CALENDAR

AND

Examination Papers

OF

DALHOUSIE COLLEGE

AND

UNIVERSITY,

HALIFAX, NOVA SCOTIA.

SESSION 1877-8.

HALIFAX:
PRINTED FOR THE UNIVERSITY, BY NOVA SCOTIA PRINTING COMPANY,
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CONTENTS.

University Calendar,

1877-8.

WINTER SESSION.

1877.			
Oct.	19.	Fr.	Meeting of Board of Governors.
	24.	W.	Winter Session begins. Matriculation Examinations in Classics and Mathematics at 10 A. M.; continued at 3 P. M. Examination for Scholarships.
	25.	Th.	Matriculation Examinations continued, (English). Supplementary Examinations at 10 A. M.
	26.	Fr.	Meeting of Senate at 10 A. M. Matriculation, Registration, and Library Tickets issued at 11 A M. Convocation at 3 P. M.
	29.	Mo.	Arts Classes opened. Class Tickets issued. Entrance Examinations in Ancient History and Geography for Second and Third years at 3 P. M.
Nov.	7.	W.	Anniversary of opening of the College in 1863. Final Matriculation and Supplementary Examinations at 3 P. M.
	8.	Th.	Meeting of Senate at 4 P. M.
Dec.	4.	Tu.	Meeting of Senate at 1 P. M.
	21.	Fr.	Christmas Vacation begins.
1878.			
Jan.	3.	Th.	Class Lectures resumed.
	4.	Fr.	Supplementary Examinations in Ancient History and Geography at 3½ P. M.
	8.	Tu.	Meeting of Senate at 1 P. M.
	16.	W.	College established, 1823.
	25.	Fr.	Meeting of Board of Governors.
Feb.	5.	Tu.	Meeting of Senate at 1 P. M.
March	5.	Tu.	Meeting of Senate at 1 P. M.
	6.	W.	Ash Wednesday. No Lectures.
	21.	Th.	George Ramsay, Earl of Dalhousie, founder of the College, died 1838.
	29.	Fr.	Last day for receiving M. A. Theses.
April	2.	Tu.	Meeting of Senate at 1 P. M.
	5.	Fr.	Last day of Class Lectures. Last day for returning Library Books. Meeting of Senate at 4 P. M.
	10.	W.	Examinations in Latin, 9 A. M. Honour Examinations in Classics and Extra Latin, 3 P. M.
	11.	Th.	Examinations in Logic, Metaphysics, and Ethics, at 9 A. M.
	12.	Fr.	Examinations in Greek at 9 A. M. Honour Classics, Extra Greek, 1st and 2nd years, at 3 P. M.
	15.	Mo.	Examinations in Mathematics, Mathematical Physics 3rd and 4th years, Honour Classics, at 9 A M.
	16.	Tu.	Examinations in Rhetoric and History, at 9 A. M. Examinations in Early English History and Anglo-Saxon, and in Honour Classics, at 3 P. M.
	17.	W.	Examinations in Mathematical and Experimental Physics 3rd year, and Honour Classics, at 9 A. M.
	18.	Th.	Examinations in Chemistry, Constitutional History, and English Language, at 9 A. M. Honour Classics, at 3 P. M.
	19.	Fr.	Good Friday. Holiday.
	20.	Sat.	Examinations in French and German, and Extra Mathematics 2nd year, at 9 A. M.; continued at 3 P. M.
	22.	Mo.	Competition for "Young" Elocution Prizes, 10 A. M. Meeting of Senate, 10 A. M.
	23.	Tu.	Results of Examinations declared.
	24.	W.	Meeting of Convocation, 3 P. M.

SUMMER SESSION.

April	29.	Mo.	Summer Session opens. Registration, 10 A. M. Meeting of Senate at 11 A. M.
	30.	Tu.	Lectures begin
May	23.	Th.	Foundation Stone of College laid, 1820.
	24.	Fr.	Queen's Birthday. No Lectures.
June	4.	Tu.	Meeting of Senate at 1 P. M.
	20.	Th.	Accession of Queen Victoria.
	21.	Fr.	Halifax settled, 1749. No Lectures.
	26.	W.	Lectures close.
	27.	Th.	Examinations.
	28.	Fr.	Examinations. Session ends.

Dalhousie College and University.

BOARD OF GOVERNORS.

HON. SIR WILLIAM YOUNG, Knight, Chief Justice of Nova Scotia, *Chairman.*
HON. CHARLES TUPPER, C. B., M. D., M. P.
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JAMES G. MCGREGOR, M. A., D. SC., *Lecturer in Natural Philosophy.*
JAMES LIECHTI, ESQ., *Tutor in Modern Languages.*

Janitor—JOHN WILSON.

Faculty of Arts.

§ I.—WINTER SESSION.

The Winter Session of 1877–78 will commence on Wednesday, Oct. 24th, 1877, and end on Wednesday, April 24th, 1878.

§ II.—ADMISSION OF STUDENTS.

Students may enter the College,

1. As Undergraduates, with the intention of applying for a University degree at the end of their course; or
2. As General Students who do not look forward to a University Degree.

The usual Course for Undergraduates extends over Four Winter Sessions. Students taking this Course are required to pass the Matriculation Examination of the First Year (see § III), and take the classes prescribed for their respective Courses.

But students may shorten their attendance by one year, by passing the Matriculation Examination of the Second Year (see § III), and taking the usual Undergraduate Course for the Second, Third and Fourth Years.

The Matriculation Examinations this year will begin on Oct. 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 preliminary 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.

Students that have passed the Matriculation Examinations of the University of Halifax, are admitted as Undergraduates without further examination.

§ III.—MATRICULATION EXAMINATIONS.

FOR THE FIRST YEAR.—(*Four Years' Course.*)

The Subjects of Examination, which is partly oral and partly written, for entrance into the First Year of the Course are:

1. In Classics—Latin Grammar, Greek Grammar, one Latin, one Greek Author.

Latin.—Cæsar, one book; Virgil, one book; Cicero, two Orations; Horace, one book of Odes.

Greek.—Xenophon, one book; Homer, one book; Lucian's Select Dialogues; New Testament, one Gospel.

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

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

Special stress will be laid upon accuracy in Latin and Greek Grammar.

The subjects in which Candidates for Professors' Scholarships will be examined will be prescribed from year to year. For Session 1877-78 they are the same as those for Matriculation in Arts at the University of Halifax. (See § X.)

FOR THE SECOND YEAR. (*Three Years' Course.*)

In order to Matriculate for the Three Years' Course, a Student must pass an Examination,—

I. In the *Classics* of the first year as specified in § XIV, or their equivalents.

2. In the *Mathematics* of the first year as specified in § XIV.

3. In *English Grammar*, *English History*, *Geography* and *Composition.*

4. In Roman History and Ancient Geography, as specified in § XIV.

§ IV.—COURSES OF STUDY.

COURSE FOR DEGREE OF B. A.

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

For First or Second Class in Latin or Greek, extra work is prescribed, and special stress is laid upon accuracy in Grammar. (See § XIV.)
For First or Second class in Rhetoric extra work is required.

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

For First or Second Class in Latin or Greek, extra work is prescribed, and for First or Second Class in Mathematics an additional hour a week is required. (See § XIV.)

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

Third Year.—(1) Latin. (2) Mathematical and Experimental Physics. (3) Metaphysics. (4) French or German. (5) Greek or Chemistry.

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

Fourth Year.—(1) Latin. (2) Ethics and Political Economy. (3) History. (4) French or German. (5) Mathematical Physics, or Greek.

A Student must take the same Modern Language as part of his Undergraduate Course in the Third and Fourth Years.

For First and Second Class in History, extra work is required.

§ V.—HONOUR COURSES.

Honour Courses are intended for those Students whose tastes and ability lead them to prosecute special subjects of the Curriculum, and remissions of classes are granted to Students studying such Course or Courses.

Honour Courses are provided in the following groups of subjects:—(1) Classics; (2) Mathematics and Physics; (3) Mental and Moral Philosophy; (4) History, Political Economy, and English Literature and Language. Instruction of an advanced kind is provided in these subjects during the third and fourth years of the Curriculum.

Examinations in these Courses are held at the final Examinations for the Degree of B. A.; and a Student passing First or Second Class in any of the above groups of subjects obtains the Degree of B. A. with Honours in such subjects. But First Class 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 Class Honours to one who has not passed Second Class in the Ordinary.

No Student will be allowed to enter on an Honour Course who has not stood in the First or Second Class at the previons Examination in the relative part of the Ordinary Course.

A Student taking an Honour Course, but failing to obtain Honours, will receive the Ordinary Degree, if his Examination in the Course be approved of.

A Student of the Third Year, for Honours, (see § XV),

In Classics, may omit the Mathematical Physics of the year;

In Mathematics and Physics, in Mental and Moral Philosophy, in History, Political Economy, &c., may omit the fifth subject of the Ordinary Course, (see § IV).

A Student of the Fourth Year studying for Honours, *In Classics*, may omit Physics, and either Ethics and Political Economy or History;

In Mathematics, may omit either Latin or Ethics and Political Economy;

In Mental and Moral Philosophy, or in *History*, *Political Economy*, *&c.*, may omit the fifth (selective) subject of the Ordinary Course, (see § IV).

§ VI.—SUMMER SESSION.

The Summer Session will commence on Monday, April 29th, 1878, and close at the end of June.

Classes will be open for instruction in the following subjects.

Classics.	Optics.
Theory of Equations.	Chemistry.
Logic.	English Literature.

Modern Languages.

§ VII.—FEES.

The Fee to each Professor, whose class or classes a Student enters, is *six dollars* for the Session.

An Undergraduate, who has completed two years of his course, may attend the Classics and Mathematics during the remainder of his Undergraduate Course without the payment of additional Fees.

Mathematical and Experimental Physics constitute a separate class.

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

Practical Chemistry, three months' course (optional), fee, *six dollars.* Students taking this class are required to provide their own materials. The use of the larger articles of apparatus will be given in the Laboratory free of expense.

In addition to the Class Fees, there is a Matriculation Fee of *two dollars.* payable by Undergraduates at their first entrance. General Students pay an annual Registration Fee of *one dollar.*

Both Undergraduates and General Students are also required, at the beginning of each Session, to pay a Library Fee of *one dollar*, which entitles to the use of the Library for the year.

Marticulation or Registration Tickets and Class Tickets must be taken out on the first day of Lectures, no Student being allowed to attend a Class without them.

The total fee of Undergraduates, who take the Ordinary B.A. Course in Arts, are as follows :—

Classes of First Year, with Library and Matriculation Fee...	$21 00
" Second Year, with Library Fee	25 00
" Third " "	13 00
" Fourth " "	13 00

§ VIII.—GRADUATION.

DEGREE OF B. A.

The Degree of B. A. may be obtained by passing the proper Matriculation Examination, attending the prescribed Courses of Lectures, and passing the Sessional Examination of the several years.

Undergraduates have also to pass entrance Examinations, as set forth in § IV.

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

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 M. A., on producing an approved Thesis: subject to be first submitted to the Senate.

Fee for Diploma, which must accompany the Thesis, *twenty dollars*, except in case of those who entered as Undergraduates prior to 1869, who pay *five dollars.* Thesis to be handed in before the 30th of March.

IX.—REGULATIONS AND EXAMINATIONS.

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

2. If an Undergraduate fail to pass in any subject at the Sessional Examinations, he will be allowed a Supplementary Examination on the first Thursday of the following Winter Session, or of a subsequent Winter Session by the permission of the Senate, on giving notice to the Secretary of the Senate at or before the opening of the Winter Session; but failure in more than two subjects will involve the loss of the year.

N. B.—In the application of this rule, Mathematics will be reckoned as *two* subjects, and Latin and Greek each *one* subject.

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

4. Undergraduates of the Second and Third Years who fail to present themselves for the Entrance Examinations in History and Ancient Geography on the day named in the Calendar, may, on payment of a fine of *two dollars,* have another day appointed them for such Examinations.

5. 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 at the Examinations. If a Student violate this rule, he will lose his Sessional Examinations for the year; and it shall be at the discretion of the Senate whether he be allowed Supplementary Examinations.

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

§ X.—PROFESSORS' SCHOLARSHIPS.

Two Scholarships, entitling to free attendance on all the classes of the Undergraduate course as long as the holders maintain a First or Second Rank at the Sessional Examinations, are offered by the Professors for competition this year; the competition to take place at the Matriculation Examinations.

The subjects of Examination for these Scholarships are the same as those for Matriculation in Arts at the University of Halifax, viz. :—

Latin : *Virgil*, Æneid, Book VI. ; *Cæsar*, Gallic Wars, Book IV.
Greek : *Xenophon*, Anabasis, Book V.
Algebra : as far as Simple Equations and Surds.
Geometry : First and Second Books of Euclid.
English : Grammar, Analysis, Outlines of English and Canadian History, and General Geography.

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

THE UNIVERSITY PRIZES.

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

THE ST. ANDREW'S PRIZE.

This Prize will be awarded this year to the Undergraduate who stands first in Mathematics at the Sessional Examinations of the Second Year.

YOUNG PRIZES.

Two Elocutions Prizes of $20 and $10 respectively, are this year offered by the HON. SIR WM. YOUNG, Chief Justice of Nova Scotia, and are open for competition to all Arts Students. These prizes will be competed for at the close of the Winter Session. A student to whom one of these Prizes has been awarded is disqualified for subsequent competition.

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, and held by the successful competitor for two years, namely, during the Third and Fourth Years of his Undergraduate Course. 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, 1878, at the Sessional Examination. In awarding this Bursary, Classics, Mathematics, and Chemistry will be reckoned each 150; Logic, 100.

THE WAVERLEY BURSARY.

This Bursary, of the value of $60 annually for two years, has been founded by an unknown Benefactor, whose object in so doing is to encourage the studies of the Curriculum, especially Mathematics. It alternates with the North British Society Bursary. The next competition will be at the Sessional Examinations of the Second Year in April, 1879; when the Bursary will be awarded to the Student who stands highest at the Examinations. The scale of reckoning will be Mathematics, 200; Classics, Chemistry each 150; Logic, 100.

THE ALUMNI ASSOCIATION PRIZES.

The Alumni Association, with continued liberality, have this year provided *Four* Prizes: two for students of the first year, and two for those of the third year. The First prizes are each $30: the Second, each $20. These Prizes will be awarded to the two students in these years who stand highest at the Sessional Examinations; provided they have passed in all the requisite subjects of their years. The marks will be reckoned according to a scale defined by the Association, which will be published at the beginning of the Session, and of which an important feature is that values will be counted for Class Essays in the subjects of Rhetoric and Metaphysics.

GOVERNOR-GENERAL'S MEDALS.

His Excellency, Earl Dufferin, Governor-General of Canada, has been pleased to offer a gold and a silver medal for competition during his tenancy of office. These Medals will be awarded to the two Students of the Fourth Year who stand highest at the Final Examinations for the Degree of B. A., according to a scale of reckoning to be published at the beginning of the Session.

CERTIFICATES OF MERIT.

Certificates of merit of the First or Second Rank will be given to Undergraduates who have respectively obtained a First or Second Class standing in the aggregate of the branches of study proper to their year.

§ XII.—ATTENDANCE AND CONDUCT.

1. All Undergraduates, and General Students attending more classes than one, are required to provide themselves with cap and gown, and wear them in going to and from College. Gowns are to be worn at Lectures, and at all meetings of the University.

2. Attendance upon all classes of the year, except those announced as optional, shall be imperative on all Undergraduates.

3. A Class Book will be kept by each Professor, in which the presence or absence of Students will be carefully noted.

4. 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.

5. Absence without sufficient excuse, or lateness, or inattention or disorder in the Class Room, if persisted in after due admonition by the Professor or the discipline proper to the class, will be reported to the Senate.

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

7. 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.

8. While in the College, or going to or from it, Students must conduct themselves in an orderly manner. Any Professor observing any improper conduct in a Student will admonish him, and, if necessary, report to the Principal.

9. When a Student is brought before the Senate and convicted of a violation of any of these rules, the Senate may reprimand privately or in the presence of the Students, or report to the parents or guardians, or disqualify for competing for Prizes or for holding Certificates of Merit, or report to the Governors for suspension or expulsion.

10. Students not residing with parents or guardians must report to the Principal their places of residence within one week after their entering College, and the Principal may disallow such residence if he see good cause. Any change of residence must also be reported.

11. It is expected that every Student will attend Divine worship regularly, in one of the city churches or chapels.

§ XIII.—THE LIBRARY.

The Library consists of a careful selection of the most useful books in each department of study embraced in the University course. There are likewise a few works in general literature. The Library embraces in all upwards of 2000 volumes. All

Students are entitled to the use of the Books, on payment of the annual fee of *one dollar.*

§ XIV.—ALUMNI ASSOCIATION.

This Association, Incorporated by Act of the Legislature, has now entered upon the seventh year of its existence, and gives satisfactory promise of future prosperity. The ends it has in view are, to strengthen the bonds of fellowship among the Alumni, to unite them in the endeavour to promote Higher Education in these Provinces, and specially to extend the influence and usefulness of their *Alma Mater.*

Hitherto the only assistance they have lent the University has been the furnishing of Prizes for competition to Undergraduates at the Sessional Examinations, (see § XI), but it is expected that the time is not distant when the Association shall have developed into an important adjunct to the University. Since the recent enlargement of the Board of Governors the Association is represented on the Board by their President, and, thus has some direct share in the University management. The present Executive Committee is meantime empowered to take such steps as shall seem fitted to promote the purposes of the Association.

Undergraduates of more than two years' standing, and General Students who have attended Classes for at least two years, are qualified for admission to the Association ; and it is hoped that before long every Graduate at least will have been enrolled in the List of Members.

The annual meeting of the Association takes place on the evening of Convocation Day, at the close of the Winter Session.

Office-bearers for the present year :

President..........................R. SEDGEWICK, B. A.
Vice-President....................JOHN WADDELL, B. A.
Secretary.........................J. McG. STEWART, B. A.
Treasurer.........................JAMES FORREST, M. A.

F. H. BELL, B. A. R. E. CHAMBERS, B. A. B. McKITTRICK, B. A.	*To compose the Executive Committee together with the Officers.*

§ XV.—ORDINARY COURSE FOR B. A.

CLASSICS.

LATIN.

FIRST YEAR.

Cicero : De Amicitia.
*First Philippic.
Horace : Odes, part of Book I.
Composition : Principia Latina, Part IV.

SECOND YEAR.

Livy : Book XXI.
*Horace : Ars Poetica.
Composition : Principia Latina, Part IV.

THIRD AND FOURTH YEARS.

Tacitus : Annals, Book 1.
Juvenal : Satires, III., X., XIII.
Composition : Principia Latina, Part V.
Philology : Outlines of Comparative Philology.

GREEK.

FIRST YEAR.

Xenophon : Cyropaedia, Book I, chaps. 1-5.
*Book I, chap. 5 to end.

SECOND YEAR.

Xenophon : Memorabilia, part of Book I.
* " Remainder of Book I.
Homer : Odyssey, Book V.
Composition : Initia Græca, Part III,

†THIRD AND FOURTH YEARS.

Demosthenes : Philippics, I., III.
Plato : Apologia Socratis.
Composition : Initia Græca, Part III.

‡ANCIENT HISTORY AND GEOGRAPHY.

SECOND YEAR.—History of Rome, to B. C. 31. Geography, Italia, Sicilia, Gallia, Hispania.

THIRD YEAR.—History of Greece to the death of Alexander. Geography of Graecia, Africa, Asia.

Books recommended : Liddell's History of Rome ; Smith's or Cox's History of Greece ; Pillan's Classical Geography.

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* Students seeking a First or Second Class at the Sessional Examinations are examined in this additional work, which is not read in class.

† Passages taken from works not read in the course will be set for translation, to Students seeking a First or Second Class at the Sessional Examinations in these years.

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

MATHEMATICS AND PHYSICS.

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.

GEOMETRY.—First Book of Euclid revised; Second, Third and Fourth Books; Definitions of Fifth, and Sixth Book to the Eighth 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; Mensuration of Heights and Distances; Elementary Problems in Navigation; Use of Logarithms.

ALGEBRA.—Simple Indeterminate Equations; Binomial Theorem; Properties of Logarithms; Compound Interest; Annuities.

EXTRA.

GEOMETRY.—21 Propositions of the Eleventh Book of Euclid; Geometrical Exercises; Conic Sections geometrically treated—The Parabola, as in Drew's Conic Sections.

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.

EXPERIMENTAL PHYSICS.

(Third Year.)—Text Book: Balfour Stewart's Lessons in Elementary Physics.

MATHEMATICAL PHYSICS.

(Third Year.)—Text Book: Goodeve's Principles of Mechanics.

(Fourth Year.)—Text Books; Galbraith and Haughton's Manuals of Astronomy and Optics; Phear's Hydrostatics (or Galbraith and Haughton's.)

ETHICS.

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

POLITICAL ECONOMY.

(Fourth Year.)—Text Books: Mill's Political Economy; Senior's Political Economy.

LOGIC AND PSYCHOLOGY.

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

METAPHYSICS AND ESTHETICS.

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

CHEMISTRY.

(Second Year.)—Objects of the Science, Nomenclature, Symbolic Notation, Atomic Numbers, Equivalent Numbers, Formulæ, Equations.

PRINCIPLES OF CHEMICAL PHILOSOPHY.—Laws of Combination by weight and by volume. The Atomic Theory. Equivalence or Saturating Power of Elements. Radicals or Residues. Relations of Heat, Light, Magnetism and Electricity, to Chemical Affinity.

CHEMISTRY OF ELEMENTARY BODIES AND THEIR COMPOUNDS, (INORGANIC).—Processes of production and manufacture illustrating chemical laws. Classification of Minerals. Reduction of Ores. Outline of the modes of analysis of Minerals, Waters, Poisons, &c.

ORGANIC CHEMISTRY.—Principles of Classification. Organic Series. Comparison of the principal series of the Fatty Group, viz: Paraffins 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.

(Third Year.)—Subjects same as preceding. The general exercises in Theoretical Chemistry will be more elaborate, the equations and calculations more difficult, and the questions in Organic Chemistry will require an intimate acquaintance in detail with the chemical constitution and properties of all the important series of Organic Compounds.

In addition to the theoretical instruction required for the Undergraduate Course, Analytical Chemistry is taught in the Chemical Laboratory, which is open for this purpose daily, except on Saturdays, from 9 a. m. to 1 p. m. A Student may select any course of laboratory work, according to his special object, whether Medical, Agricultural, Manufacturing, Mining, Sanitary or Scientific. There is a Balance-Room and Reference Library attached to the Laboratory, and every facility is given to Students to enable them to pursue their investigations.

A CLASS FOR BOTANY AND HISTOLOGY will be formed to meet twice a week, at an hour to suit the convenience of Students attending.

ANALYTICAL CHEMISTRY.

Macadam's Practical Chemistry; Fresenius's Qualitative and Quantitative Analysis.

RHETORIC.

FIRST YEAR.

RHETORIC.—Text Books: Quintilian's Institutes of Oratory. Whately's Elements of Rhetoric. Campbell's Philosophy of Rhetoric. Essays and exercises on the principles of Rhetoric, weekly.

ELOCUTION.—Exercises every week after the Christmas holidays. Books recommended: Porter's Analysis of the principles of Rhetorical delivery. Russell's Elocution. Sargent's Standard Speaker. Dominion Elocutionist. Nova Scotia Readers No. 6 and No. 7.

ENGLISH LANGUAGE.

FIRST YEAR.

Anglo-Saxon.—Text Books: Comparative Grammar of the Anglo-Saxon Language, F. A. Marsh, LL.D. Anglo-Saxon Reader, by F. A. Marsh, LL.D.

English.—Text Books: Specimens of Early English, by R. Morris, LL.D., and W. W. Skeat, M. A. Part Second.

Smith: Student's English Language, Lectures V. VII. and XXVI.
Shakespeare: King Lear.
Macaulay: Essay on Lord Clive.

HISTORY.

FOURTH YEAR.

1. *General Course.*

Text Books: Gibbon's Decline and Fall of the Roman Empire. Milman's History of Latin Christianity. Greene's History of the English People. History of France. Menzel's History of Germany. Sismondi's Italian Republics. Hallam's Middle Ages. Taylor's Modern History.

2. *Special Course.*

The age of Louis XIV. Text Books: Martin's History of France. Cox's House of Austria.

CONSTITUTIONAL HISTORY.

FOURTH YEAR.

Text Books: Stubb's Constitutional History. Hallam's Middle Ages, (Chapters on the English Constitution). Hallam's Constitutional History.

MODERN LANGUAGES.

French.—*(Third Year.)*—Pujol's Grammar, (first part.)—Scribe's "Valérie."

German.—*(Third Year.)*—Otto's German Conversation Grammar.—Adler's Reader.—Schiller's "Wilhelm Tell."

French.—*(Fourth Year.)*—Pujol's Grammar—(fourth part.)—Molière's "Le Bourgeois Gentilhomme."

German.—*(Fourth Year.)*—Otto's German Conversation Grammar.—Adler's Reader.—Schiller's "Wilhelm Tell" continued.

§ XVI.—HONOUR COURSE.

CLASSICS.

[The following Course, in addition to the Ordinary, is prescribed for Classical Honours in the fourth year.]

