, I.); Tufts; Aiton; (Kempton; Coffin, F. J.); Calkin. *Class II.*—Newcombe; McKenzie, A. S.; (Crawford; Fitzpatrick); Thompson, A. W. *Passed.*—Coffin, F. S.; McLean, J. M.; Locke; Doane; (Freeman; Macrae, A. W.; Morrison); (Boak; Trueman, H.); McKinnon; Logan; (Flemming; Rogers); McMillan; Blair, J. T.; Thomson, W. M.

GREEK.

THIRD AND FOURTH YEARS: *Class I.*—(Bell; Mellish); Trueman, J. S. *Class II.*—Taylor, W. P.; Campbell, G. M. *Passed.*—McLennan; Patterson; Fraser, W. R.; McLeod, J.; Dickie.

SECOND YEAR: *Class I.*—McLeod, J. P.; Adams. *Class II.*—Jones; Murray. *Passed.*—Pitblado, J.; Dill; Elliott; McDonald, D.; Taylor, W. B.

FIRST YEAR: *Class I.*—Aiton; (Gammell; McLeod, J. M.); Martin; (Calkin; McKenzie, A. S.; Robinson). *Class II.*—Tufts; Newcombe; Coffin, F. J.; Thompson, A. W.; (Pitblado, I.; Crawford); Kempton. *Passed.*—(Fitzpatrick; McLean, J. M.); Coffin, F. S.; Rogers; Locke; Thompson, W. M.; Freeman; Logan; McKinnon; Flemming; Doane; Trueman, H.

MATHEMATICS.

SECOND YEAR: *Class I.*—Murray; McLeod, J. P.; Pitblado, J.; Adams. *Class II.*—Taylor, W. P.; Jones; Elliott; McDonald, D.; Dill. *Passed.*—Campbell, A.; Smith H. M.; Taylor, W. B.; Miller.

FIRST YEAR: *Class I.*—Calkin; Martin; Newcombe; (Gammel; Freeman); Crawford; (Kempton; Pitblado, I.); Thompson, A. W.; Morrison; (Robinson; Fitzpatrick; McKenzie, A. S.; McLeod, J. M.) *Class II.*—(McLean, J. M.; Aiton); (Tufts; Coffin, F. J.; McMillan); Macrae, A. W.; Johnson; Doane; Locke; Campbell, G. G.; Boak; Coffin, F. S.; Thompson, W. M.; Trueman, H. *Passed.*—Flemming; McLean, H. K.; McFarlane; Fillmore; McLean, W.; McKinnon. *Passed in Geometry.*—Logan; Currie; Rogers.

PHYSICS.

Class I.—MacGregor. *Class II.*—(Bell; Macdonald, J. A.) *Passed.*—(Dickie; McClure); McKenzie, J. W.

MATHEMATICAL PHYSICS.

Class I.—Reid. *Passed.*—McLennan; McColl.

EXPERIMENTAL PHYSICS.

Passed.—Cameron.

ASTRONOMY AND OPTICS.

Class I.—Campbell, G. M. *Class II.*—Mellish. *Passed.*—Davidson; Landells.

ETHICS AND POLITICAL ECONOMY.

Class I.—Carson. *Class II.*—Davidson; Trueman, J. S.; Knowles; Fraser, W. R.; Patterson; Torey. *Passed.*—Landells.

LOGIC AND PSYCHOLOGY.

Class I.—McLeod, J. P.; Murray. *Class II.*—Adams. *Passed.*—McRae, W. L.; McDonald, D.; Jones; McDonald, W.; Dill; Pitblado, J.; Elliott; McColl.

METAPHYSICS AND ÆSTHETICS.

Class I.—Taylor, W. P.; (McLennan; Dickie). *Class II.*—(McClure; McLeod). *Passed.*—McKenzie, J. W.

RHETORIC.

Class I.—McLeod, J. M.; Gammell; (Fitzpatrick; McKenzie, A. S.); Kempton; Tufts; Pitblado, I.; (Coffin, F. J.; McLean, J. M.); (Calkin; Robinson; Martin). *Class II.*—Coffin, F. S.; (Doane; Aiton); Newcombe; Thompson, A. W.; (McKinnon; Campbell, G. G.); Thompson, W. M. *Passed.*—(Macrae, A. W.; Crawford); Trueman, H.; Boak; Johnson; (Blair, J. T.; Flemming); (Morrison; McLean, W.); Freeman; Locke; Currie.

HISTORY.

Class I.—Crowe; Patterson; Davidson. *Class II.*—Carson. *Passed.*—Landells; Torey; Knowles; Fraser, W. R.

INORGANIC CHEMISTRY.

Class I.—McLeod, J. P.; Murray; Adams. *Class II.*—Macrae, A. W.; Boak; Pitblado, J. *Passed.*—Dill; Elliott; Congdon; Jones; McDonald, D.; Campbell, G. G.; Miller; Campbell, A.

ORGANIC CHEMISTRY.

Class II.—Cameron; Smith, H. M.; Miller.

CHEMICAL LABORATORY.

Class I.—Cameron; Smith, H. M.; Miller. *Passed.*—McColl.

BOTANY.

Class I.—Smith, H. M.; Miller.

GEOLOGY.

Class I.—Cameron.—*Class II.*—Reid; McColl.

HEBREW.

Class I.—Carson; McDonald, W.

FRENCH.

FOURTH YEAR: *Class I.*—Mellish; Trueman, J. S. *Class II.*—Campbell, G. M.; Davidson; Carson; Torey; Patterson; Landells; McKenzie, J. W. *Passed.*—Fraser, W. R.; Knowles; Cameron; McColl.

THIRD YEAR: *Class I.*—Smith, H. M.; Macdonald, J. A.; Reid; McLennan; Bell. *Class II.*—McLeod; MacGregor; Dickie. *Passed.*—Miller.

GERMAN.

Class II.—McColl; McKenzie, J. W.; Cameron; Torey. *Passed.*—Knowles.

GENERAL LIST OF HONOURS, MEDALS, PRIZES, EXHIBITIONS, BURSARIES, &c., 1878-82.

HONOURS.

1879—CLASSICS: *Second Rank*, Isaac M. McLean.
HISTORY AND ENGLISH LITERATURE: *Second Rank*, Charles S. Cameron.
1880—HISTORY AND ENGLISH LITERATURE: *Second Rank*, Edwin Crowell.
1881—MATHEMATICS AND PHYSICS: *Second Rank*, H. G. Creelman.
1882—CLASSICS: *Second Rank*, J. S. Trueman.
MATHEMATICS AND PHYSICS: *Second Rank*, G. M. Campbell.

THE GOVERNOR GENERAL'S GOLD MEDAL.

1878, J. L. George. 1880, E. Crowell. 1881, H. G. Creelman. 1882, J. S. Trueman.

THE SIR WM. YOUNG GOLD MEDAL.

1882, G. M. Campbell.

THE GOVERNOR-GENERAL'S SILVER MEDAL.

1878, J. H. Cameron. 1880, W. M. Fraser, 1881, not awarded. 1882, not awarded.

THE NORTH BRITISH SOCIETY BURSARY.

1878, A. E. Thomson. 1880, G. M. Campbell. 1882, J. P. McLeod.

THE DR. AVERY PRIZE.

1880, A. E. Thompson. 1881, J. A. Sedgewick. 1882, G. S. Carson.

THE WAVERLEY BURSARY.

1879, H. Murray. 1881, J. A. Bell.

THE ST. ANDREW'S CHURCH PRIZE.

1878, A. E. Thomson. 1879 H. Murray. 1880, H. Mellish. 1881, J. A. Macdonald. 1882, D. A. Murray.

THE YOUNG ELOCUTION PRIZES.

1878, (1) J. A. Sedgewick. (2) D. Cameron. 1879, (1) C. D. McLaren, (2) E. Crowell, (3) W. F. Fraser. 1880, (1) D. A. Murray, (2) H. Mellish. 1881, (1) J. E. Forsyth, (2) E. M. Dill.

THE ALUMNI PRIZES.

1878: (*Third Year*), (1) R. McKay, (2) J. M. McLean. (*First Year*), (1) J. S. Trueman, (2) H. G. Creelman. 1879: (*First Year*), (1) G. M. Campbell, (2) G. S. Carson.

UNIVERSITY PRIZES.

CLASSICS: *Fourth Year;* 1878, J. L. George. 1879, I. M. McLean. 1880, A. E. Thomson. 1881, J. A. Sedgewick. 1882, J. S. Trueman. *Third Year;* 1878, G. W. McQueen. 1879, A. E. Thomson. 1880, H. Murray. 1881, J. S. Trueman. 1882, J. A. Bell. *Second Year;* 1878, A. E. Thomson. 1879, (1) H. Murray, (2) J. S. Trueman. 1880, H. Mellish. 1881, J. A. Bell. 1882, J. P. McLeod. *First Year;* 1878, (1) J. S. Trueman, (2) H. G. Creelman. 1879, G. M. Campbell. 1880, (1) J. A. Bell, (2) J. A. Macdonald. 1881, (1) J. P. McLeod, (2) H. S. Adams. 1882, (1) I. Gammell, (2) W. Alton and J. M. McLeod.

MATHEMATICS: *Second Year;* 1878, A. E. Thomson. 1879, (1) H. Murray, (2) H. G. Creelman. 1880, G. M. Campbell. 1881, A. G. Reid. 1882, D. A. Murray. *First Year:* 1878, (1) G. M. Campbell, (2) H. G. Creelman. 1879, (1) G. M. Campbell, (2) G. S. Carson. 1880, (1) D. A. Murray, (2) A. G. Reid. 1881, (1) J. P. McLeod, (2) H. Elliott. 1882, Lillie B. Calkin.

PHYSICS: 1878, J. H. Cameron and R. McKay. 1879, A. Dickie. 1880, H. G. Creelman. 1881, G. S. Carson. 1882, T. S. MacGregor; *Math. Phys.*, A. G. Reid.

ASTRONOMY: 1881, H. G. Creelman. 1882, G. M. Campbell.

ETHICS AND POLITICAL ECONOMY: 1878, J. H. Cameron. 1879, C. S. Cameron. 1880, J. F. Dustan. 1881, T. Stewart. 1882, G. S. Carson.

METAPHYSICS AND ÆSTHETICS: 1878 (1) R. McKay, (2) I. M. McLean. 1879, (1) A. W. Mahon, (2) E. Crowell. 1880, H. Murray. 1881, (1) W. M. Fraser, B. Sc., (2) G. M. Campbell. 1882, W. P. Taylor.

LOGIC AND PSYCHOLOGY: 1878, A. E. Thomson. 1879, H. Murray. 1880, A. W. Mahon. 1881, J. W. McLennan. 1882, J. P. McLeod.

HISTORY: 1878, J. H. Cameron. 1879, A. Dickie; (*Constitutional History*), A. W. Mahon. 1880, E. Crowell. 1882, W. Crowe.

RHETORIC: 1878, J. S. Trueman. 1879, G. W. Fowler. 1880, J. A. Bell. 1881, J. P. McLeod. 1882, J. M. McLeod.

CHEMISTRY: 1878; *Third Year*, R. McKay; *Second Year*, (1) S. J. McKnight, (2) A. E. Thomson. 1879, H. Murray. 1880, G. M. Campbell. 1881, (*Organic*) A. G. Reid; (*Inorganic*) H. Dickie. 1882, (*Organic*) H. M. Smith; (*Inorganic*) J. P. McLeod.

GEOLOGY 1881, A. G. Cameron. 1882, A. G. Cameron.

ZOOLOGY: 1881, J. A. Moren.

BOTANY: 1882, H. M. Smith.

FRENCH: *Fourth Year;* 1878 G. W. Munro. 1879, C. S. Cameron. 1880, A. W. Mahon. 1881, T. Stewart. 1882, H. Mellish. *Third Year:* 1878, R. McKay. 1879, A. W. Mahon. 1880, H. Murray. 1881, H. Mellish. 1882, H. M. Smith.

GERMAN: 1880, H. G. Creelman. 1881, A. G. Reid.

HEBREW: 1882, G. S. Carson.

PROFESSORS' SCHOLARSHIPS.

1878—(1) G. M. Campbell, Truro High School; (2) James T. Wylie, Pictou Academy and Halifax High School.

1879—In Arts: (1) J. Albert Bell, Halifax High School; (2) James A. Moren, do; (3) James A. Macdonald, do. In Science: Arthur G. Reid, Halifax High School.

1880—In Arts: (1) H. S. Adams, Halifax High School; (2) John Pitblado, private study. In Science: Henry M. Smith, private study.

THE MUNRO EXHIBITIONS.

JUNIOR—1881: (1) I. Gammel, (2) W. Alton, (3) H. K. Fitzpatrick, (4) J. M. McLeod.

THE MUNRO BURSARIES.

(The names are in order of merit.)

JUNIOR—1880: J. P. McLeod, E. M. Dill, H. Elliott, D. I. Morrison, F. Jones. 1881: G. E. Robinson, W. F. Kempton, F. J. Coffin, A. W. Thompson, Lillie B. Calkin, J. Crawford, K. J. Martin, J. M. McLean, A. S. McKenzie, Margaret Newcombe, W. M. Tufts.

CERTIFICATES OF MERIT.

(The names are arranged alphabetically.)

FIRST CLASS: *Fourth Year;* 1878, J. H. Cameron. 1879, C. S. Cameron, I. M. McLean. 1881, H. G. Creelman. 1882, H. Mellish, J. S. Trueman. *Third Year:* 1878, C. S. Cameron, R. McKay, I. M. McLean, G. W. McQueen. 1880, C. W. Blanchard, H. G. Creelman, H. Murray. 1881, G. M. Campbell, J. S. Trueman. 1882, J. A. Bell, A. G. Reid. *Second Year:* 1878, A. E. Thomson. 1879, H. Murray. 1880, G. M. Campbell, H. Mellish. 1881, J. A. Bell, A. G. Reid. 1882, H. S. Adams, J. P. McLeod, D. A. Murray. *First Year;* 1878, H. G. Creelman, J. S. Trueman. 1879, G. M. Campbell, G. S. Carson. 1880, J. A. Bell, J. A. Macdonald, J. A. Moren, D. A. Murray, A. G. Reid. 1881, H. S. Adams, H. Elliott, J. P. McLeod. 1882, W. Alton, Lillie B. Calkin, F. J. Coffin, I. Gammel, W. F. Kempton, K. J. Martin, A. S. McKenzie, J. M. McLeod, I. Pitblado, G. E. Robinson, W. M. Tufts.

SECOND CLASS: *Fourth Year;* 1878, G. W. Munro, A. Rogers. 1879, R. R. J. Emmerson. 1880, E. Crowell. 1881, J. A. Sedgewick. 1882, A. G. Cameron, G. S. Carson, F. J. Davidson, G. G. Patterson. *Third Year:* 1879, E. Crowell, A. E. Thomson. 1881, H. Mellish. 1882, J. A. Macdonald, J. W. McLennan, W. P. Taylor. *Second Year;* 1878, W. R. Fraser. 1879, H. G. Creelman, J. S. Trueman. 1880, A. G. Cameron. 1881, J. A. Macdonald, T. S. MacGregor, J. W. McLennan, J. A. Moren. 1882, H. M. Smith. *First Year;* 1878, W. H. Spencer. 1879, J. W. McLennan. 1880, H. McInnes, J. McLeod, E. Thomson. 1881, E. M. Dill, F. Jones, D. I. Morrison, J. Pitblado. 1882, J. Crawford, H. K. Fitzpatrick, Margaret Newcombe, A. W. Thompson.

GRADUATES OF THE UNIVERSITY.

N. B.—Graduates to whose names an asterisk is prefixed are members of the Alumni Association.—Degrees printed with the names have been obtained at other Universities.

Graduates are requested to notify the Principal of any change of address.

* Allan, Rev. John M., Madeira	B.A., 1873	M.A.,	1876
Annand, Rev. Joseph, New Hebrides	B.A., 1869	M.A.,	1872
Archibald, Rev. F. W., M.A., Amherst	B.A.		1877
* Archibald, Rev. W. P., Carendish, P.E.I.	B.A., 1872	M.A.,	1878
* Bayne, Prof. H. A., Ph.D., Kingston, O.	B.A., 1869	M.A.,	1872
* Bayne, Rev. E. S., Murray Harbor, P.E.I.	B.A.		1871
* Bell, F. H., Halifax [1]	B.A.		1876
Bethune, J. L., Baddeck, C. B.	M.D., C.M.		1875
Blanchard, C. W., Winnipeg	B.A.		1880
* Bruce, Rev. W. T., M.D., Coldstream	B.A.		1872
Brydon, Rev. C. W., Salisbury, N. B.	B.A.		1873
Burgess, Rev. J. C., Carleton, N. B.	B.A.		1867
Cairns, Rev. J. A., M.A., Up. Musquod't.	B.A.		1878
Cameron, A. G., Newtown, Guysboro'.	B.A.		1882
* Cameron, C. S., Halifax [2]	B.A.		1879
* Cameron, J. H.	B.A.		1878
Cameron, William	B.A.		1873
Cameron, J. J., Shakspere, Ont.	B.A., 1869	M.A.,	1871
Campbell, G. M., Truro [3]	B.A.		1882
Campbell, D. A., Halifax	M.D., C.M.		1874
* Carmichael, J. M., New Glasgow	B.A.		1872
Carr, Rev. A. F., Alberton, P. E. I.	B.A., 1868	M.A.,	1871
Carson, G. S., Sussex, N. B.	B.A.		1882
Chambers, F. B., Truro	B.A.		1879
* Chambers, R. E., New Glasgow	B.A.		1877
* Chase, Rev. J. H., Onslow	B.A., 1866	M.A.,	1869
Chisholm, Don., Antigonish	M.D., C.M.		1874
Christie, Rev. T. M., Trinidad	B.A.		1868
* Cossley, Alfred, Halifax	B.A.		1881
Cox, Robinson, Stewiacke	M.D., C.M.		1875
Creelman, Rev. D. F., Shelburne	B.A., 1873	M.A.,	1880
* Creelman, H. G., Halifax [3]	B.A.		1881
Creighton, J. G. A., Montreal	B.A.		1868
Creighton, H. S., Dartmouth	B.A.		1880
* Crowell, Edwin, Barrington [2]	B.A.		1880
* Cruikshank, Rev. W., B.D., Montreal	B.A.		1872
Davidson, J. F., Halifax	B.A.		1882
DeWolfe, G. H.	M.D., C.M.		1872
* Dickie, Alfred, Stewiacke	B.A.		1879

[1] Graduated with Second Rank Honours in Classics.
[2] Graduated with Second Rank Honours in History and English Literature.
[3] Graduated with Second Rank Honours in Mathematics and Physics.

* Doull, W. S., Halifax	B.A.		1874
Duff, Kenneth, Manitoba	B.A.		1873
* Emmerson, E. R. J., Montreal	B.A.		1879
* Fitzpatrick, Rev. James, Saltsprings	B.A.		1875
* Forest, James, Halifax	B.A., 1868	M.A.,	1872
* Fraser, D. C., New Glasgow	B.A.		1872
* Fraser, D. S., Mahone Bay	B.A.		1874
* Fraser, W. M. Halifax	B.Sc.		1880
Fraser, W. R., Mt. Thom, Co. Pictou	B.A.		1882
Fulton, G. H., Guysborough	B.A.		1876
* George, Rev. J. L., M.A., Sherbrooke	B.A.		1873
Grant, W. B.	B.A.	1877	(obit.)
Gunn, Rev. Adam, Kennetcook	B.A.		1872
* Hamilton, H. H., Pictou	B.A.		1877
* Herdman, Rev. J. C., B.D., Campbellton [1]	B.A., 1874	M.A.,	1878
Herdman, W. C.	B.A., 1874	M.A.,	1881
Herdman, A. W., Pictou	B.A.		1877
Hiltz, C. W.	M.D., C.M.	1872	(obit.)
Hunter, John, California	B.A.		1873
* Jordan, L. H., B.D., Halifax	B.A., 1875	M.A.,	1878
Kinsman, F. S., Centreville	B.A.		1880
Knowles, J. H., Milton	B.A.		1882
Laird, G. A., Winnipeg	B.A.		1877
Landells, R., Halifax	B.A.		1882
* Lindsay, A. W. H., M.B., C.M., Halifax	B.A., 1870; M.D., C.M.,		1875
Lippincott, Aubrey, M.D., Pittsburg, Pa.	B.A.		1867
* Logan, Rev. Richmond, Sheet Harbor	B.A., 1877	M.A.,	1880
Logan, Melville, Halifax	B.A.		1873
Mason, Rev. W. A., New London, P.E.I.	B.A.		1877
McCurdy, S. T., New Glasgow	B.A.		1877
McDonald, J. H.	B.A., 1867; M.A.,	1870	(obit.)
* Macdonald, C. D., Pictou	B.A.		1873
* Macdonald, W. M., Halifax	B.A.		1881
McDowall, Isaac	B.A.	1876	(obit.)
McGregor, Rev. Daniel, Merigomish	B.A.		1874
* MacGregor, Prof. J. G., D.Sc., Halifax	B.A., 1871	M.A.,	1874
* McKay, A. H., B.Sc., Pictou [3]	B.A.		1873
McKay, Rev. Kenneth, Richmond, N. B.	B.A.		1868
McKeen, Rev. J. A., Hamilton, Bermuda	B.A.		1873
* McKenzie, Hugh, Truro	B.A., 1872	M.A.,	1875
McKenzie, Prof. J. J., Ph.D.	B.A., 1869; M.A.,	1872	(obit.)
McKenzie, James, Greenhill, Pictou	B.A.		1873
McKenzie, J. W., Strathalbyn, P. E. I.	B.A.		1882
* McKittrick, Burgess, Sydney, C. B.	B.A.		1877
McLean, I. M., Hopewell [1]	B.A.		1879
* McLean, Rev. J. A., Barrington	B.A.		1876
McLeod, Rev. A. W., Durham, Co. Pictou.	B.A., 1875	M.A.,	1878
McLeod, Rev. J. W., Trinidad	B.A., 1876	M.A.,	1880
McLeod, Don., Strathalbyn, P. E. I.	B.A.		1874
McMillan, Finlay	M.D., C.M.		1872
* McMillan, Rev. G. W., Princetown, P.E.I.	B.A.		1875
* McNaughton, Rev. Samuel, Preston, C.E.	B.A., 1867	M.A.,	1870
McRae, Wm., Richmond, C. B.	M.D., C.M.		1872
Mellish, H., Halifax	B.A.		1882
* Millar, Rev. E. D., Lunenburg	B.A.		1869
Moore, Edmund, Chatham	M.D., C.M.		1872
* Morton, Joseph H., Shelburne	B.A.		1870
Muir, W. H., Truro	M.D., C.M.		1875
* Munro, John, Montreal	B.A.		1878
Munro, G. W., New York	B.A.		1878
Murray, J. S., Charlottetown, P. E. I.	B.A.		1877
Newcombe, E. L., Kentville	B.A., 1878	M.A.,	1881

[1] Graduated with Second Rank Honours in Classics.
[3] Graduated with Second Rank Honours in Mathematics and Physics.

