

# REQUIREMENTS

FOR

# ADMISSION TO COLLEGES.

By A. F. NIGHTINGALE.











### HAND-BOOK

A

# REQUIREMENTS FOR ADMISSION

OF

TO THE

## COLLEGES OF THE UNITED STATES,

WITH

#### MISCELLANEOUS ADDENDA,

FOR THE USE OF

HIGH SCHOOLS, ACADEMIES, AND OTHER COLLEGE-PREPARATORY INSTITUTIONS.

COMPILED AND ARRANGED BY

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> NEW YORK: D. APPLETON AND COMPANY, 549 AND 551 BROADWAY. 1879.

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ALL THE PUPILS, OF BOTH SEXES,

TO

OF OUR

SECONDARY SCHOOLS,

TO THE AMBITIOUS AND THE INDIFFERENT,

#### This Book is Inscribed,

WITH THE HOPE THAT IT MAY LEND

AN INSPIRATION TO ALL, TO AIM TOWARD THE ATTAINMENT OF THE IMPORTANT ENDS OF LIFE, EDUCATION, CULTURE, SUCCESS, HAPPINESS. Digitized by the Internet Archive in 2007 with funding from Microsoft Corporation

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# ANNOUNCEMENT.

THIS Hand-book represents in the selection of colleges the maximum and minimum requirements for admission to any meritorious college in the United States.

In the selection of institutions, the aim has been, not to imply that those excluded do not rank equally high with many here mentioned, but to represent the different sections of the country, the leading denominational colleges, and a few of the most important State universities of the West.

An average of the requirements to enter the colleges represented in the book will admit a student to the Freshman class of any college or university not named—so that it becomes a chart of universal application to the colleges of the United States.

A thorough knowledge of the Latin and Greek Grammar, including prosody, is required to enter the classical course of any good college, and marked proficiency in the common English branches—especially grammar or language—is insisted upon for entrance to both classical and scientific courses. In addition to the two general courses, classical and scientific, most of the colleges have a Latin scientific course, for entrance to which French or German is substituted for Greek. The State universities and many of the others have, also, courses in Civil Engineering, Mining Engineering, and in Architecture and Design.

Most of the colleges now furnish, in the last two years of the classical and scientific courses, a wide range of polytechnic studies, from which students may generally select. Requirements for admission to any of the courses except classical, are generally the same as for admission to the scientific course.

A complete list of the colleges and universities of the United States is given, with miscellaneous addenda which will be of interest to all the patrons and friends of higher education.



#### INTRODUCTION.

SEVERAL motives suggested the compilation of this little book. When students wisely conclude to make a college education their ambition and aim, they very naturally send for one or a dozen college catalogues, to ascertain their requirements and other information which will enable them to decide what college to enter; but the great mass of facts which these catalogues contain often tends to confuse the mind, and to render of little avail the trouble occasioned and expense incurred.

To obviate these difficulties, to present a concise and yet authentic table of requirements for admission to the leading colleges of the United States, and to give other information which will be of value and interest to all the students of our secondary schools, has been one purpose in the preparation of this hand-book.

The arrangement in parallel columns of the requirements for admission to the classical and scientific courses of the forty-four colleges mentioned will, we hope, furnish a convenient chart for reference and comparison.

These facts have been gathered with great care from the latest catalogues and circulars of these institutions; and where these facts have been in any way involved or deficient, correspondence has been elicited from the college presidents, who have invariably answered all inquiries, so that we feel assured that the book may be taken as a safe guide in determining the amount and nature of the work required in preparation.

Catalogues of several years have been consulted; very slight changes are made from year to year; and, while the requirements are taken from the official reports of the current year, students will find it safe to follow them for several years to come.

Another motive has been to impress upon the minds of the pupils of secondary schools the absolute importance of a thorough preparation. Quality rather than quantity is the pressing demand of all the colleges; and, while pupils are expected to read all that is required in the classics, and to acquaint themselves with all that is demanded in mathematics and English, conditions and rejections are based upon poor quality rather than insufficient quantity in preparation.

Incompetency in instruction and the haste which makes waste so common among students are deplorably conspicuous in our preparatory schools, and we would reiterate the thought that, if students would render the instruction and opportunities of their college life profitable and pleasant, they will leave no means unemployed to secure the

#### INTRODUCTION.

best instruction in their preparatory work, even if they add a year to their preparation, or neglect some portion of the amount required. We have appended the questions which were used at the entrance examination for the current year at Yale, Bowdoin, Dartmouth, and Boston University. They present a fair outline of what is required by all the colleges, and may be studied to advantage by preparatory pupils.

We have purposely omitted any tabulated statement of the expenses necessarily incurred in obtaining a college education, for many reasons :

First, the catalogues do not give such information on this subject as will constitute any adequate guide to the student; secondly, tuition for indigent and meritorious students *is practically free* in most of the colleges, and those who are compelled to pay are generally sufficiently able not to make this an item in their decision; thirdly, the disposition of the student and the restrained or loose indulgence of parents are the real factors which enter into a proper computation of the economical or extravagant expenditures of college life.