Latin.—Plautus: Miles Gloriosus.
Terence: Heautontimorumenos.
Virgil: Georgics, Books I., IV.,
Horace: Epistles, Books I., II., Ars Poetica.
Juvenal: Satires, VII., VIII., XIV.
Cicero: Tusculan Questions, Book I.
Tacitus: Germania, Agricola.

GREEK.—Æschylus : Septem contra Thebas.
Sophocles : Œdipus Rex.
Homer : Iliad XVIII., XXIV.
Thucydides : Book II.
Plato : Phædo.
Demosthenes : De Corona.

COMPOSITION.—Latin Prose.

LITERATURE.—Miller and Donaldson's History of Ancient Greek Literature ; Roman Classical Literature (Brown's); Theatre of the Greeks (Donaldson's).

PHILOLOGY.—Miller's Science of Language, Vols. I., II. ; Clark's Comparative Philology ; Donaldson's Varronianus, chaps. VI., VII., VIII., IX., XI., XIV.; Donaldson's Cratylus, Book I., chap. 5, Book III., chap. 2, Book IV., chap 4 ; Lewis's Essay on the Romance Languages.

MATHEMATICS AND MATHEMATICAL PHYSICS.

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 Investigations : *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.

EXPERIMENTAL PHYSICS.

Balfour Stewart's Treatise on Heat.
Optics by Sir David Brewster.
Fleming Jenkin's Electricity and Magnetism.

MENTAL AND MORAL PHILOSOPHY.

LOGIC.

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

METAPHYSICS AND ETHICS.

Descartes' Principles of Philosophy. Reid's Essay's. 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. Alison'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, Book; I., III., VI., X., (in English.)

HISTORY, ENGLISH LANGUAGE AND LITERATURE, AND POLITICAL ECONOMY.

HISTORY.

Bede's Ecclesiastical History of England.
Freeman's History of the Norman Conquest.
Freeman's English Constitution.
Stubb's Select Charters.
Macaulay's History of England.
Bryce's Holy Roman Empire;
Guizot's History of Civilization.
Martin's History of France.
Menzel's History of Germany.
Mallet's Northern Antiquities.

ENGLISH LANGUAGE.

ANGLO-SAXON.

Thorpe's Analecta Anglo-Saxonica.

Poems of Beowulf, the Scop or Gleeman's tale, and the Fight at Finnesburg—Benjamin Thorpe.

Life of St. Guthlac—Charles Wycliffe Goodwin, M. A.

King Alfred's Anglo-Saxon Version of Orosius—Rev. Dr. Bosworth.

ENGLISH.

Specimens of Early English—Morris & Skeat, part first.

Specimens of English Literature—W. W. Skeat, M. A.

The Vision of William concerning Piers the Plowman, by William Laugland—W. W. Skeat, M. A.

Chaucer, Part First:—The Prologue, The Knighte's Tale, The Nonne Preste's Tale, Edited by R. Morris, Editor for the E. E. T. S. Part Second: The Prioresses' Tale, etc., edited by Rev. W. W. Skeat, M. A.

Spencer's Faery Queene, Books First and Second, by G. W. Kitchin, M.A.

Shakespeare's Select Plays, edited by W. G. Clark, M. A., and W. Aldis Wright, M. A. I. The Merchant of Venice; II. Richard the Second; III. Macbeth; IV. Hamlet; V. The Tempest.

Bacon, Advancement of Learning—W. Aldis Wright, M. A.

Milton, Poems—R. C. Browne, M. A.

Dryden, Selections by W. D. Christie, M. A.

Pope, Essay on Man, Satires, and Epistles, by Mark Pattison, B. D.

Degrees Conferred, April, 1877.

BACHELOR OF ARTS.

Robt. E. Chambers,
Wm. R. Grant,
Howard H. Hamilton,
Andrew W. Herdman,
George A. Laird,
Burgess McKittrick,
John S. Murray,
Colin Pitblado,
John W. Scott,
John Waddell.

Honours, Medals, Prizes, Certificates of Merit, Scholarships, 1877.

B. A. HONOURS.

MATHEMATICS.

Second Rank—John Waddell, Halifax.

THE GOVERNOR GENERAL'S MEDALS.

Gold Medal....	John Waddell, Halifax.
Silver Medal	Burgess McKittrick, Cornwallis.

UNIVERSITY PRIZES.

FOURTH YEAR.

Classics	1. John M. Scott. 2. Burgess McKittrick.
Physics, (Special)	W. S. Whittier. John Waddell.
Ethics	Howard H. Hamilton.
History	Burgess McKittrick.
French	Burgess McKittrick.

THIRD YEAR.

Natural Philosophy.... ..	John H. Cameron.
Metaphysics	1. John H. Cameron. 2. Edmund L. Newcombe.
Chemistry	John H. Cameron.
French	George W. Munro.

SECOND YEAR.

Classics	1. G. A. McQueen. 2. Rod. McKay.
Mathematics	Rod. McKay.
Psychology	Rod. McKay.
Chemistry...	Rod. McKay.

FIRST YEAR.

Classics	Howard H. Murray.
Mathematics	Howard H. Murray.
Rhetoric	Howard H. Murray.

CERTIFICATES OF MERIT.

(The names are arranged alphabetically.)

First Class: *Fourth Year*—John M. Scott, John Waddell. *Second Year*—Rod. McKay, Isaac M. McLean. *First Year*—Howard H. Murray.

Second Class: *Fourth Year*—Howard H. Hamilton, Burgess McKittrick. *Third Year*—J. H. Cameron. *Second Year*—George W. McQueen.

SPECIAL PRIZES.

The Sir Wm. Young Prizes for Elocution were made of equal value this year, ($20 each), and were won by: Herbert H. Whittier, Upper Rawdon, Hants; George E. Lowden, Halifax.

The St. Andrew's Prize for the best Examination in the Classics of the Second Year, was won by George W. McQueen, Pictou Co.

The Waverley Bursary of $60 annually, tenable for two years, to be awarded to the best Student of the Second Year, was won by Roderick McKay, Dalhousie, Pictou.

The Laurie Prize of $20 for the best Essay on "Public Roads in Nova Scotia," was won by Richmond Logan, Stewiacke.

The Alumni Association Prizes, four in number, to be awarded to the Students who stand highest at the Sessional Examinations of the Third and First Years respectively, were won as follows: *Third Year*—1st Prize, ($30), John H. Cameron, Antigonish; 2nd Prize, ($20), Edmund L. Newcombe, Cornwallis. *First Year*—1st Prize, ($30), Howard H. Murray, New Glasgow; 2nd Prize, ($20), Wm. R. Fraser, Pictou.

The Graduate's Prize of $30 to be awarded to the Students of the Fourth Year not reading for Honours who makes the highest total of marks at the Final Examination for the Degree of B. A., was won by Burgess McKittrick, Cornwallis.

Examinations, 1876-7.

PROFESSORS' SCHOLARSHIPS.

These Scholarships, offered for competition to Students entering as First Year Undergraduates, were gained by:

1. Howard H. Murray, New Glasgow Academy.
2. Wm. R. Fraser.

UNIVERSITY EXAMINATIONS, 1876-7.

The following Students have passed the University Examinations hereinafter mentioned:

SUPPLEMENTARY EXAMINATIONS, OCT., 1876.

Third Year—Natural Philosophy: Wm. A. Mason, Richmond Logan.
Second Year—Mathematics: John L. George, G. W. Munro.

ENTRANCE EXAMINATIONS IN ANCIENT HISTORY AND GEOGRAPHY.

Third Year—Class 1: None. Class 2: G. W. Munro, J. H. Cameron, Andrew Rogers, E. L. Newcombe, J. L. George, Alf. Whitman.

Second Year—Class 1: G. W. McQueen, Rod. McKay, Edgar Torey. Class 2: Robt. Emmerson. *Passed*: Edwin Crowell, Is. M. McLean, T. W. Kennedy, C. S. Cameron, Alf. Dickie.

SUPPLEMENTARY EXAMINATIONS IN ANCIENT HISTORY AND GEOGRAPHY, JAN., 1877.

THIRD YEAR—*Passed*: J. A. Cairns, J. McKenzie.
SECOND YEAR—*Passed*: F. B. Chambers.

SESSIONAL EXAMINATIONS, 1877.

GENERAL PASS LIST.

(The names are arranged alphabetically.)

FOURTH YEAR: Robt. E. Chambers, William R. Grant, Howard H Hamilton, Andrew W. Herdman, Geo- A. Laird, Burgess McKittrick, John S. Murray, Colin Pitblado, John M. Scott, John Waddell.

THIRD YEAR: John A. Cairns. John H. Cameron, George W. Munro, Edward L. Newcombe, Anderson Rogers, Alfred Whitman.

SECOND YEAR: Charles S. Cameron, Frederick B. Chambers, Edwin Crowell, Alfred Dickie, Roderick McKay, Isaac M. McLean, George W. McQueen, Edgar J. Torey.

FIRST YEAR: Andrew G. Downey, William R. Fraser, Frederick S. Kinsman, Charles A. McCully, James McLean, Howard H. Murray, S. Dunn Scott, Albert E. Thomson.

CLASS LISTS.

(The names are arranged in the order of merit.)

LATIN.

FOURTH YEAR—(Final Examination for Degree of B. A.), Class 1: John Waddell, J. M. Scott. Class 2: Burgess McKittrick, A. W. Herdman, Colin Pitblado, Howard H. Hamilton. *Passed*: W. R. Grant, G. A. Laird, Richmond Logan, R. E. Chambers, F. W. Archibald, J. S. Murray, Wm. A. Mason, S. T. McCurdy.

THIRD YEAR—Class 1: J. L. George. Class 2: J. H. Cameron. *Passed*—J. A. Cairns, G. W. Munro, E. L. Newcombe, Alf. Whitman, Anderson Rogers.

SECOND YEAR—Class 1: G. W. McQueen, Rod. McKay, Is. M. McLean. Class 2: None. *Passed:* C. S. Cameron, R. Emmerson, Fred. Chambers, Edgar J. Torey, Alf. Dickie. Edwin Crowell.

FIRST YEAR—Class 1: Howard Murray. Class 2: W. R. Fraser, James McLean. *Passed:* Alb. Thomson, J. A. Sedgwick, C. A. McCully, A. G. Downey, S. D. Scott, J. R. McClure, F. S. Kinsman.

GREEK.

FOURTH YEAR—(Final Examination for Degree of B. A.), Class 1: (B. McKittrick, J. M. Scott), equal. Class 2: Colin Pitblado, H. H. Hamilton.

THIRD YEAR—Class 1: J. L. George. Class 2: None. *Passed:* Alf. Whitman, Anderson Rogers, James McKenzie, G. W. Munro.

SECOND YEAR—Class 1: G. W. McQueen, Rod. McKay, Is. M. McLean. Class 2: None. *Passed:* C. S. Cameron, Rob. Emmerson, Fred. Chambers, Wm. T. Kennedy, Edwin Crowell, Edgar J. Torey, Alf. Dickie.

FIRST YEAR—Class 1: Howard Murray. Class 2: W. R. Fraser, James McLean. *Passed:* F. S. Kinsman, Alb. Thomson, And. G. Downey, J. A. Sedgwick, S. D. Scott, C. A. McCully.

PHYSICS.

FOURTH YEAR—Class 1: W. S. Whittier, John Waddell. Class 2: Robt. E. Chambers. *Passed:* William R. Grant, George A. Laird, John S. Murray, Andrew W. Herdman.

THIRD YEAR—Class 1 : None. Class 2 : J. H. Cameron. *Passed:* E. L. Newcombe, J. A. Cairns, Alf. Whitman, Anderson Rogers, G. W. Munro, James W. McKenzie.

MATHEMATICS.

SECOND YEAR—Class 1 : Roderic McKay. Class 2 : Isaac McLean, Geo. W. McQueen, Edwin Crowell. *Passed:* Charles Cameron, Edgar J. Torey, Alfred Dickie, Fred. B. Chambers, Robt. R. J. Emmerson.

FIRST YEAR—Class 1 : Howard H. Murray, Herbert H. Whittier. Class 2 : Albert E. Thomson, Charles A. McCully, James K. McClure, W. T. R. Munro, Fred. S. Kinsman. *Passed:* Andrew Downer, S. Dunn Scott, James McLean, Wm. R. Fraser, William J. G. Thomson.

METAPHYSICS AND ESTHETICS.

THIRD YEAR—Class 1 : John H. Cameron, Edmund L. Newcomb, John A. Cairns, Edward Thorpe. Class 2 : George W. Munro John L. George. *Passed:* Anderson Rogers, Alfred Whitman, James W. McKenzie.

LOGIC AND PSYCHOLOGY.

SECOND YEAR—Class 1 : Roderick McKay. Class 2 : Isaac McLean, Chas. S. Cameron, Frederick B. Chambers, George W. McQueen. *Passed:* Edwin Crowell, Edgar J. Torey, Wm. Kennedy, Alfred Dickie.

CHEMISTRY.

THIRD YEAR—Class 1 : J. H. Cameron, J. A. Cairns. Class 2 : E. L. Newcombe.

SECOND YEAR—Class 1 : Rod. McKay, Wm. T. Kennedy, Edgar J. Torey, (C. S. Cameron, Is. M. McLean), equal, Alf. Dickie. Class 2 : G. W. McQueen, Robt. Emmerson. *Passed:* F. Chambers, Edwin Crowell.

HISTORY.

FOURTH YEAR—Class 1 : Wm. A. Mason. Class 2 : B. McKittrick, W. S. Whittier, (John Waddell, H. H. Hamilton), equal, J. McD. Scott. *Passed:* W. R. Grant, S. McCurdy, R. Logan, F. W. Archibald, C. Pitblado, A. W. Herdman, Geo. A. Laird, J. S. Murray, R. E. Chambers.

CONSTITUTIONAL HISTORY.

Class 1 : Wm. A. Mason. Class 2 : W. S. Whittier, John Waddell.

RHETORIC.

FIRST YEAR—Class 1 : Howard Murray, W. R. Fraser. Class 2 : F. S. Kinsman, James McLean, J. K. McClure, C. A. McCully. *Passed:* And. G. Downey, Alb. E. Thomson, H. H. Whittier, G. E. Lowden, J. F. Dustan, John McKenzie, W. Thomson,

MODERN LANGUAGES.

FRENCH.

FOURTH YEAR—Class 1 : B. McKittrick, A. Herdman. Class 2 : H. H. Hamilton, J. S. Murray, Geo. A. Laird. *Passed:* F. W. Archibald, C. Pitblado, R. E. Chambers, W. A. Mason, W. R. Grant, S. T. McCurdy.

THIRD YEAR—Class 1 : G. W. Munro. Class 2 : And. Rogers. *Passed:* J. H. Cameron, J. A. Cairns, E. L. Newcomb, J. McKenzie, Alf. Whitman.

GERMAN.

Fourth Year—Class 1: John Waddell. Class 2: J. McD. Scott, Rich. Logan.

Third Year—Class 2: John L. George.

ETHICS.

Fourth Year—Class 1: F. W Archibald, Howard H. Hamilton, J. M. Scott. Class 2: (Wm. A. Mason, Burgess McKittrick), equal, Colin Pitblado. *Passed:* G. A. Laird, (A. W. Herdman, Richmond Logan), equal, R. E. Chambers, W. R. Grant, J. S. Murray.

GENERAL LIST OF HONOURS, MEDALS, SCHOLARSHIPS, SPECIAL PRIZES, &c., 1866-77.

B. A. HONOURS.

1873—Mathematics and Physics: Second Rank, Alex. H. McKay.

1874—Classics: Second Rank, James Chalmers Herdman.

Mental and Moral Philosophy: Second Rank, James McDonald Oxley.

1876—Mathematics and Physics: Second Rank, James McG. Stewart.

Classics: Second Rank, Francis H. Bell.

1877—Mathematics: Second Rank, John Waddell.

GOVERNOR GENERAL'S MEDALS.

1875—*Gold Medal:* Louis H. Jordan. *Silver Medal:* George McMillan.

1876—*Gold Medal:* Francis H. Bell. *Silver Medal:* James McG. Stewart.

1877—*Gold Medal:* John Waddell. *Silver Medal:* Burgess McKittrick.

PROFESSORS' SCHOLARSHIPS·

1866—1. A. P. Silver, Halifax Grammar School; 2· A. W. H. Lindsay, Pictou Academy.

1867—1. James G. McGregor, Private Study; 2. James M. Inglis, Prince of Wales College, Charlottetown, P. E. I.

1868—1. Alex. W. Pollok; W. P. Archibald, Halifax Schools.

1869—1. Charles D. McDonald, Pictou Academy; 2. Bruce A. Lawson; 3. Henry Macdonald, Halifax Schools.

1870—1. Andrew C. Herdman, Pictou Academy; 2. Alex. C. Patterson, Fort Massey Academy.

1871—1. William Brownrigg, Pictou Academy; 2. George McMillan, Private Study.

1872—1. Francis H. Bell, Private Study; 2. Fred. W. O'Brien, Pictou Academy.

1873—1. James McLean, Private Study; 2. John Waddell, Pictou Academy.

1874—1. J. L. George, Pictou Academy; 2. John Stewart.

1875—1. George W. McQueen, New Glasgow Academy; 2. Isaac M. McLean, Private Study.

1876—1. Howard Murray, New Glasgow Academy; 2. W. R. Fraser.

GRANT PRIZE.

For Essays—1866, Joseph H Chase. 1867, Aubrey Lippincott. 1868, Arthur P. Silver. 1869, Herbert A. Bayne. 1870, Hugh M. Scott. 1871, Duncan C. Fraser. 1872, Alex. H McKay.

THE YOUNG PRIZES.

General Prize, voted by Students. 1867: 1. John Gow, 3rd and 4th years; 2. Alex. C. McKenzie, 1st and 2nd years. 1868: 1. George Murray, 3rd and 4th years; 2. Wentworth E. Roscoe, 1st and 2nd years. 1869: 1. John J. McKenzie, 3rd and 4th years; 2. Hiram Logan, 1st and 2nd years. 1870: *For Essay*, Walter M. Thorburn; *For Elocution*, Duncan Fraser. 1871: *For Essay*, James G. McGregor; *For Elocution*, Robert G. Sinclair. 1872: *For Essay*, Ephraim Scott; *For Elocution*, Fred. W. Archibald. 1874: Richmond A. Logan. 1875: S. J. MacKnight. 1876: 1. Francis H. Bell: 2. Colin Pitblado. 1877: 1. H. H. Whitter; 2. G. E. Lowden.

ROY PRIZES.

For Elocution—1868: 1. Alex. G. Russell; 2. James G. McGregor. 1869: 1. Albert R. Quinn; 2. Wm. M. Doull.

NORTH BRITISH SOCIETY BURSARY.

1868: Hugh M. Scott. 1870: Ephraim Scott. 1872: James C. Herdman. 1874: James McG. Stewart. 1876: John H. Cameron.

LAURIE PRIZE.

1871: Hugh M. Scott, B. A. 1872: Duncan C. Fraser. 1873: David F. Creelman. 1874: Archibald Gunn. 1875: Alex. McLeod. 1876: No competition. 1877: Richmond Logan.

ST. ANDREWS PRIZE.

1873—*For Classics: First Year*, John W. McLeod.
1874—*For Mathematics: Second Year*, John W. McLeod.
1875—*For Classics: Second Year*, James McLean.
1876—*For Mathematics: Second Year*, T. A. LePage.
1877--*For Classics: Second Year*, G. W. McQueen.

ALUMNI PRIZES.

1873: James McG. Stewart. 1874: 1. James McLean; 2. John H. Sinclair. 1875: 1. J. H. Cameron, Private Study; 2. R. H. Humphrey, Halifax Grammar School. 1876: *Third Year*, John Waddell, (who resigned in order to hold the Waverley Prize), J. H. Sinclair. *First Year*, Roderic McKay, Private Study. 1877: *Third Year*, 1. J. H. Cameron; 2. Edmund L. Newcombe. *First Year*, 1. Howard Murray; 2. W. R. Fraser.

"UNKNOWN" PRIZE.

1875: James McLean.

GRADUATES' PRIZE.

1876: John Wilson McLeod. 1877: Burgess McKittrick.

WAVERLEY PRIZE.

1873: Wm. Bearisto, Wm. R. Ross, equal. 1874: James Fitzpatrick. 1875: James McLean. 1876: John Waddell. Waverley Bursary, 1877: Rod. McKay.

MELBOURNE PRIZES.

1875: 1. John W. McLeod; 2. James McG. Stewart. 1876: George W. McQueen.

Graduates and Undergraduates of the University, and General Students in Arts.

GRADUATES.

MASTERS OF ARTS.

1869.

Chase, Joseph Henry	Cornwallis.

1870.

McNaughton, Samuel	Guysborough.
MacDonald, John H.	Kentville.

1871.

Cameron, J. J.	Georgetown, P. E. Island.
Carr, Arthur F.	St. Edward's, P. E. Island.
Smith, David H.	Truro.

1872.

Annand, Joseph	Pictou.
Bayne, Herbert A.	Pictou.
Forrest, James	Halifax.
McKenzie, John J.	Pictou.

1874.

McGregor, James G.	Halifax.

1875.

McKenzie, Hugh	Earltown.
Scott, Ephraim	Douglas, Gore,

1876.

Allan, John M.	Newfoundland.

DOCTORS OF MEDICINE AND MASTERS OF SURGERY.

1872.

DeWolf, George H. H.	Dartmouth, N. S.
Hiltz, Charles W.	Bridgetown, Annapolis.
McMillan, Finlay	Pictou Co.
McRae, William	Richmond, C. B.
Sutherland, Roderic	River John, Pictou.

1874.

Campbell, Don. A.	Truro.
Chisholm, Donald	Longpoint.
Moore, Edmund	Londonderry.

1875.

Cox, Robinson	Stewiacke.
Bethune, J. L.	
Lindsay, A. W. H.	Halifax.
Muir, W. S.	Truro.
Casimir, Robt.	Arichat.

BACHELORS OF ARTS.

1866.

Chase, J. Henry	Cornwallis.
Shaw, Robert	New Perth, P. E. Island.

1867.

Burgess, Joshua C.	Cornwallis.
Cameron, J. J.	Georgetown, P. E. Island.
Lippincott, Aubrey	New Glasgow.
McDonald, John H.	Cornwallis.
McNaughton, Samuel	East River, Pictou.
Ross, Alexander	Roger's Hill, Pictou.
Sedgewick, Robert	Middle Musquodoboit.
Smith, David H.	Truro.
Smith, Edwin	Truro.

1868.

Carr, Arthur F.	St. Edward's, P. E. Island.
Christie, Thomas M.	Yarmouth.
Creighton, James G. A.	Halifax.
Forrest, James	Halifax.
McKay, Kenneth	Hardwood Hill, Pictou.
Simpson, Isaac	Merigomish, Pictou.

1869.

Annand, Joseph	Gay's River, Hants.
Bayne, Herbert A.	Pictou.
Millar, Ebenezer D.	Rogers' Hill, Pictou.
McKenzie, John J.	Green Hill, Pictou.
Sutherland, John M.	West River.

1870.

Lindsay, Andrew W. H.	Halifax.
Scott, Hugh M.	Sherbrooke.
Thorburn, Walter M.	Bermuda.
Wallace, John	Shubenacadie.

1871.

Bayne, Ernest S.	Pictou.
McGregor, James G.	Halifax.
Russel, Alex. G.	Truro.

1872.

Archibald, Wm. P.	Halifax.
Bruce, Wm. T.	Middle Musquodoboit.
Carmichael, James	New Glasgow.
Cruikshank, Wm.	Lower Musquodoboit.
Fraser, Duncan C.	New Glasgow.
Gunn, Adam	East River, St. Mary's.
McKenzie, Hugh	Earltown.
Pollok, Alex. W.	French River, Pictou.
Scott, Ephraim	Douglas, Gore.
Trueman, Arthur I.	Point DeBute, N. B.

1873.

Allan, John M.	Newfoundland.
Bryden, Ch. W.	Tatamagouche.
Cameron Wm.	Sutherland's River.
Creelman, D. F.	Stewiacke.
Duff, Kenneth	Lunenburg.
Hunter, John	New Glasgow.
Logan, Melville	Halifax.
McDonald, Chas. D.	Pictou.
McKay, Alex. H.	Dalhousie, Pictou.
McKeen, James A.	Tatamagouche.
Robinson, J. Millen	Baillie, N. B.
Ross, Wm.	East River, Pictou.

1874.

Doull, Walter S.	Halifax.
Fraser, D. Stiles	Durham, Pictou.
Herdman, James C.	Pictou.
Herdman, Wm. C.	Pictou.
McGregor, Daniel	Inverness, C. B.
McLeod, Donald	Strathalbyn, P. E. I.
Oxley, James McD.	Halifax.

1875.

Fitzpatrick, James	Roger' Hill, Pictou.
Jordan, Louis H.	Halifax.
McLean, Alex.	Onslow, Colchester.
McMillan, George	Scotch Hill, Pictou.
Stramberg, Hector H.	Cape John, Pictou.

1876.

Bell, Francis H.	Halifax.
Fulton, George H.	Bass River, Colchester.
McDowall, Isaac	Tatamagouche.
McLean, James Alex	Pictou.
McLeod, John W.	N. River, Colchester.
Morton, Jos. S.	New Glasgow.
Munro, John	Valleyfield, P. E. I.
Stewart, J. McG.	Whycocomagh, P. E. I.