*	Oxley, J. M., Lt.B., Halifax [4]	B.A.	1874
	Patterson, G. G., New Glasgow	B.A.	1882
	Pitblado, Colin, Minneapolis	B.A.	1876
	Pollok, A. W.	B.A.	1872 (obit.)
*	Robert, Casimir, Arichat, C. B.	M.D., C.M.	1875
*	Robinson, J. M.	B.A.	1873
	Rogers, Anderson	B.A.	1878
	Ross, Alexander, Dalhousie, N. B.	B.A.	1867
	Ross, Rev. William, Prince William, N.B.	B.A.	1873
*	Russell, Rev. A. G., Oyster Bay, L.I., N.Y.	B.A.	1871
	Scott, Rev. Ephraim, New Glasgow	B.A., 1872 ... M.A.,	1875
*	Scott, Rev. Prof. H. McD., B.D., Chicago	B.A.	1870
	Scott, J. McD., Ft. Collins, Colo., U. S.	B.A.	1877
*	Sedgewick, J. A., Halifax	B.A.	1881
*	Sedgewick, Robert, Q. C., Halifax	B.A.	1867
	Shaw, Robert	B.A.	1866 (obit.)
	Simpson, Rev. Isaac, LaHave	B.A.	1868
	Smith, Rev. D. H., Truro	B.A., 1867 ... M.A.,	1871
	Smith, Rev. Edwin, Stewiacke	B.A.	1867
*	Spencer, W. H., Londonderry	B.A.	1881
*	Stewart, J. McG., Pictou [2]	B.A.	1876
	Stewart, Thomas, Whycocomagh	B.A.	1882
*	Stramberg, H. H., Cape John, Pictou	B.A.	1875
	Sutherland, Rev. J. M., St. James, N. B.	B.A.	1869
	Sutherland, Robert	M.D., C.M. ... 1872 (obit.)	
*	Thomson, A. E., Halifax	B.A.	1880
*	Thorburn, W. M., Madras	B.A.	1870
	Torey, E. J., Guysborough	B.A.	1882
*	Trueman, A. I., St. John, N. B.	B.A., 1872 ... M.A.,	1873
	Trueman, J. S., Carleton, N. B. [1]	B.A.	1882
*	Waddell, John, Edinburgh University [3]	B.A.	1877
*	Wallace, Rev. John, Bermuda	B.A.	1870
*	Whitman, Alfred, Halifax	B.A.	1873

[1] Graduated with Second Rank Honours in Classics.
[2] Graduated with Second Rank Honours in History and English Literature.
[4] Graduated with Second Rank Honours in Mental and Moral Philosophy.

UNDERGRADUATES IN ARTS, 1881-2.

FOURTH YEAR.

Campbell, G. M., Truro.
Carson, G. S., Sussex, N. B.
Davidson, J. F., Halifax.
Fraser, W. R., Mt. Thom, Pictou Co.
Knowles, J. H., Milton.
Lundells, R., Halifax.
Mellish, H., Halifax.
Patterson, G. G., New Glasgow.
Torey, E. J., Guysborough.
Trueman, J. S., Carleton, N. B.

THIRD YEAR.

Bell, J. A., Halifax.
Dickie, H., Upper Stewiacke.
Macdonald, J. A., Halifax.
MacGregor, T. S., Little Brae d'Or.
McKenzie, J. W., Strathalbyn, P.E.I.
McLennan, J. W., Sydney.
McLeod, J., Halifax.
Taylor, W. P., Charlottetown.

SECOND YEAR.

Adams, H. S., Halifax.
Blair, G. H., Truro.
Campbell, Alex., McLellan's Brook, Pictou.
* Dill, E. M., Centre Rawdon.
Elliott, H., Weston, Cornwallis.
Fraser, W. M., B. Sc., Dartmouth.
Hamilton, G., Dalhousie, N. B.
Jones, E., Digby.
McDonald, D., Cape North, C. B.
McLeod, J. P., Valleyfield, P. E. I.
Murray, D. A., Truro.
Pitblado, J., Halifax.
Taylor, W. B., Halifax.

FIRST YEAR.

Aiton, W., Sussex, N. B.
*Buchanan, J. J., Sydney.
Calkin, Lillie B., Truro.
Coffin, F. S., Mt. Stewart, P. E. I.
Coffin, F. J., Savage Harbor, P. E. I.
Crawford, J., Charlottetown, P.E.I.
*Dimock, A. H., Windsor.
Doane, F. A., Barrington.
Fitzpatrick, H. K., Scotsburn, Pictou
Flemming, D. H., Halifax.
Freeman, H. S., Milton.
Gammel, I., Upper Stewiacke.
Johnson, J. A., River John, Pictou.
Kempton, W. F., Milton.
Locke, R. T., Lockeport.
Logan, A. P., North Sydney.
Martin, K. J., Belfast, P. E. I.
McKinnon, T. H., Halifax.
McKenzie, A. S., Dartmouth.
McLean, J. M., Strathlorne.
Maclean, W., Great Village.
McLeod, J. M., Valleyfield, P. E. I.
McMillan, W. K., Bridgeville, E. R., Pictou.
Newcombe, Margaret F., W. Cornwallis.
Pitblado, I., Halifax.
Robinson, G. E., Charlottetown.
Thompson, A. W., Durham.
Thompson, W. M., Durham.
Trueman, H., Truemanville, Camb. Co., N. B.
Tufts, W. M., Halifax.

*Matriculated but did not attend classes.

UNDERGRADUATES IN SCIENCE, 1881-2.

FOURTH YEAR.

Cameron, A. G., Newtown, Guysboro'

THIRD YEAR.

McCall, A., New Glasgow.
Reid, A. G., Halifax.

SECOND YEAR.

Miller, J. J., Halifax.
Smith, H. M., Halifax.

FIRST YEAR.

Boak, A. A., Halifax.
Campbell, G. G., Truro.
Macrae, A. W., St. John, N. B.

GENERAL STUDENTS, 1881-82.

Atkinson, M., Chester.
Blair, J. T., St. John, N. B.
Buckley, A. H., Halifax.
Calder, W. C., Halifax.
Congdon, H., Berwick.
Craig, J. A., Truro.
Crowe, W., Truro.
Currie, J., Halifax.
Fillmore, W. A., Amherst.
Fluck, G. W., Halifax.
Foley, J., —— Newfoundland.
Fulton, G. H., B.A., Guysborough.
Furneaux, H. J., St. John's, N. F. L.
Goodwin, F. W., Baie Verte, N. B.
Hare, A. A., Bedford.
Hawkins, A. C., Halifax.
Jones, G. C., Halifax.
Kinsman, F. S., B.A., Centreville.
Lockwood, T. C., B.A., Halifax.
Maunsell, M.O., M.D., S'g.-Maj., Hx.
McClure, J. K., Truro.
McDonald, W., Newport.
Macdonald, S. D., Halifax.
McDougall, R., Maitland.
McFarlane, J. D., Middle River, C.B.
McKay, N., Ainslie Glen, Whycogh.
McKenzie, J., Boularderie.
McLean, H. K., Middle River, C.B.
McLean, J. M., Great Village.
McLean, R. H., Boularderie.
McRae, W. L., Granton, Pictou Co.
Morrison, A. M., Dartmouth.
Morrison, D. H., Loch Lomond, C.B.
Morrow, A., Halifax.
Morton, J. S., B.A., Shelburne.
Nairn, R., B.A., —— Scotland.
Potter, J. G., Halifax.
Rand, F. A., Canning.
Raymond, A. F., Beaver Riv., Yar'th.
Reid, J. W., Middle Musquodoboit.
Robertson, B.H., Wilmot.
Rogers, H. W., Amherst.
Shean, T. J., —— Newfoundland.
Slayter, J. H., Halifax.
Smith, J. F., Noel.
Sponagle, J. A., Halifax.
Toombs, J. C., Rustico, P. E. I.
Ward, W. D., Halifax.

SUMMARY.

Undergraduates in Science	8
Do. Arts	60
General Students	48
Total	116

ALUMNI ASSOCIATION OF DALHOUSIE COLLEGE AND UNIVERSITY.

(Incorporated 1876.)

EXTRACT FROM THE CONSTITUTION.

ART. II.—The object of the Association shall be the promotion of the best interests of the University.

ART. III., SEC. 1.—All graduates of the University and all students who have attended classes throughout one academic year shall be eligible for membership; but no person shall become a member until three years have elapsed from the time of his matriculation or first registration.

SEC. 2.—Other persons not eligible for membership under section 1 of this article may be elected as honorary members on the nomination of the Executive.

OFFICERS.

D. C. FRASER, B.A.....*President.*
H. McD. HENRY, Q.C.....*Vice-President.*
F. H. BELL, B.A.....*Secretary.*
W. B. ROSS.....*Treasurer.*

ROBT. SEDGEWICK, B.A., Q.C.,
J. G. MACGREGOR, D.Sc.,
A. P. SILVER,
ALF. WHITMAN, B.A.,
J. F. DAVIDSON, B.A
} *Members of Executive Committee.*

HONORARY MEMBERS.

Rev. Principal Ross, D.D.
Rev. Prof. W. Lyall, LL.D.
Prof. C. Macdonald, M.A.
Prof. J. Johnson, M.A.
Prof. G. Lawson, Ph.D., LL.D.
Prof. J. Liechti, M.A.
Rev. Prof. D. Honeyman, D.C.L.
Rev. Prof. J. Forrest.

ORDINARY MEMBERS.

Those graduates to whose names an asterisk is prefixed in the list on page 52.

Boak, H. W. C., Barrister, Halifax.
Bulmer, J. T., Barrister, Halifax.
Doull, W. M., Merchant, Halifax.
Geldert, J. M., Barrister, Halifax.
Henry, H. McD., Barrister, Halifax.
Humphrey, R., Halifax.
Humphrey, W., Morris St., Halifax.
Mills, W. A., Barrister, Sydney, C.B.
Ross, J. T., Barrister, Halifax.
Ross, W. B., Barrister, Halifax.
Silver, A. P., Queen St., Halifax.
Stairs, Hon. J. F., M.E.C., Halifax.
Story, J. D., Post Office, Halifax.
Troop, W. H., Merchant, Halifax.
Tupper, Chas. H., Barrister, Halifax.
West, F. S., Merchant, Halifax.

EXAMINATION PAPERS, 1881-82.

MUNRO EXHIBITIONS AND BURSARIES.

JUNIOR.

GREEK.

For Greek Paper, see Appendix.

LATIN.

Examiner.....JOHN JOHNSON, M. A.

CÆSAR: BOOK VI. VIRGIL: BOOK VI.

OCT. 23RD. TIME: THREE HOURS.

I.

A. Translate: Caesar rursus ad vexandos hostes profectus, magno coacto numero ex finitimis civitatibus, in omnes partes dimittit. Omnes vici atque omnia aedificia, quae quicque conspexerat, incendebantur; praeda ex omnibus locis agebatur; frumenta non solum tanta multitudine jumentorum atque hominum consumebantur, sed etiam anni tempore atque imbribus procubuerant, ut, si qui etiam in praesentia se occultassent, tamen, his deducto exercitu rerum omnium inopia pereundum videretur. Ac saepe in eum locum ventum est, tanto in omnes partes diviso equitatu, ut modo visum ab se Ambiorigem in fuga circumspicerent captivi nec plane etiam abisse ex conspectu contenderent, ut spe consequendi illata atque infinito labore suscepto, qui se summam ab Caesare gratiam inituros putarent, paene naturam studio vincerent, semperque paulum ad summam felicitatem defuisse videretur, atque ille latebris aut saltibus se eriperet et noctu occultatus alias regiones partesque peteret non maiore equitum praesidio quam quattuor, quibus solis vitam suam committere audebat.

1. "Ad vexandos hostes:", how is a "purpose" otherwise expressed?

2. "Ut, si qui etiam....his....pereundum videretur." Write in full nom. sing. of *qui*. Parse: *his, pereundum, videretur*, accounting for case, tense, mood.

3. Write in skeleton form the principal and the subordinate clauses of the sentence: "Ac saepe in eum...." and shew their relation to one another.

4. The chief rivers of Gallia and the seas they fall into, with ancient and modern names.

B. Translate:

At, Phoebi nondum patiens, immanis in antro
Bacchatur vates, magnum si pectore possit
Excussisse deum; tanto magis ille fatigat.
O ratidam, fera corda domans, fingitque premendo.
Ostia jamque domus patuere ingentia centum
Sponte sua, vatisque ferunt responsa per auras:
O tandem magnis pelagi defuncte periclis!
Sed terrae graviora manent. In regna Lavini
Dardanidae venient; mitte hanc de pectore curam;
Sed non et venisse volent. Bella, horrida bella,
Et Thybrim multo spumantem sanguine cerno.
Non Simois tibi, nec Xanthus, nec Dorica castra
Defuerint; alius Latio jam partus Achilles,
Natus et ipse dea.

1. Give briefly the rules for the cases of "Phoebi," "terras," "dea."

2. What is meant by the lines beginning "Non Simois"? Who was "alius Achilles"?

C. Translate:

Ne, pueri, ne tanta animis assuescite bella,
Neu patriae validas in viscera vertite vires;
Tuque prior, tu parce, genus qui ducis Olympo,
Projice tela manu, sanguis meus!—
Ille triumphata Capitolia ad alta Corintho
Victor aget currum, caesis insignis Achivis.
Eruet ille Argos Agamemnonasque Mycenas,
Ipsumque Aeaciden, genus armipotentis Achilli,
Ultus avos Trojae, templa et temerata Minervae.

1. "Ne, pueri, ne tanta animis assuescite bella,"—write this sentence in prose form.

2. Who are meant by "ille," "ille," "Aeaciden"?

3. Where and when was Virgil born? Quote his epitaph. What suggested the subject of the sixth book of the Aeneid?

II

1. Decline in the sing.: deus, pelagi, Achilles—in the plur.: vates, ŏs domus.

2. Compare: celeriter, prope, vetus, similis, prius.

3. Write in Latin words: 49 men, 802 ships, 25,000 soldiers.

4. Parse, giving chief parts: pacti, confertos, partus, parce.

5. Write throughout (*a*) fut. indic. and pres. subj. active of *malo* or *eo*; (*b*) pres. indic. pass. of *capio* or *fero*.

6. Scan last three lines of extract C.

7. (*a*) Mark quantity of increments and final syllables in: arboribus, mihi, patieris, monebitur.

(*b*.) Distinguish the meanings of: dūcis, dŭcis; vēni, vĕni; sequĕre sequēre; ĕs, ēs.

8. Translate into Latin:—There will be need of many words. One died at Rome, the other at Carthage. Why did the general pitch his tent on the top of a mountain? After the conquest of Gaul, Caesar returned to Rome, where he was assassinated a few years afterwards. He was informed by messengers that the Roman cavalry had routed the forces of the barbarians with great slaughter.

MATHEMATICS.

Examiner.....C. Macdonald, M. A.

GEOMETRY.

Time: Three Hours.

N. B.—In the following, "line" means "straight line."

(Write the name of the text-book you have used in preparing for this examination, at the top of your paper with your number.)

1. The line AB is assumed to coincide with the line BA. Give another form of this assumption.

2. If two angles of a triangle be equal, the sides opposite them are also equal.

3. "Parallelograms on the same base and between the same parallels are equal." This enunciation is defective. Prove the proposition (one figure.)

4. If a line be divided into two equal and also into two unequal parts, the sum of the squares of the unequal parts is equal to ————. Complete and prove this enunciation.

5. The two sides of a triangle are 16 and 9 and the base is 10, and a perpendicular is dropped on the base from the opposite angle. Find the general shape of the triangle and the length of the perpendicular, and the distance of its extremity in the base from the nearest angle.

6. If two intersecting lines have their extremities joined all round and also the four separate triangles be equal in area, the enclosed figure is a parallelogram.

7. A line BD is trisected in G and F and lines are drawn from any point C, not in BD, to B, G, F, D. Prove that the sum of the squares of CB, BD and DC, exceeds the sum of the squares of the sides of the interior triangle by $\frac{1}{3}$ of the square of BD.

ARITHMETIC AND ALGEBRA.

Time: Three Hours.

1. A person borrowed a sum of money at 5 per cent. per annum, for 8 months, and paid for the accommodation $21.56. What was the sum?

2. A cistern can be filled in 10 hours from one tap, and in 12 hours from another. There is a third tap, which, were it full, would empty it in 5 hours. When the cistern is half full all the taps are opened. Suppose the water to flow uniformly, and find the consequences.

3. Reduce to vulgar fractions, in lowest terms, ·7 9 0 5 4 and

$$2+\cfrac{1}{2+\cfrac{1}{3+\cfrac{1}{4+\cfrac{1}{2+\frac{1}{10}}}}}$$

4. Find the result of

$$\left(\frac{1}{1-x^2}+\frac{1}{1-\frac{1}{x^2}}\right)\div\left(\frac{1}{1-x^2}-\frac{1}{1+x^2}\right);$$

and explain the meaning of x^0.

5. Divide a^7+128 by $a+2$: and multiply

$$x^{\frac{1}{3}}+x^{\frac{1}{2}}\,y^{\frac{1}{2}}+x^{\frac{1}{3}}\,y^{\frac{1}{3}}+y^{\frac{1}{2}} \text{ by } x^{\frac{1}{2}}-y^{\frac{1}{2}}.$$

6. What is the necessary condition that the expression ax^2+bx+c may be a complete square? Having found the condition, extract the square root of the expression.

7. Solve the simultaneous equations

$$\frac{1}{x}+\frac{1}{y}=5, \text{ and } \frac{5}{x}-\frac{3}{y}=1.$$

8. Given $\left.\begin{aligned} x^2yz&=a\\ xy^2z&=b\\ xyz^2&=c \end{aligned}\right\}$ to find x, y and z.

ENGLISH.

Examiners.....PROFESSORS LYALL AND FORREST.

TIME: THREE HOURS.

GRAMMAR.

1. Distinguish between the objective and the dative cases. How is the dative case explained, or into what other government may it be resolved?

2. When are intransitive verbs used transitively? What do you understand by the "cognate objective"? When are collective nouns followed by the singular, when by the plural? Give an example of the nominative absolute.

3. In what cases is "that" preferred to "who" or "which"? Is the idiom "than whom" strictly correct? How may it be justified? When may the relative be omitted?

4. When are adjectives used as nouns? Give an instance, or instances, where they seem to take the place of adverbs.

5. Explain the use of the subjunctive mood. What conjunction does it follow? Give an example of its use without a conjunction preceding? When is the *indicative* used after a conjunction?

6. What do you understand by the gerund? Give an example of the gerund as subject, give an example of it as object. When is "to," the sign of the infinitive, omitted? What is the complementary infinitive? Give examples.

7. Is the infinitive ever used as the subject of a sentence? After what verbs especially may it denote the object?

8. Distinguish between the uses of "shall" and "will." What is the peculiarity in the use of "may," "can," and "must"? What verbs have sometimes the same form in the third as in the first person singular? Give examples.

ENGLISH HISTORY.

1. Who were the Saxons?

2. What was the condition of England during the Heptarchy?

3. Name the Danish kings of England. The Plantagenets.

4. What was the dispute between John and Pope Innocent III?

5. What special acts of despotism marked the latter part of the reign of Charles II?

6. Give a brief account of the American War of Independence.

7. Describe briefly the passing of the Reform Bill (1832). What changes did it introduce?

CANADIAN HISTORY.

1. When and by what treaty was the possession of Canada confirmed to the English.

2. Give a brief account of the rebellion of 1837.

3. Give a brief account of the expulsion of the Acadians.

4. When was Canada divided into Upper and Lower, and when re-united.

5 Give date of existence as separate Provinces of New Brunswick, Prince Edward Island.

GEOGRAPHY.

1. Give the boundaries of Austria, Persia, New Jersey.

2. Describe briefly the course of the St. Lawrence, the Hudson, the Rhine, the Amoor, the Congo.

3. Locate Perth, Belfast, Hull, Florence, Delhi, Canton, Toronto, Tampico.

4. Mention the countries and large islands lying within the tropics.

5. What is the latitude of Halifax, London, New York, Cape Horn, Cape of Good Hope, Melbourne, Shanghai, New Orleans?

6. In what direction are the Bahamas from the Bermudas, the Azores from Oporto, Honolulu from San Francisco, Pekin from Yeddo, Yarmouth, (N. S.) from St. John?

SESSIONAL EXAMINATIONS, 1882.

GREEK.

For the Greek Papers of the various years, see Appendix.

LATIN.

Examiner .....JOHN JOHNSON, M. A.

FIRST YEAR.

CICERO: PRO LEGE MANILIA. VIRGIL: ECLOGUES.

TIME: THREE HOURS.

I.