1877.

Chambers, R. E.	Truro.
Grant, W. R.	Springville, Pictou.
Hamilton, H. H.	Pictou.
Herdman, And. W.	Pictou.
Laird, G. A.	Cavendish, P. E. I.
McKittrick, Burgess	Cornwallis.
Murray, J. S.	Cavendish, P. E. I.
Pitblado, Colin	Truro.
Scott, J. M.	Gore, Hants.
Waddell, John	Halifax.

UNDERGRADUATES, 1876-7.

FOURTH YEAR.

Archibald, F. W.	Truro.
Chambers, Robt. E.	Truro.
Grant, W. R.	Springville, Pictou.
Hamilton, Howard H.	Pictou.
Herdman, A. W.	Pictou.
Laird, George A.	Cavendish.
Logan, Richmond	Stewiacke.
Mason, Wm. A.	East River.
McCurdy, Stanley T.	New Glasgow.
McKittrick, Burgess	Cornwallis.
Murray, J. S.	Cavendish, P. E. I.
Pitblado, Colin	Truro.
Scott, John McD.	Gore, Hants.
Waddell, John	Sheet Harbor.

THIRD YEAR.

Cairns, J. A.	Upper Freetown, P. E. I.
Cameron, J. H.	South River, Antigonish.
George, J. L.	Pictou.
McKenzie, J. A.	Green Hill, Pictou.
Munro, G. W.	New York.
Newcomb, E. L.	Cornwallis.
Whitman, Alf.	Annapolis.

SECOND YEAR.

Cameron, Ch. S.	Baddeck, C. B.
Chambers, F.	Truro.
Crowell, Edwin	Barrington.
Dickie, Alf.	Stewiacke.
Emmerson, R. R. J.	Halifax.
Kennedy, W. T.	East River, Pictou.
McKay, Rod.	Dalhousie, Pictou.
McLean, Is. M.	Belfast, P. E. I.
McQueen, George Wm.	Sutherland's Riv. Pictou.
Torey, Edgar J.	Guysborough.

FIRST YEAR.

Archibald, Wm. E.	Halifax.
Bremner, F. W.	Halifax.
Doull, Alex.	Halifax.
Downey, And. G.	Barrington.
Dustan, John F.	Dartmouth.
Fraser, W. R.	Pictou.
Kinsman, Fred. S.	Centreville, Kings.
Lowden, G. E.	Centreville, Kings.
McClure, James K.	Truro.
McCully, Ch. A.	Truro.
McLean, James F.	Belfast. P. E. I.
McLennan, Rob't.	Halifax.
Murray, Howard H.	New Glasgow.
Scott, Snowdon D.	Parsboro'.
Thomson, Albert E.	Halifax.

GENERAL STUDENTS.

FOURTH YEAR OF ATTENDANCE.

NAME.	RESIDENCE.	CLASSES ATTENDED.
Chisholm, Murdoch	Loch Lomond, C. B.	Practical Chemistry.
Forbes, J. A.	North Dalhousie, Pict.	Class., Ethics, Hist., Mod. Lang.
Fraser, Wm. M.	Dartmouth.	Practical Chemistry.
Mills, Wm. A.	Halifax.	History.
Shannon, J. N.	Halifax.	"
Whittier, W. S.	Upper Rawdon, Hants.	Math., Phys., Eths., Hist.

THIRD YEAR.

McGregor, Murdoch	Lake Ainsley, C. B.	Class., Ethics, History.
*McKnight, S. J.	Dartmouth.	Mathematics.
McMillan, Ang.	St. Ann's, C. B.	Class., Metaph., Chem., Fr.
Thorpe, Edw.	Cornwallis.	Class., Metaph., French.

*Left ill early in the Session.

SECOND YEAR.

Campbell, Malc.	Cape North, C. B.	Class., Log., Hist., Chem.
Chisholm, Duncan M.	Antigonish.	Chemistry.
Lenoir, Melaim U.	Halifax.	Logic.
Malcolm, Thom.	Tatamagouche.	Chemistry.
McLeod, A. F.	Marble Mountain, C. B.	"
Smith, Fred. G.	Truro.	Class., Logic, Chemistry.
Thomson, W. J.	Halifax.	Math., Rhetoric.

FIRST YEAR.

Cameron, A. G.	Newtown, Guysboro'.	Class., Math., Rhetoric.
Chute, J. R.	Halifax.	Chemistry.
Crawford, R. H.	“	Class., Math., Rhetoric.
Fitzpatrick, John R.	Roger's Hill, Pictou.	Class., Logic, Chemistry.
Fullerton, W. S.	Round Hill, Annapolis.	Class., Math., Rhetoric.
Gilpin, Edwin C. E.	Halifax.	Practical Chemistry.
Hill, Wm. B. N.	“	Latin.
Johnson, D. M.	“	Chemistry.
Keith, Sylvanus	Stellarton.	Class., Math., Rhetoric.
Logan, J. B.	Upper Stewiacke.	Chemistry.
Marshall, Carey F.	Clarence.	“
McDonald, H. A.	Lake Ainsley, C. B.	“
McDougall, Arch.	Malpeque, P. E. I.	Metaph., Logic.
McIntosh, J. W.	East River, Pictou.	Classics, Rhetoric.
McKenzie, John	Boularderie.	Class., Math., Rhetoric.
McKenzie, Kenneth	Prince Edward Island.	Chemistry.
McLaren, Ch. D.	Georgetown, P. E. I.	Class., Logic, Rhetoric.
McLean, John J.		Chemistry.
McLeod, Al. B.	Strathalbyn, P. E. I.	Class., Math., Rhetoric.
McMillan, Duncan	East Lake, Ainsley.	Classics.
McKay, Norman	Upp. Settlem't, Badeque	Chemistry.
Moseley, Charles A.	Dartmouth.	“
Morrison, J. A.	Rona, P. E. I.	Class., Math., Rhetoric.
Munro, Wm. F.	Valleyfield, P. E. I.	“ “ “
Nicholls, Jos. W.	Halifax.	Mathematics.
Nilant, M.	“	Chemistry.
Putner, Ch. E.	“	“
Sedgewick, J. A.	Musquodoboit.	Class., Metaph., French.
Smith, C. E. E.	Waterbury.	Chemistry.
Starr, D. A.		“
Stevens, W. H.	Dartmouth.	“
Stewart, John	Halifax.	Rhetoric.
Tupper, Ch. H.	“	History.
Vanbuskirk, F. C.	Dartmouth.	Chemistry.
Whittier, Herb. H.	Upper Rawdon, Hants.	Latin, Math., Rhetoric.
Wilson R. J.	Halifax.	Chemistry.

GRADUATES CONTINUING THEIR STUDIES.

Campbell, D. A., M. D.	Halifax.	Nat. Philosophy.
Doull, Walt. S., B. A.	Halifax.	Nat. Philosophy.

Undergraduates	47
General Students	53
Graduates continuing their Studies	2
Total number of Students	102

DALHOUSIE COLLEGE AND UNIVERSITY,

HALIFAX.

SESSIONAL EXAMINATIONS, 1877.

Wednesday, April [illegible]

FIRST YEAR.

LATIN.

LIVY: [illegible]

VIRGIL: AENEID, Book VI.

PROFESSOR JOHNSON, M.A.

1. Translate the following passages:

(a) [illegible]

(b) Olli sic breviter fata est longaeva sacerdos:
"Anchisa generate, Deum certissima proles,
Cocyti stagna alta vides Stygiamque paludem,
Di cujus jurare timent et fallere numen.
Haec omnis, quam cernis, inops inhumataque turba est;
Portitor ille Charon; hi, quos vehit unda, sepulti;
Nec ripas datur horrendas nec rauca fluenta
Transportare prius, quam sedibus ossa quierunt.
Centum errant annos, volitantque haec litora circum;
Tum demum admissi stagna exoptata revisunt."
Constitit Anchisa satus, et vestigia pressit,
Multa putans, sortemque animo miseratus iniquam.

(c) His demum exactis, perfecto munere Divae,
Devenere locos laetos, et amoena vireta
Fortunatorum nemorum, sedesque beatas.
Largior hic campos aether et lumine vestit
Purpureo, solemque suum, sua sidera norunt.
Pars in gramineis exercent membra palaestris,
Contendunt ludo, et fulva luctantur arena;
Pars pedibus plaudunt choreas, et carmina dicunt.
Nec non Threicius longa cum veste sacerdos
Obloquitur numeris septem discrimina vocum;
Jamque eadem digitis, jam pectine pulsat eburno.

2. Write explanatory notes on: procul este, profani—[illegible] Aloidarum—Tertiaque arma patri suspendit capta Quirino—Daedalus, ut fama est, fugiens Minoia regna.

FIRST YEAR.

Cameron, A. G.	Newtown, Guysboro'.	Class., Math., Rhetoric.
Chute, J. R.	Halifax.	Chemistry.
Crawford, R. H.	"	Class., Math., Rhetoric.
Fitzpatrick, John R.	Roger's Hill, Pictou.	Class., Logic, Chemistry.
Fullerton, W. S.	Round Hill, Annapolis.	Class., Math., Rhetoric.
Gilpin, Edwin C. E.	Halifax.	Practical Chemistry.
Hill, Wm. B. N.	"	Latin.
Johnson, D. M.	"	Chemistry.
Keith, Sylvanus	Stellarton.	Class., Math., Rhetoric.
Logan, J. B.	Upper Stewiacke.	Chemistry.
Marshall, Carey F.	Clarence.	"
McDonald, H. A.	Lake Ainsley, C. B.	"
McDougall, Arch.	Malpeque, P. E. I.	Metaph., Logic.
McIntosh, J. W.	East River, Pictou.	Classics, Rhetoric.
McKenzie, John	Boularderie.	Class., Math., Rhetoric.
McKenzie, Kenneth	Prince Edward Island.	Chemistry.
McLaren, Ch. D.	Georgetown, P. E. I.	Class., Logic, Rhetoric.
McLean, John J.		Chemistry.
McLeod, Al. B.	Strathalbyn, P. E. I.	Class., Math., Rhetoric.
McMillan, Duncan	East Lake, Ainsley.	Classics.
McKay, Norman	Upp. Settlem't, Badeque	Chemistry.
Moseley, Charles A.	Dartmouth.	"
Morrison, J. A.	Rona, P. E. I.	Class., Math., Rhetoric.
Munro, Wm. F.	Valleyfield, P. E. I.	" " "
Nicholls, Jos. W.	Halifax.	Mathematics.
Nilant, M.	"	Chemistry.
Putner, Ch. E.	"	"
Sedgewick, J. A.	Musquodoboit.	Class., Metaph., French.
Smith, C. E. E.	Waterbury.	Chemistry.
Starr, D. A.		"
Stevens, W. H.	Dartmouth.	"
Stewart, John	Halifax.	Rhetoric.
Tupper, Ch. H.	"	History.
Vanbuskirk, F. C.	Dartmouth.	Chemistry.
Whittier, Herb. H.	Upper Rawdon, Hants.	Latin, Math., Rhetoric.
Wilson R. J.	Halifax.	Chemistry.

GRADUATES CONTINUING THEIR STUDIES.

Campbell, D. A., M. D.	Halifax.	Nat. Philosophy.
Doull, Walt. S., B. A.	Halifax.	Nat. Philosophy.

Undergraduates	47
General Students	53
Graduates continuing their Studies	2
Total number of Students	102

DALHOUSIE COLLEGE AND UNIVERSITY,

HALIFAX.

SESSIONAL EXAMINATIONS, 1877.

WEDNESDAY, APRIL 11.—9 A.M. to 1 P.M.

FIRST YEAR.

LATIN. { CICERO : FIRST PHILIPPIC.
VIRGIL : AENEID, BOOK VI.

PROFESSOR JOHNSON, M.A...................... .....*Examiner.*

I.

1. Translate the following passages:

(*a*) Irasci quidem vos mihi, Dolabella, pro re publica dicenti non oportebit. Quamquam te quidem id facturum non arbitror—novi enim facilitatem tuam—collegam tuum aiunt in hac sua fortuna, quae bona ipsi videtur—mihi, ne gravius quippiam dicam, avorum et avunculi sui consulatum si imitaretur, fortunatior videretur;—sed eum iracundum audio esse factum. Video autem quam sit odiosum habere iratum eundem et armatum, quum tanta praesertim gladiorum sit impunitas; sed proponam jus, ut opinor, aequum, quod M. Antonium non arbitror repudiaturum. Ego si quid in vitam ejus aut in mores cum contumelia dixero, quo minus mihi inimicissimus sit non recusabo: sin consuetudinem meam, quam in re publica semper habui, tenuero, id est si libere quae sentiam de re publica dixero, primum deprecor, ne irascatur; deinde, si hoc non impetro, peto ut sic irascatur ut civi. Armis utatur, si ita necesse est, ut dicit, sui defendendi caussa: iis, qui pro re publica quae ipsis visa erunt dixerint, ista arma ne noceant.

(*b*) Olli sic breviter fata est longaeva sacerdos:
" Anchisa generate, Deum certissima proles,
Cocyti stagna alta vides, Stygiamque paludem,
Di cujus jurare timent et fallere numen.
Hæc omnis, quam cernis, inops inhumataque turba est:
Portitor ille, Charon: hi, quos vehit unda, sepulti;
Nec ripas datur horrendas nec rauca fluenta
Transportare prius quam sedibus ossa quierunt.
Centum errant annos, volitantque haec littora circum:
Tum demum admissi stagna exoptata revisunt."
Constitit Anchisa satus, et vestigia pressit,
Multa putans, sortemque animo miseratus iniquam.

(*c*) His demum exactis, perfecto munere Divae,
Devenere locos laetos, et amoena vireta
Fortunatorum nemorum, sedesque beatas.
Largior hic campos aether et lumine vestit
Purpureo; solemque suum, sua sidera norunt.
Pars in gramineis exercent membra palaestris,
Contendunt ludo, et fulva luctantur arena;
Pars pedibus plaudunt choreas, et carmina dicunt.
Nec non Threicius longa cum veste sacerdos
Obloquitur numeris septem discrimina vocum;
Jamque eadem digitis, jam pectine pulsat eburno.

2. Write explanatory notes on: post Idus Martias—ex legione Alaudarum—Tertiaque arma patri suspendet capta Quirino—Daedalus, ut fama est, fugiens Minoia regna.

3. Describe the situation of the places referred to : Gnossia tellus—facilis descensus Averno—per Elidis urbem—qualis Berecynthia mater.

4. A short sketch of the chief events of Cicero's life, with dates.

II.

1. Decline in combination, (marking the quantities of increments and final syllables) : ille coelifer Atlas—ulla requies—largior aether—pectine eburno.

2. What forms in the other degrees of comparison correspond in case number and gender, or otherwise, to the following : sacră, malas, liberē, inferiora, praestantior, maximĕ, supremā, firmo, simile.

3. Name the tense, mood and voice, mark quantities, and give the principal parts of: queri, miscerentur, sidunt, abstulit, scissem, peperere, scinditur, lavant, praestiterit, repostos.

4. Analyse the sentence beginning "Quamquam te," (extract *a*) so as to shew principal and dependent clauses. How should it have ended grammatically ?

5. Scan the first five lines of extract *a*.

6. Explain the use of the cases of: "vos mihi," "collegam," "fortunatior," "iis" (extract *a*) : "Anchisa," "numen," "annos" (*b*) : "munere," "locos," "numeris" (*c*).

7. What cases are used with the following : miseret, placet, rēfert, licet, privare, gaudeo, particeps, egenus, dignus, maximus, similis, iniquus?

8. Distinguish the use or meaning of :—rēfert, rĕfert : statua, simulacrum : vĕnit, vēnit : aedes (sing.) aedes (pl.) : duae litterae, binae litterae : juventus, juventas, juventa : caveo te, caveo tibi.

9. Translate into Latin : Ramulus called the city that he built Rome.—The city was beseiged for ten years by the whole of Greece on account of one woman.—A few days afterwards most of the soldiers under the command of one of the Consuls, returned to the camp from Rome.—None of the Romans was equal to Cicero in eloquence.—Ioscrates sold a single speech for twenty talents.

III.

Additional for First and Second Class.

3 TO 5½ P. M.

CICERO : FIRST ORATION AGAINST CATILINE.

1. Translate Chap. III.

2. Explain the grammatical constructions of: "qui dies futurus esset ante diem VI. Kal. Nov." : "in ante diem V Kalendas" : "sui conservandi caussa."

3. What nouns from the abl. sing. (1) in *i*, (2) in *i* or *e*? What adjectives of one termination in the nom. sing. have a neuter plural? What adjectives and adverbs want the positive degree?

4. When may contractions be made in verbal forms? Write the perfect of *redeo* throughout.

5. Write in classical Latin : April 27, A.D., 1877 : $\frac{12}{17}$.

6. Arrange these lines as hexameter verses.

> Interea Aurora Surgens Oceanum reliquit.—
> Multa corpora boum morti circum mactantur.—
> Dum reges Argolici Pergama bello vastabant.—
> Ausonia ante inexcīta atque immobilis ardet.

7. Quote examples of poetical constructions from the 6th book of Virgil, and give the usual prose equivalents.

8. Describe the situation of the places referred to: [illegible] — Averni — per [illegible] — [illegible] Dercynnia [illegible].

9. A short sketch of the chief events of Cicero's life, with dates.

II.

1. Decline in combination, (marking the quantities of increments and final syllables): [illegible] — ulla [illegible] — [illegible] — [illegible].

2. What forms in the other degrees of comparison correspond in case, number and gender, or otherwise, to the following: saevis, malas, libere, interiora, praestantior, maximi, superest, brevis, simile.

3. Name the third, fourth and fifth, [illegible] quantities, and give the principal parts of: quaeri, [illegible], adimo, [illegible], [illegible], [illegible], [illegible], [illegible], repostus.

4. Analyse the sentence beginning "Quam, [illegible]," (extract a) so as to show principal and dependent clauses. How should it have ended grammatically?

5. Scan the first five lines of extract d.

6. [illegible]

7. What cases are used with the following: [illegible]

8. Distinguish the use or meaning of:— [illegible]

9. Translate into Latin: [illegible]

III.

Additional for First and Second Class.

[illegible]

CICERO: THE ORATION [illegible]

1. Translate Chap. [illegible]

2. Explain the grammatical construction of [illegible]

3. What nouns form the [illegible]

4. What other contractions are made in [illegible]? Write the perfect of [illegible].

5. Write in classical Latin: April 27, A.D. 1877.

6. Arrange these lines as hexameter verses:

Interea Aurora Saturnia Olympum reliquit
Multa tempore [illegible]
Dum regem [illegible] Pergama bello [illegible]
[illegible]

7. Quote examples of poetical constructions from the 6th book of Virgil, and give the usual prose equivalents.

DALHOUSIE COLLEGE AND UNIVERSITY,

HALIFAX,

SESSIONAL EXAMINATIONS, 1877.

THURSDAY, APRIL 12TH:—9 A.M. TO 1 P.M.

FIRST YEAR.

GREEK:—LUCIAN—SELECT DIALOGUES.

PROFESSOR JOHNSON, M.A. .... *Examiner.*

I.

1. Translate the following Extracts:—

(*a*) ΖΗΝ. *Τί οὖν ἐγένετο; πάνυ γὰρ τι παράδοξον ἐρεῖν ἔοικας.* ΚΑΛ. *Ἐπεὶ τοίνυν λουσάμενοι ἥκομεν, δύο ἤδη ὁ μειρακίσκος κύλικας ἑτοίμους ἔχων, τὴν μὲν τῷ Πτοιοδώρῳ, τὴν ἔχουσαν το φάρμακον, τὴν δ' ἑτέραν ἐμοὶ, σφαλεὶς οὐκ οἶδ' ὅπως, ἐμοὶ μὲν τὸ φάρμακον, Πτοιοδώρῳ δὲ τὸ ἀφάρμακτον ἐπέδωκεν· εἶτα ὁ μὲν ἔπινεν, ἐγὼ δὲ αὐτίκα μάλα ἐκτάδην ἐκείμην, ὑποβολιμαῖος ἀντ' ἐκείνου νεκρός· τί τοῦτο; γελᾷς, ὦ Ζηνόφαντες; καὶ μὴν οὐκ ἔδει γε ἑταίρῳ ἀνδρὶ ἐπιγελᾶν.* ΖΗΝ. *Ἀστεῖα γὰρ, ὦ Καλλιδημίδη, πέπονθας· ὁ γέρων δὲ τί πρὸς ταῦτα;* ΚΑΛ. *Πρῶτον μὲν ὑπεταράχθη πρὸς τὸ αἰφνίδιον· εἶτα συνεὶς, οἶμαι, τὸ γεγενημένον, ἐγέλα καὶ αὐτὸς, οἷά γε ὁ οἰνοχόος εἴργασται.* ΖΗΝ. *Πλὴν ἀλλ' οὐδὲ σὲ τὴν ἐπίτομον ἐχρῆν τραπέσθαι· ἧκε γὰρ ἄν σοι διὰ τῆς λεωφόρου ἀσφαλέστερον, εἰ καὶ ὀλίγῳ βραδύτερος ἦν.*

(*b*) *Ἐπειδ' οὖν ἐνίκησέ τε, καὶ τὸν ὄλεθρον ἐκεῖνον Δαρεῖον ἐν Ἰσσῷ τε καὶ Ἀρβήλοις ἐκράτησεν, ἀποστὰς τῶν πατρῴων, προσκυνεῖσθαι ἠξίου, καὶ ἐς δίαιταν τὴν Μηδικὴν μετεδιῄτησεν ἑαυτὸν, καὶ ἐμιαιφόνει ἐν τοῖς συμποσίοις τοὺς φίλους, καὶ συνελάμβανεν ἐπὶ θανάτῳ. Ἐγὼ δὲ ἦρξα ἐπίσης τῆς πατρίδος, καὶ ἐπειδὴ μετεπέμπετο, τῶν πολεμίων μεγάλῳ στόλῳ ἐπιπλευσάντων τῇ Λιβύῃ, ταχέως ὑπήκουσα, καὶ ἰδιώτην ἐμαυτὸν παρέσχον, καὶ καταδικασθεὶς ἤνεγκα εὐγνωμόνως τὸ πρᾶγμα. Καὶ ταῦτ' ἔπραξα, βάρβαρος ὢν, καὶ ἀπαίδευτος παιδείας τῆς Ἑλληνικῆς, και οὔτε Ὅμηρον, ὥσπερ οὗτος, ῥαψῳδῶν, οὔτε ὑπ' Ἀριστοτέλει τῷ σοφιστῇ παιδευθεὶς, μόνῃ δὲ τῇ φύσει ἀγαθῇ χρησάμενος. Ταῦτά ἐστιν, ἃ ἐγὼ Ἀλεξάνδρου ἀμείνων φημὶ εἶναι.*

2. Write explanatory notes on the persons and events referred to in the following sentences:—

(*a*) *καὶ Γαλατῶν ἐκρατησα τῶν Ἑσπερίων.*
(*b*) *καταφοβήσας τὴν Ἑλλάδα τῇ Θηβαίων ἀπωλείᾳ.*
(*c*) *τῆς Ἑκάτης τὸ δεῖπνον.*
(*d*) *οὐκοῦν ὁ Μίνως δικασάτω.*
(*e*) *τοὺς ἄλλους γε Κύκλωπας ἔδει ἐπιβοήσασθαι ἐπ' αὐτόν.*

3. Describe the geographical situation of these places:—*Ισσός*, *Φρυγία*, *Ἄρβηλα*, *Μέγαρα*, *Κιθαιρῶν*, *Κόρινθος*.

4. Write a short account of Lucian's life.

II.

1. Decline throughout with contractions:—*ἰδιώτης*, *τὸ σκάφος*, *πορθμεύς*, *ἔρις*, *ἕως*.

2. Name the case, number and gender of the following words, and give their nom. and gen. sing. and dat. pl. in all genders:—*ἀκανθώδεις*, *αὐτά*, *τρίχες*, *ἀμείνω*, *ὅτῳ*, *τἄλλα*, *ληστάς*, *τούτων*, *ἑαυτούς*.

3. What forms in the other degrees of comparison correspond in case, number and gender, or otherwise, to these:—*καλλίων*, *πολλῶν*, *μεγάλῃ*, *βαρεῖαν*, *μάλιστα*, *σοφῷ*, *σεμνά*, *ἀληθῆ*.

4. Write the 2nd sing., 1st aor., in all moods of the active voice (with infin. and partic.) of *οἰκέω*, *ἐκρίπτω*; and the same parts in the middle voice of *στέλλω*, *γελάω*, and in the passive of *περιτείνω*, *προτίθημι*.

5. Give the 1st sing. perf. indic. pass. and the perf. infin. pass. of *ἀποκόπτῶ*, *προκρίνω*, *ἀνατέλλω*, *οἰκίζω*, *συνκαλέω*, *ἵστημι*.

6. Parse and give the 1st sing., pres., fut., 1st aor. and perf. indic. act., and perf. indic. pass. of *ἐχειρωσάμην*, *ὠνείδισε*, *κοιμωμένῳ*, *ἐφάνησαν*, *μάθῃ*, *ἔλαβες*, *κατεσπάσθην*, *πλεόντων*.

7. What is the meaning and derivation of:—*πανοῦργος*, *ἀκανθώδεις*, *ἀναβάθρα*, *ἀκροποδητὶ*, *χειροτονηθείς*.

III.

Additional for First or Second Class.

THURSDAY, APRIL 12TH:—3 P.M. TO 5.30 P.M.

1. Translate the following passage from Demosthenes' First Olynthiac:—

Δῆλον γάρ ἐστι τοῖς 'Ολυνθίοις, ὅτι νῦν οὐ περὶ δόξης οὐδ' ὑπὲρ μέρους χώρας πολεμοῦσιν, ἀλλ' ἀναστάσεως καὶ ἀνδραποδισμοῦ τῆς πατρίδος, καὶ ἴσασιν ἅ τ' 'Αμφιπολιτῶν ἐποιησε τοὺς παραδόντας αὐτῷ τὴν πόλιν, καὶ Πυδναίων τοὺς ὑποδεξαμένους· καὶ ὅλως ἄπιστον, οἶμαι, ταῖς πολιτείαις ἡ τυραννίς, ἄλλως τε κἂν ὅμορον χώραν ἔχωσιν. ταυτ' οὖν ἐγνωκότας ὑμᾶς, ὦ ἄνδρες 'Αθηναῖοι, καὶ τἄλλ' ἃ προςήκει πάντα ἐνθυμουμένους φημί δεῖν ἐθελῆσαι, καὶ παροξυνθῆναι, καὶ τῷ πολέμῳ προςέχειν, εἴπερ ποτέ, καὶ νῦν, χρήματα εἰσφέροντας προθύμως, καὶ αὐτοὺς ἐξιόντας, καὶ μηδὲν ἐλλείποντας. οὐδὲ γὰρ λόγος οὐδὲ σκῆψις ἐθ' ὑμῖν τοῦ μὴ τὰ δέοντα ποιεῖν ἐθέλειν ὑπολείπεται. νυνὶ γὰρ, ὃ πάντες ἐθρυλεῖτε, ὡς 'Ολυνθίους ἐκπολεμῶσαι δεῖ Φιλίππῳ, γέγονεν αὐτόματον, καὶ ταῦθ' ὡς ἂν ὑμῖν μάλιστα συμφέροι.

2. Explain clearly the syntactical construction of:—*ἄπιστον*;—*ἐθ' ὑμῖν τοῦ μὴ τὰ δέοντα ποιεῖν ἐθέλειν ὑπολείπεται*; *σύμμαχοι*; *εἰκός*.

3. Decline and accentuate throughout:—*παῖς, ἀνήρ, βαρύς, στρατιώτης.*

4. Compare, giving accents—*ἐλαχιστος, ταχεως, ἡττων, φιλος, πρωτος, μακρος.*

5. What simple verbs take (1) no augment, (2) two augments, (3) *ει* as augment, (4) *η* occasionally before an initial consonant?

6. What parts of the verb accentuate the final syllable? Distinguish *ἄλλα, ἀλλά—ποιῆσαι, ποιήσαι, ποίησαι—ταῦτα, ταὐτά—τράπῃ, τραπῇ.*

7. Parse, accentuate and give chief parts of:—*ἐγχεας, ἐξεθορες, προησομεθα, δεδοικα, ᾠηθη, ἀποθου, δεδῃωμενος, ὠναμην, ἐνοχλει.*

III

[illegible] for First or Second Class.

Tuesday, April 12th: 9 A.M. to 1.30 P.M.

1. Translate the following passage from Demosthenes' First Olynthiac:—

[illegible]

2. Explain clearly the syntactical construction of:— [illegible]

3. Decline and accentuate throughout:— [illegible]

4. Compare, giving accents— [illegible]

5. What simple verbs take (1) no augment, (2) two augments, (3) ε as augment, (4) η occasionally before an initial consonant?

6. What parts of the verb accentuate the final syllable? Distinguish [illegible]

7. Parse, accentuate and give chief parts of:— [illegible]

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SESSIONAL EXAMINATIONS, 1877.

MONDAY, APRIL 16.—9 A.M.

FIRST YEAR.

MATHEMATICS.—GEOMETRY.

PROFESSOR MACDONALD........................*Examiner.*

1. All the interior angles of a rectilineal figure are equal to twice as many right angles as the figure has sides, wanting four right angles. If the polygon is regular and has m sides, find one of its angles.

2. Shew that, if the sides of a rectangle contain a and b units respectively, the area contains ab square units; and hence find expressions for the areas of a parallelogram and a triangle.

3. BC is a line divided in D: prove, by the division of the line only, if you can, that $BD^2 + 2\,BC.CD = BC^2 + CD^2$.

4. Shew what change must be made in the above equation, when D is an external point of section. Also, write the algebraic equivalent of either the 9th or the 10th prop. of Book II.

5. Divide a line so that the square of one part may be equal to the rectangle contained by the whole line and the other part.

6. If two chords in a circle, which do not both pass through the centre, cut each other, they do not bisect each other.

7. The perpendicular drawn from the end of a diameter of a circle, falls without the circle.

8. The sums of the opposite angles of a quadrilateral figure inscribed in a circle are equal to each other.

9. Describe a regular pentagon in a given circle: and shew how you would describe one on a given straight line.

10. If a straight line, drawn parallel to one side of a triangle, cut the other sides either internally or externally, it shall cut them proportionally. Draw at least two diagrams, and letter them so that your demonstration may apply to both.

11. If two tangents be drawn from a point P to a circle whose centre is Q, (1) the tangents are equal: (2) PQ bisects the chord of contact: (3) the circle which passes through P and the tangent points, also passes through the centre: (4) an angle at the centre equal to twice the whole angle P, would stand upon an arc equal to the difference of the concave and convex circumferences.

12. The sum of the squares of the sides of a trapezium is equal to the sum of the squares of the diagonals and 4 times the square of the line joining their middle points. Make, also, a deduction for the case of a parallelogram.

13. The perpendiculars from the angles of a triangle on the opposite sides meet in a point, and the rectangles of their segments are equal.

14. The middle points of the sides of a triangle are joined; the middle points of the sides of this interior triangle are also joined, forming a second interior triangle; and this process is continued without limit. Shew that the sum of the areas of all the triangles thus formed is equal to $\frac{1}{3}$ the area of the given triangle.

DALHOUSIE COLLEGE AND UNIVERSITY,

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SESSIONAL EXAMINATIONS, 1877.

MONDAY, APRIL 16, 3 P.M.

FIRST YEAR.

MATHEMATICS.—ALGEBRA.

PROFESSOR MACDONALD........................*Examiner.*

1. If the numerator and denominator of a Vulgar Fraction have a common measure, an equivalent Fraction can be found in lower terms. Prove and illustrate. In what Rule of Arithmetic does this principle further hold good. Illustrate.

2. What explanation do you give of the rule $(+)(-)=-$; and $(-)(-)=+$?

3. Write down an algebraical trinominal expression, fractional in form, with mixed *positive* and *negative* exponents. Write the equivalent expression, but *with all the signs of the exponents changed.*

4. Write the algebraic rule for the extraction of square root, and apply it to find the square root of 24·01. Find also the square root of

$$\frac{x^4}{9}+\frac{2x^3}{3}+\frac{4x^2}{3}+x+1.$$

5. Shew that if $a^2+d^2=c^2+b^2$, then $a+b:c+d::c-d:a-b$ and reduce to lowest terms $\frac{6x^3+16x^2-12x+2}{15x^3-5x^2+12x-4}$.

6. Given (1) $\left.\begin{aligned}7x-2y&=14+\frac{x}{2}\\7y-2x&=2x+\frac{y}{3}\end{aligned}\right\}$ and (2) $\begin{aligned}x^2-xy+y^2&=7\\x+y&=5\end{aligned}$

to find x and y in each case.

7. In $x^2+mx+n=0$, shew that the sum of the roots $=-m$, and their product $=n$. Hence solve by inspection the following equation, $x^2-2ax+a^2-b^2=0$.

8. Sum the series, 15, 13, 11, ... to 12 terms; and shew from your formula that another number of terms might have been taken whose sum is the same. Find the number.

9. Find two numbers in the proportion of 9 : 7, such that the square of their sum shall equal the cube of their difference.

10. Sum the geometrical series $a+ar+ar^2+$ &c. to n terms: and deduce and explain the formula, $s=\frac{a}{1-r}$.

11. Find which is greater, $\sqrt{10}+\sqrt{6}$ or $3+\sqrt{7}$.; and prove that $n^3+1>n^2+n$.

12. In the equation, $x^2+px+q=0$, prove $\frac{\alpha}{\beta}+\frac{\beta}{\alpha}=\frac{p^2}{q}-2$.

13. Write three different kinds of Quadratic Equations of two unknown quantities, for the solution of which you can, and do, give rules.

14. Shew that the Arithmetical, Geometrical, and Harmonical means between a and b are in continued proportion: also, if a, b, c, are in Geometrical Progression, and $a^x=b^y=c^z$, then x, y, z, are in Harmonical Progression.

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SESSIONAL EXAMINATIONS, 1877.

WEDNESDAY, 18TH.—9 A.M. to 1 P.M.

FIRST YEAR.

RHETORIC.

PROFESSOR DEMILL, M.A. .... *Examiner.*

1. Enumerate the general divisions of the subject of Rhetoric and give a brief explanation of each. Shew the effect upon style of *(a)* words of Anglo-Saxon origin, and *(b)* words of Latin origin.

2. What are the chief sources of new words. Explain and illustrate periodic and simple structure in sentences.

3. What is the difference between figures of speech and tropes? Give a general classification of figures of speech.

4. Enumerate the figures of speech which arise from the relation of contiguity and give a definition of each. Name and define those figures by which a direct stress is laid upon words.

5. Define and illustrate energy—vivacity. Enumerate the different kinds of style associated with persuasiveness, and give a brief explanation of each.

6. Define and illustrate onomatopœia. Explain what is meant by Rhythm in style.

7. Give a brief account of the different kinds of composition regarded in relation to the mode of presentation of subject matter. Explain the terms real and ideal.

8. Give account of the following,—terms, propositions, definitions, proof. Explain deduction and induction.

9. Show the difference between the enthymeme and the syllogism. State the general divisions of arguments and give a brief explanation of each.

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WEDNESDAY, APRIL 18.—3 TO 6 P. M.

FIRST YEAR.

ANGLO-SAXON.

PROFESSOR DEMILL, M.A........................*Examiner.*

1. Translate:

And eac swilce manige odhre aefter him on Angeltheode ongunnon aefaeste leodh wyrcan, ac naenig hwaedhre him thaet gelice don meahte, forthon he nalaes fram mannnm ne thurh man gelaered waes, thaet he thone leodhcraeft geleornode; ac he waes godcundlice gefultumod, and thurh Godes gife thone songcraeft onfeng, and he forthon naefre noht leasunga ne ideles leodhes wyrcan meahte ac efne tha an tha the to aefaestnesse belumpon, and his aefaestan tungan gedafenode singan. Waes he se man in weoruldhade geseted odh tha tide, the he waes gelyfedre yldo, and he forthon oft in gebeorscipe, thonne thaer waes blisse intingan gedemed, thaet hi ealle sceoldon thurh endebyrdnesse be hearpan singan; thonne he geseah tha hearpan him nealaecan, thonne aras he for sceame from tham symble and ham eode to his huse.

2. Parse ongunnon, meahte, onfeng, belumpon, yldo, blisse.

3. Show the euphonic changes that have taken place in the passage of the following words into Modern English: manige, gelaered, meahte, sceoldon, hearpan, geseah, sceame, huse.

4. Define and illustrate from the above passage, synaeresis, diaeresis, aphaeresis, apocope.

5. Write out the forms of se, seo, thaet.

6. Translate

Tha waes Hrodhgare here sped gyfen,
wiges weordhmynd, thaet him wine-magas
georne hyrdon, odh thaet seo geogodh geweox,
mago-driht micel. Him on mod bearn,
thaet he heal-reced hatan wolde,
medo-aern micel men gewyrcean,
thone yldo bearn aefre gefrunon,
and thaer on-innan eal gedaelan
geongum and ealdum, swylc him God sealde
buton folc scare and feorum gumena,
Tha ic wide gefraegn weorc gebannan
manigre maegdhe geond thisne middangeard
folc-stede fraetwan.

7. Parse gyfen, geweox, wolde, gewyrcean.

8. Explain the construction of gedaelan, gefraegn, gebannan, fraetwan.

9. Explain the nature of Anglo-Saxon versification.

10. Write out the parts of any one of the following verbs: wesan, mugan, cunnan, sculan.

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THURSDAY, APRIL 19.—9 A.M. TO 1 P.M.

FIRST YEAR.

ENGLISH LANGUAGE.

PROFESSOR DEMILL, M.A.,......................*Examiner.*

1. Translate:

Thus lo! the Englissefolc vor noht to grovnde com
Vor a fals king, that nadde no riht to the kinedom,
& come to a nywe louerd that more in riht was.
Ac hor nother, as me may ise in pur riht nas.
& thus in Normannes hond that land ibroht iwis,
That anaunter if euermo keueringe thereof is
Of the Normans beth heyemen that beth of Engelonde
& the lowemen of Saxons as ich understonde,
So that ye seth in either side wat righ ye habbeth thereto;
Ac ich understonde, that it was thoru Godes wille ydo.
Vor the wule the men of this lond pur hethene were,
No Lond, ne no folc ayen hom in armes nere;
Ac nou sutthe the that thet folc auenge christendom
& wel lute wule hulde the bihestes that he nom
As the gostes in auison to Seint Edward said
Wu ther ssolde in Engeland come such wrecchede.
—*Robert of Gloucester.*

2. Parse com, nadde, hor, ibroht, seth, ydo.

3. Show to which of the early English dialects the above passage belongs.

4. Explain the versification.

5. Translate:

Bytuene Mershe & Aueri
When spray biginneth to springe,
The lutel foul hath hire wyl
On hyre lud to synge;
Ich libbe in louelongenge
For semlokest of alle thynge,
He may me blisse bringe,
Icham in hire baundoun,
An hendy hap ichabbe yhent
Ichot from heuene it is me sent,
From alle wymmen mi loue is lent
& lyht on Alysoun.

On heu hire her is fayr ynoh
Hire browe broune, hire eye blake,
With lossvm chere he on me loh;
With middel smal & wel ymake;
Bote he me wolle to hire take
Forte buen hire owen make
Longe to lyuen ichvlle forsake,
& feye fallen adoun.
—*Early English Lync Poetry.*

6. Shew by grammatical and orthographical forms of the above passage, to which of the Early English dialects it belongs.

8. Translate:

> Whon alle tresovr is I-triyed Treuthe is the Beste
> I do it on *Deus Caritas* to deeme the sothe,
> Hit is as derworthe adrurie as deore god himselven.
> For hose is trewe of his tonge telleth not elles,
> Doth his workes therwith and doth no mon ille,
> He is a-covnted to the gospel on gronde and on lofte,
> And eke Iliknet to vr Lord bi seint Lucvs wordes,
> Clerkes that knowen hit scholde techen hit aboute,
> For Christene and vn-christene him cleymeth vchone.
> Kynges and Knihtes sholde kepen hem bi Reson,
> And Rihtfuliche Raymen the Realmes a-bouten,
> And take trespassovrs and teyen hem faste,
> Til treuthe hedde I-termynet the trespas to the ende.
> —*The Vision of William concerning Piers the Plowman.*

8. Give forms in another dialect corresponding to the following: I-triyed, telleth, knowen, techen, sholde, Itermynet.

9. Explain the versification.

10. Give a brief account of the poem from which the above is taken.

11. Translate:

> This sowdan for his priue conseil sente
> And shortly of this mater for to pace
> He hath to hem declared his entente
> And seyde hem certein 'but he myghte haue grace
> To han Custance withinne a little space
> He nas but deed;' and charged hem, in hye,
> To shapen for his lyf som remedye.
>
> Diuerse men diuerse things seyden;
> They argumenten; casten up and down;
> Many a subtil resoun forth they leyden,
> They speken of magik and abusioun,
> But finally, as in conclusioun,
> They cannot seen in, that non auantage,
> Ne in non other wey, saue mariage.

12. Give examples of Southern dialectic forms in the above passage.

13. Give examples of words derived from Norman French.

14. Mention the external and internal evidence respecting the origin of the English Language.

15. Point out four periods by which we may trace the introduction of Latin words into English.

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SESSIONAL EXAMINATIONS, 1877.

WEDNESDAY, APRIL 11.—9 A.M. to 1 P.M.

SECOND YEAR.

LATIN. { LIVY: BOOK I, CHAPS. 1-30.
HORACE: ODES, BOOK I.

PROFESSOR JOHNSON, M.A....... .. ..*Examiner.*

I.

1. Translate:

(*a*) Ubi illuxit, paratis omnibus, ut assolet, vocari ad contionem utrumque exercitum jubet. Praecones, ab extremo orsi, primos excivere Albanos: hi novitate etiam rei moti, ut regem Romanum contionantem audirent, proximi constitere. Ex composito armata circumdatur Romana legio: centurionibus datum negotium erat, ut sine mora imperia exsequerentur. Tum ita Tullus infit: Romani, si unquam ante alias ullo in bello fuit, quod primum diis immortalibus gratias ageretis, deinde vestrae ipsorum virtuti, hesternum id proelium fuit Dimicatum est enim non magis cum hostibus, quam, quae dimicatio major ac periculosior est, cum proditione ac perfidia sociorum. Nam, ne vos falsa opinio teneat, injussu meo Albani subiere ad montes: nec imperium illud meum, sed consilium et imperii simulatio fuit; ut nec vobis, ignorantibus deseri vos, averteretur a certamine animus; et hostibus, circumveniri se a tergo ratis, terror ac fuga injiceretur. Nec ea culpa quam arguo, omnium Albanorum est; ducem secuti sunt: ut et vos, si quo ego inde agmen declinare voluissem, fecissetis. Mettius ille est ductor itineris hujus, Mettius idem hujus machinator belli, Mettius foederis Romani Albaniqe ruptor. Audeat deinde talia alius, nisi in hunc insigne jam documentum mortalibus dedero.

Scriberis Vario fortis et hostium
Victor Maeonii carminis alite,
Quam rem cunque ferox navibus aut equis
  Miles te duce gesserit:

Nos, Agrippa, neque haec dicere nec gravem
Pelidae stomachum cedere nescii
Nec cursus duplicis per mare Ulixei
  Nec saevam Pelopis domum

Conamur tenues grandia, dum pudor
Imbellisque lyrae Musa potens vetat
Laudes egregii Caesaris et tuas
  Culpa deterere ingeni.

Quis Martem tunica tectum adamantina
Digne scripserit aut pulvere Troico
Nigrum Merionen aut ope Palladis
  Tydiden superis parem?

Nos convivia, nos proelia virginum
Sectis in juvenes unguibus acrium
Cantamus vacui, sive quid urimur
  Non praeter solitum leves.

2. Give some account of the persons or customs referred to in: hoc Lupercal—Attalicis conditionibus Nunquam demoveas—Bassum Threïcia vincat amystide—Ornare pulvinar deorum Tempus erat dapibus—incomtis Curium capillis—Maeonii carminis alite.

3. Write geographical notes on: Aut Super Pindo, gelidove in Haemo—Saepe Lucretilem Mutat Lycaeo Faunus—Moenia Catili.

4. How may the date of the publication of the first book of Livy be fixed? What materials had Livy for his history? When his authorities differed, how did he decide? What places abroad does Horace say in Book I. of the Odes that he had seen? What historical event did he take part in?

II.

1. What nouns of the fourth declension form the dat. and. abl. pl. in -ŭbus? Give all the cases used (marking quantities) of: fidibus canoris—Circen—navibus Idaeis—Thessala Tempe.

2. Give the corresponding forms in other degrees of comparison of: similius (adv.), atris, pejora, idoneos, imo, prope.

3. Name tense, mood and voice, mark quantities, and give chief parts of: liques, occidat, mordet, defexit, descissent, obnubito. What verbs use the passive perfect in the active voice?

4. Explain the use of the cases in: "ipsorum," "vobis," "hostibus" (extract *a*).—" Vario," "grandia" (*b*). What are the rules for the moods of: "audirent" "circumveniri," "fecissetis" (*a*),—"gesserit," "cedere" (*b*).

5. Scan (marking quantities) the second stanza of extract *b*. Where is *caesura* necessary?

6. Write out fully in *oratio obliqua* the words of Tullus, beginning at "Nam ne vos falsa opinio."

7. When is the English present infinitive translated by (1) the fut. infin., (2) *ut* or *ne* and the subjunctive, (3) the supine in—*um*, (4) the supine in *-u*, (5) the gerund with *ad*, (6) *qui* with subjunctive? Give one example of each construction.

8. Distinguish the use of the interrogative particles in direct and indirect questions.

9. Translate into Latin: There can be on doubt, I think, that some stupid people believe that the world we inhabit is not round like an apple, but flat like a dish.—If we had had enough money, we should have liked to order the bookseller to send us from London many more books for our library than we have been able to procure.—I am persuaded that if you inquire into the matter yourself, you will find that what I have said about it is true.

III.

Additional for First and Second Class.

3 to 5½ P.M.

LIVY: BOOK I., CHAPS. 30-60.

1. Translate Chaps. 36 and 60.

2. What nouns of the second declension are feminine? What adjectives do not admit of comparison?

3. Form sentences to illustrate the syntactical construction of these words:—accusare—idoneus—aspergere—quominus—miseret—quoniam.

4. Distinguish the use or meaning of: ne facito, ne fac, ne facias, ne feceris: nĭtens, nītens: sēvĕris, sĕvēris: parcĕ, parcē: pōtes, pŏtes.

5. Quote the phrases or epithets applied by Horace to Venus and Bacchus, in Book 1st of the Odes, and explain them.

6. Give instances of imitations of Greek syntax by Horace.

2. Give some account of the persons or families referred to in: Sed [illegible]—Attalicis conditionibus—Nunquam demoveas—[illegible]. [illegible] vinget [illegible]—Graecia [illegible]. Tempus erit [illegible]—[illegible] Curium capillis—Marcelli [illegible].

3. Write geographical notes on: Aut super Pindo, gelidove in Haemo—[illegible] saepe Lucretilem Mutat Lycaeo Faunus—Moenia Catili.

4. How may the date of the publication of the first book of Livy be fixed? What materials had Livy for his history? When his authorities differed, how did he decide? What places abroad does Horace say in Book I. of the Odes that he had seen? What historical event did he take part in?

II.

1. What nouns of the fourth declension form the dat. and abl. pl. in [illegible]? Give all the cases used (marking quantities) of: [illegible]—[illegible]—Thessala Tempe.

2. Give the corresponding forms in other degrees of comparison of: similis (adv.), satis, [illegible], idoneus, imo, prope.

3. Name tenses, usual and rare, mark quantities, and give chief parts of: [illegible]. What verbs use the passive perfect in the active voice?

4. Explain the use of the cases in: [illegible]. Where are the rules for the moods [illegible]?

5. Scan (marking quantities) the second stanza of ex [illegible]. Where is [illegible] necessary?

6. Write out fully in oratio obliqua the words of Tullus, beginning at [illegible].

7. When is the English present infinitive translated by (1) the fut. infin., (2) ut with the subjunctive, (3) the supine in -um, (4) the supine in -u, (5) the gerund with ad, (6) qui with subjunctive? Give one example of each construction.

8. Distinguish the use of the interrogative particles in direct and indirect questions.

9. Translate into Latin: There can be no doubt, I think, that some stupid people believe that the world we inhabit is not round like an apple, but flat like a dish.—If we had had enough money, we should have liked to order the bookseller to send us from London many more books for our library than we have been able to procure.—I am persuaded that if you inquire into the matter yourself, you will find that what I have said about it is true.

III.

Additional for Pass and Second Class.

LATIN.

LIVY: Book I., Chaps. [illegible].

1. Translate Chaps. 59 and 60.

2. What nouns of the second declension are feminine? What adjectives do not admit of comparison?

3. Form sentences to illustrate the [illegible] constructions of these words: [illegible].

4. Distinguish the use or meaning of: [illegible].

5. Quote the phrases or epithets applied by Horace to Venus and Bacchus, in Book I. of the Odes, [illegible].

6. Give instances of imitations of Greek authors by Horace.

DALHOUSIE COLLEGE AND UNIVERSITY,

HALIFAX.

SESSIONAL EXAMINATIONS, 1877.

THURSDAY, APRIL 12TH:—9 A.M. TO 1 P.M.

SECOND YEAR.

GREEK { HERODOTUS: Book I. Sect. 95-129.
HOMER: ODYSSEY, Book IX.

PROFESSOR JOHNSON, M.A. .... *Examiner.*

I.