A. Translate:

Est igitur humanitatis vestrae magnum numerum eorum civium calamitate prohibere, sapientiae, videre multorum civium calamitatem a re publica sejunctam esse non posse. Etenim primum illud parvi refert, nos publicanis amissa vectigalia postea victoria recuperare: neque enim iisdem redimendi facultas erit propter calamitatem, neque aliis voluntas propter timorem. Deinde quod nos eadem Asia atque idem iste Mithridates initio belli Asiatici docuit, certe id quidem calamitate docti memoria retinere debemus: nam tum, cum in Asia res magnas permulti amiserant, scimus Romae solutione impedita fidem concidisse. Non enim possunt una in civitate multi res ac fortunas amittere, ut non plures secum in eandem trahant calamitatem. A quo periculo prohibete rem publicam et mihi credite, id quod ipsi videtis: haec fides atque haec ratio pecuniarum, quae Romae, quae in foro versatur, implicita est cum illis pecuniis Asiaticis et cohaeret; ruere illa non possunt, ut haec non solem labefacta motu concidant. Quare videte, num dubitandum vobis sit omni studio ad id bellum incumbere, in quo gloria nominis vestri, salus sociorum, vectigalia maxima, fortunae plurimorum civium cum re publica defendantur.

1. *Etenim primum illud parvi refert, nos publicanis amissa vectigalia postea victoria recuperare:* Translate according to different readings.

2. *Vectigalia maxima;* Describe the sources of revenue and the method of collecting it.

3. *Quum in Asia res magnas permulti amiserant:* Give the rules for the moods used with *quum*.

4. *In quo gloria nominis nostri....defendantur:* When is *qui* followed by the subjunctive? Explain the use of mood here.

5. *Eadem Asia:* Describe the extent of the province in Cicero's time and the origin of it.

6. The date of this speech, its objects, its divisions and the facts about Pompey mentioned therein.

B. Translate:

Tum canit, errantem Permessi ad flumina Gallum
Aonas in montis ut duxerit una sororum,
Utque viro Phoebi chorus adsurrexerit omnis;
Ut Linus haec illi, divino carmine pastor,
Floribus atque apio crinis ornatus amaro,
Dixerit: Hos tibi dant calamos, en accipe, Musae,
Ascraeo quos ante seni, quibus ille solebat
Cantando rigidas deducere montibus ornos.
His tibi Grynei nemoris dicatur origo,
Ne quis sit lucus, quo se plus iactet Apollo.
Quid loquar, aut Scyllam Nisi, quam fama secuta est
Candida succinctam latrantibus inguina monstris
Dulichias vexasse rates et gurgite in alto
Ah! timidos nautas canibus lacerasse marinis,
Aut ut mutatos Terei narraverit artus,
Quas illi Philomela dapes, quae dona pararit,
Quo cursu deserta petiverit, et quibus ante
Infelix sua tecta supervolitaverit alis?

1. What legends are confused by Virgil in this passage?

2. Describe the situation of the places named.

3. (*a.*) *Ascraeo quos ante seni.*
(*b.*) *His tibi Grynei nemoris dicatur origo.*
Write explanatory notes.

4. On what work are Virgil's Eclogues based? When where they written? What incongruities are found in them? What historical facts are referred to in some of them?

II.

1. (*a.*) Name the gender, and decline in the sing. (marking quantity of final syllables), *retia, pinus, aer, Vesper.*
(*b.*) Also in the plural: *ordo, mel, heros, dapes.*

2. The forms in the other degrees corresponding to:
Ocius, nivisnē, pessimē, eunamā, tenui.

3. Mark quantities and parse, giving chief parts:
Latebere, venite, reperti, curam, refert.

4. Scan: Experiar; tu deinde jubeto, ut certet Amyntas.
Spargite humum foliis, inducite fontibus umbras—
Haec tantum Rhodope miratur et Ismarus Orpheа.

C. Translate into Latin:

Hannibal, who had been appointed general by the Carthaginians, came into Italy, after crossing the Alps.—A certain poor slave is said to have dared a glorious deed to save his master, whom he loved greatly.—Piso the orator, lest he should be interrupted, ordered his servants to answer questions only and not to say anything else.—Xenophon was sacrificing to the gods when he heard that his son had been slain in battle.

ADDITIONAL FOR A FIRST AND SECOND CLASS.

CICERO: ORATIONS AGAINST CATILINE I. IV.

TIME: TWO HOURS.

I.

A. Translate:

His ego sanctissimis rei publicae vocibus et eorum hominum, qui hoc idem sentiunt, mentibus paucis respondebo. Ego, si hoc optimum factu judicarem, Patres conscripti, Catalinam morte multari, unius usuram horae gladiatori isti ad vivendum non dedissem. Etenim, si summi viri et clarissimi cives Saturnini et Gracchorum et Flacci et superiorum complurium sanguine non modo se non contaminarunt, sed etiam honestarunt, certe verendum mihi non erat, ne quid hoc parricida civium interfecto invidiae mihi in posteritatem redundaret. Quod si ea mihi maxime impenderet, tamen hoc animo semper fui, ut invidiam virtute partam gloriam, non invidiam putarem. Quamquam nonnulli sunt in hoc ordine, qui aut ea, quae imminent, non videant, aut ea, quae vident, dissimulent: qui spem Catilinae mollibus sententiis aluerunt, conjurationemque nascentem non credendo corroboraverunt: quorum auctoritatem secuti multi, non solum improbi, verum etiam imperiti, si in hanc animadvertissem, crudeliter et regie factum esse dicerent.

1. *Saturnini....sanguine:* What do you know of Saturninus?

2. *Nonnulli sunt in hoc ordine qui....non videant: qui spem Catilinae ....aluerunt*: Why are different moods used?

3. *Principes civitatis Roma non tam sui conservandi quam tuorum consiliorum reprimendorum causa profugerunt:* Comment on a peculiar construction in this sentence.

4. Write in full and shortly: "On the 15th of June." Explain the form of date used in these speeches.

B. Translate:

Nunc, Patres conscripti, ego mea video quid intersit. Si eritis secuti sententiam C. Caesaris, quoniam hanc is in re publica viam, quae popularis habetur, secutus est, fortasse minus erunt hoc auctore et cognitore hujusce sententiae mihi populares impetus pertimescendi: sin illam alteram, nescio, an amplius mihi negotii contrahatur. Sed tamen meorum periculorum rationes utilitas rei publicae vincat. Habemus enim a C. Caesare, sicut ipsius dignitas et majorum ejus amplitudo postulabat, sententiam tamquam obsidem perpetuae in rem publicam voluntatis. Intellectum est, quid intersit inter levitatem contionatorum et animum vere popularem, saluti populi consulentem. Video de istis, qui se populares haberi volunt, abesse non neminem, ne de capite videlicet civium Romanorum sententiam ferat. Is et nudiustertius in custodiam cives Romanos dedit et supplicationem mihi decrevit et indices hesterno die maximis praemiis affecit. Jam hoc nemini dubium est, qui reo custodiam, quaesitori gratulationem, indici praemium decrevit, quid de tota re et causa judicarit.

1. *Ego mea video quid intersit:* Explain the case of *mea*. How does *nescio an* differ from "I don't know whether."

2. *Video....abesse non neminem:* Distinguish *non nemo* from *nemo non*. When do two negatives in the same sentence not destroy each other?

3. *Nudiustertius:* Derive the word.

4. *Si eritis secuti sententiam C. Caesaris:* What was Caesar's motion and his arguments in support of it? Where is his speech found?

5. What was the result of the debate? Where and when did it take place?

II.

1. What nouns of the 2nd declension are feminine?

2. Point out the peculiarities either in meaning or declension of: *custodia, optimates, faucibus, pondo, artus, comitia, sitis, ignis.*

3. The following words admit of two or more meanings, according to difference in quantity of the vowels: *lutum, malus, vitium, satis, os, dicat, canis, dedit, decora, solum, parens.*

4. What adjectives want the comparative only?

5. Give examples to show in what different ways the English infinitive may be rendered in Latin.

6. Arrange as Hexameters:

(*a.*) Tempora et frontem moris sanguineis pingit.
(*b.*) Atque latum annem funda jam verberat alius.

SECOND YEAR.

LIVY: BOOK I., CHAPS. 1-40. HORACE: ODES, BOOK I.

TIME: THREE HOURS.

A. Translate:

Duodequadragesimo ferme anno, ex quo regnare coeperat Tarquinius, non apud regem modo, sed apud Patres plebemque longue maximo honore Servius Tullius erat. Tum Anci filii duo etsi antea semper pro indignissimo habuerant, *se patrio regno tutoris fraude pulsos; regnare Romae advenam, non modo civicae, sed ne Italicae quidem stirpis*, tum impensius his indignitas crescere, *si ne ab Tarquinio quidem ad se rediret regnum, sed praeceps inde porro ad servitia caderet; ut in eadem civitate post centesimum fere annum, quod Romulus deo pregnatus, deus ipse, tenuerit regnum, donec in terris fuerit, id servus serva natus possideat; tum commune Romani nominis, tum praecipue id domus suae dedecus fore, si Anci regis virili stirpe salva, non modo advenis, sed servis etiam regnum Romae pateret.* Ferre igitur eam arcere contumeliam statuunt. Sed et injuriae dolor in Tarquinium ipsum magis quam in Servium eos stimulabat: et quia gravior ultor caedis, si superesset, rex futurus erat, quam privatus: tum Servio occiso, quemcunque alium generum delegisset, eumdem regni haeredem facturus videbatur. Ob haec ipsi regi insidiae parabantur.

1. *Tum Anci filii duo.* Comment on the construction of this sentence.

2. *Ad servitia caderet.* Compare this with a previous statement. Give other nouns used like *servitia.*

3. *Post centesimum fere annum, quod Romulus.* Parse *quod.* Translate with the reading *quam R.*, and state the objection to it.

4. *Id domus suae dedecus fore.* Why is the infinitive used?

5. What reasons are given for killing Tarquinius and not Servius? Are they expressed in the usual forms?

6. Turn (*a*) into *oratio obliqua*, (*b*) into *oratio recta:*

(*a*) '*Quid hoc,*' inquit Servius, '*Tarquini, rei est? qua tu audacia me vivo vocare ausus es patres aut in sede considere mea?*' (*b*) Ille ferociter ad haec: *se patris sui tenere sedem, multo quam servum potiorem regni haeredem, satis illum diu....insultasse dominis.*

7. Apply to the first book of Livy the usual tests of the truth of a narrative and state results. Was Livy a Roman citizen by birth?

B. Translate:

Maecenas atavis edite regibus
O et praesidium et dulce decus meum,
Sunt quos curriculo pulverem Olympicum
Collegisse juvat, metaque fervidis
Evitata rotis, palmaque nobilis,
Terrarum dominos evehit ad Deos.
Hunc si mobilium turba Quiritium
Certat tergeminis tollere honoribus;
Illum si proprio condidit horreo
Quidquid de Libycis verritur areis.
Gaudentem patrios findere sarculo
Agros Attalicis conditionibus
Nunquam dimoveas, ut trabe Cypria
Myrtoum pavidus nauta secet mare.
Luctantem Icariis fluctibus Africum
Mercator metuens otium et oppidi
Laudat rura sui; mox reficit rates
Quassas indocilis pauperiem pati.
Est qui nec veteris pocula Massici
Nec partem solido demere de die
Spernit, nunc viridi membra sub arbuto
Stratus, nunc ad aquae lene caput sacrae.
Multos castra juvant et lituo tubae
Permixtus sonitus bellaque matribus
Detestata.

1. *Maecenas atavis edite regibus:* Explain this line. How is Maecenas described elsewhere by Horace? How and when did they know each other? What were the results of the acquaintance? Give the Latin names of ancestors and descendants in the male line.

2. *Sunt quos curriculo....* Translate and explain vv. 4–8 according to a different punctuation.

3. *Attalicis conditionibus:* Write an explanatory note.

4. *Luctantem Icariis fluctibus Africum:* Explain syntax, and illustrate it by quoting a line of similar meaning from the same book.

5. *Indocilis pauperiem pati:* Quote other instances of this construction.

6. Decline in the sing.: *fidibus, barbitos, Argos, Clio.*

7. Parse, giving chief parts: *ambit, abscidit, mearis, reseces.*

8. Scan:

Quem virum aut heroa lyra vel acri—
Furtim labitur argutus—
Ponet iambis, sive flamma—

9. Translate into Latin:

Hasdrubal crossed over into Italy with a great army, and if he had been able to join his brother the Roman empire would have been ruined. But Claudius Nero, leaving part of his army in camp, hastened to Hasdrubal with a few chosen troops and joined Livius at the river Metaurus. These two vanquished Hasdrubal.

(Additional for a First or Second Class.)

HORACE: ODES, BOOK IV.

TIME: TWO HOURS.

A. Translate Ode XI, vv. 1–24:

Mercuri,—nam te docilis magistro
Movit Amphion lapides canendo,—
Tuque testudo resonare septem
Callida nervis,
Nec loquax olim neque grata, nunc et
Diritum mensis et amica templis,
Die modos Lyde quibus obstinatas
Applicet aures,
Quae velut latis equa trima campis
Ludit exsultim metuitque tangi
Nuptiarum expers et adhuc protervo
Cruda marito.
Tu potes tigres comitesque silvas
Ducere et rivos celeres morari;
Cessit immanis tibi blandienti
Janitor aulae
Cerberus, quamvis furiale centum
Muniant angues caput ejus atque
Spiritus teter saniesque manet
Ore trilingui.
Quin et Ixion Tityosque vultu
Risit invito, stetit urna paullum
Sicca dum grato Danai puellas
Carmine mulces.

B. Translate Ode XXX.:

Exegi monumentum aere perennius
Regalique situ pyramidum altius,
Quod non imber edax, non Aquilo impotens
Possit diruere aut innumerabilis
Annorum series et fuga temporum.
Non omnis moriar, multaque pars mei
Vitabit Libitinam: usque ego postera
Crescam laude recens dum Capitolium
Scandet cum tacita virgine pontifex.
Dicar qua violens obstrepit Aufidus
Et qua pauper aquae Daunus agrestium
Regnavit populorum, ex humili potens,
Princeps Aeolium carmen ad Italos
Deduxisse modos. Sume superbiam
Quaesitam meritis et mihi Delphica
Lauro cinge volens, Melpomene, comam.

1. What nouns in these extracts are irregular in declension?

2. What imitations of Greek syntax are found therein? Quote others from the same Book.

3. Write explanatory notes on:

(*a*) *Movit Amphion lapides canendo.*

(*b*) *Quin et Ixion Tityosque vultu*
Risit invito.

(*c*) *Multaque pars mei*
Vitabit Libitinam.

(*d*) *Dum Capitolium*
Scandet cum tacita virgine pontifex.

(*e*) *Et qua pauper aquae Daunus agrestium*
Regnavit populorum.

4. The dates of some of the Odes in the Third Book may be inferred from internal evidence. Quote the Latin if you can.

5. What fact does Horace mention about himself in this Book? Give the Latin.

6. Quote lines to shew the quantity of initial syllables of: *mitis, Apollo, Sabinus, lacertus.*

7. Arrange as lyric verses:

Adde quod omnis pubes tibi crescit.—
Floribus idem honor semper non est—
Nec unda Stygia cohibetur.

8. Form sentences to show in what various ways "without" may be translated in Latin.

THIRD AND FOURTH YEARS.

TACITUS: AGRICOLA. TERENCE: ADELPHI.
JUVENAL: SATIRES III., X., XIII.

TIME: THREE HOURS.

A. Translate:

Cnaeus Julius Agricola, vetere et illustri Forojuliensium colonia ortus, utrumque avum procuratorem Caesarum habuit, quae equestris nobilitas est. Pater Julius Graecinus senatorii ordinis, studio eloquentiae sapientiaeque notus, iisque virtutibus iram Cai Caesaris meritus: namque M. Silanum accusare jussus, et, quia abnuerat, interfectus est. Mater Julia Procilla fuit, rarae castitatis. In hujus sinu indulgentiaque educatus, per omnem honestarum artium cultum pueritiam adolescentiamque transegit. Arcebat eum ab illecebris peccantium, praeter ipsius bonam integramque naturam, quod statim parvulus sedem ac magistram studiorum Massiliam habuerit, locum Graeca comitate et provinciali parsimonia mixtum ac bene compositum. Memoria teneo, solitum ipsum narrare, *se prima in juventa studium philosophiae acrius, ultra quam concessum Romano ac senatori, hausisse, ni prudentia matris incensum ac flagrantem animum coërcuisset.*

1. *C. Julius Agricola:* Is this the usual form of persons' names in Tacitus? Give the date of Agricola's birth in English and Latin.

2. *Veteri et illustri colonia ortus:* Give ancient and modern names, and explain epithets.

3. *Quod statim....Massiliam habuerit:* What is the difference of meaning between *habuerit* and the other reading, *habuerat*?

4. *Procurator Caesarum:* What were his duties?

5. *Se....hausisse, ni....coercuisset:* Explain the use of *hausisse*, and illustrate it by other examples. Write this sentence in *oratio recta.*

B. Translate:

SY. Age nòui tuom animùm: quasi iam usquam tibi sint uiginti minae,
Dum huic òbsequare. praeterea autem te àiunt proficisci Cyprum.
SA. Hem.
SY. coemisse hinc quae illuc uèheres multa, nàuem conductam: hòc scio,
Animùs tibi pendet. ùbi illinc spero rèdieris tamen hòc ages.
SA. Nusquàm pedem. perii hèrcle: hac illi spe hòc inceperùnt. SY. Timet:
Inièci scrupulum hòmini. SA. O scelera: illùd uide,
Vt in ìpso articulo opprèssit. emptae mùlieres
Complùres et item hinc àlia quae portò Cyprum.
Nisi eo àd mercatum uènio, damnum màximumst,
Nunc si hòc omitto ac tùm agam ubi illinc rèdiero,
Nil èst; refrixerìt res: 'nunc demùm uenis?
Quor pàssu's? ubi eras?' ùt sit satius pèrdere
Quam aut nùnc manere tàm diu aut tum pèrsequi.
SY. Iamne ènumerasti id quòd ad te rediturùm putes?
SA. Hocine illo dignumst? hòcine incipere Àeschinum?
Per opprèssionem ut hànc mi eripere pòstulet?

1. *Hoc scio, animus tibi pendet:* Parse *hoc*; distinguish *novi, scio.*

2. *Nusquam pedem!—Ut in ipso articulo oppressit!* Supply ellipses.

3. *Nunc si hoc omitto ac tum agam ubi illinc rediero, nil est:* Translate with a different reading for *ac tum.*

4. *Refrixerit res—Auxiliarier:* Parse and conjugate the verbs.

5. (*a*) Distinguish *langue d'oc, langue d'oil*, and derive the names.

(*b*) What traces of Latin cases are found in French? Explain the origin of such French forms as *finissent.*

6. Scan:

Qui vobis universis et populo placent,
Quorum opera in bello, in otio, in negotio
Suo quisque tempore usust sine superbia.

7. When and on what occasion was this play first performed?

C. Translate:

Confer
Conductum latronem, incendia sulfure coepta
Atque dolo, primos quum janua colligit ignes:
Confer et hos, veteris qui tollunt graudia templi
Pocula adorandae robiginis et populorum
Dona vel antiquo positas a rege coronas.
Haec ibi si non sunt, minor exstat sacrilegus, qui
Radat inaurati femur Herculis et faciem ipsam
Neptuni; qui bracteolam de Castore ducat.
An dubitet, solitus totum conflare Tonantem?
Confer et artifices mercatoremque veneni
Et deducendum corio bovis in mare, cum quo
Clauditur adversis innoxia simia fatis.
Haec quota pars scelerum, quae custos Gallicus urbis
Usque a Lucifero, donec lux occidat, audit?

1. Give the genitive in the same number as: *femur, ostia, praecordia, imber, sestertia.*

2. (*a*) *Quanto (clamore) Faesidium laudat vocalis agentem*
Sportula.

(*b*) *Vis certe pila, chohortes,*
Egregios equites et castra domestica.

Write explanatory notes.

D. Translate into Latin:

A certain man once lost a large sum of money. Thinking that one of his slaves had taken it, he ordered them to assemble, and then spoke thus: 'My friends, a great snake appeared to me in a dream and said that the man who had taken the money would have a feather on his nose.' The thief at once touched his nose with his his hand to see if the feather were there. 'Thou art the thief,' exclaimed his master. The foolish slave confessed his crime, and the master recovered his money.

(*Additional for a First or Second Class.*)

Translate this passage, not before seen:—Itum inde in Siluras, sapor propriam ferociam Caractaci viribus confisos, quem multa ambigua, multa prospera exinlerant, ut caeteros Britannorum imperatores praemineret, sed tum astu, locorum fraude prior, vi militum inferior, transfert bellum in Ordivicas, additisque qui pacem nostram metuebant, novissimum casum experitur, sumpto ad proelium loco, ut aditus, abscessus, cuncta nobis opportuna et suis in melius essent, hinc montibus arduis, et si qua clementer accedi poterant, in modum valli saxa praestruit. et praefluebat amnis vado incerto, caterraeque armatorum pro muramentis constiterant. ad hoc gentium ductores circumire, hortari, firmare animos minuendo metu, accendendo spe, aliisque belli incitamentis. eaimvero Caractacus huc illuc volitans, illum diem, illam aciem testabatur aut recuperandae libertatis aut servitutis aeternae initium fore.

1. An account of the "Empirical Stage" in the Science of Language.

MATHEMATICS.

Examiner.....J. G. MacGregor, D. Sc.

GEOMETRY.—FIRST YEAR.

April 18th.—10 a. m. to 1 p. m.

1. Straight lines are drawn through the angles of a parallelogram parallel to its diagonals. Prove that another parallelogram is thus formed whose area is twice that of the original parallelogram.

2. If a straight line be divided into any two parts, the squares of the whole line and of one of the parts are equal to twice the rectangle contained by the whole and that part together with the square of the other part.

3. Describe a square which shall be equal to a given rectilineal figure.

4. The squares on the diagonals of a trapezium are together equal to the squares on its two sides which are not parallel and twice the rectangle contained by the sides which are parallel.