1. Translate the following extracts:—

(*a*) Καὶ ὅτε δὲ ἦν δεκαέτης ὁ παῖς, πρῆγμα ἐς αὐτὸν τοιόνδε γενόμενον ἐξέφηνέ μιν· ἔπαιζε ἐν τῇ κώμῃ ταύτῃ ἐν τῇ ἦσαν καὶ αἱ βουκολίαι αὗται, ἔπαιζε δὲ μετ' ἄλλων ἡλίκων ἐν ὁδῷ· καὶ οἱ παῖδες παίζοντες εἵλοντο ἑωυτῶν βασιλέα εἶναι τοῦτον δὴ τὸν τοῦ βουκόλον ἐπίκλησιν παῖδα· ὁ δὲ αυτῶν διέταξε τοὺς μὲν οἰκίας οἰκοδομέειν, τοὺς δὲ δορυφόρους εἶναι, τὸν δέ κου τινὰ αὐτῶν ὀφθαλμὸν βασιλέος εἶναι, τῷ δέ τινι τὰς ἀγγελίας ἐσφέρειν ἐδιδου γέρας· ὡς ἑκάστῳ ἔργον προστάσσων. εἷς δὴ τούτων τῶν παιδίων συμπαίζων, ἐὼν Ἀρτεμβάρεος παῖς ἀνδρὸς δοκίμου ἐν Μήδοισι, οὐ γὰρ δὴ ἐποίησε τὸ προσταχθὲν ἐκ τοῦ Κύρου, ἐκέλευε αὐτὸν τοὺς ἄλλους παῖδας διαλαβεῖν· πειθομένων δὲ τῶν παίδων, ὁ Κῦρος τὸν παῖδα τρηχέως κάρτα περίεσπε μαστιγέων· ὁ δὲ, ἐπεί τε μετείθη τάχιστα, ὥς γε δὴ ἀνάξια ἑωυτοῦ παθὼν μᾶλλόν τι περιημέκτεε· κατελθὼν δὲ ἐς πόλιν πρὸς τὸν πατέρα ἀποικτίζετο τῶν ὑπὸ Κυρου ἤντησε, λέγων δὲ οὐ Κυρου, (οὐ γάρ κω ἦν τοῦτο τοὔνομα,) ἀλλὰ πρὸς τοῦ βουκόλου τοῦ Ἀστυάγεος παιδός· ὁ δὲ Ἀρτεμβάρης ὀργῇ, ὡς εἶχε, ἐλθὼν παρὰ τὸν Ἀστυάγεα καὶ ἅμα ἀγόμενος τὸν παῖδα, ἀνάρσια πρηγματα ἔφη πεπονθέναι, λέγων· "ὦ βασιλεῦ, ὑπὸ τοῦ σοῦ δούλου βουκολου δὲ παιδὸς ὧδε περιϋβρίσμεθα," (δεικνὺς τοῦ παιδὸς τοὺς ὤμους.)

(*b*) Ἀλλ' ὅτε δὴ τάχ' ὁ μοχλὸς ἐλάϊνος ἐν πυρὶ μέλλεν
Ἅψεσθαι χλωρός περ ἐὼν, διεφαίνετο δ' αἰνῶς,
Καὶ τότ' ἐγὼν ἆσσον φέρον ἐκ πυρὸς, ἀμφὶ δ' ἑταῖροι
Ἵσταντ'· αὐτὰρ θάρσος ἐνέπνευσεν μέγα δαίμων
Οἱ μὲν μοχλὸν ἑλόντες ἐλάϊνον, ὀξὺν ἐπ' ἄκρῳ,
Ὀφθαλμῷ ἐνέρεισαν· ἐγὼ δ' ἐφύπερθεν ἀερθεὶς
Δίνεον, ὡς ὅτε τις τρυπῷ δόρυ νήϊον ἀνὴρ
Τρυπάνῳ, οἱ δέ τ' ἔνερθεν ὑποσσείουσιν ἱμάντι
Ἁψάμενοι ἑκάτερθε, τὸ δὲ τρέχει ἐμμενὲς αἰεί.
Ὣς τοῦ ἐν ὀφθαλμῷ πυριήκεα μοχλὸν ἑλόντες
Δινέομεν, τὸν δ' αἷμα περίρρεε θερμὸν ἰόντα
Πάντα δέ οἱ βλέφαρ' ἀμφὶ καὶ ὀφρύας εὖσεν ἀϋτμὴ

Γλήνης καιομένης· σφαραγεῦντο δέ οἱ πυρὶ ῥίζαι.
Ὡς δ' ὅτ' ἀνὴρ χαλκεὺς πέλεκυν μέγαν ἠὲ σκέπαρνον
Εἰν ὕδατι ψυχρῷ βάπτῃ μεγάλα ἰάχοντα
Φαρμάσσων· τὸ γὰρ αὖτε σιδήρου γε κράτος ἐστίν·
Ὡς τοῦ σίζ' ὀφθαλμὸς ἐλαϊνέῳ περὶ μοχλῷ.

2. Describe the geographical position of the countries and places mentioned in the Ninth Book of the Odyssey.

3. What are the arguments for and against the supposition that the Homeric poems were not originally written compositions?

II.

1. What are the common forms of: *ἐόν, ὤν, σφίν, κώς, ὦλλοι, κέ, εἵως, αἰεί, βίηφιν, ἄμμε?*

2. Name the case, number and gender of the following words, writing the common forms, if different, and give their nom. and gen. sing. and dat. pl.:—*ἑωυτῶν, ἔτεα, ἱππέας, ἄχαρι, νόον, ἀληθηΐῃ, ἀρείους, νεφέεσσι, ἀρνῶν, ἤματα, τεόν.*

3. What forms in the other degrees of comparison correspond to: *μεγάλως, ἐλάσσω, σαφεῖ, πρότερον, πλέονες, ἄγχι, πίονα, ὕστατος, πένητα.*

4. Name the voice, mood and tense of the following verbal forms, and give their Attic forms when different, and their chief parts:—*ἡσθείη, ἐπορέωσι, ἀπίκετο, ἐνενειχθείς, ἀλωπέαι, ὀρώρει, κάθεμεν, μενέμεν, ἀπεσσύμεθα.*

5. *αὐτὰρ ἐπεὶ δὴ σπεῦσε πονησάμενος τὰ ἃ ἔργα—*
ὣς φάτ'· ἀτὰρ οἱ αὖτις ἐγὼ πόρον ἄιθοπα οἶνον—
ὄφρ' αὐτόν τε ἴδοιμι, καὶ εἴ μοι ξείνια δοίη—

Scan these lines, and explain some peculiarities in them.

6. What are the meanings of the article in Homer and in Herodotus?
What peculiar forms of it are found in the former author?
When is it used with proper names in Attic Greek?

7. What verbs are regularly followed by the genitive?

8. Translate into Greek:—The people in the city admired the son of Philip. The citizens prosecuted him on a charge of murder, but he was acquitted. Let us not treat those ill who have done good to to us. He said that the children of the judge were in the habit of performing just actions.

III.

Additional for First or Second Class.

THURSDAY, APRIL 12TH:—3 P.M. TO 5.30 P.M.

HERODOTUS: Book II. Secs. 34-58 and 68-90.

1. Translate Secs. 44, 80, 81.

2. Decline and accentuate throughout, giving Attic and Epic forms: *οἰς, ναυς, κλεις, βασιλεύς.*

3. Give all the cases in use of *σπέος, δέπας, κρέα, ὀνειράτων, δόρυ.*

4. Mention as many verbs as you can that use the future middle as a future active. What liquid verbs form the fut. act. in *σω.*

5. What verbs found in Homer had originally (1) an initial digamma, (2) an initial *σ*? What peculiarities of conjugation have they?

6. What verbs of the 1st conj. have reduplicated present (1) in prose, (2) in verse? What reduplicated aorists are found in Homer?

7. How are the oblique cases of monosyllabic words of the third declension accentuated? What are the exceptions? What nouns of more than one syllable are similarly accentuated?

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HALIFAX.

SESSIONAL EXAMINATIONS, 1877.

MONDAY, APRIL 16.—9 A. M.

SECOND YEAR.

MATHEMATICS.—EUCLID, BOOK VI: CONIC SECTIONS, THE PARABOLA: MENSURATION.

PROFESSOR MACDONALD.............................*Examiner.*

1. If two triangles have an angle of the one equal to an angle of the other and the sides about these angles proportionals, the triangles shall be equiangular and shall have those angles equal which are opposite to the homologous sides. (By the superposition of triangles, if you can.)

2. Equal triangles that have one angle of the one equal to one angle of the other, have their sides about the equal angles reciprocally proportional.

3. Similar polygons having been shown to be divisible into the same number of similar triangles; prove that the polygons have to one another the duplicate ratio of their homologous sides. Add also two important corollaries.

4. Describe a rectilineal figure similar to one and equal to another given rectilineal figure.

5. If from the vertical angle of a triangle a perpendicular be drawn to the base, the rectangle contained by the sides of the triangle is equal to the rectangle contained by this perpendicular and the diameter of the circumscribing circle.

6. In the parabola, shew that the *latus rectum* is equal to four times the distance of the focus from the vertex.

7. Shew that if, from a point in a parabola, one line be drawn to the focus and another perpendicular to the directrix, the tangent at the point bisects the angle between these lines. Hence shew that the perpendicular from the focus intersects the tangent in a certain line.

8. There are two similar polygons, X and Y, and a straight line P; shew how to find another line Q, such that X : Y : : P : Q.

9. The radius, CB, of a circle whose centre is C, is divided in D and produced to F so that CB is a mean proportional between CD and CF. Shew that BD and BF subtend equal angles at any point in the circumference.

10. If three circles intersect, their radical axes pass through the same point.

11. Draw the plan of a field of four straight sides and the connecting one irregularly curved, and show how you would measure its area.

12. Given the diameter of a circle (20 ft.) and the length of a chord of it (12 ft.). Find the height of the arc and show how to find the number of degrees in it, and also its length.

13. The radius of the base of a cone is a, and the height b feet. Find the radius of a sphere of equal volume. If $a = 11$, $h = 18$, ft., ; shew that the radius of the sphere $= 8 +$.

14. A person wishes to measure the area of a triangular space of ground; but cannot traverse it, the middle part being dangerous bog although the sides are hard and tolerably even ground. Still, as he is possessed of a chain and a theodobite, he may find the area in either of two methods.

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THURSDAY, APRIL 19.—3 P. M.

SECOND YEAR.

MATHEMATICS, EXTRA.

PROFESSOR MACDONALD........................... *Examiner.*

1. If a straight line be at right angles to a plane, every plane passing through it is at right angles to that plane.

2. A section of a parabola, made by cutting it at right angles to the principal axis has its base (the length of the section) $= 2b$, and its height $= h$; inscribe in it, standing on this base, a rectangle whose height is l $(< h)$, and find the area of the remainder of the parabola.

3. A circle is inscribed in the triange ABC. Shew that the sum of the three lines drawn from its centre to the angles of the triangle is $\frac{2}{a+b+c}(bc \cos \frac{1}{2} A + ac \cos \frac{1}{2} B + ab \cos \frac{1}{2} C)$.

4. If $\tan \alpha \tan \vartheta = \tan^2 (\alpha + \vartheta) - \tan^2 (\alpha - \vartheta)$ prove $\cos \vartheta = 1 \pm \cos \alpha$.

5. In any series $A + Bx + Cx^2 + Dx^3 +$ &c., where the co-efficients A, B, C, &c., remain finite, x may be taken so small that any one term shall exceed the sum of all that follow it.

6. State some of the purposes to which you have seen the principal of *Indeterminate Co-efficients* applied.

7. Write the Exponential Theorem; deduce from it the series for ε^x; and prove

$$(1+x)^{\frac{1+x}{2}} (1-x)^{\frac{1-x}{2}} = \frac{x^2}{1 \cdot 2} + \frac{x^4}{3 \cdot 4} + \frac{x^6}{5 \cdot 6} + \text{\&c.}$$

8. Prove Fermat's Theorem: "If n be a prime number and N prime to n, them $N^{n-1} - 1$ is a multiple of n."

9. The probability that A can solve a certain problem is $\frac{1}{3}$; that B can, is $\frac{2}{3}$; that C can, is $\frac{4}{5}$. What is the probability of the problem being (1) solved at all; (2) solved by two of the Candidates, the third failing to do it.

DALHOUSIE COLLEGE AND UNIVERSITY.

HALIFAX.

SESSIONAL EXAMINATIONS, 1877.

MONDAY, APRIL 16.—3 P. M.

SECOND YEAR.

MATHEMATICS: TRIGONOMETRY AND ALGEBRA.

PROFESSOR MACDONALD............................*Examiner.*

1. Shew, by the infinitesimal division of the circumference, that the area of a circle is πr^2. Describe another way.

2. Draw two axes at right angles, and take any radius vector. By spinning it round, shew that $\sin\vartheta = \sin(2n\pi + \vartheta) = \sin\left((2n-1)\pi - \vartheta\right)$ $\cos\vartheta = \cos(2n\pi \pm \vartheta)$, and $\tan\vartheta = \tan(n\pi + \vartheta)$.

3. Write (1) those trigonometrical functions which increase with the angle, (2) those which decrease (first quadrant). In using Trigonometrical tables, this contrast must be remembered.

4. Given the formula for $\sin(A + B)$: deduce from it the formula for $\cos(A + B)$.

5. Given (1) a side and an angle, (2) two sides, of a right-angled triangle; find the other parts in each case.

6. Given an elevated object on the other side of a river, and the ground sloping upwards pretty uniformly on your own side. How would you, with the fitting instruments, find the height and distance of the object.

7. A, B, C, are the angles of a triangle. Starting from the formula for $\cos A$, find $\cos\frac{A}{2}$ and $\sin\frac{A}{2}$; prove also using the common notation that the area of the triangle $= \sqrt{s(s-a)(s-b)(s-c)}$.

8. Prove $\dfrac{\tan A + \tan B}{\cot A + \cot B} = \tan A \tan B$, and $\dfrac{\sin A + \sin 3A}{\cos A + \cos 3A} = \tan 2A$.

9. Given "Lat: and Long: from," and the ship's course and distance run; to find "Lat: and Long: in," *approximately*. Explain this last word.

10. Expand $\dfrac{\sqrt{a^2 - x^2}}{a}$ to four terms, and shew why the series is infinite.

11. If $ax \pm by = c$ be an equation of which positive integer solutions are required: shew (1) that in one case the number of such is limited, (2) that if one solution is known, the others can be found from a formula: (3) solve $9x + 147 = 106$.

12. Shew that the difference of the squares of two odd numbers is divisible by 8, and find in what scale 20305 is equivalent to 4954 in the denary.

13. In a game of "heads and tails," a person bets that he will throw 4 heads exactly in 7 throws. Find the odds against him.

14. Solve the simultaneous equations, $x^y = y^x$ and $x^3 = y^2$.

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HALIFAX.

SESSIONAL EXAMINATIONS, 1877.

FRIDAY, APRIL 13.—9 A. M. TO 1 P. M.

LOGIC AND PSYCHOLOGY.

PROFESSOR WILLIAM LYALL, LL.D...............*Examiner.*

1. In what way does Mind enter into, or become the object of, cognition?

2. What special fact or circumstance makes Mind the subject of a kind of double consciousness? What peculiarity of Mind comes out in that double consciousness?

3. How do we classify the Mental Phenomena? Give Sir William Hamilton's Classification. Point out its inconsistencies and redundancies.

4 Does Knowledge ever transcend Experience, and in what way?

5. What Phenomena in our Classification correspond with Sir Wm. Hamilton's Faculty of Relations, what with his Regulative Faculty?

6. By what law, or laws, of Mind does Classification, or Generification, take place? What is the process of Determination or Specification?

7. Distinguish between Classification simply and Inductive Generalization.

8. What are the Predicables and the Predicaments, or higher Categories, of Aristotle? How may the latter be vindicated against the criticism of Sir Wm. Hamilton?

9. What place has Logic among the Mental Sciences? How is Logic divided?

10. What is a Concept as distinguished from a Judgment, and vice versâ? What is a Judgment when expressed in language?

11. State the different modes of converting Propositions. How does the Quantification of the Predicate supersede the necessity of "Conversion by Limitation?"

12. In what Mechanism of the Syllogism does Conversion serve an important purpose? Show how.

13. What is a Syllogism? How else may it be designated? How are Syllogisms divided? How is a Syllogism in the Intensive or Comprehensive quantity not properly Reasoning? Give the true theory of Reasoning.

14. Explain the Moods and Figures of the Syllogism.

15. Show why the 2nd and 3rd figures are modes simply of indentification and differentiation, and for what purpose they are employed in Argument.

16. What is Sir Wm. Hamilton's view of the 2nd, 3rd and 4th figures, and of the Reduction of the Syllogism? Is this view justifiable?

17. Give the Laws of the Simple Categorical Syllogism, and a Scheme of the Fallacies according as they are a violation of one or other of these Laws, or involve some vice in *the matter* of the Syllogism.

18. How does Methodology, or the doctrine of Method, arise out of Stoicheiology, or the doctrine of Elements? What do you understand by the Analytic and Synthetic methods respectively? To which are we to refer the Inductive, and to which the Deductive process.

19. How are Probations divided? Show why Inductive Probation is essentially deductive, or what is inductive and what is deductive in the process.

20. What are the Rules of *Probation*, and what fallacies especially belong to it?

DALHOUSIE COLLEGE AND UNIVERSITY,

HALIFAX.

SESSIONAL EXAMINATIONS, 1877.

Friday, April 13.—9 A. M. to 1 P. M.

LOGIC AND PSYCHOLOGY.

Professor William Lyall, LL.D. .... Examiner.

1. In what way does Mind enter into, or become the object of, cognition?

2. What special fact or circumstance makes Mind the subject of a kind of double consciousness? What peculiarity of Mind comes out in that double consciousness?

3. How do we classify the Mental Phenomena? Give Sir William Hamilton's Classification. Show that it is exhaustive and independent.

4. Does Knowledge ever transcend Experience, and in what way?

5. What Phenomena of our Consciousness correspond with Sir Wm. Hamilton's Faculty of Reflection, what with his Regulative Faculty?

6. By what law, or laws, of Mind does Classification, or Generalisation, take place? What is the process of Discrimination or Generalisation?

7. Distinguish between Classification proper and Inductive Generalisation.

8. What are the Predicables and the Predicaments, or higher Categories of Aristotle? How may the latter be vindicated against the criticism of Sir Wm. Hamilton?

9. What place has Logic among the Mental Sciences? How is Logic divided?

10. What is a Concept as distinguished from a Judgment, and vice versa? What is a Judgment when expressed in language?

11. State the different modes of converting Propositions. How does the Quantification of the Predicate affect the process of "Conversion of Propositions"?

12. In what Modification of the Syllogism does Conversion serve as the general principle? Show how.

13. What is a Syllogism? How else may it be expressed? How are Syllogisms divided? How is a Syllogism in the Quantity of Comprehension distinguished from Extension? Give the chief Canon of Reasoning.

14. Explain the Moods and Figures of the Syllogism.

15. Show why the 2nd and 3rd figures are mainly means of refutation and difference, and for what purpose they are employed in Arguments.

16. What is Sir Wm. Hamilton's view of the 2nd and 3rd figures, and of the Conclusion of the Syllogism? Is that view defensible?

17. Give the Rules of the Simple Categorical Syllogism, and a Scheme of the Fallacies according as they are a violation of one or other of these Rules, or as extraneous view to the matter of the Syllogism.

18. How does Methodology, or the doctrine of Method, arise out of Syllogistic, or the doctrine of Elements? What do you understand by the Analytic and Synthetic methods respectively? To which do we refer the Inductive, and to which the Deductive process?

19. How are Inductions divided? Show why Inductive Reasoning is essentially deductive, or what is inductive and what is deductive in the process.

20. What are the Rules of Definition, and what Definitions especially belong to this?

DALHOUSIE COLLEGE AND UNIVERSITY,

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SESSIONAL EXAMINATIONS, 1877.

THURSDAY, APRIL 19.—9 A. M. TO 1 P. M.

SECOND YEAR OF ARTS COURSE.

JUNIOR CHEMISTRY.

PROFESSOR GEORGE LAWSON.....................*Examiner.*

1. Describe by equations as many processes as you know for the preparation of oxygen gas.

2. What is meant by the term "hardness" as applied to water? what are the causes of hardness? in what way is the particular kind of hardness ascertained, and how may it be remedied?

3. How is Sodium Carbonate prepared from the Chloride? What are its common impurities, and how would you detect them?

4. Describe and explain the production of Cast Iron from its ores in the blast furnace, with probable equations for the formation of slags and other secondary products.

5. Describe and explain the method of detecting Arsenic by Marsh's process.

6. Explain by an equation the process of making Ammonia by the action of slaked lime upon sal-ammoniac; and describe the properties of the gas.

7. Give equation for preparation of Chlorine.

8. Give equation for preparation of Hydrogen.

9. Give equation for preparation of Hydrochloric Acid.

10. Describe process for preparing Phosphine, and, briefly, the properties of the gas.

11. Give a general outline of the classification of metals according to their equivalence or atomicity.

12. Point out briefly, by general or by special formulæ, or in any other way, the essential differences in chemical constitution between the following classes or series of bodies:—(1) Paraffins; (2) Alcohols containing radicals $C_n H_{2n+1}$; (3) Fatty Acids $C^n H_{2n} O_2$; (4) Aldehydes.

13. What is Cyanogen?

14. What is an Amine?

15. What is an Amide?

DALHOUSIE COLLEGE AND UNIVERSITY.

HALIFAX.

SESSIONAL EXAMINATIONS, 1877.

WEDNESDAY, APRIL 11.—9 A. M. TO 1 P. M.

THIRD AND FOURTH YEARS.

LATIN. { HORACE: SELECT SATIRES.
TERENCE: ANDRIA.

PROFESSOR JOHNSON, M.A. . . . . *Examiner.*

I.

1. Translate:

(*a*) Vel cum Pausiaca torpes, insane, tabella,
Qui peccas minus atque ego, cum Fulvi Rutubaeque
Aut Pacideiani contento poplite miror
Proelia rubrica picta aut carbone, velut si
Re vera pugnent, feriant, vitentque moventes
Arma viri ? Nequam et cessator Davus ; at ipse
Subtilis veterum judex et callidus audis.
Nil ego si ducor libo fumante : tibi ingens
Virtus atque animus coenis responsat opimis ?
Obsequium ventris mihi perniciosius est cur ?
Tergo plector enim. Qui tu impunitior illa
Quae parvo sumi nequeunt obsonia captas ?
Nempe inamarescunt epulae sine fine petitae,
Illusique pedes vitiosum ferre recusant
Corpus. An hic peccat, sub noctem qui puer uvam
Furtiva mutat strigili : qui praedia vendit,
Nil servile gulae parens habet ? Adde, quod idem
Non horam tecum esse potes, non otia recte
Ponere, teque ipsum vitas, fugitivus et erro,
Jam vino quaerens, jam somno fallere curam.

(*b*) DA. Cedo quíd iurgabit técum ? hic reddes ómnia,
Quae núnc sunt certa ei cónsilia, incerta út sient,
Sine omní periclo : nam hóc haud dubiumst, quín Chremes
Tibi nón det gnatam. néc tu ea causa minueris
Haec quaé facis, ne is mútet suam senténtiam.
Patrí dic uelle : ut, quóm uelit, tibi iúre irasci nón queat.
Nam quód tu speres, própulsabo fácile. uxorem his móribus
Dabit némo. inueniet ínopem potius, quám te corrumpí sinat.
Sed sí te aequo animo férre accipiet, néglegentem féceris :
Aliam ótiosus quaéret : interea áliquid acciderít boni.
PA. Itan crédis ? DA. Haud dubium íd quidemst. PA. Vide quó
me inducas. DA. Quin taces ?
PA. Dicám. puerum autem né resciscat míhi esse ex illa caútiost :
Nam póllicitus sum súscepturum. DA. O fácinus audax.
PA. Hánc fidem
Sibi me óbsecrauit, qui se sciret nón deserturum, út darem.
DA. Curábitur. sed páter adest. caue té esse tristem séntiat.

2. Explain:

a. Quod mihi (sc. Flacco) pareret legio Romana tribuno.
b. Ibant (sc. pueri) octonis referentes Idibus aera.
c. . . . . .quorum comoedia prisca virorum est.
d. Unum ex judicibus selectis objiciebat.
e. ACTA LUDIS MEGALENSIBUS.

3. Give the date of Terence's birth. Different accounts are given of his death. He mentions in the prologue the originals of the *Andria*. What story is told in connection with the first recital of it? What is its date? Name his comedies. Quote Horace's description of his daily life.

II.

1. Write all the cases in use of: jecur, frenis, verberibus, vas, sal, sordes.

2. Name tense, mood and voice, and give chief parts of: surrexe, resonat, erepsemus, summosses, sectere, noris, illeverit, differtum.

3. Translate the following sentences, and add grammatical notes, where you think them necessary:

a. Quo pueri, magnis e centurionibus orti,
Laevo suspensi loculos tabulamque lacerto,
Ibant.
b. Pastillos Rufillus olet, Gorgonius hircum.
c. Servon fortunas meas me commisisse futili!
d. Dignus es
Cum tua religione odium: nodum in scirpo quaeris.
e. Quum mea nemo
Scripta legat, vulgo recitare timentis.

4. What are the reasons for believing that Latin was not pronounced as written? How does this question affect the scansion of the metres of Terence? Scan vss. 7-9 (extract *a*) and 1-3 (*b*).

5. What was the first grammar published in Europe? What materials for one had previously existed? What contribution was made by Caesar? Why was the discovery of Sanskrit so important to the science of language?

6. Explain clearly why names of towns are used in the genitive to express the place of an action when they are of the 1st or 2nd decln. and sing. number, but otherwise, in the ablative. By what different methods is the Latin perfect active formed? Why is the first syllable of disyllabic perfects long? Explain the exceptions.

7. Translate into Latin: After the death of Brutus, Publius Valerius ruled the state by himself, and he began to build himself a house upon the ridge called Velia, which overlooks the Forum. So the people thought that he was going to make himself king; but when he heard this, he called an assembly of the people and appeared before them with lowered fasces and with no axes in them; whence the custom remained ever after that no consular lictors wore axes within the city and no consul had power of life and death, except when he was in command of his legions abroad.

III.

Additional for First or Second Class.

1. Translate the following passage of a work not appointed in the course:

Phormio: Act II., Sc. 1, Vss. 34-47.

2. Give the derivation of: petorrita, cĕdo, sobrinus, ausculto, sodes, comoedia; hic, etiam, cur, ubi, imo, sed.

3. Explain the formation of the stems of: nosc-o, gener-is, pon-o, lign-o, penna, mell-is, and of the terminations of: infi-mus, facil-limus, grav-issimus, pulcher-rimus—hort-os, fer-ens, pos-sit.

*4. Write in full CCCIƆƆƆ IƆ HS. Name the divisions of the *as*.

5. Write a short account of the various stage performances at Rome.

(c) Give the date of Terence's birth. Different accounts are given of his death. He [illegible] in the [illegible] the [illegible] ; but what story is told in connection with the first recital of it? What is its date? Name his comedies. Quote Horace's description of his daily life.

II.

1. Write all the cases in use of [illegible], bonus, [illegible], vas, sol, [illegible].

2. Name tense, mood and voice, and give chief parts of: surrexe, [illegible], [illegible], [illegible], notus, [illegible], differunt.

3. Translate the following sentences, and add grammatical notes, where you think them necessary:

a. Quo [illegible] [illegible]
Lucem [illegible] [illegible]
Diane.
b. [illegible] [illegible]
c. Servos [illegible] [illegible]
d. [illegible]
[illegible]
[illegible]
Scripta legat, vulgo [illegible]

4. What are the reasons for believing that Latin was not pronounced as written? How does this question affect the pronunciation of the names of Terence? [illegible]

5. What was the first [illegible] ? [illegible] Why was the discovery of [illegible] so important to the science of language?

6. Explain clearly what names of [illegible] are used in the [illegible] to express the place of an action when they are of the 1st or 2nd declension, and [illegible]. By what [illegible] is the Latin perfect [illegible]? Why is the [illegible] of dissyllabic perfects long? Explain these [illegible].

7. Translate into Latin: After the death of [illegible] ruled the state [illegible] and he began to build [illegible] upon the ridge called Velia, which overlooks the Forum. [illegible] thought that he was going to make himself king; but when he heard this, he called an assembly of the people and appeared before them with lowered fasces and with no [illegible]; [illegible] the custom remained ever after that [illegible] within the city and no [illegible] had power of life and death except when he was in command of [illegible] abroad.

III.

Additional for Pass or Second Class.

1. Translate the following passage [illegible] in the metre?

Phormio: Act II. Sc. I. [illegible]

2. Give the derivations of [illegible], [illegible], and, [illegible].

3. Explain the formation of the [illegible], and of the terminations of [illegible].

*4. Write [illegible]. Name the divisions of the [illegible].

5. Write a short account of the various stage performances at Rome.

DALHOUSIE COLLEGE AND UNIVERSITY,

HALIFAX.

SESSIONAL EXAMINATIONS, 1877.

THURSDAY. APRIL 12TH:—9 A.M. TO 1 P.M.

THIRD AND FOURTH YEARS.

GREEK { EURIPIDES: ALCESTIS.
ÆSCHYLUS: PROMETHEUS VINCTUS, VSS. 1-600.

PROFESSOR JOHNSON, M.A. .... *Examiner*.

I.

1. Transtate into English :—

(*a*) ΘΕ. *πῶς δ' οὐκ ἀρίστη ; τίς δ' ἐναντιώσεται ;*
τί χρὴ γενέσθαι τὴν ὑπερβεβλημένην
γυναῖκα ; πῶς δ' ἂν μᾶλλον ἐνδείξαιτό τις
πόσιν προτιμῶσ' ἢ θέλουσ' ὑπερθανεῖν ;
καὶ ταῦτα μὲν δὴ πᾶσ' ἐπίσταται πόλις·
ἃ δ' ἐν δόμοις ἔδρασε θαυμάσει κλύων.
ἐπει γὰρ ᾔσθεθ' ἡμέραν τὴν κυρίαν
ἥκουσαν, ὕδασι ποταμίοις λευκὸν χρόα
ἐλούσατ', ἐκ δ' ἑλοῦσα κεδρίνων δόμων
ἐσθῆτα κόσμον τ' εὐπρεπῶς ἠσκήσατο,
καὶ στᾶσα πρόσθεν ἑστίας κατηύξατο,
δέσποιν', ἐγὼ γὰρ ἔρχομαι κατὰ χθονὸς,
πανύστατόν σε προσπίτνουσ' αἰτήσομαι,
τέκν' ὀρφανεῦσαι τἀμὰ, καὶ μὲν φίλην
σύζευξον ἄλοχον, τῇ δὲ γενναῖον πόσιν.

(*b*) ΗΡ. *δεῖ γὰρ με σῶσαι τὴν θανοῦσαν ἀρτίως*
γυναῖκα κἀς τόνδ' αὖθις ἱδρῦσαι δόμον
'Αλκηστιν, 'Αδμήτῳ θ' ὑπουργῆσαι χάριν
ἐλθὼν δ' ἄνακτα τὸν μέλαμπεπλον νεκρῶν
Θάνατον φυλάξω, καὶ νιν εὑρήσειν δοκῶ,
πίνοντα τύμβου πλήσίον προσφαγμάτων.
κἄνπερ λοχήσας αὐτὸν ἐξ ἕδρας συθεὶς
μάρψω, κύκλον δὲ περιβάλω χεροῖν ἐμαῖν,
οὐκ ἔστιν ὅστις αὐτὸν ἐξαιρήσεται
μογοῦντα πλευρὰ, πρὶν γυναῖκ' ἐμοὶ μεθῇ.
ἢ δ' οὖν ἁμάρτω τῆσδ' ἄγρας, καὶ μὴ μόλῃ
πρὸς αἱματηρὸν πέλανον, εἶμι τῶν κάτω
Κόρης ἄνακτός τ' εἰς ἀνηλίους δόμους,
αἰτήσομαί τε· καὶ πέποιθ' ἄξειν ἄνω
'Αλκηστιν, ὥστε χερσὶν ἐνθεῖναι ξένου.

(c) κράτιστα δὴ μοι τῶν παρεστώτων τότε
ἐφαίνετ' εἶναι προσλαβόντα μητέρα
ἑκόνθ' ἑκόντι Ζηνὶ συμπαραστατεῖν.
ἐμαῖς δὲ βουλαῖς Ταρτάρου μελαμβαθὴς
κευθμὼν καλύπτει τὸν παλαιγενῆ Κρόνον
αὐτοῖσι συμμάχοισι. τοιάδ' ἐξ ἐμοῦ
ὁ τῶν θεῶν τύραννος ὠφελημένος
κακαῖσι ποιναῖς ταῖσδέ μ' ἀντημείψατο.
ἔνεστι γάρ πως τοῦτο τῇ τυραννίδι
νόσημα, τοῖς φίλοισι μὴ πεποιθέναι.

2. Tragedy, origin of name, its rise and successive improvements.

3. A short sketch of life of Euripides.

II.

1. Write all the cases in the sing. of ἱερῇ, γήρως, ὦναξ, αἰδῶ, Ἡράκλεις.

2. In what parts of the verb are these forms found? Give their chief parts:—σκεδᾷ, ἄνωχθι, ἀπλακών, μολεῖν, πορευθῶ, ζῴης, ἦξα, νικῶσιν.

3. Explain the use of the optative with and without ἂν in (1) simple sentences, and (2) in dependent clauses.

4. How are the different moods used to express a purpose?

5. When is the negative μὴ used?

6. Explain the use of the participles in the first extract.

7. Account for the cases of τύμβον—προσφαγμάτων—πλευρά—ἄγρας, (extract *b*,) προσλαβόντα—τοιάδ', (*c*)

8. Scan vss. 5-8 (inclusive), marking quantities.

9. Translate into Greek:—If you had done this, you would have done more bravely than wisely. The city was fortified, that no one might do any injury to the citizens. Remember that you are a man. He says that he will hold his tongue, though he should have much to say. He told me that he wished to give his slaves a taste of liberty.

III.

Additional for First or Second Class.

1. Translate the following extract from a book not appointed in the course :—

III. *κραυγῆς ἀκούσας σῆς ἀφικόμην, πάτερ,*
σπουδῇ· τὸ μέντοι πραγμ' ἐφ' ᾧτινι στένεις
οὐκ οἶδα, βουλοίμην δ' ἂν ἐκ σέθεν κλύειν.
ἔα, τί χρῆμα ; σὴν δάμαρθ' ὁρῶ, πάτερ,
νεκρόν· μεγίστου θαύματος τόδ' ἄξιον·
ἣν ἀρτίως ἔλειπον, ἢ φάος τόδε
οὔπω χρόνον παλαιὸν εἰσεδέρκετο.
τί χρῆμα πάσχει ; τῷ τρόπῳ διόλλυται ;
πάτερ, πυθέσθαι βούλομαι σέθεν πάρα.
σιγᾷς ; σιωπῆς δ' οὐδὲν ἔργον ἐν κακοῖς·
ἡ γὰρ ποθοῦσα πάντα καρδία κλύειν
κἀν τοῖς κακοῖσι λίχνος οὖσ' ἁλίσκεται.
οὐ μὴν φίλους γε, κἄτι μᾶλλον ἢ φίλους,
κρύπτειν δίκαιον σὰς, πάτερ, δυσπραξίας.

2. How may *Hiatus* be avoided ? Describe any one method fully.

3. Accentuate all the cases of *χρώς*, *ὄρνις*, *τό φῶς*. Distinguish *κούρα*, *κουρᾷ*—*σίγα*, *σιγᾷ*, *σιγᾶ*—*φανείς*, *φανεῖς*—*οὔκουν*, *οὐκοῦν*. When is *ἔστι* so accented ?

4. Illustrate by example the use of the conjunctions *πρίν*, *ὥστε*, with Latin equivalents.

5. Point out the differences between the Greek and the modern drama in the mode and time of representation.

DALHOUSIE COLLEGE AND UNIVERSITY.

HALIFAX.

SESSIONAL EXAMINATIONS, 1877.

THURSDAY, APRIL 19.—9 A. M. TO 1 P. M.

THIRD YEAR OF ARTS COURSE.

SENIOR CHEMISTRY.

PROFESSOR GEORGE LAWSON...... ....*Examiner.*

1. Give brief outlines of the methods of classifying metals, (1) according to the action of nitric acid; (2) according to equivalence or atomicity; (3) according to resemblance in their chemical affinities; (4) for the purpose of systematic testing of their salts in solution.

2. In what way would you determine the amount of chloride in sea water? Give calculation required.

3. Give a general account of Iron, as regards its modes of occurrence in nature, its chemical characters, the compounds which it forms, and the modes of testing for them.

4. What is the substance commonly called " Chloride of Lime."

5. What are the principal chemical characters of the Paraffins? What is their general formula? and in what respects do the different members of the series differ from each other.

6. The same respecting Olefines, and refer, in addition, to their modes of formation.

7. What is meant by the terms *monatomic*, *diatomic*, *triatomic*, &c., as applied to Alcohols. Give some account of the monatomic Alcohols and Ethers containing the radicals C_nH_{2n+1}. What is their typical constitution? What is meant by the terms *primary*, *secondary*, and *tertiary*, as applied to Alcohols?

8. What is Plumbic Ethide?

9. What is the chemical constitution of common soap?

10. Describe Formic Acid.

11. What is a Compound Ammonia?

12. What is Strychnine? and in what way is its presence detected.

13. What is Chloral Hydrate?

DALHOUSIE COLLEGE AND UNIVERSITY,

HALIFAX.

SESSIONAL EXAMINATIONS, 1877.

TUESDAY, APRIL 17.—9 A. M. TO 1 P. M.

THIRD YEAR.

EXPERIMENTAL PHYSICS.

J. G. MACGREGOR, M.A., D.Sc........ ....*Examiner.*

(1.) Describe one method of finding the specific gravity of a piece of copper.

(2.) How are differences of temperature measured?

(3.) The coefficient of expansion of glass is (say) ·000008 (for one degree C°). Find the length at 461°C of a glass rod which is 10 inches long at 197°F.

(4.) Give Boyle's and Charles' Laws and shew how they may be combined in one, explaining what is meant by absolute temperature.

(5.) Five litres of a certain gas are at the temperature 23°C when the pressure is 732 *mm.* Find the volume when the temperature has risen to 46°C and the pressure fallen to 714 *mm.*

(6.) What is meant by Specific Heat? In what circumstances does heat become "latent"? Explain the phenomenon according to the Dynamical Theory.

(7.) State and illustrate shortly the principle of the Conservation of Energy. Give the first Law of Thermodynamics and describe one of the methods by which Joule determined the mechanical equivalent of heat.

(8.) Discuss the classification of Sound, Light and (so-called) Radiant Heat under one form of Energy.

(9.) What determines the pitch of a musical note? What the colour of any object? Describe the effect of illumination by mono-chromatic light.

(10.) Describe generally the Solar Spectrum; and shew how it is obtained.

(11.) State the law of magnetic attraction and shew how it may be determined by means of the Torsion Balance.

(12.) Shew the analogy between differences of fluid pressure, temperature and potential.

(13.) Distinguish between transient and permanent electric currents. Shew how the latter are produced and rendered approximately constant.

(14.) Describe two kinds of work which may be done by the electric current and shew how one of them may be used to measure the current.

(15.) How may any two of the following transformations of Energy be effected: (1) the kinetic into the potential energy of visible motion; (2) mechanical work into electrical separation; (3) electrical separation into heat; (4) heat into light; (5) light into heat; (6) heat into mechanical work?

DALHOUSIE COLLEGE AND UNIVERSITY.

HALIFAX.

SESSIONAL EXAMINATIONS, 1877.

MONDAY, APRIL 16.—9 A. M. to 1 P. M.

THIRD YEAR.

MATHEMATICAL PHYSICS.

J. G. MACGREGOR, M.A., D.Sc.....................*Examiner.*

(1) Give Newton's Laws of Motion. Enunciate the proposition called the Parallelogram of Forces and prove it for the direction of the resultant.

(2) Forces of 6 and 11 lbs. act at a point and their directions are inclined at an angle of 30°. Find the magnitude of the resultant.

(3) How is force measured? Define the absolute and gravitation units. Express a force of 100 absolute units in terms of the gravitation unit.

(4) If a body move with a uniform acceleration (f) shew that the space described from rest in time t is equal to $\frac{1}{2} ft^2$. A body of 20 lbs mass is acted on by a constant force and describes from rest a space of 30 ft. in 2 seconds. Find the acceleration and express the force in absolute units.

(5) Either: (1) Find the velocity of a body which, having started with the original velocity V, has moved during t seconds down a smooth inclined plane whose inclination is $\alpha°$: or (2) Find the range on a horizontal plane, of a projectile, whose initial velocity is equal to V and is inclined $\alpha°$ to the horizon.

(6) State the conditions of equilibrium of a body acted on by any forces in one plane. Apply them in the solution of the following problem: A uniform beam AB rests with one end A on a smooth horizontal plane, and the other B on a smooth inclined plane of inclination $\alpha°$. It is prevented from slipping by a string tied to A and to the foot of the inclined plane. The inclination of the beam to the horizontal plane being $\beta°$ find the tension in the string and the pressure on each plane.

(7) Find the distance of the centre of gravity from the base of a cubical block (length of edge $=a$) from which a pyramid has been cut whose base is the base, and whose vertex is the point of bisection of the diagonals, of the cube.

(8) Shew that the accelerations of falling bodies at different points on the earth's surface may be compared by observing the numbers of vibrations per second made by the same pendulum at those points. Let m and n be the observed numbers of vibrations, what is the ratio of the values of gravity at these points?

(9) Find the acceleration of a point moving uniformly in a circular path.

(10) Shew that the kinetic energy of a body whose mass is m and velocity v, is equal to $\frac{1}{2} mv^2$. A body of 8 lbs. mass is projected vertically upwards with a velocity of 100 feet Find its energy at the moment of projection and shew that it has the same amount two seconds afterwards.

(11) Either: (1) State the principle of work done (called also principle of virtual velocities) and deduce from it the mechanical advantage of the straight lever. Or: (2) Find the apparent loss of kinetic energy during the direct impact of two spheres whose coefficient of restitution $=o$.

(12) Prove that the pressure of a liquid on a submerged surface is equal to the weight of a column of the liquid whose base is the area pressed and altitude the depth of the centre of gravity of the submerged surface below the level of the liquid.

(13) Find the relation between the radius of a concave mirror and the distances from it of conjugate foci. If a luminous point move towards the mirror on the principal axis from an infinite distance, what will be the successive positions of the focus?

DALHOUSIE COLLEGE AND UNIVERSITY,

HALIFAX.

SESSIONAL EXAMINATIONS, 1877.

FRIDAY, APRIL 13.—9 A. M. TO 1 P. M.

METAPHYSICS AND ESTHETICS.

PROFESSOR WILLIAM LYALL, LL.D...............*Examiner.*

1. What is the great problem of Philosophy ?

2. How did the Ionics deal with this question ? In what respect did the Eleatics differ from the Ionics in the character of their speculation ?

3. What names in these Schools have their representatives in the present day ? How are their speculations perpetuated in Modern thought ?

4. What is the stand-point of the Sophists in Philosophy ? From what different sides of speculation did Gorgias and Protagoras urge their doubts ?

5. Who confronted the Sophists, and upon what ground did he meet their cavils, or their more serious questionings ?

6. Who may be said to have defined the boundaries of Philosophy, and systematised all previous speculation ?

7. In what respects did Aristotle's philosophy differ from Plato's ? How may they be shown to have been essentially at one ?

8. What gave rise to the New Academy ? Who was its founder ? What place did Carneades occupy in this School ? To what extent did he carry his doubts ?

9. What was the speciality in Philo's doctrine ? Give some account of the Alexandrian School. Why was it designated also Neo-platonist ? What was peculiar in the doctrines of Plotinus ? and how were they inconsistent with Philosophy ?

10. With what name does Ancient Philosophy close, and how does Boethius stand related to classic and philosophic Antiquity ?

11. What contributions did Boethius, Cassiodorus, Isidorus of Seville, and the venerable Bede of England, make to Philosophy ?

12. What do we owe to the Schools of Charlemagne ?

13. What great question occupied the Scholastic age, and what was its origin and destiny ?

14. What question of the Reformation may have had its connection with the Realism of the Schools, and how ?

15 What is the Modern phase of Ontological Speculation ? Show how, more recently, it is entering the domain of Science, and demanding an answer to its questions.

16. Upon what grounds have the feelings been denied a place in any classification of the Mental phenomena ? Is this philosophic ? Who was the first to include them in a classification ?

17. What classifications have been proposed of the Emotions ? Upon what principle do we propose to classify them ? In what class is the Esthetic emotion included ? To what emotion is it akin ?

18. Give some account of the theories of Beauty and Sublimity.

19. How may the Desires be classified, instead of, as hitherto, merely enumerated ? Give Dr Brown's enumeration of these states. Show how our classification includes all these, and every other desire. Point out the influence of the desire of worth, or value, among the Desires.

20. What is the relation of Conscience and the Will to these states ? What may be given as the peculiarity of Conscience, and what divides the Will from the purely Optative State.

DALHOUSIE COLLEGE AND UNIVERSITY,

HALIFAX.

SESSIONAL EXAMINATIONS, 1877.

FRIDAY, APRIL 13—9 A. M. TO 1 P. M.

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14. What position of the Scholastics may have had its connection with the Realism of the Schools, and how?

15. What is the Modern phase of Ontological Speculation? Show how, from Socrates, it is invading the domain of Science, and demanding an answer to its questions.

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20. What is the relation of Conscience and the Will to these states? What may be given as the peculiarity of Conscience, and what divides the Will from the purely Operative states.

DALHOUSIE COLLEGE AND UNIVERSITY,

HALIFAX.

SESSIONAL EXAMINATIONS, 1877.

FRIDAY, APRIL 20.—9 A.M. to 1 P.M.

THIRD YEAR.

GERMAN.

JAMES LIECHTI, ESQ.,........................*Examiner.*

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

Da faltet seine Stirne streng
Der Meister und gebietet Schweigen.
Unh spricht: "Den Drachen, der dies Land
Verheert, schlugst du mit tapfrer Hand;
Ein Gott bist du dem Volke worden;
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 empöret.
Der Ordnung heilig Band zerreisst;
Denn er ist's, der die Welt zerstöret.

II. Novalis's *Heinrich von Ofterdingen.*

"Herr," sagte der Alte, indem er sich zu Heinrich *wandte,* der Bergbau muss von Gott gesegnet werden! denn es gibt keine Kunst, die ihre Theilhaber glücklicher und edler machte, die mehr den Glauben an eine himmlische Weisheit und Fügung erweckte und die Unschuld und Kindlichkeit des Herzens reiner erhielte, als der Bergban. Arm wird der Bergmann geboren und arm gehet er wieder dahin. Er begnügt sich zu wissen, wo die metallischen Mächte gefunden werden, und sie zu Tage zu fördern; aber ihr blendender Glanz vermag nichts über sein lautres Herz. Unentzündet von gefährlichem Wahnsinn, freut er sich mehr über ihre wunderlichen Bildungen und die Seltsamkeiten ihrer Herkunft und ihrer Wohnnngen, als über ihren alles verheissenden Besitz.

III. Schiller's *Wilhelm Tell,* II Act, 2nd Scene.

—Erschollen war in diesen Thälern schon
Der Ruf des neuen Gräuels, der gescheh'n,
Und fromme Ehrfurcht schaffte mir mein Unglück'
Vor jeder Pforte, wo ich wandernd klopfte.
Entrüstet fand ich diese graden Seelen
Ob dem gewaltsam neuen Regiment;
Denn, so wie ihre Alpen fort und fort
Dieselben Kräuter nähren, ihre Brunnen
Gleichförmig fliessen, Wolken selbst und Winde
Den gleichen Strich unwandelbar befolgen,
So hat die alte Sitte hier vom Ahn
Zum Enkel unverändert fortbestanden.
Nicht tragen sie verwegne Neuerung
Im altgewohnten gleichen Gang des Lebens.
—Die harten Hände reichten sie mir dar,
Von den Wänden langten sie die rost'gen Schwerter,
Und aus den Augen blitzte freudiges
Gefühl des Muths, als ich die Namen nannte,
Die im Gebirg dem Landmann heilig sind,
Den eurigen und Walther Fürst's.—Was euch
Recht würde dünken, schworen sie zu thun,
Euch schworen sie bis in den Tod zu folgen.

Translate into German: "The Emperor is betrayed," said Wallenstein to the messenger; "I pity but forgive him. I grieve that with so much weakness, he has sacrificed me, but I will obey." He dismissed the emissaries with princely presents; and in a humble letter he besought the continuance of the Emperor's favor, and of the dignities he had bestowed upon him.—An imprudent man is often more dangerous than an ill-natured (*übelgesinnt*) one, the imprudent offends friends and enemies, and the ill-natured is an enemy but of those whom the thinks (to be) bad.—If thou hast too many confidents, (*Vertraute*) thou hast none. Hadst thou only one who had real concern for thee, thou wouldst have enough. He who has had the good fortune to find one, has more than most men have and ever have had.—He who knows no foreign languages, knows nothing of his own.—Nothing is great that is not good, and nothing is true that is not lasting.

1). *Wandte* (II). Parse this word. Name others belonging to the same class, and show how they differ from words like *gab, zurückgekommen, verlor,* etc. Account for the position of *wandte.* Mention what form in English a clause, beginning with *indem,* must assume.

2). Explain the difference between Ein *neu eingebundenes* Buch and ein *neues eingebundenes* Buch. Decline: Ihr blendender Glanz (I), keine grosse Kunst; Dieselben Kräuter, (sing. and plur.) (III).

3). Write two exs. in illustration of, and explain the construction of words like *dar* (III 15th line). What is their influence on the verb. Translate: The moon had risen when the sun went down.

4). The three adverbs *da, wo and hier* perform an important and peculiar part. Explain and write exs. Give the equivalents of: They are my friends.—The Books—have you sent them to them.

5). Show by exs. that the co-relative pron. *derjenige welcher,* and *das was* may appear in a contracted form. Transl.: Whatever you do, do it well. There is no man but has his faults. You will find originals in any country. Both my friends have left for German Universities.

6). Describe fully the formation of the part. past of *assonant and dissonant* verbs. Write *Imperf* and *part. past.* of; vollbringen; frühstücken: vorbereiten; ankomonen; abmarschiren; empfehlen; widersprechen; hineingehen; anvertrauen; verwenden.

7). Als ich wanderte am Ufer des Inn eines Tages durch das Engadinthal, und wurde überrascht von der Nacht, ich kehrte ein im Hause eines Bauern, das lag in einer kleinen Entfernung vom Ufer. Corrrect and give rules of construction.