5. Equal chords in a circle are equally distant from the centre.

6. ABCD is a segment of a circle cut off by the chord AD. AB and BD are two other chords. If ABCD is a semicircle, ABD is a right angle. If ABCD is greater than a semicircle, ABD is less than a right angle.

7. One circle, A, touches another, B, internally. A's diameter is half that of B. Show that chords of B which pass through the point of contact are bisected by the circumference of A.

8. Inscribe a circle in a given triangle.

9. Describe a circle about a given regular pentagon.

10. What property must a parallelogram have that a circle may be inscribable in it?

11. If the exterior angle of a triangle be bisected by a straight line which cuts the base produced, the segments between the bisecting line and the extremities of the base have to one another the same ratio which the adjacent sides of the triangle have.

12. Find a mean proportional between two given straight lines.

ALGEBRA.—FIRST YEAR.

April 18th—3 p. m. to 6 p. m.

1. If a quantity c be a common measure of a and b, it will also measure the sum or difference of any multiples of a and b.

2. Reduce to its lowest terms: $\dfrac{x^2+x-12}{x^3-5x^2+7x-3}$.

3. If $\dfrac{a}{b}=\dfrac{c}{d}$ then $\dfrac{ma \pm nb}{pa}=\dfrac{mc \pm nd}{pc}$.

4. Find the value of x, if $\dfrac{x-3}{x+2}=\dfrac{1}{2}+\dfrac{x-3}{2x-1}$.

5. A body consists of an alloy of three metals, A, B, C. It contains of A, 2 grammes more than one-fourth of the whole mass; of B, 1 grm. less than half the whole mass; and of C, 1 grm. more than half as much as of A. Find the mass of the body.

6. Given that $\dfrac{x}{b}+\dfrac{y}{c}=1$, and $\dfrac{ax}{c}-\dfrac{by}{a}=0$, find x and y.

7. If $\sqrt{a+\sqrt{b}}=x+\sqrt{y}$, then $\sqrt{a-\sqrt{b}}=x-\sqrt{y}$.

8. Solve the equations: (1) $x+\sqrt{a^2+x^2}=\dfrac{ac^2}{\sqrt{a^2+x^2}}$.

(2) $\dfrac{3x-7}{x}+\dfrac{4x-10}{x+5}=3\frac{1}{2}$.

9. The difference of the roots of a quadratic is equal to m, their product, to n. Find the equation.

10. The difference of two numbers is 1; the difference of their cubes, 19. Find them.

11. I pay a number of bills, each of which amounts to either $7 or $15, and which together make up $50. I pay each bill by a cheque for its amount. How many cheques must I draw.

12. Shew that the sum of n terms of an arithmetic series is equal to one-half of n times the sum of the first and last terms.

13. There are two geometric series whose second terms are 9, and whose sums *ad infinitum* are 100. Find them.

14. Prove that the geometric mean between two quantities is the geometric mean between their arithmetic and harmonic means.

GEOMETRY.—SECOND YEAR.

APRIL 18.—10 A. M. TO 1 P. M.

1. Similar polygons are divisible into the same number of similar triangles, having to one another the same ratio which the polygons have.

2. Parallelograms about the diagonal of any parallelogram are similar to the whole and to one another.

3. In right-angled triangles, the rectilineal figure described upon the side opposite the right angle is equal to the similar and similarly described rectilineal figures upon the sides containing the right angle.

4. A, B, C, D are the middle points of the sides of a quadrilateral. Shew that ABCD is a parallelogram.

5. AC and BD are perpendiculars let fall from A, B, the extremities of a diameter of a circle, on a straight line CD which touches the circle in the point E. Join EA and EB. The areas of the triangles ACE and BDE are together equal to that of the triangle ABE.

6. ABCD is a quadilateral right-angled at C. The diagonal DB bisects the angle ABC and makes the angle ADB a right-angle. Shew that the area of the triangle ADB is to that of the triangle BDC as AB to BC.

7. The tangent at any point, P, of a parabola bisects the angle between the line PS drawn through the focus, S, and the perpendicular PM on the directrix.

8. If a pair of tangents be drawn from a given point to a parabola and a line be drawn through the point parallel to the axis, this line bisects the line joining the points of contact of the tangents.

9. If any number of parallel chords be drawn in a parabola, their middle points will all lie on the line parallel to the axis which passes through the point where the tangent drawn parallel to the chords meets the parabola.

10. The straight lines drawn from any point in an ellipse to the foci are together equal to the major axis.

11. The tangents at the extremities of a focal chord of an ellipse intersect in the directrix.

12. If the tangent at any point P of an ellipse meet the minor axis CB produced in T, (C being the centre of the ellipse) and if PN be drawn at right-angles to CB, then $CT.CN = \overline{BC}^2$

TRIGONOMETRY AND ALGEBRA.—SECOND YEAR.

APRIL 18TH.—3 P. M. TO 6 P. M.

1. Express in circular measure an angle of A°.

2. Prove: (*a*) $sec^2 A = 1 + tan^2 A$,
(*b*) $cot^2 A \cos^2 A = cot^2 A - \cos^2 A$.

3. What are the values of *tan* B when B has the values 0, 45°, 90°, 135°, 180°, 270° respectively.

4. Prove $\sin A = \sin (n\pi + (-1)^n A)$; and express in terms of A $\tan ((4n+3)\frac{\pi}{2} \pm A)$.

5. Find the value of $\cos (A + B)$ in terms of sines and co-sines of A and B. Hence deduce the value of $\cos 2A$ in terms of $\sin A$.

6. Shew that $\sin A \sin B = \sin^2 \frac{1}{2}(A+B) - \sin^2 \frac{1}{2}(A-B)$.

7. Express the area of a triangle in terms of its sides. Prove that it is equal to $\frac{1}{2}(a^2 - b^2)\frac{\sin A \sin B}{\sin (A-B)}$, where A and B are two of the angles and a, b, the opposite sides.

8. Given the angles of a triangle and one side, find the other sides.

9. From the top of a tower 72 feet high, the direction in which the top of a higher factory chimney is seen, is inclined 60° to the vertical. From the foot of the tower the inclination is 30°. Find the height of the chimney and its distance from the tower, assuming both built on the same horizontal plane.

10. Find the number of permutations of n letters of which p are a's, q are b's, and r are c's.

11. Shew that there are only $n+1$ terms in the expansion of $(a+x)^n$ if n is a positive integer.

12. Prove that with a given rate of interest, and for a given time the compound interest on any sum is proportional to the principal.

13. Given $x^y = y^x$, and $x^a = y^b$, find x and y.

14. Five balls are drawn from a box containing 12, of which 4 are marked. Find the chance that there shall be among them (1) two only, (2) two at least, of the marked ones.

EXTRA MATHEMATICS.—SECOND YEAR.

APRIL 20TH.—3 P. M. TO 6 P. M.

1. If two straight lines be parallel, and one of them be perpendicular to a plane, the other must be perpendicular to the same plane.

2. If two straight lines drawn from a given point to a given plane are equal, they are equally inclined to the plane.

3. The loci of the points from which perpendiculars equal to a given straight line, may be drawn to two given intersecting planes are straight lines.

4. Prove the Binomial Theorem for fractional indices; and shew that in this case, the number of terms in the expansion of $(1+x)^n$ is infinite.

5. Given that $log (1+x) = x - \frac{1}{2}x^2 + \frac{1}{3}x^3 - \frac{1}{4}x^4 + \&c.$, find an expression by means of which, having given the logarithm of one of two consecutive numbers we may find that of the other.

6. Either expand $\frac{1+2x-3x^2}{1-2x+3x^2}$ in ascending powers of x;
or resolve $\frac{3x-1}{x^2(x+1)^2}$ into partial fractions.

7. Either prove $\tan^{-1}\frac{1}{7} + 2\tan^{-1}\frac{1}{3} = \frac{\pi}{4}$; or shew that
$\sin 7° 30' = \frac{1}{4}\sqrt{2(4 - \sqrt{2}(\sqrt{3}+1.))}$

8. Shew that if ϑ be the circular measure of an angle between 0° and 90°, $\sin\vartheta > \vartheta - \frac{1}{6}\vartheta^3$.—The values of $\sin 10''$ and $\cos 10''$ being given, shew how to find the sines and cosines of angles between 0° and 90° at intervals of $10''$.

9. Prove $(\cos\vartheta \pm \sqrt{-1}\sin\vartheta)^m = \cos m\vartheta \pm \sqrt{-1}\sin m\vartheta$, if m is a positive integer.

10. Shew that $\cos x = 1 - \frac{x^2}{1\cdot 2} + \frac{x^4}{1\cdot 2\cdot 3\cdot 4} - \&c.$

PHYSICS.

Examiner.....J. G. MacGregor, D. Sc.

MATHEMATICAL PHYSICS.

APRIL 18TH.—10 A. M. TO 1 P. M.

N. B.—No more than ten questions to be answered. Candidates for First Class must answer at least three of the questions of section B. The questions marked with an asterisk have the higher values.

A.

1. A particle passes over 408 ft., while its velocity increases uniformly from 29 to 73 ft. per sec. Find the time occupied and the acceleration. Solve without using formulæ, if you can.

2. If the component velocities of a particle are represented in magnitude and direction by three sides, AB, BC, CD, of a quadrilateral ABCD, the resultant velocity will be represented by AD.

*3. What is the form of the hodograph of (*a*) a point moving with a uniform velocity in a straight line; (*b*) a point moving with an acceleration in a straight line; (*c*) a point moving uniformly in a circle; (*d*) a point moving with constantly increasing velocity in a circle?—What properties of the hodograph make it useful in the solution of kinematic problems?

*4. Determine the range of a projectile on a horizontal plane.—Two particles are projected from the top of an inclined plane with velocities of 50 ft. per sec. each, the one having an inclination of 45°, the other of 30° to the horizontal. Both particles strike the plane at the same point, h ft. lower than the top. Find h.

*5. Assuming the proposition, called the Parallelogram of Rotations, for the direction of the resultant axis, prove it for the magnitude of the resultant angular velocity.

*6. Define impulse.—The impulse of a force is measured by the change of momentum it produces.—What is the derived unit of impulse?—Find its dimensions.

7. If A, B, C, be three forces, whose resultant is zero, and if a, b, c, be the angles between the directions of B and C, of A and C, and of A and B respectively, $A : B : C = \sin a : \sin b : \sin c$.

8. Shew that the kinetic energy which a body gains in falling through a height, h, is just sufficient to lift it through the same height.—State the general law of which this is an instance.

9. Why is the bed of a railway inclined at a bend in the road?—How would you determine the inclination?

*10. Shew that the "bob" of a "mathematical" pendulum, swinging through very small angles, has a motion which is simple harmonic.—Determine the energy of the bob (mass=m) when the pendulum (length=l) moves through angles of a radians on each side of the vertical and makes a complete swing in t seconds.

*11. State in two ways the conditions of equilibrium of a particle.—How would you apply them to determine the forces under which a particle is in equilibrium on a rough inclined plane.

*12. Define the centre of mass of a system of particles.—Find its distance from any given plane in terms of the masses of the particles and their distances from the same plane.—If a force acts on a body so that its direction passes through the centre of mass, it produces motion of translation only.

*13. Shew that the horizontal strains on the hinges of a door are equal; and find their amount in terms of the weight and dimensions of the door.

B.

14. How is the "diagram of velocity" of a system of particles related to its "diagram of displacement"?—The diagram of velocity, without an origin, represents all we can know about the velocity of the system.

15. The change of momentum of a particle with mass equal to the mass of a whole system and moving with the velocity of its centre of inertia is equal to the sum of the changes of momentum of all the particles of the system.

*16. If a system of particles is acted on by no external forces, its angular momentum will remain constant.

*17. Given that the kinetic energy of a system of two particles is equal to the kinetic energy of a particle with mass equal to the mass of the whole system and moving with the velocity of its centre of mass, together with the kinetic energy due to the motion of the parts of the system relative to its centre of mass, shew that the same proposition holds of a system of any number of particles.

*18. Compare the time occupied by a sphere in rolling from rest down an inclined plane with the time occupied by the same sphere in sliding down a smooth plane of the same inclination and length. (The moment of inertia of a sphere of mass m and radius r about an axis through its centre is $\frac{2}{5} m r^2$).

EXPERIMENTAL PHYSICS.

APRIL 18TH.—3 P. M. TO 6 P. M.

N. B.—Only ten questions to be answered. Candidates for First-class must answer at least four questions of section B. Questions with an asterisk have the higher values.

A.

1. The pressure at any point of a fluid is the same in all directions.

2. What light do the phenomena of diffusion throw on the constitution of liquids and gases? According to the molecular theory, what is the distinction between solids, liquids, and gases?

*3. A little air has got into my mercurial barometer. When a correct instrument indicates 29 and 29.5 inches, mine indicates 28.8 and 29.2 inches respectively. Find the actual atmospheric pressure when my barometer indicates 30 inches.

4. By what two distinct experimental methods may a gas be used as a thermometric substance? Describe some one form of gas thermometer. In what respects are gas thermometers superior to liquid thermometers?

5. Describe some form of calorimeter, pointing out its merits and defects, and stating what corrections you would apply to any crude measurement you might make with it.

*6. How would you determine by experiment the saturation pressure of the vapour of any liquid at a given temperature? Account for the formation of dew.

*7. Sketch the dynamical theory of heat. What relation to this theory has the proposition: Heat is a form of energy? Explain according to this theory the boiling of a liquid, the sublimation of a solid, the development of heat in chemical combination.

*8. Magnetic poles of strengths $+m$ and $-m$ are placed at the angles A and B of an equilateral triangle ABC (side $= a$). Find the direction and magnitude of the force exerted on a pole of strength $+1$ placed at C. Sketch by lines of force the magnetic field in the neighbourhood of the poles $+m$ and $-m$.

9. Describe the gold-leaf electroscope.—How would you use it to determine the sign of any electrification? How to determine the position in an electromotive series of any substances A, B, C, D?

*10. Whence does the electric current of a galvanic battery derive its energy? How would you use it to drive, say, a sewing machine? If it is expended in the production of heat, find the heat developed in a wire (forming part of the circuit) whose resistance is r, and through which a current of strength c has been flowing for t seconds.

11. What are the phenomena and laws of Electrolysis? How are they utilised for the measurement of the electric current? How, for electro-plating?

*12. Shew how a wave is set up by a disturbance in an elastic medium. Two waves of the same length, amplitude, and form, travelling along the same line of particles in opposite directions, give rise to the standing wave. Illustrate by diagram. Whence the importance of the standing wave in sound?

13. How would you determine the number per second of the vibrations of a sounding body which give rise to a note of any given pitch? Having found this number, how would you determine the length of the wave of a note of that pitch.

B.

14. How are isothermal and adiabatic diagrams constructed? What relation holds between the lines of the former and those of the latter? Draw roughly the isothermal diagram for a gas, and use it to illustrate the "critical temperature."

*15. Taking the reciprocal of Carnot's function as the measure of temperature, find an expression for the efficiency of a reversible heat engine; and shew that in such an engine the ratio of the heat received to the heat rejected is that of the numbers expressing on the above scale, the temperatures of the source and refrigerator.

*16. Find the work done in carrying a unit of electricity from any one point to any other point in the neighbourhood of an electrified particle. Hence find an expression for the electric potential of a point.

*17. No electric force has ever been observed inside an electrified body. How may this fact be used to prove the law of electrical attraction? Why is this proof the most conclusive one which we have?

18. Find the potential at any point inside a sphere freely electrified with a known charge? Find the capacity of a sphere in terms of its dimensions.

ASTRONOMY AND OPTICS.

APRIL 18TH.—10 A. M. TO 1 P. M.

N. B.—Answer only twelve questions. Those with an asterisk have the higher values.

1. Describe the Sextant and prove the property of the rotating plane mirror on which it is based.

2. A real image is formed by a spherical concave mirror of a small object on its principal axis. Shew that the magnitudes of object and image are as their distances from the mirror.

*3. If a ray of light pass from any medium A through parallel plates of other media B, C, D, &c., into a medium E, its course in E is the same as if it has passed directly from A into E.—How does this proposition facilitate the calculation of atmospheric refraction?

4. A luminous point moves on the principal axis of a convex lens. Trace the changes of position of the conjugate focus as the luminous point moves from an infinite distance up to the lens.

5. Shew that the eyepiece of an astronomical telescope both magnifies the image formed by the object glass and enlarges the field of view. How may the dimensions of the image be measured?

*6. How is it possible to construct a direct vision spectroscope?

*7. What condition must be satisfied that two thin lenses in contact may form an achromatic combination?

8. Define *altitude* and *azimuth*, *right ascension* and *declination*, and *celestial latitude* and *longitude*. Illustrate by diagrams.

9. How would you determine the obliquity of the ecliptic?

10. What is the cause of twilight? In what latitude does it last all night at midsummer?

*11. What observations would you make to establish the Precession of the Equinoxes? What is the physical theory of this phenomenon?

12. Shew how the mass of the sun may be determined.

*13. How are the Fraunhofer lines in the solar spectrum accounted for? What does the distortion of one of these lines mean?

*14. Shew that a solar eclipse will occur at or near conjunction, if the angular distance of the sun and moon as seen from the earth's centre is less than $s + p + S - P$ where s is the moon's and S the sun's semi-diameter, p the moon's, and P the sun's horizontal parallax.

15. What is the character of the apparent path in the heavens of an inferior planet? Account for it.

*16. How would you determine the periodic time of a planet whose orbit is very slightly inclined to the ecliptic?

*17. Shew how a transit of Venus enables us to make an accurate determination of the Sun's distance from the Earth. Why can that not be done by observations of parallax?

*18. Shew that the accelerations with which the moon and bodies near the earth's surface respectively fall towards its centre, are inversely proportional to the squares of their distances from it.

ETHICS AND POLITICAL ECONOMY.

Examiner.....PRINCIPAL ROSS, D.D.

APRIL 13TH. 10 A.M.—1 P.M.

A. ETHICS.

1. Distinguish between Mental and Moral Philosophy.

2. By what means can the will be strengthened?

3. How may the will be enslaved?

4. Specify the laws of the will.

5. Prove that the desire of society is an original principle in the human mind.

6. Show, by the light of nature, that justice demands the punishment of crime.

7. Man is responsible for his opinions.

8. What is Butler's theory of virtue?

9. Moral judgments are intuitions: not generalizations from experience.

10. State Anselm's argument for the existence of the Deity.

11. Produce direct arguments against Materialism.

12. Exceptions to the law of Uniformity strengthen the argument from Design.

13. What judgment should we form of deception practised to save life?

14. What duties arise out of friendship?

B. POLITICAL ECONOMY.

1. Define Political Economy. Give the derivation of these terms, and thence deduce the nature of the science.

2. What part do physicians perform in the work of production?

3. If merchants are not producers, how does their labour benefit the community?

4. Why is a yard of cotton cloth cheaper than a yard of woollen?

5. Divide the labour of making a pin into its several parts.

6. Does the employment of labour-saving machinery increase or diminish the demand for labourers?

7. What is the natural limit of exchange between nations—and between individuals?

8. Why cannot diamonds be conveniently used as money?

9. Why is money coined? Why are its edges chamfered?

10. What is a sovereign? Why called a pound?

11. Show that in raising a revenue direct taxation would effect an immense saving. Why then is it not adopted?

LOGIC AND PSYCHOLOGY.

Examiner.....PROFESSOR LYALL, LL.D.

TIME: THREE HOURS.

1. What is the view we have taken of the mental phenomena? Classify them accordingly. On what grounds does Sir W. Hamilton, as we think erroneously, adhere to the older method of classification? Give his classification.

2. What furnishes us with our elementary ideas? How are these otherwise designated? What takes place in mind after these ideas have been obtained?

3. Distinguish between generalization and classification, and show the importance of this distinction in the matter of reasoning.

4. What is the true theory of reasoning? How does it not come under either Sir W. Hamilton's account of the syllogising process, whether in the quantity of extension or comprehension; or J. Stuart Mill's view of reasoning, as being nothing more than the connotation of attributes?

5. How may syllogisms be divided according to their intrinsic matter and their external form—in other words, the relation of determination between the subject and predicate of the major premise in the one instance, and the outward expression as simple and regular, or otherwise, in the other?

6. What do you understand by the moods and figures of the syllogism? Point out the uses of the second and third figures respectively; and show, by example, how it is better in many instances to retain syllogisms in these figures than to reduce them to the first. Explain the third figure, as virtually the generalizing process. How is the particular conclusion in the latter case erected into a general?

7. Give a scheme of the fallacies according as they are violations of the logical rules, or as they may be wholly extra-logical.

8. What is the doctrine of Method? Give the *rationale* of the analytic and synthetic methods.

9. State what is implied in Definition and Division respectively, how they are derived, and what purpose they serve as instruments of method. Give the rules of each.

10. What is Probation? How are Probations divided by reference to their matter, form, and degree of cogency?

METAPHYSICS AND ÆSTHETICS.

Examiner.....PROFESSOR LYALL, LL.D.

TIME: THREE HOURS.

1. What is the special problem of Ontology? On what rational grounds, if not scientific, may that problem be held to have been solved? Name the schools of Greece, which, each in its own way, attempted its solution.

2. Point out the substantial accord between Plato and Aristotle in their philosophy, notwithstanding the apparent difference in regard to the Platonic ideas. Shew how the "eidos" and "formal cause" of Aristotle presupposed the "idea" and "paradeigma" of Plato.

3. How did Descartes deal with the problem?—how did he treat it more psychologically? How does it survive in the philosophy of Locke, and in the psychology of modern times?

4. Give some account of the controversy as between Realism and Nominalism, or Conceptualism, during the Scholastic Ages, and trace its history to the present time.

5. What is the question at issue in the theories of Perception? What petitory process is obviously involved in Sir W. Hamilton's doctrine of "immediate perception"?