8). What is the particular and important office of *werden.* Illustrate with three exs. Distinguish between: Das Gymnasium *wird*—, *ist*—, *war*—*wurde* geschlossen; ist geschlossen worden; soll geschlossen *worden sein,* and *ist* geschlossen *gewesen.*

9). What influence on the construction have: *co-ordinative, abverbial,* and *subordinative* conjunctions. Write an ex. for each form.

10). *When* corresponds with three German words: When did Ulfilas translate the Bible? When the sun shines, nature smiles. When Schiller died, all Germany mourned. (trauern). With what English word does *da,* denoting a *reason* correspond. Give an example.

11). State briefly the principal features of the different periods of German literature. Mention name and date of the oldest *written* work. Which are the principal works in the Old High German Language of the 8th and 9th Cents, and which one is written in the Low German dialect?

12). What is called the *German Iliad?* When was it composed? Give a synopsis of it, In what form is it written? Which is the metrical form of the epic poems of the 9th-13th Cents?

13). Mention the names and principal works of the most prominent writers of the 2nd classical period. By whom and when were the *Walk,* and the *Lay of the Bell* written?

14). Give the date and distinguishing features of the following of Schiller's dramas: *Wallenstein*; *Bride of Messina*; *Maid of Orleans*; and *Wilhelm Tell.*

[illegible] Emperor's friend and of the dignified as [illegible] [illegible] [illegible].—An ignorant man is often more dangerous than an ill-natured (bösartiger) one, the ignorant offends friends and enemies, and the ill-natured is an enemy but of those whom he thinks (to be) bad.—If thou hast too many confidents, (Vertraute) thou hast none. Hadst thou only one who had real concern for thee, thou wouldst have enough. He who has had the good fortune to find one, has more than most men have and ever have had.—He who knows no foreign languages, knows nothing of his own.—Nothing is great that is not good, and nothing is true that is not lasting.

1). Warum (11). Parse this word. Name others belonging to the same class, and show how they differ from words like [illegible], [illegible], etc. Account for the position of vowels. Mention what form in English a clause, beginning with [illegible], must assume.

2). Explain the difference between Ein [illegible] Buch, and ein [illegible] Buch. Decline: Der [illegible] Gast (I), Keine [illegible]; [illegible] [illegible] (sing. and plur.) (II).

3). Write two ex. in illustration of, and explain the construction of words like [illegible] (II) [illegible]. What is their influence on the verb. Translate: The money had gone when the sun went down.

4). The three adverbs da, wo and [illegible] perform an important and peculiar part. Explain and write exs. Give the equivalents of: [illegible] are my friends.—The Books—have you sent them to them.

5). Show by exs. that the relative pron. [illegible] [illegible], and [illegible] may appear in a contracted form. Transl.: Whatever you do, do it well.—[illegible] [illegible] but has its [illegible]. You will find originals in any country. Both my friends have left for German Universities.

6). Describe fully the formation of the part. past of German and compound verbs. Write Infin. and part. past of: vollbringen; [illegible]; [illegible]; [illegible]; [illegible]; [illegible]; [illegible]; vorsenden.

7). Ich bin [illegible] [illegible] [illegible] [illegible], [illegible] [illegible] und wurde [illegible] [illegible] [illegible], [illegible] [illegible] [illegible] [illegible], das lag in einer kleinen [illegible] vom Ufer. Correct and give rules of construction.

8). What is the particular and important office of werden. Illustrate with three exs. Distinguish between: Das [illegible] [illegible]—[illegible]; es [illegible] [illegible]; [illegible] [illegible] [illegible], and es [illegible] [illegible].

9). What influence on the construction have coördinate, adverbial, and subordinative conjunctions. Write an ex. for each form.

10). [illegible] correspondents with these German words. When did Ulfilas translate the Bible. When the sun shines, nature smiles. When Schiller died, all Germany mourned. ([illegible]). With what English word does ob, [illegible], a [illegible] correspond. Give an example.

11). Name briefly the principal features of the different periods of German literature. Mention name and date of the oldest written work. Which are the principal works in the Old High German Language of the 8th and 9th Cents., and which one is written in the Low German dialect?

12). What is called the German Iliad? When was it composed? Give a synopsis of it. In what form is it written? Which is the metrical form of the epic poems of the 9th-13th Cents.?

13). Mention the names and principal works of the most prominent writers of the 2nd classical period. By whom and when were the [illegible], and the Lay of the Bell written?

14). Give the date and distinguishing features of the following of Schiller's dramas: Wallenstein; [illegible]; [illegible]; and Wilhelm Tell.

DALHOUSIE COLLEGE AND UNIVERSITY.

HALIFAX.

SESSIONAL EXAMINATIONS, 1877.

FRIDAY, APRIL 20.—9 A.M. TO 1 P. M.

THIRD YEAR.

FRENCH.

JAMES LIECHTI, ESQ.,......................... *Examiner.*

Translate: I. Il faut que je vous conte une petite historiette qui est très vraie et qui vous divertira. Le roi se mêle depuis peu de faire des vers; MM. de Saint-Aignan et Dangeau lui apprennent comment il faut *s'y prendre.*—Le roi fit l'autre jour un petit madrigal que lui-même ne trouva pas trop joli. Un matin il dit au maréchal de Grammont: "Monsieur le Maréchal, lisez, je vous prie, ce petit madrigal, et voyez si vous en avez vu un aussi impertinent: parcequ'on sait que depuis peu j'aime les vers, on m'en apporte de toutes les façons. Le maréchal, aprēs avoir lu, dit au roi: "Sire, Votre Majesté juge divinement bien toutes les choses; il est vrai que voilà le plus sot et le plus ridicule madrigal que j'*aie* jamais lu." —*Mad. de Sévigné.*

II. *Ledru.* Non, frappez donc, je vous prie. Je veux savoir qui vous *en* empêche (*ā M. Roberville.*) Faites-moi l'amitié de me prêter votre canne. (*ā Charles.*) Tenez, ne vous gênez pas. Je vous dirai comme ce général ou ce caporal grec, ā qui on voulait donner la schlague: "Frappe mais écoute." (*ā M. Roberville.*) Hein! comme il est confondu! Eh bien! voilā comme on les matte, comme on les dompte, comme on leur brise le caractēre. Je sais qu'*il y a* des dangers ā courir, mais si on regardait ā cela . . .

M. Roberville. Ma foi! je n'en reviens pas!

Ledru. Maintenant, jeune homme, que vous êtes en état de m'entendre, voici votre habit; mais ne prenez plus un pareil ton (*L'aidant à mettre son habit.*) Je vous le passe encore cette fois-ci; une autre fois ce serait une autre paire de manches; je vous en avertis. (*ā M. Rob.*) Hein! quelle leçon!

M. Rob. Ma foi, c'est un précepteur original! (*bas ā Ledru.*) J'étais prêt ā partir, quand je me suis rappelé une chose essentielle. C'est aujourd'hui la fête du village, et il faut bien empêcher . . .—*Scribe.*

III. Je ne fus pas le seul qui *y prit* garde. La plupart des auditeurs, quand il la prononça, comme s'ils eussent été aussi gagés pour l'examiner, se disaient tout bas les uns aux autres: "Voilā un sermon qui sent l'apoplexie." "Allons, monsieur l'arbitre des homélies," me dis-je alors ā moi-même, préparez-vous ā faire votre office. Vous voyez que monseigneur tombe; vous devez l'en avertir, non seulement comme dépositaire de ses pensées, mais encore de peur que quelqu'un de ses amis *ne soit* assez franc pour vous prévenir." En ce cas-là, vous savez ce qu'il en arriverait; vous seriez biffé de son testament." Aprēs ces reflexions, j'en faisais d'autres toutes contraires. L'avertissement dont il s'agissait me paraissait délicat ā donner: je jugeais qu'un auteur entêté de ses ouvrages pourrait le recevoir mal; mais rejetant cette pensée, je me représentais qu'il était impossible qu'il le prît en mauvaise part, aprēs l'avoir exigé de moi d'une manièr si pressante. Ajoutons ā cela, que je comptais bien lui parler avec adresse et lui faire avaler la pilule tout doucement. Enfin, trouvant que je risquais davantage ā garder le silence qu'ā le rompre, je me déterminai ā parler.—*Le Sage (Gil Blas.)*

Translate into French: The first thing you should attend to is, to speak whatever language you do speak in its greatest purity, and according to the rules of grammar; we must never offend against grammar, nor make use of words which are not really words. This is not art; for, not to speak ill, is not sufficient: we must speak well; and the best method of attaining to that is, to read the best authors with attention, and to observe how people of fashion speak, and those who express themselves best; for shopkeepers, common people, footmen and maid servants, all speak ill.—*Chesterfield.*

(b). Paris is as large as Ispahan; the houses there are so high that one would swear they were inhabited solely by astrologers. Thou mayest easily imagine that a city, built in the air, which has six or seven houses one on top of the other, is extremely populous; and that when everybody has come down into the street, a fine confusion takes place. Thou wilt not believe me perhaps, but during one month that I have been here, I have not seen anyone *walking* yet.—*Montesquieu.*

(1.) Explain fully the following expressions: *S'y prendro*; *j'aie*, (I), *en* (empêche), *il y a*, (II); *y* (prit), *ne soit*, (III). Il faut . . conte (I), assumes a different form if *conte* is written in the Infinitive? What do you observe in the expression *depuis peu* (I).

(2). *Faites-moi* l'amitié (II). Write the same in the *negative* form and give rules of construction. Write exs. on other terms similar to *faites.* Account for *d'* in d'autres (III), and illustrate in full the use of that part of speech.

(3). Write the equivalents of: Common Sense. Fine Italian music. French noblemen. Wanted: English laborers, *male* and *female.* A fine horse and carriage. Most men. Taller by far. More than three miles. The 21st of April, 1877, (in figures). Compare: *well, badly, little, much.*

(4). Presque tous les tableaux de Raphaël sont chef-d'œuvres. On dit que de différent personnes se soient noyés. La nouvelle est faux. Bien de gens parlent sans sachant parler. Correct and state the rules that have been violated. Give exceptions to rules in the two last sentences. Mention all the words subject to the same rule in the 2nd ex.

(5). Many things are said that ought not to be said. Show that the English *Passive* admits of two forms of construction. What form must be used if the *subject* is an inaminate object? If the subject is a *pers. pron.* it may become the *object* in French. Write an ex.

(6). Account for the expressions: *Que ne* le disïez-vous! *Que de* gens! *Le* grand malheur! Write exs. in which *que* appears as an interog. pron., as a relat. pron., as a conjunction, and as connected with a comparative.

(7). *Est-ce que?* Illustrate its use, naming excepts. Write the equivalents of *it is* expressive of temperature, distance, hour. A fortnight ago. How often? Point out by exs. the difference between *C'est* and *il est*; *que* and *quoi? qui est-ce que* and *qu'est-ce qui.*

(8). There is sometimes Ellipsis of the negs. *ne* and *pas.* Mention, giving exs., in what cases the one, and when the other may be elided? Translate: One cannot acquire knowledge unless he learns. (*two forms*).

(9). Distinguish between *Il faut le dire, il me faut le dire* and *il faut me le dire.* Form idiomatic tenses with *venir* and *devoir.* Write sentences on: *Il faut; il me fallait; il me faudrait; il faudrait que.*

(10). Que de personnes ont *peries!* que d'enfants sont *morts!* Les deux amis se sont *rencontré* dans la rue, se sont parlés et se sont *montré* les lettres qu'ils avaient *reçues.* Quelle pluie il est *tombée.* Il s'est *cassée* la jambe. Explain the agreement of the foregoing *parts. past,* and correct those which are incorrect.

(11). When is *whether* expressed by *que*? Give an example. Translate: *But for* his indefatigable zeal he would not have succeeded in it.

(12). Mention when *to* is rendered *ā, en, chez.* Exemplify the difference between *dans* and *en*; *devant* and *avant; vers* and *envers*; *tard* and *en retard.*

(13). Write short notes on Le Sage, Mad. de Sévigné and Scribe.

Translate into French. The first thing you should attend to is, to speak whatever language you do speak in its greatest purity, and according to the rules of grammar; we must never offend against grammar, nor make use of words which are not really words. This is not all; for, not to speak ill, is not sufficient; we must speak well; and the best method of attaining to that is, to read the best authors with attention, and to observe how people of fashion speak, and those who express themselves best; for shopkeepers, common people, footmen and maid servants, all speak ill.—*Chesterfield.*

(6). Paris is as large as Ispahan; the houses there are so high that one would swear they were inhabited solely by astrologers. Thou canst easily imagine that a city built in the air, which has six or seven houses one on top of the other, is extremely populous; and that when everybody has come down into the street, a fine confusion takes place. Thou wilt not believe me perhaps, but during one month that I have been here, I have not seen anyone walking yet.—*Montesquieu.*

(1.) Explain fully the following expressions: S'y prendre; [illegible] (I), en (empêcher) [illegible] (II); y [illegible] (III). Il faut [illegible] (I), [illegible] form is used [illegible] in the [illegible] What do you observe in these expressions [illegible]

(2). [illegible] (I). Write the same in the [illegible] form and give rules of construction. Write [illegible] terms similar [illegible] Account for [illegible] (II), and illustrate in full the use of that part of speech.

(3). Write the equivalents of: [illegible] Senses, [illegible] French nobleman. Wanted English labourers [illegible] and [illegible] horse and carriage. Good men. Taller by far. More than [illegible] miles. The 21st of April, 1877, (in figures). [illegible]

(4). [illegible] in different persons [illegible] Rien de plus [illegible] Correct and state the rules that have been violated. Give exceptions to rules in the two last sentences. Mention all the verbs subject to the same rule in the ending.

(5). [illegible] that ought not to be used. Show that the English [illegible] admits of two forms of construction. What form would be used if the subject is [illegible] it may become the object in French. Write an ex.

(6). Account for the [illegible] Write [illegible] pronouns [illegible] and [illegible] with a demonstrative.

(7). [illegible] Illustrate its use, quoting examples. Write the [illegible] Point out the difference between [illegible] and [illegible]

(8). There is sometimes [illegible] of the [illegible] giving [illegible] in which [illegible] the other [illegible]

(9). Distinguish between [illegible] Write [illegible]

(10). [illegible] Explain the agreement in the following [illegible] and correct those which are incorrect.

(11). What is meant by [illegible] Give an example [illegible] of translation [illegible]

(12). Mention what [illegible]

(13). Write short notes on Le Sage, Mad. de Sévigné and Scribe.

DALHOUSIE COLLEGE AND UNIVERSITY,

HALIFAX.

SESSIONAL EXAMINATIONS, 1877.

FRIDAY, APRIL 13.—3 TO 6 P. M.

ETHICS.

VERY REV. PRINCIPAL ROSS, D.D..............*Examiner.*

1. Explain the connection between the intellect and the moral nature, and the dependence of the latter on the former.

2. Does the fact that animals may be trained to obedience and will die for the protection of their young, indicate a knowledge of moral distinctions? Assign reasons.

3. Point out the evils which have arisen from the use of the terms *cause* and *causation* instead of *reason* or *influence*, in the discussions on the Freedom of the Will.

4. Write an exercise on the Principle of Emulation or the desire of Superiority.

5. What elements must necessarily enter into the constitution of the Summum Bonum?

6. State fully and precisely the principles contained in an act of conscience.

7. Account for the differences in moral judgment among mankind.

8. Why is the study of Plato's writings on Morals so interesting and instructive?

9. Explain the meaning of the expression "to live according to nature" as employed by the Stoics.

10. Mention some of the modern writers prior to the times of Grotius who have referred to the subject of morals. Give their opinions.

11. State precisely the theory of Grotius. What is his opinion respecting the standard of virtue?

12. Give a full and precise statement of the Hobbean system of morals. Mention the circumstances in the history of the times in which he lived, which doubtless influenced him to adopt such extreme views.

13. Give a similar statement of the Ethical theory of Malebranche of Hutcheson, of Sir James Mackintosh.

14. In what, according to Dr. Chalmers, do the most judicious modern divines place the foundation and standard of virtue?

15. What is the strong point in the argument of DesCartes for the existence of God?

16. Deduce arguments for the existence of a Supreme Being from the constitution of the human mind.

17. In what respects are the arguments a posteriori more satisfactory than the arguments a priori?

18. Write out fully Paley's statement of the argument from design.

19. On what fundamental principles is this argument based according to Dr. Reid, according to Dugald Siewart?

20. What arguments can be produced to prove that matter is not eternal?

21. What advantages accrue from the fact that the arguments for the existence of the Deity are based upon probable evidence rather than upon Demonstration?

DALHOUSIE COLLEGE AND UNIVERSITY,

HALIFAX.

SESSIONAL EXAMINATIONS, 1877.

WEDNESDAY, APRIL 18.—9 A. M. TO 1 P. M.

FOURTH YEAR.

HISTORY.

PROFESSOR DEMILL............................*Examiner.*

1. Show the results of the transfer of power from Rome to Constantinople. State (*a*) the causes; and (*b*) the effects of the Mohammedan conquest.

2. Give an outline of French history under Philip le Bel. Give an account of the reign of Henry IV.

3. Write a brief sketch of German history under the Emperor Maximilian II. Mention the chief events of the reign of Ferdinand II.

4. Trace the progress of the close relations between the Popes and the Carlovingians. Give an account of the pontificate of Alexander III.

5. Give an account of the history of Spain under the Ommiades. What were the chief events in the reign of Philip II ?

6. Enumerate the different Crusades, and state the causes and leading characteristics of each.

7. Narrate briefly the history of Norway during the twelfth and thirteenth centuries. Give an account of Iceland until the extinction of the Republic.

8. What were the causes that led to the separation of the Greek and Latin churches ? Give an account of the rise of the Mendicant Orders.

9. Give an account of the origin of Romance Literature. Enumerate the different schools of painting, with the chief representative of each.

10. Describe generally the condition of Learning and Philosophy during the fifteenth and sixteenth centuries. What was proposed in the scheme of the Instauratio Magna ?

DALHOUSIE COLLEGE AND UNIVERSITY.

HALIFAX.

SESSIONAL EXAMINATIONS, 1877.

WEDNESDAY, APRIL 18.—3 TO 6 P. M.

FOURTH YEAR.

EARLY ENGLISH HISTORY.

PROFESSOR DEMILL, M.A. .... *Examiner.*

1. Enumerate the different classes of men among the Anglo-Saxons and shew briefly their mutual relations.

2. What were the chief powers exercised by the Witenagemot?

3. The rise of a land-lord class among the Anglo-Saxons gave a tendency to Feudalism.

4. What were the chief codes of law before the Norman conquest?

5. Explain the nature of the Grand Council under the early Normans.

6. Give a brief account of the administration of law under the early Plantagenets.

7. Give an account of the origin of Parliamentary representation.

8. Enumerate the chief Parliaments during the reign of Edward III.

9. Narrate the circumstances connected with the fall of Richard II.

10. Shew the increase of Parliamentary power under Henry IV.

DALHOUSIE COLLEGE AND UNIVERSITY,

HALIFAX.

SESSIONAL EXAMINATIONS, 1877.

THURSDAY, APRIL 19.—9 A.M. TO 1 P.M.

FOURTH YEAR.

CONSTITUTIONAL HISTORY.

PROFESSOR DEMILL, M.A. .... *Examiner.*

1. Give a sketch of the state of Society and Law at the accession of Henry VII.

2. Give an account of the dissolution of the English monasteries.

3. What was the nature of the High Commission Court under Elizabeth ?

4. Impositions were made by James II. upon merchandise without the consent of Parliament.

5. Give an account of the Petition of Right.

6. What were the articles of the impeachment of Strafford ?

7. The fundamental privileges of the subject were less invaded during the reign of Charles II. than in any former period of equal length.

8. Shew the justice and necessity of the Revolution of 1688.

9. Give an account of the Bill of Rights, 1689.

10. Important results followed the increase of the power of the Press, and the regular publication of the proceedings of Parliament.

DALHOUSIE COLLEGE AND UNIVERSITY,

HALIFAX.

SESSIONAL EXAMINATIONS, 1877.

THURSDAY, APRIL 12.—9 A.M.

FOURTH YEAR.

HYDROSTATICS, OPTICS, ASTRONOMY.

PROFESSOR MACDONALD,.............*Examiner.*

1. Divide fluids into two classes according to their molecular condition; and deduce the principle of the "transmission of pressure" in fluids.

2. The horizontal pressures on the sides of a vessel containing a fluid at rest are in equilibrium.

3. Give the rule for calculating the pressure of a liquid on an immersed area. Similar triangles are immersed with their homologous sides in the surface of a fluid: prove that the liquid pressures on them are proportional to the cubes of these sides.

4. Find the specific gravity of a small body, not acted on by water, by means of Nicholson's Hydrometer; or find the ratio $\frac{W}{P}$ in the Bramah Press.

5. Define *Specific Heat* and *Latent Heat;* and consider both in relation to *water.*

6. If a ray of light suffer refraction at two plane surfaces, inclined at angle α, find the Deviation. Mention a useful application of what you have shewn.

7. Find the formula for the focal length of the standard lens, and adapt it to the different directions of r and r', also to the case of $r = \pm r'$, and either or both infinite: and draw the corresponding lenses.

8. What is the *punctum caecum* in the human eye, and how do you experimentally find it?

9. Describe either the Galilean Telescope, or the Compound Microscope.

10. Draw a figure to represent the celestial sphere as seen in the latitude of the Tropic of Cancer, and make inferences from it with respect to the apparent daily and yearly motions of the sun.

11. Divide the planets into two classes, pointing out the similarities existing between the members of each class.

12. The period of 21,077 years is an important one in the secular history of the earth.

13. State and explain the phenomenon called "Harvest Moon;" and mention certain solar phenomena which your explanation includes.

14. Shew that $\frac{\sin i}{\sin r} = \mu$, a constant, is a consequence of the hypothesis that light moves slower in a denser medium than in a rarer.

15. Explain how it is that at any place on the earth's surface, the sun, if we take the whole year into account, is longer above the horizon than he is below it. And why is there on the whole more daylight in high than in low latitudes? (Diagram.)

DALHOUSIE COLLEGE AND UNIVERSITY,

HALIFAX.

SESSIONAL EXAMINATIONS, 1877.

Friday, April 20.—3 to 6 p. m.

FOURTH YEAR.

FRENCH.

James Liechti, Esq.,............................*Examiner.*

Traduisez : I.

Mais voici bien une autre fête :
Le pendu ressucite ; et, sur ses pieds tombant,
Attrape les plus paresseuses.
"Nous en savons plus d'un," dit-il en les gobant :
" C'est tour de vieille guerre ; et vos cavernes creuses,
Ne vous sauveront pas, je vous en avertis :
Vous viendrez toutes au logis."
Il prophétisait vrai : notre maître Mitis,
Pour la seconde fois, les trompe et les affine,
Blanchit sa robe et s'enfarine ;
Et, de la sorte déguisé,
Se niche et se blottit dans une huche ouverte—*La Fontaine.*

II. *Le Maître à Danser.*—Pour moi, je vous l'avoue, je me repais un peu de gloire. Les applaudissements me touchent, et je tiens que, dans tous les beaux arts, c'est un supplice assez fâcheux que de se produire à des sots, que d'essuyer, sur des compositions, la barbarie d'un stupide. Il y a plaisir, ne m'en parlez point, à travailler pour des personnes qui soient capables de sentir les délicatesses d'un art, qui sachent faire un doux accueil aux beautés d'un ouvrage, et par de chatouillantes approbations vous *régaler* de votre travail. Il n'y a rien, à mon avis, qui nous paie mieux que cela de toutes nos fatigues ; et ce sont des douceurs exquises, que des louanges éclairées.

Le Maître de Musique.—J'en demeure d'accord, et je les goûte comme vous. Il n'y a rien assurément qui chatouille *davantage* QUE les applaudissements que vous dites ; mais cet encens ne fait pas vivre. Des louanges toutes pures ne mettent point un homme à son aise : il y faut mêler du solide ; et la meilleure façon de louer c'est de louer avec les mains. C'est un homme, à la vérité, dont les lumières sont petites, qui parle à tort et à travers de toutes choses, et n'applaudit qu'à contre-sens ; mais son argent redresse les jugements de son esprit ; il a du discernement dans sa bourse, ses louanges sont monnayées : et ce bourgeois ignorant nous vaut mieux, comme vous voyez, que le grand seigneur éclairé qui nous a iutroduits ici.
—Molière, (Le Bourgeois Gentilhomme.)

III. *Alceste.*—Allons, ferme, poussez, mes bons amis de cour ;
Vous n'en épargnez point, et chacun a son tour ;
Cependant ancun d'eux à vos yeux ne se montre,
Qu' on ne vous voie en hâte aller à sa rencontre,
Lui présenter la main, et d'un baiser flatteur
Appuyer les serments d'être son serviteur.