6. Classify the Emotions. What is the place of the æsthetic emotion?

7. Classify the theories on the subject of Beauty and Sublimity. What is awanting in the intellectual theory which Cousin supplies,—but which Sir W. Hamilton altogether overlooks or omits.

8. Give some of the arguments which seem to favour Alison's theory. Show how Burke's conditions of the sublime and beautiful go to confirm Alison's theory. Is it any objection to the theory that we cannot in every case give the constituent elements of the beautiful or the sublime?

9. What is Art? Classify the Arts. Into what kinds may Painting be divided? Name the great masters in the different kinds. Give some more particular account of the ecclesiastical school of painting,—its origin, its subjects, and its leading names.

10. What gives Sculpture its peculiar excellence, notwithstanding its more limited scope or range? How are the styles of Phidias and Praxiteles or Scopas, distinguished? What is the original meaning of Sculpture, and what does it now generically include or signify? What is the peculiar element in Architecture, which almost singly distinguishes it? Give the different kinds and orders of Architecture.

RHETORIC.

Examiner.....PROFESSOR LYALL, LL D.

PART I.

TIME: THREE HOURS.

1. Give the sources of the different figures of speech. Name the figures. State the objects for which they are employed, with their limiting conditions.

2. What are the rules to be observed with respect to the number and order of words? What are the violations of brevity? Define or describe them, and show when they are admissible.

3. What are the different attributes of style, and the conditions of attaining them? Distinguish between humour and wit, and say what writers are characterized by these qualities respectively.

4. To what peculiarity of style is the term Onomatopœia applicable? In what different ways is it to be secured or effected?

5. To what, in our language, does the word "taste" apply, and what does it denote? What two elements do we recognize in it? Describe these respectively.

6. What should be peculiarly aimed at in the sentence? Describe the two principal kinds of sentence. What do you mean by the Balanced Sentence? What does it sometimes result in? Under what conditions are digressions admissible?

PART II.

TIME: THREE HOURS.

1. What is Exposition? Besides the property of being true, "which alone is valuable in any knowledge or information," by what other attribute is Science characterized? How is this arrived at?

2. What is the first generalized element? How is it defined? What is the second and chief scientific element? How is it expounded?

3. When the object is to make an abstruse principle intelligible, on what grounds must the examples be chosen? Distinguish between Illustrations and Examples. In the employment of illustrations what are the conditions and limitations to be observed?

4. What is Persuasion? Particularize the different kinds of oratory, according to its ends. In order to persuasion what is important to be considered or attended to?

5. What are the means of Persuasion? Under what general principle may these be expressed? How may Description, Narrative, and Exposition, serve the purposes of Persuasion?

6. How is Analogy employed in Argument? What is Probable Argument?

HISTORY.

Examiner..... PROFESSOR FORREST.

TIME: THREE HOURS.

1. During whose reign did the Roman Empire reach its greatest limits? State as definitely as you can its extent at that period.

2. Give the leading events of the reign of Justinian.

3. When the Western Empire was destroyed what kingdom took its place in Italy? How long did it last? How was it destroyed?

4. Give a brief account of leading Mohammedan conquests with dates.

5. "The mutual obligations of the Popes and the Carlovingian family form the important link of ancient and modern, of civil and ecclesiastical, history." Explain.

6. What was the Golden Bull? Explain its importance in history of Germany.

7. What great rights were established by the Commons in the reign of Edward III.?

8. What was the political condition of England on the accession of Henry VII.?

9. "It was the first time in modern history that religion had formally dissociated itself from the ambition of princes and the horrors of war, or that the new spirit of criticism had ventured not only to question but to deny what had till then seemed the primary truths of political order." To what does this refer?

10. "After having broken the Protestant party in France, Richelieu conquered the Catholic party in Europe." Explain this statement.

11. "For Germany in 1648 the worst was over. Physically, at least, she had no more to suffer. One page of her history was closed and another had not yet been opened. She lay for a time in the insensibility of exhaustion." Explain.

12. Write brief notes on any two of the following subjects: Policy of William the Conqueror regarding Saxon laws and constitution. History of Scandinavia from Union of Calmar to 1523. Reign of Catharine II. of Russia. Political geography of Europe, A. D. 1400. Hanseatic League. Treaty of Utretcht. Colet. Boccaccio.

CHEMISTRY.

Examiner .....PROFESSOR GEORGE LAWSON.

INORGANIC CHEMISTRY.

TIME: THREE HOURS.

1. Phosphorus; its natural mineral compounds. Process of manufacture. Properties in the free state. Principal compounds with other elements. Phosphates.

2. Silica; its constitution, varieties, and chemical characters. Silicates: general character and modifications.

3. What is a salt? What is meant by the the terms "neutral," "acid," "basic," as applied to salts? Give examples of changes which salts undergo when acted upon by other salts, bases, metals, acids.

4. Classify the metals according to the compounds which they form.

5. What are the principal natural compounds of iron, and what changes do they undergo under the action of the atmosphere, water, and organic matter?

6. State the mode in which nitric acid acts upon metals, and the compounds produced.

7. Under what chemical conditions does gold appear to have been deposited in quartz in Nova Scotia, as indicated by associated minerals?

ORGANIC CHEMISTRY.

TIME: THREE HOURS.

1. Give a precise statement of the chemical constitution of the following compounds:

(1) Cyanogen.
(2) Methyl. Methane. Methyl Hydrate. Methyl Oxide. Chloroform.
(3) Ethyl. Ethyl Hydrate. Ethyl Oxide. Ethyl Nitrate.

2. Preparation of Acetic Ether.

3. Preparation of Chloral Hydrate.

4. Show relations between series of saturated Hydrocarbons $C_n H_{2n+2}$, and the series of Monatomic Alcohols; and between the latter and the series of Volatile Fatty Acids derived from them.

CHEMICAL LABORATORY.

Give a precise statement of the work done by you in the Chemical Laboratory during the Winter Session.

MEDICAL CHEMISTRY.

1. Describe the two principal gases forming Atmospheric Air. Enumerate its other normal constituents, and its impurities, giving tests for the latter. What gas or gases occur in coal mines, and what chemical reaction takes place in the phenomenon commonly called "an explosion"? In what way is Carbon Monoxide produced by stoves, and what precautions are necessary to prevent its escape into the air of a room?

2. What are the principal metallic poisons liable to occur in drinking water in the mining districts of Nova Scotia? Explain in what way the water becomes impregnated with such impurities, and how you would test for them.

3. Describe carefully the process of testing for Arsenic in animal tissues, and show the way in which the amount is ascertained, with necessary calculations.

4. Give a careful description of Chlorine, Hydrochloric Acid, and Bleaching Powder, also a general account of metallic Chlorides. In what way does Chlorine act upon organic compounds? Give examples.

5. Give a statement of the classification of organic compounds, and explain comparatively the constitution of (1) a Hydrocarbon, (2) a Monatomic Alcohol, (3) Volatile Fatty Acid, (4) a Compound Ether, (5) Hydrocyanic Acid, (6) Benzole, (7) an Alkaloid, (8) Starch.

6. Tests for (1) Strychnia, (2) Nicotia, (3) Ethyl Alcohol, (4) Constituents of Ergot, (5) Constituents of Opium, (6) Chloral Hydrate.

BOTANY.

Examiner..... PROFESSOR GEORGE LAWSON.

PART I.—DECEMBER, 1881.

1. Give a general description of the minute structure of plants as regards the kinds of tissue, and their arrangement in the plant.

2. Describe a typical vegetable cell; give examples of variation in the form of the cell; enumerate the substances forming the cell-contents, distinguishing between the soluble and insoluble, and between the nitrogenous and non-nitrogenous.

3. Point out the distinctive characters of woody tissue.

4. Describe the mode of formation of the vascular tissues, and enumerate the principal forms of vessels.

PART II.—APRIL, 1882.

1. Theory of Cell Development, and process of cell growth.

2. Point out the exact relation in position of each series, and of the parts of each series, (or verticil) of a perfect flower.

3. Compare the structure and the arrangement of leaves with the structure and arrangement of parts of the flower.

4. Classify plants according to: (a) structure of stem, (b) embryo, (c) leaf-venation, (d) number of parts of the flower.

5. Trace the development of the pistil into fruit.

6. Describe the fruit of the common garden pea, and point out wherein it resembles and differs from an orange in structure.

GEOLOGY.

Examiner.....PROFESSOR HONEYMAN, D.C.L.

FIRST EXAMINATION.

TIME: TWO AND A-HALF HOURS.

1. What are the divisions of the Quaternary—English, American, Acadian?

2. What are the typical localities in Nova Scotia and New Brunswick, and the formations in each?

3. Make remarks in reference to sequence in these localities, and also life.

4. What was the typical life of the 1st and 2nd divisions?

5. Give the character of the 3rd division, and prominent phenomena, especially in Halifax and vicinity.

SECOND EXAMINATION.

TIME: TWO AND A-HALF HOURS.

1. What are the Tertiaries of (*a*) the Paris Basin; (*b*) the London Basin?

2. Give a detailed account of the members of the series in (*a*) the Paris Basin; (*b*) the London Basin; (*c*) the Isle of Wight.

3. What is the character of the agencies employed in the formation the strata of (*a*) the Paris Basin; (*b*) the London Basin?

4. Name and classify characteristic fauna and flora of the Paris Basin.

5. What is to be inferred from the character of these in reference to land, water, and climate?

6. Give facts in reference to the distribution of the Tertiaries in Europe and Asia, naming the principal mountain ranges in which they are found, the elevation, and the period when the elevation took place.

7. What are the Tertiaries of America,—especially of the Wyoming Basin?

8. Of what mountain system are the latter constituents?

9. What are characteristic fauna of the Wyoming Basin, and corresponding fauna of the Paris Basin?

10. Name peculiar minerals.

11. Indicate rocks and minerals of economic importance.

THIRD EXAMINATION.

TIME: TWO AND A HALF HOURS.

1. Make a section from Hertfordshire in England to Sens in France; describe the formations traversed and their mode of occurrence.

2. In a section from Walmer to Romney Marsh, parallel to the Straits of Dover, describe the formations occurring in descending order

3. What is the Wealden Series? Between what formations does it occur, and wherein does it differ from these in reference to conditions of formation?

4. The artesian well of Grenelle, Paris,—what formations does it penetrate? and where does the lowest come to the surface and receive the water supply?

5. Where and in what formation is the entrance to the tunnel works of the Strait of Dover?

6. What formations are required to fill up the break between the Quaternary and Triassic of Nova Scotia.

7. Name and arrange geologically and zoologically the thirty fossils given you by the Examiner.

8. Name and arrange, according to Dana's classification of 1878, the thirty specimens of minerals given you by the Examiner.

GERMAN.

Examiner.....PROFESSOR J. LIECHTI, M.A.

THIRD YEAR.

TIME: THREE HOURS.

Translate: I. Schiller's *Kampf mit dem Drachen.*

Da faltet seine Stirne streng
Der Meister und gebietet Schweigen.
Und spricht: "Den Drachen, der dies Land
Verheert, schlugst du mit tapfrer Hand;
Ein Feind kommst du zurück dem Orden,
Und einen schlimmern Wurm gebar
Dein Herz, als dieser Drache war.
Die Schlange, die das Herz vergiftet,
Die Zwietracht und Verderben stiftet,
Das ist der widerspenst'ge Geist,
Der gegen Zucht sich frech emport,
Der Ordnung heilig Band zerreisst;
Denn er ist's der die Welt zerstört.

Muth zeiget auch der Mameluck,
Gehorsam ist des Christen Schmuck;
Denn wo der Herr in seiner Grösse
Gewandelt hat in Knechtes Blösse,
Da stifteten auf heil'gem Grund
Die Väter dieses Ordens Bund.
Der Pflichten schwerste zu erfüllen,
Zu bändigen den eignen Willen!
Dich hat der eitle Ruhm bewegt;
Drum wende dich aus meinen Blicken;
Denn wer des Herren Joch nicht trägt,
Darf sich mit seinem Kreuz nicht schmücken."

II. *Gastfreundschaft.*—Da war es mir fürwahr, als wär' ich in die Zeit entrückt, wo die Hausväter an der Strasse sassen, und wenn ein Wanderer vorüberzog, oft wetteifernd mit einander ihn unter ihr Dach einluden und an ihrem Herde bewirtheten, ohne auch nur zu fragen, woher er käme, was er für Geschäfte treibe und wie lange er zu weilen gedenke. —Gerade so wie ich tritt ja Odysseus unerkannt in den Hof des Eumäos, seines alten Dieners. Dieser sitzt auch im Vorhause in dem umschatteten Platze, weis't die Hunde zur Ruhe, und nachdem er dem Fremden einen hohen Sitz von weichen Fellen bereitet hat, heisst er ihn Platz nehmen, und setzt ihm Wein und Speise vor. Und da sich Odysseus der freundlichen Bewirthung erfreut, und dem Geber Segen dafür wünscht, sagt dieser: "Es ist mir nicht gestattet, auch wenn ein schlechterer Mann als du hierher käme, einen Fremden zu verachten; denn alle Fremden und Armen stehen unter Obhut der Götter."—*Jacobs.*

III. *Aus den Abderiten.*—Es mangelte den Abderiten nie an Einfällen; aber selten passten ihre Einfälle auf die Gelegenheit, wo sie angebracht warden, oder kamen erst, wenn die Gelegenheit vorbei war. Sie sprachen viel, aber immer, ohne sich einen Augenblick zu bedenken, was sie sagen sollten oder wie sie es sagen wollten. Die natürliche Folge hiervon war, dass sie selten den Mund aufthaten, ohne etwas Albernes zu sagen. Zum Unglück erstreckte sich die schlimme Gewohnheit auf ihre Handlungen; denn gemeiniglich schlossen sie den Käfich erst, wenn der Vogel entflogen war. Dies zog ihnen den Vorwurf der Unbesonnenheit zu; aber die Erfahrung bewies, dass es ihnen nicht besser ging, wenn sie sich besannen. Machten sie (welches ziemlich oft begegnete) irgend einen sehr dummen Streich, so kam es immer daher, weil sie es gar zu gut machen wollten.— *Wieland.*

Grammatical questions:

1. Decline in both numbers: *derselbe widerspenstige Geist; unsere freundliche Wirthin; glückliches Land.*

2. Write the Genit. sing., and the Nom. plur. of: *der Wurm, die Welt, das Vaterland, der Thor, das Tor, die Eisenbahn, der Wald, der Landsmann.* Mention three nouns without a *singular*, and three others without a *plural.* How do you ascertain the gender of comp. substs. Give exs.

3. Give the 1st pers. sing. of the *present* and *imperfect Indic.*, and the *past part.* of the verbs: *vergehen, vollbringen, sein, verüberziehen, widersprechen, spazieren, übersetzen* (to translate), *frühstücken.* Which verbs reject the syll. *ge* in the past participle?

4. Explain the difference between *sep.* and *insep.* comp. verbs. State, giving exs., when the separation of the prefix can never take place, even with *separable compound* verbs.

5. Write down the compavative and superlative of the following adjectives and adverbs: *gern, gut, hohe, viel, bald, nah froh.* When is the superlative with *am* to be used? Give an example. Translate: The room was most beautifully decorated (verziert). It is extremely cold. Most humbly.

6. Ein *gut geschriebenes* Buch and ein *gutes geschriebenes* Buch; *viele erprobte* Freunde, and *viel erprobte* Freunde. Translate these sents., and explain the difference in the meaning.

7. Es mangelte den Abderiten nie an Einfällen. What change in the construction takes place if the *indirect object* in this sent. be placed first? Explain. When is the auxil. verb placed at the end of the clause? Illustrate giving two examples.

8. *Und nachdem er....nehmen* (II.) Analyze this sentence, and account for the position of *hat* and *er* in *heisst er.* When is the construction in a comp. sent. unaffected? Write an ex.

9. Distinguish between: *wann, wenn* and *als*; and translate: When are the gates closed? If you are my friend, tell me the truth. When I am thirsty, I drink water. When I was ill.

10. In what case do you substitute the *past part.* of the auxil of mood by the *Infinitive.* Write an ex. Give the German of: He ought to have done his duty (Pflicht).

11. What did Schiller wish to depict in his poem: *Kampf mit dem Drachen*; and what is the moral expressed in it?

12. Translate into German:

What is your name? Such a thing is not to be seen every day. You are right. Who are these gentlemen? They are friends of mine. Not a word was spoken. Are we to speak German? Have you been able to read my letter? It is getting late. The house is being built. The sooner you do it the better. He is more learned than just. Having read his letter, I answered it immediately. He died without leaving a will. Being ill, I could not go.

FOURTH YEAR.—JUNIOR.

TIME: THREE HOURS.

Translate: I. Schiller's *Maria Stuart,* I Act, 2nd Scene.

Maria: Ihr geht, Sir? Ihr verlasst mich abermals,
Und ohne mein geängstigt fürchtend Herz
Der Qual der Ungewissheit zu entladen.
Ich bin, Dank Eurer Spaher Wachsamkeit,
Von aller Welt geschieden, keine Kunde
Gelangt zu mir durch diese Kerkermauern,
Mein Schicksal liegt in meiner Feinde Hand.
Ein peinlich langer Monat ist vorüber,
Seitdem die vierzig Commissarien
In diesem Schloss mich überfallen, Schranken
Errichtet, schnell, mit unanständiger Eile,
Mich unbereitet, ohne Anwalts Hilfe,
Vor ein noch nie erhört Gericht gestellt,
Auf schlaugefasste schwere Klagepunkte
Mich, die Betäubte, Ueberraschte, flugs
Aus dem Gedächtniss Rede stehen lassen—
Wie Geister kamen sie und schwanden wieder.
Seit diesem Tage schweigt mir jeder Mund,
Ich such' umsonst in Eurem Blick zu lesen,
Ob meine Unschuld, meiner Freunde Eifer,
Ob meiner Feinde böser Rath gesiegt.
Brecht endlich Euer Schweigen — lasst mich wissen,
Was ich zu fürchten, was zu hoffen habe.

II. Goethe: *Götz von Berlichingen* —*Götz.*—Was seht ihr mich so an, Bruder? *Martin.*—Dass ich in euern Harnisch verliebt bin. *Götz*—Hättet ihr Lust zu einem? Es ist schwer und beschwerlich ihn zu tragen. *Martin.*—Was ist nicht beschwerlich auf dieser Welt! Und mir kommt nichts beschwerlicher vor, als nicht Mensch sein dürfen. O Herr! was sind die Mühseligkeiten eures Lebens gegen die Jämmerlichkeiten eines Standes, der die besten Triebe, durch die wir werden, wachsen und gedeihen, aus missverstandener Begierde Gott näher zu rücken, verdammt! *Götz.*—Wäre euer Gelübde nicht so heilig, ich wollte euch bereden, einen Harnisch anzulegen, wollt euch ein Pferd geben, und wir zögen mit einander. *Martin.*—Wollte Gott, meine Schultern fühlten Kraft den Harnisch zu ertragen, und mein Arm die Stärke, einen Feind vom Pferd zu stechen! Kein Gelübde sollte mich abhalten wieder in den Orden zu treten, den mein Schöpfer selbst gestiftet hat.

III. *Maria Stuart*: Act I, 7th Scene.

Maria: Ich höre staunend die Gewalt des Mundes,
Der mir von je so unheilbringend war —
Wie werd' ich mich, ein ungelehrtes Weib,
Mit so kunstfert'gem Redner messen können! —
Wohl! Wären diese Lords, wie Ihr sie schildert,
Verstummen müsst' ich, hoffnungslos verloren
Wär meine Sache, sprächen sie mich schuldig.
Doch diese Namen, die Ihr preisend nennt,
Die mich durch ihr Gewicht zermalmen sollen,
Mylord, ganz andre Rollen seh' ich sie
In den Geschichten dieses Landes spielen.
Ich sehe diesen hohen Adel Englands,
Des Reiches majestätischen Senat,
Gleich Sklaven des Serails den Sultanslaunen
Heinrichs des Achten, meines Grossohms, schmeicheln.
Ich sehe dieses edle Oberhaus,
Gleich feil mit den erkäuflichen Gemeinen,
Gesetze prägen und verrufen, Ehen
Auflösen, binden, wie der Mächtige
Gebietet, Englands Fürstentöchter heute
Enterben, mit dem Bastardsamen schänden
Und morgen sie zu Königinnen krönen.
Ich sehe diese würd'gen Peers mit schnell
Vertauschter Ueberzeugung unter *vier*
Regierungen den Glauben *viermal* ändern.

Grammatical questions:

1. Decline the interrogative prons. *wer* and *was*. Which of the following *indef.* prons. can be declined: *mann, Jedermann, Jemand, etwas?* Give the respective declensions.

2. Illustrate the difference between *wer* and *welcher, sich* and *selbst*. What peculiar form does the *relative* pron. assume in sents like: The pen with which I am writing. The word of which I think. Mention other similar forms.

3. Write in idiomatic German: It is to be had in any shop. Do it for my sake. A country, the climate of which is delightful. All of you who are well. Nothing new. He has no longer a friend.

4. Explain the difference between *sep.* and *insep.* verbs, and write out the simple tenses of *ankommen*. When can there be no separation of the prefix, even with *sep. comp.* verbs? Write exs.

5. Give the 3rd pers. sing. of the *Indic. pres.*, and the *Imperf. Subj.*, and the *past part.* of *verlassen, überfallen, widersprechen, schweigen, sehen, anvertrauen, empfangen, vollenden, frühstücken, umgehen, missverstehen*. State the meaning of each verb.

6. Show by exs. how the construction is affected by *adverbial* and *subordinative* conjunctions. Name those that cause no alteration, and translate: Both the upper and the lower house have assented to the bill.

7. By what words do you express the English conj. *when*? Translate: When duty calls, one must obey. When was the first German newspaper published in Halifax? When I was in Germany, I saw the Emperor. Come whenever you please, if you are fond of music.

8. Man hat es in Lande machen lassen wollen. Man hätte es nicht thun können, wenn man auch gewollt hätte. Sie hätte betteln gehen müssen. Translate, and explain the formation of the *compound tense* in these clauses.