Clitandre.—Pourquoi s'en prendre à nous? Si ce qu'on dit vous blesse,
Il faut que le reproche à madame s'adresse,

Alceste.—Non, morbleu ! c'est à vous ; et vos ris complaisans
Tirent de son esprit tous ces traits médisans.
Son humeur satirique est sans cesse nourrie
Par le coupable encens de votre flatterie ;
Et son coeur à railler trouverait moins d'appas,
S'il avait observé qu'on ne l'applaudit pas.
C'est ainsi qu'aux flatteurs on doit partout se prendre
Des vices où l'on voit les humains se répandre—*Molière.*

IV. C'est surtout au sein des classes ouvrières, et dans la jeune génération des classes moyennes appelées aux professions libérales, que, de nos jours, l'impiété se répand et s'aggrave. Non que ces classes et cette génération en soient universellement infectées : là aussi il y a des dispositions très-diverses ; là aussi le respect des croyances réligieuses et le réveil chrétien ont fait des progrès. Mais c'est là que le mal de l'impiété a son foyer et son travail d'expansion. Il s'y manifeste tantôt avec des pretentions réfléchies et savantes, là par la brutale licence des moeurs, ici par l'arrogant égarement des esprits. De ces deux sortes d'impiété, grossière et cynique, celle qui naît de l'immoralité, est sans doute la plus funeste pour l'âme humaine, pour sa dignité et son sort ; mais l'impiété systématique, celle qui s'érige en doctrine, est la plus dangereuse pour les sociétés humaines, car elle se complait en elle-même et met son orgueil à se proclamer et à se propager. Les impies ambitieux obtiennent plus de crédit qne les impies licentieux.—*Guizot* (*Meditations sur le christianisme.*)

Traduire en Français : (A) Our ancestors have acquired liberty, wealth and power by living in the frugal manner, which you have seen in the first course. Our fathers have preserved those precious gifts only by living in the simple manner, of which the second course reminded you. If an old man, who cherishes you, be permitted to tell you freely what he thinks, I am afraid the extravagant profusion, that you may have noticed in the third course, and which is the manner we are living in at the present time, may deprive us of the advantages which our ancestors have acquired by the sweat of their brow, and which our fathers have transmitted to us by their industry and good administration.

(B). Rutilius Rufus opposed the ignoble project of one of his friends, whereupon the latter cried out, with the greatest indignation : "Of what use is all your friendship for me, if you will not even do what I ask you ?" "On the contrary," replied he, "what use is your friendship to me, if on your account, I must do evil ?"

Questions de Syntaxe et de Littérature. *(1). Dans quel sens Molière emploie-t-il le mot régaler (II); quelle en est la signification etymologiquement ? Qu'y a-t-il à remarquer relativement à l'expression *davantage que* (II) ?

(2.) Ces dames chantent faux. Expliquez l'accord du mot *faux*. Certains adjs. sont tantôt variables, tantôt *invariables ?* Eclairez par un ex. que *demi* peut s'employer au pluriel. Tradz. : I did not know where this pretended library might be. These persons are most guilty. He is not less to be blamed for it. Montrez que *nêcessaire* peut régir trois prépositions différentes.

(3). Corrigez les phrases suivantes, et expliquez les règles de Syntaxe que l'on a violées : Ce père est utile et chéri de sa famille. Ce que je sais le mieux est mon commencement. Les facultés de l'esprit sont comme les plantes qui, plus on les cultive plus elles donnent de fruits. La plupart croit que le bonheur est dans la richesse; ils se trompent. Ne désire jamais et abstiens-toi toujours des gains injustes. Le physicien arrache tous ses secrets à la nature.

(4). Dans quels cas y a-t-il inversion du *sujet.* Ecrivez : The eloquence of Pericles was irresistible ; [*when*] he spoke they said that Jupiter had confided to him thunder and lightning. It is thus the vast empire of Persia was founded, which has lasted more than 200 years. The best coffee comes from Mocha (c'est-que).

On rèpondra seulement à 3 questions marquées (*).

(5). Quand la forme verbale en *ant* est-elle *variable* ou *invariable*? Montrez par des exs. quel en est l'accord : (1) quand elle a un complément direct; (2) quand elle est précédée d'un adverbe; (3) quand elle est employée sans complément.

(6). The more difficulties he has encountered the more he has overcome. Beaucoup d'erreurs se sont *glissé* dans cette histoire. The artists—I have heard them singing. Elle se sont *parlées*. Ce sont mes sentiments qu'il vous a *fait* entendre. Expliquez l'accord des *part. passés* ci-dessus.

(7). Quels *part. passés*, placés avant les noms, sont *invariables*? Pourquoi? Donnez des exs.

(8). Ce n'est seulement qu'au sein de la famille que l'on trouve contre les coups du sort un asile. La vie pour le vrai chrétien n'est qu'un temps d'épreuve, et la mort, le passage ā une éternité bienheureuse. Quelles figures de Syntaxe? Réguliēres ou non? Pourquoi?

*(9). Expliquez la construction du vers *alexandrin*, et la disposition de la *rime*. Qu'est-ce que la *césure*?

(10). Pourquoi les vers suivants sont-ils *incorrects*? Corrigez-les: L'ingrat il me laisse cet embarras funeste. Vous pouvez bientôt lui prodiguer vos bontés. On peut encor vous rendre ce fils que vous pleurez.

*(11). Quelle sorte de *rime* y a-t-il dans les vers de La Fontaine? (I).

(12). Par quoi se signalise le xvii^e siècle? Quel écrivain a droit ā ētre appelé : *l'âme du siēcle de Louis XIV?* Pourquoi? Mentionnez ses principaux ouvrages. Quelle tâche *Moliēre* se fut-il donnée? Nommez ses chefs-d'oeuvre en vers, et en prose, et montrez-en le but moral et philosophique.

(13). Classifiez les ouvrages de *Racine*. Quels sont les traits caractéristiques de ses tragédies. Qu' est -ce qne *Athalie?* De quelle maniēre *Boileau* a-t-il contribué á immortaliser le rēgne de Louis XIV.

*(14). Qui est le véritable représentant du xviiie siēcle? De quelle école fut-il le chef et qu'avait-elle pour but? Qu'est-ce que l'école *descriptive*? Que savez-vous sur Jacques Délille?

*(15). Quel est le caractēre de la littérature du xixe siēcle. Par quoi 'école *classique* et la romantique se distinguent-elles? Quel est le mérite particulier d'hommes tels que: *Guizot, Thiers, Henri Martin?*

(5). Quand la forme verbale en *ant* est-elle [illegible]? Montrez par des exs. quel en est l'accord: (1) quand elle a un complément direct; (2) quand elle est précédée d'un adverbe; (3) quand elle est employée sans complément.

(6). The more difficulties he has encountered the more he has overcome. Beaucoup d'erreurs se sont glissé dans cette histoire. The artists—I have heard them singing. Elle s'est [illegible]. Ce sont des sentiments qu'il vous a *fait* [illegible]. Expliquez l'accord des part. passés ci-dessus.

(7). Quels part. passés placés avant les noms sont invariables? Pourquoi? Donnez des exs.

(8). Ce n'est seulement qu'au sein de la famille que l'on trouve contre les coups du sort un asile. La vie, pour le vrai chrétien n'est qu'un temps d'épreuve, et la mort, le passage à une éternité bienheureuse. Quelles figures de syntaxe? Ellipses ou non? Pourquoi?

*(9). Expliquez la construction du vers alexandrin, et la disposition de la césure. Qu'entend-on par la césure?

(10). Pourquoi les vers suivants sont-ils incorrects? Corrigez-les. L'ingrat, il me laisse [illegible] embarras funeste. Vous pouvez bien lui prodiguer vos bontés. On peut encore vous rendre ce fils que vous pleurez.

*(11). Quelle sorte de vers y a-t-il dans les vers de La Fontaine? (L).

(12). Par quoi se signala le xviie siècle? Quel écrivain a droit à être appelé le père du siècle de Louis XIV? Pourquoi? Mentionnez ses principaux ouvrages. Quelle tâche élevée se fut-il donnée? Nommez ses chefs-d'œuvre en vers, et en prose, et montrez-en le but moral et philosophique.

(13). Caractérisez les ouvrages de *Racine*. Quels sont les traits caractéristiques de ses tragédies. Qu'est-ce que Athalie? De quelle manière *Boileau* a-t-il contribué à immortaliser le règne de Louis XIV?

*(14). Qui est le véritable représentant du xviiie siècle? De quelle école fut-il le chef et qu'avait-elle pour but? Qu'est-ce que l'école descriptive? Que savez-vous sur Jacques Delille?

*(15). Quel est le caractère de la littérature du xixe siècle? Par quoi l'école classique et la romantique se distinguent-elles? Quel est le mérite particulier d'hommes tels que: *Guizot, Thiers, Hugo, Renan*?

DALHOUSIE COLLEGE AND UNIVERSITY.

HALIFAX.

SESSIONAL EXAMINATIONS, 1877.

FRIDAY, APRIL 20.—9 A.M. TO 1 P.M.

FOURTH YEAR.

GERMAN.

JAMES LIECHTI, ESQ.,............................*Examiner.*

Translate : I Schiller's *Wilhelm Tell,* I Act, IV Scene.

Melchthal ——— O fromme Väter dieses Landes!
Ich stehe, nur ein Jüngling, zwischen euch,
Den Vielerfahrnen — meine Stimme muss
Bescheiden schweigen in der Landsgemeinde.
Nicht, weil ich jung bin und nicht viel erlebte,
Verachtet meinen Rath uud meine Rede;
Nicht lüstern jugendliches Blut, mich treibt
Des höchsten Jammers schmerzliche Gewalt,
Was auch den Stein des Felsen muss erbarmen.
Ihr selbst seid Väter, Häupter eines Hauses
Und wünscht euch einen tugendhaften Sohn,
Der eures Hauptes heil'ge Locken ehre,
Und euch den Stern des Auges fromm bewache.
O, weil ihr selbst an eurem Leib und Gut
Noch nichts erlitten, eure Augen sich
Noch frisch und hell in ihren Kreisen regen,
So sei euch darum unsre Noth nicht fremd.
Auch über euch hängt das Tyrannenschwert:
Ihr habt das Land von Oestreich abgewendet;
Kein anderes war meines Vaters Unrecht;
Ihr seid in gleicher Mitschuld und Verdammniss.

II. Fichte's *Bestimmung des Menschen.*

Das Gefühl unsrer Würde und unsrer Kraft steigt, wenn wir uns sagen, was Jeder unter uns sich sagen kann: "Mein Dasein ist nicht vergebens und zwecklos; ich bin ein nothwendiges Glied der grossenKette, die von der Entwickelung des ersten Menschen zum vollen Bewustsein seines Daseins bis in die Ewigkeit hinausgeht. Alles, was jemals gross und weise und edel unter den Menschen war, diejenigen Wohlthäter des Menschengeschlechtes, deren Verdienste ohne ihre Namen vorhanden sind,—sie alle haben für mich gearbeitet; ich bin in ihre Ernte gekommen; ich betrete auf der Erde, die sie bewohnten, ihre Segen verbreitenden Fussstapfen. Ich kann, sobald ich will, die erhabene Aufgabe, die sie sich gegeben hatten, ergreifen, unser gemeinsames Brudergeschlecht immer weiser und glücklicher zu machen; ich kann da fortbauen, wo sie aufhören mussten; ich kann den herrlichen Tempel, den sie unvollendet lassen mussten, seiner Vollendnng näher bringen."

III. Wincklemann's *Statue des vatikanischen Apollo.*

Die Statue des Apollo ist das höchste Ideal der Kunst unter allen Werken des Alterthums, welche der Zerstörung desselben entgangen sind. Er übertrifft alle andern Bilder desselben, so wie Homer's Apollo den, welchen die folgenden Dichter malen. Ueber die Menschheit erhaben ist sein Gewächs, und sein Stand zeuget von der ihn erfüllenden Grösse. Ein ewiger Frühling, wie in dem glücklichen Elysium, bekleidet die reizende Männlichkeit vollkommener Jahre, und spielet mit sanfter Zärtlichkeit auf dem stolzen Gebäude seiner Glieder. Geh' mit deinem Geiste in das Reich unkörperlicher Schönheiten, und versuche ein Schöpfer einer himmlischen Natur zu werden, und den Geist mit Bildern, die sich über die Materie erheben, zu erfüllen, denn hier ist nichts Sterbliches, noch was die menschliche Dürftigkeit erfordert. Keine Adern noch Sehnen erhitzen und regen diesen Körper, sondern ein himmlischer Geist, der sich wie ein sanfter Strom ergossen, hat gleichsam die ganze Umschreibung dieser Figur erfüllet.

Translate into German: (A). Extract from Maculay.

(B). K.... is a small German city, which, like many German cities, has its music-society. This society is solely composed of connoisseurs. A young musician who, being on a journey, had come to this musical city, was thought worthy of the honor of being introduced one evening into this celebrated club. He played on the piano several pieces of his own composition, that had been received with applause by the musical population of a large capital city. But in the city of K.... he met with severer critics than he had thought.

(1). Analyze the sentence: *Alles was....vorhanden sind* (II) giving rules of construction. Account for the form and position of the *auxs.*, *infinits.* and *parts.* in the sentence: *Ich kaun....bringen* (II).

(2). Correct and explain mistakes in the following sentences: In vierzehn Tagen das Gymnasium wird geschlossen sein. Die Althochdeutsche Sprache wurde im 15ten Jahrhundert nicht geschrieben, aber im 10ten. Man wird ihnen es bei uns morgen mittheilen. Handle wider die Gesetze nicht.

(3). Which is the place of the *auxy.* in a sentence with an *Infinitive* and a *partic.* Ex. the order which he has caused to be issued is cruel. The man whose eyes he had had put out is called Heinrich von der Halden. Why is the construction, though correct, inadmissible in the phrase: Wenn Sie das Buch würden haben lesen wollen, so würde ich es Ihuen gegeben haben? Alter its form, writing it *with wenn,* and *withowt* it.

(4). Give the equivalents of: Both the poets. Quite an old poem. Most German Universities have more than double the number of students. By means of his neighbours' help. The reason is a good one.

(5). In what *case*, in German, is the *genitive* of the relative pron. preceded by *all*, and what is its construction when preceded by a *noun* with a *preposition*. Translate: Schiller has written 5 Dramas between 1799 and 1804, *all of which* are and will always be admired. The palace *from the windows* of which Napoleon looked.

(6). Illustrate the use of the *Infinitive* with *zu*, depending on: a foregoing *substantive*, an *adjective*, a *preposition*. Account for the omission of *zu* in the sent.: Der Vervundete ist auf dem Felde liegen gebiieben. When use *um—zu*?

(7). *Unterhaltende* Lecture. *Lesen* und *Schreiben* ist für alle Leute nöthig. Die Kunst zu *schreiben*. A person *doing* good to every body. It began *raining*. Without *saying* a word. Write the equivalents so as to show distinctly the difference between the English and German *present part.*

(8). How is the *pres. part.* preceded by a *prepos.* to be expressed. Transl. The prisoners saved themselves by climbing through the roof. He left without *his parents' knowing* it. Wherein differs this last sent. in German.

(9). Write exs. illustrative of the present part. expressing *reason, cause* and *time.*

(10). Give names and dates of the IV, V, VI, and VII Periods of German Literature, and mention the leading features of each. Important events (between the 14th and 16th Cties.) arrested the downward progress of the nation. Mention the three most prominent writers, and notice their works. Describe the cause of the decline of Poetry in the IV period.

(11). Which is the greatest literary work of the V period. Its influence upon the language. Mention the names of the last Meistersänger. *Fischart's* merit?

(12). Four schools of poets flourished during the VI period. Notice briefly the works and merit of *Martin Opitz, Paul Gerhardt, Christian Thomasius, Von Leibnitz.* What oppssed the labour of such men and impeed the development of German.

(13). What is the character of the literature of the VII period. What is the Sturm = and Drangzeit. Klopstock's greatest merit? Notice *Herder, Wieland* and *Lessing's* works and labour. Who perfected the German *Hexameter.* Which of his works suggested to Goethe the form of his Epos: *Hermann & Dorothea.*

DALHOUSIE COLLEGE AND UNIVERSITY.

HALIFAX.

SESSIONAL EXAMINATIONS, 1877.

WEDNESDAY, APRIL 11.—3 P. M.

HONOUR MATHEMATICS.--I.

PROFESSOR MACDONALD........................*Examiner.*

1. If r, r_1, r_2, r_3, are the radii of the inscribed and escribed circles of a triangle ABC, prove $\tan^2 \frac{A}{2} = \frac{r r_1}{r_2 r_3}$.

2. Find the roots of the equation, $x^5 - 1 = 0$, by DeMoivre's Theorem.

3. Resolve $x^{2n} - 1$ into Quadratic factors; and hence shew that that $\sqrt{n} = 2^{n-1} \sin \frac{\pi}{2n} \sin \frac{2\pi}{2n} \ldots\ldots\ldots \sin \frac{(n-1)\pi}{2n}$

4. If $\tan \vartheta = \cos \alpha \tan \phi$, shew that $\tan (\phi - \vartheta) = \frac{\tan^2 \frac{1}{2} \alpha \sin 2\phi}{1 + \tan^2 \frac{1}{2} \alpha \cos 2\phi}$

5. It $\tan \vartheta = m \tan \alpha$, prove, by using the exponential values for these fuoctions, that $\vartheta = \alpha + \frac{m-1}{m+1} \sin 2\alpha + \frac{1}{2} \left(\frac{m-1}{m+1}\right)^2 \sin 4\alpha + \&c.$

6. Find the expression for $\cos \alpha$ in a spherical triangle, from the correlated polar triangle. Hence shew that $\sin a = \frac{2}{\sin B \sin C} \sqrt{-\cos S \cos (S-A) \cos (S-B) \cos (S-C)}$, and explain the *minus* sign.

7. Given the Napierian analogies, $\tan \frac{1}{2} (A + B) = \frac{\cos \frac{1}{2} (a-b)}{\cos \frac{1}{2} (a+b)} \cot \frac{C}{2}$ and $\tan \frac{1}{2} (A - B) = \frac{\sin \frac{1}{2} (a-b)}{\sin \frac{1}{2} (a+b)} \cot \frac{C}{2}$: to find the other analogies.

8. Given the day of the month and the sun's arimuth at rising: to find the latitude of the place.

9. Find the angular radius of a small circle inscribed in a spherical triangle ABC.

10. Shew that $y = mx + c$, $y = mx + c'$, $y = mx + c''$ are the equations of parallel lines, and find the equation of the line equidistant from the first and third of these: also when its distances from them are as $m : n$.

11. Find the equation to the line which makes angle 60° with the line, $2x + \sqrt{3}\, y = 7$.

12. Find the length of the line drawn from the point (x', y') to the foot of the perpendicular from the origin on $\frac{x}{a} + \frac{y}{b} = 1$.

13. Find the equation to a circle referred to oblique axes passing through the centre; also, draw the circle, $x^2 - xy + y^2 - ax - ay = 0$, shewing that the axes are inclined at angle 120°.

14. There are two circles, $x^2 + y^2 - 2by = 0$, and $x^2 - 2bx + y^2 = 0$.
(1) Find the equation to the circle described on the common chord.
(2) Find the equation to their common tangent.

DALHOUSIE COLLEGE AND UNIVERSITY,

HALIFAX.

SESSIONAL EXAMINATIONS, 1877.

FRIDAY, APRIL 13—9 A. M.

HONOUR MATHEMATICS.—II.

PROFESSOR MACDONALD .... *Examiner.*

1. Shew that the equation $Ax^2 + Bxy + Cy^2 = 0$ represents generally two straight lines passing through the origin. Hence interpret the equation $\frac{x^2}{a^2} - \frac{y^2}{b^2} = (mx - ny)^2$, a and b being the principal axes of a hyperbola.

2. Find the polar equation to the parabola, the origin being the foot of the directrix : and shew from the equation that the rectangle of the segments of the radius vector varies inversely as the square of the sine of the angle which is makes with the principal diameter.

3. If r be the focal distance of a point, and p the perpendicular let fall from the focus, on the tangent at the point shew that $p^2 = \frac{b^2 r}{2a - r}$.

4. The equation of a curve being $\frac{x^2}{a^2} - \frac{y^2}{b^2} = 1$; (1) shew that there are asymptotes; (2) transform it to these asymptotes as axes; and (3) deduce some remarkable geometrical properties from the new-found equation.

5. The general equation to a curve of the second degree being given ($ax^2 + bxy +$ &c., $= 0$), suppose it referred to a centre so as to have become $a'x^2 + b'xy + c'y^2 + f' = 0$; shew that it can be reduced to a simpler form by turning the axes through an angle ϑ. Give as minute an account of the transformations as you can.

6. Find *anyhow* the equation to the tangent of the curve, $ax^2 + bxy +$ &c., $= 0$, and shew that if the origin is *on* the curve, the equation to the tangent at the origin is $y = -\frac{d}{e}x$.

7. If through any point pairs of lines be drawn cutting an ellipse and *parallel to two fixed lines,* the rectangles of their segments bear to each other a fixed ratio.

8. If tangents to a hyperbola be drawn from any point in one branch of its conjugate, the chord of contact is a trangent to the other branch of the conjugate.

9. If two chords be drawn through a fixed point at right angles to meet a curve of the second degree, R and r being the segments of the one and R' and r' the segments of the other, prove $\frac{1}{Rr} + \frac{1}{R'r'} =$ a constant.

10. Draw equidistant ordinates to a curve and, having fitly completed the figure, shew the meaning of $\frac{dy}{dx}, \frac{d^2 y}{dx^2}, \frac{d^3 y}{dx^3} \ldots$ &c.

11. Find $\frac{dy}{dx}$ in these expressions; $y = x \sin^{-1} n$, $y = \log \left(\varepsilon^{x} + \varepsilon^{-x}\right)$

$$y = \tan^{-1} \frac{2x}{1 + x^2}.$$

12. Apply Maclaurin's Theorem to shew that $\sin(\alpha + m\vartheta)$

$$= \sin \alpha + m\vartheta \cos \alpha - \frac{m^2 \vartheta^2}{1 \,.\, 2} \sin \alpha - \frac{m^3 \vartheta^3}{1 \,.\, 2 \,.\, 3} \cos \alpha + \&c.$$

13. When $u = f(u)$ passes through a *maximum* or *minimum* value, $\frac{du}{dx} = 0$, and $\frac{d^2 u}{dx^2}$ is $\mp$ in the respective cases, *generally*. But if, in solving a problem, $\frac{d^2 u}{dx^2}$ also vanish, how do you proceed?

14. A window in the shape of a rectangle surmounted by a semicircle is of given perimeter $(2\,a)$. Shew that when the admitted light is a maximum, the radius of the semicircle is equal to the height of the rectangle.

DALHOUSIE COLLEGE AND UNIVERSITY.

HALIFAX.

SESSIONAL EXAMINATIONS, 1877.

MONDAY, APRIL 16.—9 A. M.

HONOUR MATHEMATICS.—III.

PROFESSOR MACDONALD........................*Examiner.*

1. Prove Leibnitz's Theorem, viz: if $u=zv$, z and v being each a function of x, $\frac{d^n u}{dx^n}=z\frac{d^n v}{dx^n}+n\frac{dz}{dx}\frac{d^{n-1}v}{dx^{n-1}}+\frac{n(n-1)}{1\,.\,2}\frac{d^2z}{dx^2}\frac{d^{n-2}v}{dx^{n-2}}+$ &c.

2 Given the volume of a cylinder: the surface is least when the height is equal to the diameter of the base.

3. Obtain expressions for the subtangent and subnormal in a curve $y=f(x)$: and for the perpendicular from the origin on the tangent.

4. Integrate $\frac{dx}{(1+x)^2}$, $\frac{dx}{a^2-x^2}$, $\frac{dx}{x^2-3x+2}$, $\varepsilon^{ax}\cos kx\,dx$, and $\frac{x^2\,dx}{1+x^2}\tan^{-1}x$, and find a formula of reduction for $\int\frac{\sin m\vartheta}{\cos m\vartheta}$.

5. The equation to the Catenary being $y=\frac{a}{2}\left(\varepsilon^{\frac{x}{a}}+\varepsilon^{-\frac{x}{a}}\right)$, prove that the radius of curvature $=-\frac{y^2}{a}$.

6. Prove the following formulae in spirals, r being the radius vector and p the perpendicular from the origin on the tangent: $\frac{ds}{d\vartheta}=\sqrt{r^2+\frac{dr^2}{d\vartheta^2}}$,

$$\frac{ds}{dr}=\frac{r}{\sqrt{r^2-p^2}},\ \tan \mathrm{SPY}=-u\frac{d\vartheta}{du}.$$

7. Discuss the curve $ay=x\sqrt{2ax-x^2}$; finding the angles at which it cuts the axis of X, its greatest ordinate, and also whether it has asymptotes.

8. Transform the curve just mentioned to polar co-ordinates, and find its area in either polar or rectangular co-ordinates.

9. The law of force being given as proportional to the square of the distance inversely, prove that the attraction of a material line of indefinite length on a particle without it is inversely proportional to the distance.

10. Given $v^2=h^2\left(u^2+\left(\frac{du}{d\vartheta}\right)^2\right)$, apply the equation $\frac{d^2u}{d\vartheta^2}+u-\frac{P}{h^2u^2}=0$, to determine the elliptic orbit.

11. Find the time of describing an angle ϑ from the vertex of a parabolic orbit, under the law of attraction of Gravitation.

12. Write the formulae for the rectangular co-ordinates of the centre of gravity of a homogeneous area, and find the centre of gravity of a hemisphere.