9. Comment upon the use of *aber, allein, sondern*, giving sents. in illustration. What is the real meaning of each of these words?

10. What words are used in translating the *present part.*, denoting *cause* or *reason*, and *time*? Illustrate. Give the equivalents of: To be fond of reading. Not knowing what to do, he left without any one's noticing it. He was rewarded for giving the information.

11. Write what you know about the *Sturm und Drang Zeit* between the years 1772–79. What is the particular merit of *Joh. Heinrich Voss*? By whom was *Nathan der Weise* written, and what lesson does this drama impart?

12. Translate into German:

They who do not speak the truth, deserve no confidence. The moon is said to be uninhabited. Do not fear death; think of it sometimes, however. The sun was just setting when we prepared to go. The place was offered to a talented young man. Having been in Germany but a short time, I cannot speak German fluently. Learn to do good. He is known to be a good man. Asking for pardon, he acknowledged his fault. Every one is desirous of becoming rich. Developing the body is as necessary as developing the mind.

FOURTH YEAR.—SENIOR.

TIME: THREE HOURS.

Translate: I. Schiller's *Maria Stuart*.—II. Act, 3rd Scene.

Talbot: Nicht Stimmenmehrheit ist des Rechtes Probe
England ist nicht die Welt, dein Parlament
Nicht der Verein der menschlichen Geschlechter.
Dies heut'ge England ist das künft'ge nicht,
Wie's das vergangne nicht mehr ist — Wie sich
Die Neigung anders wendet, also steigt
Und fällt des Urtheils wandelbare Woge.
Sag' nicht, du müssest der Nothwendigkeit
Gehorchen und dem Dringen deines Volks.
Sobald du willst, in jedem Augenblick
Kannst du erproben, dass dein Wille frei ist.
Versuch's! Erkläre, dass du Blut verabscheust,
Der Schwester Leben willst gerettet sehn,
Zeig' Denen, die dir anders rathen wollen,
Die Wahrheit deines königlichen Zorns,
Schnell wirst du die Nothwendigkeit verschwinden
Und Recht in Unrecht sich verwandeln sehn.
Du selbst musst richten, du allein. Du kannst dich
Auf dieses unstet schwanke Rohr nicht lehnen.
Der eignen Milde folge du getrost.
Nicht Strenge legte Gott ins weiche Herz
Des Weibes — und die Stifter dieses Reichs,
Die auch dem Weib die Herrscherzügel gaben,
Sie zeigten an, dass Strenge nicht die Tugend
Der Könige soll sein in diesem Lande.

II. Zschokke's *Novellen*.—Der Prinz war längst wohlgemuth und lachend davon gezogen in eine andere Strasse, unbekümmert um die Folgen seines Gesanges. Er kam an den Palast des Finanzministers Bodenlos. Mit diesem Herrn stand er nicht in bestem Vernehmen, wie das schon Philipp erfahren hatte. Julian sah alle Fenster erleuchtet. Die Gemahlin des Ministers hatte grosse Gesellschaft. Julian, in seiner satyrischen Poetenlaune pflanzte sich dem Palaste gegenüber hin und blies kräftig in sein Horn. Nachdem er gewohntermassen die Stunde gerufen, sang er mit lauter Stimme gar vernehmlich:

Ihr, die ihr seufzt in Schuldennoth
Und ohne Witz zum Bankerot,
Fleht, dass der Herr in dieser Nacht
Euch zum Finanzminister macht,
Der ohne Finanzen lässt das Land,
Weil er sie behält in seiner Hand

"Das ist ja zum Ohnmächtigwerden!" rief die Frau Ministerin, die ebenfalls zu einem geöffneten Fenster getreten war: "Wer ist denn der niederträchtige Mensch, der sich dergleichen erfrecht!"

III. *Maria Stuart.*—Act IV., 10th Scene. *Elisabeth (allein):*—

O Sklaverei des Volksdiensts! Schmähliche
Knechtschaft — Wie bin ich's müde, diesem Götzen
Zu schmeicheln, den mein Innerstes verachtet!
Wann soll ich frei auf diesem Throne stehn!
Die Meinung muss ich ehren, um das Lob
Der Menge buhlen, einem Pöbel muss ich's
Recht machen, dem der Gaukler nur gefällt.
O, der ist noch nicht König, der der Welt
Gefallen muss! Nur der ist's, der bei seinem Thun
Nach keines Menschen Beifall braucht zu fragen
Warum hab' ich Gerechtigkeit geübt,
Willkür gehasst mein Leben lang, dass ich
Für diese erste unvermeidliche
Gewaltthat selbst die Hände mir gefesselt!
Das Master, das ich selber gab, verdammt mich!
War ich tyrannisch wie die spanische
Maria war, mein Vorfahr auf dem Thron, ich könnte
Jetzt ohne Tadel Königsblut verspritzen!
Doch war's denn meine eigne freie Wahl,
Gerecht zu sein? Die allgewaltige
Nothwendigkeit die auch das freie Wollen
Der Könige zwingt, gebot mir diese Tugend.

Grammatical questions:

1. Distinguish between simple and comp. *sep.* and simple and comp. *insep.* verbs. Name two verbs of each of these four classes. Which is the only *insep.* verb, compounded with *wieder*?

2. What notion is imparted to verbs by the prefixes: *be, er, ver, zer, miss.* Give exs. Mention a few genuine German verbs with the suffix *ieren*, giving their derivation and meaning.

3. Write the 3rd pers. sing. of the *Indic. pres.* and the *Subj. imperf.*, and the *past part.* of: *fallen, verschwinden, herablassen, wahrnehmen, verbieten, missachten, hintergehen, besitzen, beantragen, entzweibeissen, weisen?* Give the meaning of each.

4. State the rules for the order of words in a German sentence. Write some exs. in illustration.

5. By what particulars are *subordinate* clauses characterized? Translate for example: It was night when I arrived in the city. He sat down after having spoken. We did not learn it, because we did not go out. I rejoice to hear that he now performs the duties of a good citizen in his native town.

6. I have been promised a situation. He was entertained in a friendly manner. The patient has not been permitted to get up. His physician has been sent for. Translate these sentences, and state the reason of the difference in the German construction.

7. Sprechen Sie *doch* nicht so laut. Gehen Sie *ja* nicht aus. Es wird ihm *wohl* gelingen. Man wird es Ihnen *schon* sagen. Er wird *noch* den Kopf verlieren. Translate these idiomatic sentences, and give the ordinary meaning of the expletives italicized.

8. Note peculiarities in the construction of the following sentences: I have seen the book lying on the table. Where did we leave off? Many a man is praised without deserving it. He desires the patient to be quiet.

9. *Idiomatic expressions:* Einem auf die Finger sehen. Einem durch die Finger sehen. Einen Baren aufbinden. Die Finger im Spiele haben. Er hat sich anders besonnen. Einem etwas weiss machen. Das Gras wachsen horen. Auf glühenden Kohlen sitzen. Den Garaus machen.

10. Write some exs. in illustration of the use of the *part. present*, (*a*) preceded by a *possessive adject.* with a preposition; (*b*) replacing a *relative pronoun*; (*c*) expressing *time.*

11. Notice briefly the literary labor of *Wieland* and *Lessing.* What is the so-called *Sturm-und Drangzeit?* Who is the author of the idyll-epic *Louise,* and what are his merits respecting German Prosody?

12 Translate into German:

What must not Lady Russel have felt, when she heard of the answer given by her aged father-in-law to James II., who had the meanness, or the want of imagination, to apply to him in his distress? "My lord," said James to the Earl of Bedford, "you are an honest man, have great credit, and can do me signal service." "Ah, sir!" replied the Earl, "I am old and feeble, but I once had a son." The king is said to have been so struck with this reply, that he was silent for some minutes.—*Leigh Hunt.*

FRENCH.

Examiner.....PROFESSOR J. LIECHTI.

THIRD YEAR.—JUNIOR AND SENIOR.

TIME: THREE HOURS.

N. B.—Questions marked * for Seniors, those marked † for Juniors.

Translate: I. (*a*) Voltaire's Charles XII.—Le premier livre qu'on lui fit lire fut l'ouvrage de Samuel Puffendorf, afin qu'il pût connaitre de bonne heure ses Etats et ceux de ses voisins. Il apprit d'abord l'allemand, qu'il parla toujours depuis aussi bien que sa langue maternelle. A l'âge de sept ans il savait manier un cheval. Les exercices violents où il se plaisait, et qui découvraient ses inclinations martiales, lui formèrent de bonne heure une constitution vigoureuse, capable de soutenir les fatigues où le portait son tempérament. Quoique doux dans son enfance, il avait une opiniâtreté insurmontable: le seul moyen de le plier était de le piquer d'honneur; avec le mot de gloire on obtenait tout de lui. Il avait de l'aversion pour le latin; mais dès qu'on lui eut dit que le roi de Pologne et le roi de Danemark l'entendaient, il l'apprit bien vite, et en retint assez pour le parler le reste de sa vie. On s'y prit de la même manière pour l'engager à entendre le français; mais il s'obstina tant qu'il vécut à ne jamais s'en servir, même avec des ambassadeurs français qui ne savaient point d'autre langue.

(*b*) Le réformateur de la Moscovie a surtout porté une loi sage qui fait honte à beaucoup d'Etats policés: c'est qu'il n'est permis à aucun homme au service de l'Etat, ni à un bourgeois établi, ni surtout à un mineur, de passer dans un cloître. Ce prince comprit combien il importe de ne point consacrer à l'oisiveté des sujets qui peuvent être utiles, et de ne point permettre qu'on dispose à jamais de sa liberté dans un âge où l'on ne peut disposer de la moindre partie de sa fortune. Cependant l'industrie des moines élude tous les jours cette loi, faite pour le bien de l'humanité; comme si les moines gagnaient en effet à peupler les cloîtres aux dépens de la patrie.

II. Scribe: *Le Diplomate.—Le Comte.*—Je vous mets sous la protection de madame, parce qu'il y a quelqu'un que vous connaissez très bien, et que partout, au voyage, nous retrouvons sous nos pas . . . Un franc étourdi, qui avait un nom, de la naissance . . . qui pouvait parvenir à tout, le fils d'un ancien ami, à qui moi-même j'avais donné les premières leçons . . . mais que j'ai été forcé d'abandonner, car il ne fera jamais rien. *Isab.*—C'est-à-dire, qu'il ne fera jamais un homme d'état . . . mais il peut faire autre chose . . . Croirez-vous, madame, que ce pauvre jeune homme, afin de plaire à mon père, et de mériter ma main, a essayé d'être diplomate; il a étudié deux ans à Paris, aux affaires étrangères . . . il ne peut pas . . . il n'y entend rien; ce n'est pas sa faute . . . il n'a pas de vocation . . . c'est pour cela que mon père ne peut pas le souffrir . . . Et moi, si j'avais le droit d'avoir un avis, c'est pour cela que je le préférerais . . . Je ne veux pas être la femme d'un ambassadeur, je ne suis pas assez discrète pour cela . . . Quand il faut tous les matins demander à son mari la physionomie qu'on doit avoir dans la journée . . . c'est terrible . . . c'est une contrainte, un déguisement continuel: la vie entière a l'air d'un bal masqué.

III. Sarcey: *Siège de Paris* 1871.—Hélas! combien peu d'entre nous étaient capables de se rendre compte des progrès que cette petite et humble Prusse, qui venait de se révéler tout à coup si formidable, avait faits, non pas seulement dans le maniement des armes, mais encore dans les sciences et les arts, qui sont l'honneur de la paix! Macaulay, le prudent et sagace observateur, avait déclaré dès 1843 que la monarchie prussienne, le plus jeune des grands Etats européens, et que sa population aussi bien que ses revenus reléguaient au cinquième rang, occupait le second, après l'Angleterre, sous le rapport de l'instruction solide, du goût des arts et de la capacité pour tous les genres de science. Et il n'était pas même question de nous! Macaulay se trompait sans doute, car il ne nous aimait guère, en bon Anglais qu'il était, et la haine égare.

Questions:

*† 1. Le premier livre qu'on lui fit *lire*. Parse *fit*, giving its primitive tentes, and the 2nd pers. plur. of the Indicative present. Why is *lire* in the Infinitive? When is the Infinitive further required? State also the exception with an example.

*† 2. Account fully for the words *y* and *en* in the expressions: *on s'y prit*, and *s'en servir* (I. *a*). Illustrate the various ways in which *y* and *en* may be used.

* 3. Write the comparative form of: *de bonne heure*. Translate into idiomatic French: The more you study, the more you learn. The better the laws (are), the happier (are) the people. Do the best.

* 4. Nova Scotia has no men of war, but she has fine sailing vessels (vaisseaux à voile). Drink pure water. What a talented man! How much (que) snow! Translate these sentences, and comment upon the use of the *partitive* and *indef.* articles. Certain words reject the *partit. art.*; mention them with an ex.

*† 5. *Pût, apprit, formèrent* (I. *a*); *permis, compris, peuvent* (I. *b*); *connaissait, pouvoit, veux* (II.). Parse these verbs, and write down the primitive tenses.

† 6. Distinguish between: *prêt à* and *près de*, writing an ex. with each; between *quant* and *quand*; *au lieu que* and *au lieu de*; *ou* and *où*; *du* and *dû*; *cru* and *crû*; *sur* and *sûr*; *pêcher* and *pécher*; *des* and *dès*.

* 7. Make an interogt-negative sentence, in the singular, with: Les exercices violents lui formèrent de bonne heure une constitution vigoureuse. State the cases in which the negations *pas* or *ne* may be elided in a negative sentence. Give two examples.

† 8. Put in the *sing. masc.* the following adjects.: *grecque, fraîche, toutes, lasses, longue, absoute*; and in the *fem. plur.*: *blanc, sec, gros, malin, doux*. Translate: An old man; old men.

*† 9. *On les appelle:* Give the etymology of *on*, and write: "People say; it is not said. Parse the word *les*. Account for the spelling of the word *appelle*. Mention orthographical peculiarities in other verbs of the same class.

† 10. Show by exs. the different ways of writing the numeral *mille*; and state in what case *cent* takes *s* as the sign of the plural. Translate: A German newspaper was published in Halifax in 1789. His Imperial Majesty Emperor William III. To-day is the 20th of April. We have travelled one thousand miles in three years.

† 11. Illustrate the difference between *lequel* (interog.) and *lequel* (relat.) When do you render *whose* by *de qui*, and when by *dont*? Translate: Agriculture and commerce are equally useful in a state; the former feeds (*nourrit*) the inhabitants, the latter makes them rich.

* 12. *Whatever* is expressed by *quelque* and by *quel que*. Explain its use and agreement in the following sentence: Man must die,—whoever he may be, whatever wealth (richesses) he may possess, whatever may be his station (position), however learned or powerful he may be.

* 13 How is the English *Passive* expressed in French? Take for example: These things are done differently; these words are written thus. Which verbs have no passive voice? Illustrate the exceptions, and translate: The affair is very much thought of.

*† 14. *Beaucoup d'Etats policés:* Explain the agreement of the *part. policés*. Write the same sentence substituting *bien* for *beaucoup*. Compare: *beaucoup, peu, bien, petit.*

† 15. Write the answers to the questions: Ecrivez vous des lettres? Avez vous un ami? Etes-vous Nouvel-Ecossais? Allez-vous en Angleterre? Parlez vous à ces dames? Turn into French: You are right. We have just written. Am I to speak? He ought not to have gone. It is in vain for him to try.

*† 16. Translate into French:

Education is the ornament of the rich, and the riches of the poor. Almost all paintings of Raphaël are masterpieces. Good example is a language which everybody can understand. Do not always say what you think, but think always what you say. What is most fatal to progress is idleness. He who renders a service must forget it, he who receives it must remember it. Cato the Censor, an old Roman of great virtue and much wisdom, used to say (imperf.) there were but three actions of his life which he regretted: the first was, the having told a secret to his wife; the second, that he had gone by sea when he might have gone by land; and the third, the having passed one day without doing anything.

FOURTH YEAR.

TIME: THREE HOURS.

Traduisez: I Racine *Iphigénie.—Acte* II.

Eriphile.—Ne me demande point sur quel espoir fondée
De ce fatal amour je me vis possédée.
Je n'en accuse point quelques feintes douleurs
Dont je crus voir Achille honorer mes malheurs:
Le ciel s'est fait sans doute, une joie inhumaine
A rassembler sur moi toute les traits de sa haine:
Rappellerai-je encore le souvenir affreux
Du jour qui dans les fers nous jeta toutes deux?
Dans les cruelles mains *par qui* je fus ravie
Je demeurai longtemps sans lumière et sans vie:
Enfin, mes tristes yeux cherchèrent la clarté;
Et, me voyant presser d'un bras ensanglanté,
Je frémissais, Doris, et d'un vainqueur sauvage
Craignais de rencontrer l'effroyable visage.
J'entrai dans son vaisseau, détestant sa fureur,
Et toujours détournant ma vue avec horreur.
Je le vis: son aspect n'avait rien de farouche;
Je sentis le reproche expirer dans ma bouche;
Je sentis contre moi mon coeur se déclarer;
J'oubliai ma colère, et ne sus que pleurer.

II. Cousin: *Philosophie des révolutions*:—Il est des principes qui subsistent et suffisent à nous guider parmi toutes les épreuves de la vie et dans la perpétuelle mobilité des affaires humaines. Ces principes sont à la fois très-simples et d'une immense portée. C'est d'abord la justice, le respect inviolable que la liberté d'un homme doit avoir pour celle d'un autre homme; c'est ensuite la charité, dont les inspirations vivifient les rigides enseignements de la justice sans les altérer. La justice est le frein de l'humanité, la charité en est l'aiguillon. Otez l'une et l'autre, l'homme s'arrête ou se précipite. Conduit par la charité, appuyé sur la justice, il marche à sa destinée d'un pas réglé et contenu. Voilà l'idéal qu'il s'agit de réaliser, dans les lois, dans les moeurs, et, avant tout, dans la pensée et dans la philosophie. La gloire du christianisme est d'avoir proclamé et répandu la charité, cette lumière du moyen âge, cette consolation de la servitude, et qui apprend à en sortir.

III. Racine: *Iphigénie.—Acte* III.

Achille.— Triste effet de mes soins! est-ce donc là, madame,
Tout le progrès qu' Achille avait fait dans votre âme?
Iphigénie.—Ah, cruel! cet amour, dont vous voulez douter,
Ai-je attendu si tard pour le faire éclater?
Vous voyez de quel oeil, et comme indifférente
J'ai reçu de ma mort la nouvelle sanglante:
Je n'en ai point pâli. Que n'avez-vous pu voir
A quel excès tantôt allait mon désespoir,
Quand, presqu'en arrivant, un récit peu fidèle
M'a de votre inconstance annoncé la nouvelle!
Quel trouble, quel torrent de mots injurieux
Accusait à la fois les hommes et les dieux!
Ah! que vous auriez vu, sans que je vous le *dise*,
De combien votre amour m'est plus cher que ma vie!
Qui sait même, qui sait si le ciel irrité
A pu souffrir l'excès de ma félicité!
Hélas! il me semblait qu'une flamme si belle
M'élevait au-dessus du sort d'une mortelle!

Questions grammaticales:

1. Quelle espèce de vers Racine emploie-t-il dans ses tragédies? Scandez le 10e et le dernier vers (I.), et marquez la césure. Le vers: *"On peut exiger vous rendre ce fils que vous pleurez"* est faux. Dites pourquoi et corrigez-le. L'expression *par qui* au 9e vers est-elle correcte?

2. Ecrivez la 2de pers. de l'impératif, et les temps primitifs des verbes: *crus, rappellerai, voyant, sus, apprend, dis, écrit, moulu.* Quels sont les deux part. passés du verbe *boire*, et comment s'on sert-on?

3. Expliquez la regle de la phrase comparative. Prenez pour ex.: He writes better than he speaks. He does not write better than he speaks.

4. Quels verbes régissent le Subjonctif tantôt avec, tantôt sans la particule *ne*. Donnez des exs. Nommez aussi les conjonct. comps. qui sont suivies de *ne* et du Subjonct. Ecrivez un ex.

5. Par quelle autre conjonction remplacez-vous: *quoique, quand, si*, etc., dans le second membre d'une phrase? Traduisez: If you are wise, and if you wish to be happy, employ your time well. Though he is clever and has been abroad for some time, he wants experience.

6. Expliquez l'étymologie des mots: *quiconque, quelconque, qui que* and *quoi que*, et formez des phrases au moyen de ces mots. Traduisez: Whoever he may be he looks like a gentleman.

7. Si le bon sens n'est pas estimé ce qu'il vaut, est que personne ne croit en manquer. Non seulement toutes ses richesses et tous ses honneurs, mais toute sa vertu s'évanouissent. J'espère bientôt finir mon travail et que je pourrai retourner chez-moi. Dites quelles règles ont été enfreintes dans ses phrases, et donnez-en le corrigé.

8. La forme verbale en *ant* est tantôt *variable*, tantôt *invariable*. Citez des exs. Traduisez les phrases: Ce sont des êtres *vivants* comme nous. Ce sont des êtres *vivant* comme nous. Nommez les *part. présents* qui ne peuvent être employés adjectivement.

9. Expliquez l'accord des *part. passés* dans les phrases: Ils se sont *laissé* surprendre. Je les ai *laissés* s'amuser. On les a *fait* sortir. Elles se sont *parlé*. In order to be sure of truth one must have *heard* it *announced* in a clear and positive manner. I saw her *applauded*.

10. Les *personnes* d'esprit ont eu *eux* les semences de tous les sentiments. Cicéron avait étendu les *bornes* et les *limites* de l'éloquence. Quelles figures de Syntaxe ces phrases renferment-elles? La figure dans la seconde phrase est-elle régulière ou vicieuse? Pourquoi?

11. Ecrivez une courte notice sur Racine et sur Molière. En quoi ces deux auteurs se ressemblent-ils?

12. Traduisez en Français:

(*a*) Oh! why is not the existence I have enjoyed known to the whole universe! everyone would wish to procure for himself a similar lot, peace would reign upon earth, man would no longer think of injuring his fellows, and the wicked would no longer be found, for none would have an interest in being wicked.—*Rousseau.*

(*b*) Unbonnecting at the same time, Walter fixed his eager gaze upon the Queen's approach, with a mixture of respectful curiosity and modest yet ardent admiration, which suited so well with his fine features that the wonders, struck with his rich attire and noble countenance, suffered him to approach somewhat nearer than was permitted to ordinary spectators.—*Walter Scott.*

HEBREW.

For Hebrew paper, see Appendix.

EXAMINATIONS FOR HONOURS.

I.—HONOURS IN CLASSICS.

GREEK.

For Greek Papers, see Appendix.

LATIN.

Examiner.........................JOHN JOHNSON, M.A.

I.

PLAUTUS: TRINUMMUS. TERENCE: HEAUTONTIMORUMENOS. VIRGIL: GEORGICS I., IV.

TIME: THREE HOURS.

A. 1. Translate: Trin. II. 4, vv. 1–25.

2. Translate and explain:

a. Em nunc quoius est
ut ad incitas redactus.

b. sed Campas genus
multo Surorum jam antidit patientiam.

3. Translate and write notes on syntax or forms:

a. Hercle opinor mi advenienti hac noctu agitandumst vigilias.

b. nam absque foret te sat scio in alto
distraxissent disque tulissent satellites tui (me) miserum
foede.

4. Explain these forms:
Antidit, posiveris, detraxe, mis, nevis, interfieri.

5. Scan: minus quindecim dies sunt quom pro hisce aedibus,
deosque oro ut vitae tuae superstes suppetet,—
tu si animum vicisti potius quam animus te est quod
gaudeas.

B. 1. Translate:

a. Heaut. Act I. sc. 1, vv. 19–35.
b. " Act IV. sc. 2.
Where necessary, make a note on the syntax.

2. a. ACTA·PRIMVM·TIBIIS·IMPARIBVS: Explain.
b. Statariam (fabulam) agere: What is the meaning of *statariam* and what is its opposite?
c. facite aequi sitis: date crescendi copiam,
novarum qui spectandi faciunt copiam,
sine vitiis: Translate this and comment on the syntax.
d. Ubi video haec, coepi cogitare: Hem! tot mea
Solius solliciti sint causa, ut me unum expleant? Construe *solius*.
e. Quod illa aetas magis ad haec utenda idonea est: Comment on the syntax of this line.
f. pultare fores: crepare fores. Explain the difference and give the Greek equivalents.

3. Give an outline of the plot.

C. 1. Translate Geor. IV., vv. 13–32.

2. Write explanatory notes on these lines:
a. Adsis, o Tegeaeae, favens, oleaeque Minerva
Inventrix, uncique puer monstrator aratri.
b. Nec Pelusiacae curam aspernabere lentis.
c. Aut Athon aut Rhodopen, aut alta Ceraunia telo.
d. Et pro purpureo poenas dat Scylla capillo.

3. Translate this passage:

Sic omnia fatis
In pejus ruere, ac retro sublapsa referri:
Non aliter, quam qui adverso vix flumine lembum
Remigiis subigit, si brachia forte remisit,
Atque illum in praeceps prono rapit alveus amni.

How are the clauses of the latter sentence connected? In what different ways may *atque*, *illum*, *alveus*, be translated?

4. From what various sources did Virgil derive the material for this work?

II.

HORACE: EPISTLES. JUVENAL: SATIRES, VII., VIII., XIV.
CICERO: DE ORATORE, Books I., II. TACITUS: GERMANIA.

TIME: THREE HOURS.

A. 1. Translate Hor., Epp. I., 16, vv. 5–31.

2. Write grammatical notes, where you deem them necessary, on:
a. Invitum qui servat idem facit occidenti.
b. Haec ego procurare et idoneus imperor et non
Invitus.
c. Quo mihi fortunam, si non conceditur uti.

3. Explain the references in the following lines:
a. Projicit ampullas et sesquipedalia verba.
b. Nec reditum Diomedis ab interitu Meleagri,
Nec gemino bellum Trojanum orditur ab ovo.

4. Quote (a) Horace's description of his own character and personal appearance; (b) A passage from the Epistles that fixes the year of his birth.

B. 1. Translate Juv. VII., vv. 98–123.

2. Write explanatory notes on these lines of the extract

a. Quis dabit historico, quantum daret acta legenti?
b. Parte alia solum russatil pone Lacernae.
c. Consedere Duces: surgis tu pallidus Ajax.
d. Si contigit aureus unus.
Inde cadunt partes, ex foedere, pragmaticorum.

3. An epigram, embodied afterwards in his Satires, is said to have had a serious influence on Juvenal's life.

C. Translate Cic., De Oratore, XXII., secs. 99–101.

1. Ut in orationibus scribi solet: QUIBUS SCIAM POTEROQUE: Write an explanatory note.

2. To whom does Rhetoric as an art owe its origin? What are the divisions of its subject-matter. Give both the Greek and the Latin terms.

3. *a.* Decies centena dedisse huic parco. Express this sum by Roman symbols, and state the value in English money.
b. Name the divisions of the *as*.
c. Write in full the abbreviations: S.P.D.: S.P.Q.R.: NL: S.V.B.E.E.V.

D. Translate Tac., Germ., chap. V.

1. Pecuniam probant veterem et diu notam, serratos bigatosque. Describe these.

2. What German gods are probably mentioned under Latin names?

3. Discuss the question whether the Germania or the Annals were written first.

PHILOLOGY AND LATIN COMPOSITION.

TIME: THREE HOURS.

A. Max Müller's Science of Language, vol. I., chaps. 1–7.

1. Discuss the position of Philology among the sciences.

2. Describe the nature of the stages through which a science passes, and give as full an account as you can of the second stage in the science of language.

3. If the origin of a word be sought, state the proper method of proceeding, and illustrate by an example that shows as many steps as possible.

4. "Why should the discovery of Sanskrit have wrought so complete a change in the classificatory study of language?" How does M. Müller answer his own question?

5. M. Müller mentions two remarkable triumphs of a combined knowledge of Sanskrit and Comparative Grammar.

B. Peile's Introduction to Greek and Latin Etymology.

1. What is meant by (*a*) "dynamic," and (*b*) "phonetic" change? Give several examples.

2. Write a list of verbal "stem-suffixes," adding one example of each.

3. Illustrate by examples the changes an Indo-European D H has undergone in Latin, Greek and English.

4. What *mute* is not properly initial in Greek and Latin? Account for the exceptions in Greek.

5. Trace by examples the changes the "spirants" have undergone in Greek.

6. What are the laws of accentuation in Latin? Why is it supposed that the laws were different in an earlier stage of the language? Support the theory by examples.

C. Latin Composition.

Translate into Latin:—After the loss of his last hope by the destruction of the Syrian host at Magnesia, Hannibal wandered from land to land till he found a resting-place at the court of Prusias of Bithynia. The Senate could not breathe while their great enemy lived, and Flamininus was sent to demand from Prusias the person of his illustrious guest. The king dared not say nay, and gave Hannibal to understand that he must be surrendered to Flamininus; but the great Carthaginian, to avoid falling into the hands of his implacable foes, swallowed poison, which, according to the common story, he carried with him constantly in the hollow of a ring.

CLASSICAL HISTORY.

TIME: THREE HOURS.

N. B.—Only four questions in each part are to be answered.

A. Donaldson and Müller's History of Greek Classical Literature.

1. *a.* Why is Smyrna supposed to have been Homer's birth-place?
b. In the early books of the Odyssey two plots are carried on.
c. What differences have been noted between the Iliad and the Odyssey?

2. The origin of Tragedy. Quote Horace's account of the early representation of tragedies. Is it correct?

3. The life of Æschylus. The political state of Athens at the time when he brought out the *Agamemnon*. His object in writing the Trilogy, and its effect.

4. The value of the History of Thucydides compared with the narratives of the Ionian School. He explains his intention in introducing speeches.

5. The social position of Demosthenes' father. Juvenal's description of it. How are Demosthenes' speeches classified? The occasion of his first speech. Describe his style.

B. Brown's History of Latin Classical Literature.

1. What is the oldest specimen of Latin? Where are fragments of the Laws of the XII Tables preserved? Can you quote any old forms of words therefrom?

2. Describe Saturnian verse. Where are specimens found? How does Horace characterize it?

3. Life of Plautus. Name his plays. Describe his prologues; that to the *Trinummus* is unlike the rest.

4. Quote Horace's remarks on Terence. What are avowedly the sources of his plays? How are Latin plays classified? To which class do Terence's belong? Name and describe the instruments mentioned as used to accompany them.

5. In what department of literature did the Romans show originality? Derive its name and compare the chief writers therein.

C. Donaldson's Theatre of the Greeks.

1. Compare a theatrical performance in Athens with one in our own day as respects (*a*) time, (*b*) place.

2. What improvements in the representation of tragedies are attributed to Æschylus?

3. Describe the masks and the use thereof.

4. The preparations necessary for bringing out a set of new plays.

5. *Nec quarta loqui persona laborat.* Explain the distribution of parts in a Greek play.

II.—HONOURS IN MATHEMATICS AND PHYSICS.

MATHEMATICS.

Examiner.... ....PROF. A. JOHNSON, LL.D., McGill College.

I.

TRIGONOMETRY AND ANALYTICAL GEOMETRY.

APRIL 17TH.—10 A. M. TO 1 P. M.

1. Find the value of *tan* (A + B + C), in terms of *tan* A, *tan* B, and *tan* C; and thence shew that, if they be the angles of a triangle, we have:
$$\tan A + \tan B + \tan C = \tan A \tan B \tan C.$$

2. Prove that $(\cos A \pm \sqrt{-1}\sin A)^m = \cos m A \pm \sqrt{-1}\sin m A$, when m is a positive or negative whole number.

3. Prove $a = \tan a - \frac{1}{3}\tan^3 a + \frac{1}{5}\tan^5 a - \&c.$

4. Any two sides of a spherical triangle are together greater than the third; and the three sides are together less than the circumference of a great circle.

5. In any spherical triangle $\cos A = \dfrac{\cos a - \cos b \cos c}{\sin b \sin c}$.

6. State Napier's rules for the solution of right-angled spherical triangles, explaining them and exemplifying the application of them.

7. Find formulae for transformation from one set of rectangular axes of co-ordinates to another, making an angle Φ with them.

8. Find the equation of a line passing through a given point (x', y'), and making a given angle (α) with a given line, $y = mx + b$ (the axes of co-ordinates being rectangular).

9. Prove that the straight line $2x - k(2y - x - 4) = 0$, where k is variable, always passes through a fixed point, and find the point.

10. Given the base and difference of squares of sides of a triangle, find analytically the locus of the vertex.

11. Prove that the following equation represents right lines, and find the lines: $x^2 - 5xy + 4y^2 + x + 2y - 2 = 0$.

12. The co-ordinates of the centre of a circle are 5 and 6; its radius = 3. Find the equation of a tangent to it from the origin.

II.

ANALYTICAL GEOMETRY, THEORY OF EQUATIONS, AND DIFFERENTIAL CALCULUS.

APRIL 18TH.—3 P. M. TO 6 P. M.

1. The equation of a conic referred to rectangular axes being $cx^2 + bxy + cy^2 = d$, shew that by a suitable transformation of co-ordinates it can be reduced to the form
$$\frac{A}{d}x^2 + \frac{B}{d}y^2 = 1,$$
$$\text{where } A = \tfrac{1}{2}\left\{a + c + \sqrt{b^2 + (a-c)^2}\right\},$$
$$B = \tfrac{1}{2}\left\{a + c - \sqrt{b^2 + (a-c)^2}\right\}.$$

2. Express the focal distances of any point of the ellipse, $\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1$, in terms of the abscissa of the point; and hence shew that their sum is constant.

3. The locus of the intersection of the tangent at any point of an ellipse with the perpendicular on it from the focus is a circle described on the major axis of the ellipse as diameter.

4. If from any point within or without an ellipse two straight lines be drawn parallel to two given straight lines to meet the curve, the rectangles of the segments will be to one another in an invariable ratio.

5. Tangents are drawn to the parabola, $y^2 = 4ax$, from an external point (h, k); find the equation of the chord of contact.

6. Find the polar equation of the circle in its most general form.

7. State Sturm's theorem, and apply it to find the situation of the roots in the equation, $x^3 - 3x^2 - 4x + 13 = 0$.

8. Apply Horner's method to calculate the root, lying between 2 and 3, of the equation, $x^3 + 10x^2 + 6x - 120 = 0$.

9. Transform the equation, $x^3 - 3x^2 + 4x - 4 = 0$, into another wanting the second term.

10. Define differential co-efficient, and find the differential co-efficients of $\sin x$, $\sin^{-1} x$, $\log x$, a^x.

11. Differentiate $e^{ax}\sin^m(rx)$; $\dfrac{x}{1 + \log x}$; $\dfrac{1 - \tan x}{\sec x}$.

12. If $y = \sin(\sin x)$, prove that $\dfrac{d^2y}{dx^2} + \dfrac{dy}{dx}\tan x + y\cos^2 x = 0$.

III.

DIFFERENTIAL AND INTEGRAL CALCULUS.

APRIL 19TH.—10 A. M. TO 1 P. M.

1. State and prove MacLaurin's Theorem. Apply it to expand $\sin x$ in a series of powers of x.

2. Prove Leibnitz's Theorem, viz.:

$$\frac{d^n(uv)}{dx^n} = u\frac{d^n v}{dx^n} + n\frac{du}{dx}\frac{d^{n-1}v}{dx^{n-1}} + \frac{n(n-1)}{1.2}\frac{d^2u}{dx^2}\frac{d^{n-2}v}{dx^{n-2}} + \&c.$$

3. Prove that the value of $a\sec\vartheta + b\,\mathrm{cosec}\,\vartheta$ is a minimum when $\tan\vartheta = \sqrt[4]{\frac{b}{a}}$

4. Prove that if $u = \phi(x, y)$,

$$\phi(x+h, y+k) = u + h\frac{du}{dx} + k\frac{du}{dy} + \frac{h^2}{1.2}\frac{d^2u}{dx^2} + 2hk\frac{d^2u}{dx\,dy} + \frac{k^2}{1.2}\frac{d^2u}{dy^2} + \&c.$$

5. Find an expression for the radius of curvature of any curve, and apply it to shew that the radius of curvature of the catenary

$$y - \frac{a}{2}\left(\frac{x}{e^a} + \frac{-x}{e^a}\right) \text{ is } -\frac{y^2}{a}.$$

6. Find the equation of the evolute of the ellipse.

7. Find the following integrals:

$$\int\frac{\sin x\,dx}{a + b\cos x}; \quad \int\frac{dx}{\sqrt{x^2+a^2}}; \quad \int\frac{dx}{x\sqrt{x^2-a^2}}$$

8. Integrate

$$\int\frac{d\vartheta}{a+b\cos\vartheta}; \quad \int\frac{dx}{(a+2bx+cx^2)^{\frac{3}{2}}}; \quad \int\frac{d\vartheta}{\sin\vartheta}.$$

9. Apply the formula for integration by parts to

$$\int\frac{\sin^{-1}x\,dx}{(1-x^2)^{\frac{1}{2}}}$$

10. Integrate by successive reduction

$$\int\sin^4\vartheta\,d\vartheta; \quad \int x^2 e^{ax}\,dx; \quad \int e^{ax}\sin^2 x\,dx.$$

11. Find by integration the area of the ellipse $\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1$.

12. Prove that the length of an arc of the parabola $y^2 = 2mx$, measured from the vertex, is given by the formula

$$s = \frac{y\sqrt{y^2+m^2}}{2m} + \frac{m}{2}\log\left(\frac{y+\sqrt{y^2+m^2}}{m}\right)$$

PHYSICS.

Examiner.....J. G. MACGREGOR, D. Sc.

APRIL 13TH.—10 A. M. TO 1 P. M.

1. Shew that the acceleration $\frac{d^2s}{dt^2}$ of a particle moving in a curved path is not the complete resultant of the component accelerations, $\frac{d^2x}{dt^2}$, $\frac{d^2y}{dt^2}$, $\frac{d^2z}{dt^2}$; but is the sum of their resolved parts in the direction of motion.

2. A free particle moves under the action of a vertical force whose magnitude is constant; determinate the equation to its path.

3. A particle has two component uniform circular motions of the same period and phase. Determine its path, (*a*) if the circular motions are the same way round, (*b*) if they are in opposite directions. How do you explain the rotation of the plane of polarisation by such bodies as quartz?

4. A body has three component rotations about axes at right angles to one another. Determine the linear velocities of any particle parallel to the axes, in terms of the component angular velocities of the body and the co-ordinates of the particle. What is the equation to the instantaneous axis?

5. What relations among the coefficients of a strain shew that it is pure? Give proof. A sphere is cut from a crystal whose coefficient of thermal expansion in one direction is E, and in all directions at right angles to that one e; what form will it take when heated?

6. Shew that for a homogeneous incompressible fluid whose motion is irrotational, a function F can be found such that $\frac{d^2F}{dx^2} + \frac{d^2F}{dy^2} + \frac{d^2F}{dz^2} = 0$.

7. Find the centre of mass of a circular arc of uniform section, the density, (1) being uniform, (2) varying as the length of the arc measured from one extremity.

8. A particle moves in a plane under the action of a force directed towards a fixed point in the plane and directly proportional to the distance of the particle from it. Shew that the work done, when the particle moves from any one point to any other point, is independent of the path.

9. For any rigid body there may be described about any point as centre, an ellipsoid which is such that the square of the reciprocal of any radius vector measures the moment of inertia of the body about that radius vector as axis.

10. Find the attraction of a thin circular plate of uniform density on a particle of unit mass placed anywhere on a line through the centre of the plate perpendicular to its plane.

11. Assuming Green's Theorem, shew that at all points in empty space on a given line of force, the resultant attraction varies inversely as the normal sections of a tube of force at those points. Shew that the attraction of a uniformly electrified sphere on any small charge outside it, is inversely proportional to the square of the distance of the small charge from its centre.

12. Find the static and kinetic equations of a flexible inextensible string. Apply the latter to the case of a stretched weightless string. Obtain their most general solution in this case, and interpret it.

13. Enunciate the two fundamental laws of Thermodynamics. Shew that a reversible thermodynamic engine has the greatest efficiency possible.

APPENDIX.

HEBREW.

Examiner.....REV. D. HONEYMAN, D. C. L.

TIME: FOUR HOURS.

1. Take every 10th verse of the 1st and 2nd Chapters of Genesis, beginning with the 2nd verse of the 1st Chapter, viz.:

Verses 2, 11, 21, 31 of 1st Chapter.
10, 20 of 2nd Chapter.
Also Verses 1 and 3 of 8th "

Translate literally.
Analyze thoroughly.

2. Words occurring more than once, analyze once and afterwards refer to previous analysis.

3. Refer every verb to its Grammatical Paradigm.

4. Note all sorts of peculiarities of punctuation by prefix, affix, defect, accentuation, or consonantal peculiarity; give reasons for such.

APPENDIX.

EXAMINATIONS IN GREEK 1881-82.

JUNIOR MUNRO EXHIBITIONS AND BURSARIES, 1881.

John Johnson, M.A., ... *Examiner.*

XENOPHON: ANABASIS, BOOK IV.

Time: Three Hours.

I.

A. Translate:—Ὁ δὲ Χειρίσοφος, ἐπεὶ τὰ παρ' αὐτῷ ἀσφαλῶς εἶχε, πέμπει παρὰ Ξενοφῶντα τοὺς πελταστὰς καὶ σφενδονήτας καὶ τοξότας, καὶ κελεύει ποιεῖν ὅ τι ἂν παραγγέλλῃ. Ἰδὼν αὐτοὺς καταβαίνοντας ὁ Ξενοφῶν, πέμψας ἄγγελον κελεύει αὐτοῦ μεῖναι ἐπὶ τοῦ ποταμοῦ μὴ διαβάντας· ὅταν δ' ἄρξωνται αὐτοὶ διαβαίνειν, ἐναντίους ἔνθεν καὶ ἔνθεν σφῶν ἐμβαίνειν ὡς διαβησομένους, διηγκυλωμένους τοὺς ἀκοντιστάς, καὶ ἐπιβεβλημένους τοὺς τοξότας· μὴ πρόσω δὲ τοῦ ποταμοῦ προβαίνειν. Τοῖς δὲ παρ' ἑαυτῷ παρήγγειλεν, ἐπειδὰν σφενδόνη ἐξικνῆται καὶ ἀσπὶς ψοφῇ, παιανίσαντας θεῖν ἐς τοὺς πολεμίους· ἐπειδὰν δ' ἀναστρέψωσιν οἱ πολέμιοι καὶ ἐκ τοῦ ποταμοῦ ὁ σαλπιγκτὴς σημήνῃ τὸ πολεμικόν, ἀναστρέψαντας ἐπὶ δόρυ ἡγεῖσθαι μὲν τοὺς οὐραγούς, θεῖν δὲ πάντας καὶ διαβαίνειν ὅτι τάχιστα ᾗ ἕκαστος τὴν τάξιν εἶχεν, ὡς μὴ ἐμποδίζειν ἀλλήλους.

B. Translate:—Ἐπεὶ δὲ οἱ πρῶτοι ἐγένοντο ἐπὶ τοῦ ὄρους καὶ κατεῖδον τὴν θάλατταν, κραυγὴ πολλὴ ἐγένετο. Ἀκούσας δὲ ὁ Ξενοφῶν καὶ οἱ ὀπισθοφύλακες ᾠήθησαν ἄλλους ἔμπροσθεν ἐπιτίθεσθαι πολεμίους· εἵποντο γὰρ ὄπισθεν οἱ ἐκ τῆς καιομένης χώρας καὶ αὐτῶν οἱ ὀπισθοφύλακες ἀπέκτεινάν τέ τινας καὶ ἐζώγρησαν, ἐνέδραν ποιησάμενοι καὶ γέρρα ἔλαβον δασειῶν βοῶν ὠμοβόεια ἀμφὶ τὰ εἴκοσιν. Ἐπειδὴ δὲ βοὴ πλείων τε ἐγίγνετο καὶ ἐγγύτερον, καὶ οἱ ἀεὶ ἐπιόντες ἔθεον δρόμῳ ἐπὶ τοὺς ἀεὶ βοῶντας, καὶ πολλῷ μείζων ἐγίγνετο ἡ βοὴ ὅσῳ δὴ πλείους ἐγίγνοντο, ἐδόκει δὴ μεῖζόν τι εἶναι τῷ Ξενοφῶντι. Καὶ ἀναβὰς ἐφ' ἵππον καὶ Λύκιον καὶ τοὺς ἱππέας ἀναλαβὼν παρεβοήθει· καὶ τάχα δὴ ἀκούουσι βοώντων τῶν στρατιωτῶν, Θάλαττα, Θάλαττα, καὶ παρεγγυώντων. Ἔνθα δὴ ἔθεον ἅπαντες καὶ οἱ ὀπισθοφύλακες καὶ τὰ ὑποζύγια ἠλαύνετο καὶ οἱ ἵπποι.

1. Explain the military terms: *ἄγειν τοὺς λόχους ὀρθίους ἐπὶ—πολλοὺς τεταγμένοι—παρ' ἀσπίδας παραγαγεῖν τὴν ἐνωμοτίαν ἐπὶ φάλαγγος.*

2. Give the equivalents in English measure to:—
ὀργυιά—τρία ἡμίπλεθρα—πέντε παρασάγγας.

3. What Latin phrases correspond to:
ἅμα τῇ ἡμέρᾳ—τὴν ταχίστην—Πέρσης μὲν ἔφη εἶναι.

4. Κλεάνωρ Ὀρχομένιος, Ἀρωστίας Χῖος: whence did they come?

5. Tell (with dates) the story of the expedition of the "Ten Thousand."

II.

1. Decline with article in the Sing. (giving contracted forms):
ἑρμηνεύς, ἕως, βοῦς;
and in the plural as above
τοὺς, ὄρος, τάξις.

2. Note irregularities in the declension of
ὕδωρ, σῖτος, στάδιον, ὄναρ, ὄρνις.

3. Write acc. sing., and nom. and dat. plural, (in all genders, with vowels both open and contracted):
πλείων, τετυφώς, ταχύς, οἶτος, σῷον.

4. Denote by Greek letters, 58. Write in words, 2159 men.

5. Form 2 pl. imperf. indic. (with contractions) of:
αἰνέομαι, ἐρέω, ἐκτείνομαι, προδίδομαι, εἰμι.

6. Write *a.* the perf. infin. act. of *γράφω, πέμπω.*
b. the perf. infin. pass. of *κρίνω, τίθημι.*
c. the Aor. infin. pass. of *στέλλω, ἵστημι.*

7. Classify the genitives in the extracts.

8. Distinguish the meaning of:—*πυρεί, πυρά—σπένδω, σπένδομαι—ἐχρῶντο αὐτοῖς ἀκοντίοις, αὐτοῖς τοῖς ἀκοντίοις, τοῖς αὐτοῖς ἀκοντίοις.*

9. Parse, giving if used, pres. indic., fut. indic., perf. indic. in the active, and perf. indic., aor. indic. in the passive:—*παραγγείλῃ, ἐξικνῆται, ἀκούσας, ἠλαύνετο—συλλεγεῖσιν, ἑάλω, νίκωμεν, φήναντι, ἠνέχθη.*

SESSIONAL EXAMINATIONS, 1882.

JOHN JOHNSON, M.A., ... *Examiner.*

FIRST YEAR.

XENOPHON: ANABASIS, Book III. Chap. 1—3.
LUCIAN: SELECT DIALOGUES.

Time. Three Hours.

I.

A. Translate Anab. III., ch. 2, secs. 10, 11, 12.

1. *Οὕτω δ' ἐχόντων*: Explain the construction. What is the Latin for it?

2. *ὡς ἀφανισάντων αὖθις τὰς Ἀθήνας*; What is the force of *αὖθις*? Parse *ἀφανισάντων.*

3. What is irregular in the sentence *καὶ εὐξάμενοι τῇ Ἀρτέμιδι κ.τ.λ.*?

4. *Ἑλλήνων μὲν γὰρ Περσῶν; καὶ ἔτι καὶ νῦν ἀποθύουσι*: Give the dates. What is the force of the prepositions in *ἀποθύουσι, καταθύουσι*?

B. Translate Luc. Dial. 14 (Walker's Selections), beginning—
ΜΙΝ. *Σὺ δέ, ὦ Ἀλέξανδρε, τί πρὸς ταῦτα φῄς;*
ending—*μυριάδας πολλὰς στρατοῦ ἄγων.*

1. Account for the case of *ὁπόσων.*

2. *Ἐχρῆν μέν, ὦ Μίνως, κ.τ.λ.* Supply the ellipsis.

3. *Τῇ Θηβαίων ἀπωλείᾳ.* Write an historical note.

4. *Ἐπί τε Γρανικῷ; ἐπὶ Ἰσσῷ*: Account for cases, give dates, and describe the situation of the places.

5. A sketch of Lucian's life.

II.

1. Write (*a*) the gen. acc. and voc. sing. of—
ἥως, Κλωθώ, χλαμύς, Σκύθης, γόνυ·ων;
(*b*) the nom. and gen. sing., and dat. plural of—
ἰατρῷν, Ἡρακλεῖ, φαλάγγας, αὐτούς, ὁ.

2. Give the parts in the other degrees corresponding to—
ταχύ, μακρούς, ἡσύχῳ, ἀκριβῶς, ἐγγύς, πένης.

3. Write in Greek letters and words, 2869 women; 378th; 12,000.

4. Write the contracted syllables found in verbs in *εω*. Have verbs in *εω* always the contracted forms in Attic?

5. How are present stems formed?

6. Write the perfect infinitive passive of—

πέμπω, ἐπαγγέλλω, προκρίνω, ἀφίστημι, θάπτω, ἀποφεύγω.

7. Give examples of "Attic" verbal forms in the active, one of each kind.

8. What verbs form the 3 pl. perf. indic. pass. in—*νται*.

9. Shew in a tabular form all the moods, one form in each, of the peculiar tenses in the middle voice of—*ἵημι*.

10. Parse, giving as many of the chief parts as are used, these verbal forms which are found in the extracts:—*κατακέκαυκεν, εἰδῆτε, ἐχρῆν, κατέσχον, περιέπων, χειροτονηθείς, ἠγησάμενος, χειρούμενος.*

ADDITIONAL FOR A FIRST OR SECOND CLASS.

XENOPHON: CYROPAEDIA. BOOK I.

Time: Two Hours.

I.

A. Translate: Cyr. I., 6, secs. 17, 18, beginning *Ὡς χαλεπὸν μὲν κ. τ. λ.*

1. What is the construction of *τὸ γε μελετᾶσθαι ἕκαστα ....*?

2. What word is superfluous in the sentence *Λέγεις σύ, κ. τ. λ.*?

3. Explain the connection of words in the clause

ὥστε ἕκαστα ὁπότε δέοιτο ἔχειν ἂν παρεσκευασμένοις χρῆσθαι?

4. Parse *μελετῶσαι, θεᾶσαι.*

5. What different accounts are given of Cyrus' death.

II

1. Give examples of the different means of avoiding Hiatus.

2. What are the irregularities in the declension of *πῦρ, πρέσβευς, ὄφελος*?

3. Give all the cases of *γυνή* with accents.

4. What oblique cases are perispomena?

5. Accent these verbs, and write an augmented form of each with accents (pointing out wherein the irregularity, if any, consists),

ενοχλεω, αφιημι, διαιταω, καθευδω, εοικε.

6. What parts (of more than one syllable) in the active voice are (*a*) perispomena, (*b*) oxytone?

7. What verbs in—*ω* have 2 aor. in form of 2nd conjugation?

8. Parse, accent, and give chief parts (accented) of *προσελεσθαι, αινει, εφθασαν, διδαξαι, πειραθωμεν, εταιρισθων, αποδυς*

SECOND YEAR.

XENOPHON: MEMORABILIA, Book I. HOMER: ODYSSEY, Book IX.

A. Translate: Mem. I., 6, secs. 10, 11, 12

1. *ἔοικας τὴν εὐδαιμονίαν οἰομένῳ .... εἶναι.* Why has one noun the article, the other not?

2. *τὸ δ' ὡς ἐλαχίστων ἐγγυτάτω τοῦ θείου.* Supply ellipses, account for cases and turn the phrase into Latin.

3. *οὐδένα γοῦν τῆς συνουσίας ἀργύριον πράττῃ.* What other verbs take the same construction?

4. *ἀλλό τι ὢν κέκτησαι.* Parse *ὢν*; what is peculiar in the form *κέκτησαι*. Distinguish the meanings of *κτᾶσθαι, κτήσεσθαι, κεκτῆσθαι.*

5. *οὐδενὶ ἂν μὴ ὅτι προῖκα δοίης.* Explain the use of *μὴ ὅτι.*

6. *καὶ ταύτης ἂν οὐκ ἐλάττω τῆς ἀξίας ἀργύριον ἐπράττου.* Parse *ἐλαττω* and give the corresponding forms in positive and superlative.

7. Translate these phrases and give the Latin: *ἐν καιρῷ, κατὰ ῥόον, εἰς τὴν ὑστεραίαν, περὶ πολλοῦ ποιεῖσθαι, ἐμὴν χάριν, βίῃ τῶν φίλων, ἐμοὶ οὕτως δοκεῖ ἔχειν.*

8. Write the gen. acc. and voc. sing. of—

Περικλῆς, ὀφελήτρια, υἱεῖς, ἁπλοῦς (in all genders).

9. Parse, giving chief parts:

δαινῦσι (in two parts of the verb), *ἐπηρμένω, ὠρχήθητην.*

B. Translate: Od. IX., 318-335.

1. *ὅσσον θ' ἱστόν.* Explain the construction. *ὀργυιαν.* Derive and express in English measure.

2. *ἀποξῦναι δ' ἐκέλευσα.* What is the objection to the reading? What change is suggested?

3. Give the Attic forms of βίηφι, πέτρῃσι, ἀείρας, εἵνεκα.

4. Parse, giving chief forms: ἔκταμεν, πεπαλάσθαι, ἤνωγον.

5. Name ten Latin words akin to any ten in the extract.

6. Scan lines 2, 11, 13, 17, giving explanations where required.

7. What towns claimed to be Homer's birth-place? What arguments have been put forward to prove that the Iliad and the Odyssey were not the works of the same author?

8. Translate into Greek:—It is fair that the stronger should rule the weaker.—In Sparta there is much quietness from such troubles.—The enemy marched towards Athens to the number of 2000, and the women fled into the city by the quickest way.—Do not say few things in many words, but many things in few words.

ADDITIONAL A FOR FIRST OR SECOND CLASS

DEMOSTHENES: OLYNTHIACS

Time: Two Hours.

I.

A. Translate: Ol. I., secs. 11–12, beginning—*καὶ ἔμοιγε δοκεῖ τις*; ending—*ὡς τὰ πολλὰ κρίνεται.*

1. *Τὸ μὲν γὰρ πολλὰ ἀπολωλεκέναι . . . . ἀμελείας κ τ λ.* Give briefly the rules for the cases of *τὸ, πολλὰ, ἀμελείας.* Distinguish the meanings of *ἀπολώλεκα, ἀπόλωλα.*

2. What is the force of *λανθάνω* with a participle?

3. Parse, giving chief parts: *ἐπηρμένων, συσταλῶσιν, προησόμεθα, ἐπανορθωσάμενοι.*

B. Translate: Ol. II., sec. 27, beginning—*εἰ δὲ τοὺς ὥσπερ* to end of oration.

1. *τριηραρχεῖν*: derive and write a note on *τριηραρχία.*

2. *εἰσφέρειν ἀφ' ὅσων ἕκαστος ἔχει*: write the full form.

3. Decline *ὁ δεῖνα.*

4. When were these speeches delivered?

II.

Grammar founded on Odyssey IX.

1. What words in Attic correspond to *ἧος, πεύθεσθαι, ἤλιτε, ἑξῆς, ὄφρα, ἔδμεναι.*

2. Decline with accents in Epic: *ἠώς, κληΐς.*

3. Write Ionic 3 pl. pluperf. pass. of stems ending in *τ* and *κ.*

4. What is the Epic Aorist? Give an example.

5. What verbs found in Od. IX. are supposed to have had initial digamma? Give reasons.

6. Accent and write chief parts with accents:
μιγεν (in two parts of the verb), *πασασθαι, ναιω, πεφυρμενον, ἀπεσσυμεθα.*

7. Distinguish the meanings of: *δημῷ, δήμῳ; πολίων, πόλεων; τῇ, τῆ; πάσασθαι, πάσσασθαι; παρά, πάρα; οὔτις, οὖτις.*

THIRD AND FOURTH YEARS.

PLATO: APOLOGIA SOCRATIS. EURIPIDES: MEDEA.

Time: Three Hours.

A. Translate: Apol. VII. *Δεῖ δὴ ὑμῖν* to end.

1. *ἵνα μοι κἂν ἀνέλεγκτος . . . . γένοιτο*—Translate according to another reading.

2. *ὥσπερ πόνους τινὰς πονοῦντος*—Explain the case of *πονοῦντος.* Quote a similar construction from Horace.

3. Distinguish *ληψόμενος, ὡς ληψόμενος; αἰσχύνομαι εἰπεῖν, εἰπών; ἐφάνησαν πεπονθότες, πεπονθέναι.*

4. *ὡς ἔπος εἰπεῖν*—Give similar phrases with Latin equivalents. *ὀλίγου αὐτῶν ἅπαντες*—account for the case of *ὀλίγου.*

5. Supply ellipses in the last two sentences of the passage.

6. Point out the predicative participles in the above extract. What classes of verbs take such?

7. Give some account of the jury and of the verdict in the trial of Socrates.

B. Translate: Med. 1275–1290.

1. *οἴμοι τί δράσω*—Parse *δράσω,* accounting for the mood.

2. Account for cases and give nom. and gen. sing. of *λέοντι, δάκους, ἀρκύων, ξίφους, δωμάτων, Ἰνώ.*

3. Note peculiarities of declension in *μαρτυς, κάρα, χρώς.*

4. Parse, giving chief parts—*ἐξελᾷς, ἀναλοῖς, ὀλεῖν, ἐπηχθείη.*

5. Scan any two Iambics in B. and any two lines not being Iambics

6. Compare the use of the verbal adj. in -τέος with its equivalent in Latin.

7. The *Orchestra* in Greek and Roman Theatres. The use of the *Prologue* and *Deus ex machina* by Euripides.

C. Translate into Greek: I am not at all in want of money.—They are too young to know that wisdom ought to be desired.—Remember that you are a man.—Do you see how many there are of the enemy?—He went away to avoid seeing the sight.—If you molest me, you shall not come off with impunity.

ADDITIONAL FOR A FIRST OR SECOND CLASS.

D. Translate this passage, not seen before:

(Orestes speaks).

καλῶς· σὺ μέν νυν, ξύγγον' Ἠλέκτρα, δόμων
πάρος μένουσα, παρθένου δέχου πόδα.
φύλασσε δ', ἤν τις, πρὶν τελεσθῇ φόνος,
ἢ ξύμμαχός τις, ἢ κασίγνητος πατρὸς
ἐλθὼν ἐς οἴκους φθῇ, γέγωνέ τ' εἰς δόμους,
ἢ σανίδα παίσασ', ἢ λόγους πέμψασ' ἔσω·
ἡμεῖς δ' ἔσω στείχοντες, ἐπὶ τὸν ἔσχατον
ἀγῶν' ὁπλιζώμεσθα φασγάνῳ χέρας,
Πυλάδη· σὺ γὰρ δὴ ξυμπονεῖς ἐμοὶ πόνους.
ὦ δῶμα ναίων νυκτὸς ὀρφναίας πάτερ,
καλεῖ σ' Ὀρέστης παῖς σὸς ἐπίκουρον μολεῖν
τοῖς δεομένοισι· διὰ σὲ γὰρ πάσχω τάλας
ἀδίκως, προδέδομαι δ' ὑπὸ κασιγνήτου σέθεν,
δίκαια πράξας· οὗ θέλω δάμαρτ' ἑλὼν
κτεῖναι· σὺ δ' ἡμῖν τοῦδε συλλήπτωρ γενοῦ.

B. A. HONOURS.

JOHN JOHNSON, M.A., ... *Examiner.*

ÆSCHYLUS: AGAMEMNON.
SOPHOCLES: ŒDIPUS COLONEUS.
HOMER: ODYSSEY, Books V., VI., VII., IX.

A. Translate: Agam. vss. 681–716, beginning ΧΟ. *τίς ποτ' ὠνόμαζεν ὧδ' ἐς τὸ πᾶν*, ending *μέλεον αἷμ' ἀνατλᾶσα ἐτητύμως.*

1. Write explanatory notes on
   a. *τὰ δ' ἄλλα σιγῶ· βοῦς ἐπὶ γλώσσῃ μέγας βέβηκεν.*
   b. *μόνος δ' Ὀδυσσεύς, ὅσπερ οὐχ ἑκὼν ἔπλει*
   ζευχθεὶς ἕτοιμος ἦν ἐμοὶ σειραφόρος

   c. *ἑκὰς δὲ φρυκτοῦ φῶς ἐπὶ Εὐρίπου ῥοὰς*
   Μεσσαπίου φύλαξι σημαίνει μολόν.

2. Parse, *πεπαμένῳ, διεμέθυσεν, ἠνεχόμεσθα.*

3. To what Trilogy does this play belong? Name the others. What is the theme of the Trilogy? Describe Agamemnon's entrance.

B. Translate: Œdip. Col., vss. 1018–1041.

1. a. *πομπὸν δέ με χωρεῖν*: Explain the syntax.
   b. Translate vs. 1028 according to a different reading.
   c. *οὓς οὐ μή ποτε .... ἐπεύξωνται*: Explain the use of *οὐ μή* and *μὴ οὐ.*

2. (σαι)· *ὁ γὰρ αἰὲν ὁρῶν κύκλος*
   λεύσσει νιν Μορίου Διός,
   χἀ γλαυκῶπις Ἀθηνᾶ.
   Write a note on the epithet *Μορίου.*

3. Scan the preceding lines and also the following:
   ἰὼ πᾶς λεώς, ἰὼ γᾶς πρόμοι
   μόλετε σὺν τάχει, μόλετ'· ἐπεὶ πέραν
   περῶσ' ἤδη δή.

4. Name the different parts of a Greek play. When was the Oedip. Col. written? What story is connected with part of it?

C. Translate: Odyssey V., vss. 242–261.

1. *πολλὴν δ' ἐπεχεύατο ὕλην.* Different meanings are given to this sentence. What parts of a boat are not mentioned in this passage?

2. Give earlier forms of the following words and their Latin cognates:
   εἴκοσι, ἐέλδων, ἄέσι, κάμμορε, ἰοειδέα, ἔειπον, ἄμβροτος, φύλλα.

3. Parse, *ἐληλάδατ', δειδέχαται, δίεστο, ἤμβροτεν.*

4. Scan these lines, explaining quantities where necessary:
   ἥρωος, ἀλλ' ὅπποτ' ἄν σε δόμοι κεκύθωσι καὶ αὐλή—
   θαύμαζον δ' ὁρόωντες· ὁ δὲ λιτάνευεν Ὀδυσσεύς—
   ἀλλ' ὅτε δὴ ὄγδοόν μοι ἐπιπλόμενον ἔτος ἦλθε.

5. Show that many Greek words have a prefixed vowel.

THUCYDIDES: Book VII.
DEMOSTHENES: DE CORONA.
PLATO: PHÆDO.

Time: Three Hours.

A. Translate Thucyd.: chap. 71 to *ἀνηγκάζοντο φθέγγεσθαι*.

1. This chapter has been copied by another historian and applied to an event in Roman history.

2. *a.* *παραπλήσιά τε ἐπεπόνθεσαν καὶ ἔδρασαν αὐτοὶ ἐν Πύλῳ.* (ch. 71.)
   b. *προπέμπεται δ' ὡς αὐτούς, καὶ ἀπαντᾶν εἰρημένον καὶ σιτία ἄλλα κομίζειν.* (ch. 77.)

Write notes on the syntax.

3. Explain these sea phrases:
   ἐμβολή, προσβολή; περίπλους, διέκπλους; συνέχειν τὴν εἰρεσίαν.

4. Parse, *δεδῄτηκαι, μὴ παραπέπληχθε.*

B. Translate: Dem.: De Corona § (281). beginning, *Συμβέβηκε τοίνυν μοι*—ending, *τοῖσδ' ὁμογνωμονοῦντας ἀεί.*

1. *Ἐπὶ ἄρχοντος Ἡροπύθου, μηνὸς Ἐλαφηβολιῶνος ἕκτῃ φθίνοντος.* Giv an account of the Athenian month. What date in our calendar corresponds to that above?

2. What was the charge against Demosthenes, and what was the defence? When did the trial take place?

3. Parse, *ἐπέπρακεν, συνεγνωχασιν, παρηνώχλησθε.*

C. Translate: Plato, Phaed., chap. 48, beginning at *ἀλλ' αἴτια μὲν τὰ τοιαῦτα καλεῖν ἄτοπον.*

1. The sentence *ὡς μέντοι διὰ ταῦτα ποιῶ κ.τ.λ.* admits of different translations according to the reading.

2. Analyse the clause:
   τὴν δὲ τοῦ ὡς οἷόν τε βέλτιστα κ.τ.λ.

3. Distinguish the use of moods with *πρίν.*

4. In Final clauses, when is the subjunctive found after secondary tenses and the optative after primary?