The cost of books and the price of board are the real items of college expense, and these do not differ materially in any of the best colleges. Any student can honorably and comfortably take a four years' course *away from home*, at an annual expense, covering all essential items, of four hundred dollars. Many can and do curtail their expenses within much narrower limits, and it ought to cost no one, in any college, who would profit by the advantages offered, more than six hundred dollars a year.

The statistics regarding the "Enumeration of Students," "Latin Pronunciation in Use," "Harvard Examinations for Women," indeed all the statistics, have been arranged with great care and scrupulous accuracy.

In presenting this book to the public, the compiler would render his grateful acknowledgments to the college presidents, Latin professors, and to all the officers consulted, for their generous promptness and repeated courtesies in answering letters, in furnishing statistics, and in rendering every facility to aid in making the book, what we hope it may prove, of interest and value to the teachers and students of all our secondary schools.

A. F. N.

CHICAGO, January, 1879.

# COLLEGE REQUIREMENTS.

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		LATIN.			GREEK, OR MODERN LANGUAGES.			
NAME OF COLLEGE, OR UNIVERSITY.	Course.	Com. of Cæsar, No. of Books.	Virgil.	Orations of Cicero.	Latin Prose.	Books Anabasis.	Books Homer.	Greek Prose.
Amherst College (Congregational), Amherst, Moreachuratte	Classical.	Four; also trans- lation of easy Latin at sight. <sup>1</sup>	Bucolics, two Geor- gics, six of Æneid.	Seven, including the Manilian Law.	First two parts Hark- ness, or equivalent.	Four.	Three.	First twenty exercises, Jones's.
Established 1821.	Scientific.	Four.	Six of Æneid.	Seven.	First two parts Hark- ness, or equivalent.	Otto	Otto's French, Part I.	
Boston University (Methodist), Boston, Massachusetts. Both Sexes. Established 1871.	All courses.	Four. <sup>2</sup>	Bucolics, and six of Æneid.	Seven.	First two parts Hark- ness, or equivalent.	Four.	Three.	Simple sentences, White's First Les- sons, sixty.
	Require- ments in 1881.	Four, and Sal- lust's Cati- line.	Bucolics, and nine of Æneid; Latin at sight.	Eight, and Cato Major.	First two parts Hark- ness, or equivalent.	Four.	Three, and first book He- rodotus.	Simple sentences, Jones's Greek Lessons.
Bowdoin College (Congregational),	Classical.	Four, or Sal- lust. <sup>1</sup>	Bucolics, Georgics, and six of Æneid.	Seven.	Allen's, thir- ty-five les- sons, or equivalent.	Four.	Two.	Jones's.
Brunswick, Maine. Established 1802.	Scientific.	Four, or Sal- lust.	Bucolics, Georgics, six of Æneid.	Seven.	Allen's, thir- ty-five les- sons, or equivalent.	*		
Brown University (Baptist),	Classical.	Five. <sup>1</sup>	Bucolics, Georgics, six of Æneid.	Eight.	First two parts Hark- ness, or equivalent.	Five.	Two books Homer's Odyssey.	First twenty exercises, Arnold's.
Providence, Rhode Island. Established 1764.	Scientific.	Five,or equiv.				Otto's French, thirty-seven chapters, or equivalent.		
California State Uni- versity (Non-sectarian), Oakland, California. Both Sexes. Established 1855.	Classical.	Four. <sup>9</sup>	Six of Æneid, Georgics, Eclogues.	Six.	Allen's, twen- ty-six lessons.	Four.	Two.	Jones's.
	Scientific.	8						

<sup>1</sup> English pronunciation in Latin. <sup>2</sup> Roman pronunciation in Latin. <sup>3</sup> No requirements in Latin or Natural Sciences are insisted upon, but candidates are earnestly recommended to pursue the study of Latin one year, and also that of local Botany, Mineralogy, and Natural History, before entering; also one of the Modern Languages.

MATHEMATICS.						
Algebra.	Geometry.	Trigonometry.	MISCELLANEOUS.	GENERAL REMARKS.		
Loomis's, to Quad.	Simple Pro- portions, no Areas, four of Loomis.		Common English, including Met- ric System, Tozer's Classical Ge- ography, Otto's French, Part I.	Admits students at fifteen. In Sci- entific course, modern languages are substituted for Greek, and Latin is omitted after the Fresh- man year. Gymnasium exercise compulsory. Long list of prizes.		
Loomis's, to Quad.	Simple Pro- portions, no Areas, four of Loomis.		Common English, including Met- ric System, Tozer's Classical Ge- ography.	tial course, obtaining a certificate but not a degree.		
To Quad.	Simple Pro- portions, no Areas, four of Loomis.		Common English, including Met- ric System, General History (Freeman), English History (Be- rard), Ancient History and Ge- ography, Smith's Manuals, Hart's Rhetoric, easy French.	Sustains schools of Law, Medicine, Theology, Music, Oratory, and Post-Graduate courses. In '79, Appletons' Science Primers or equivalent in Chemistry and Physics, and Loomis's Alg. comp. required. In '80. Sallust's Cati-		
Univ. Alg. complete.	Plane and Solid entire.		Common English, <sup>4</sup> including Met- ric System and theory of Loga- rithms, Hart's Rhetoric, Chem- istry (Roscoe's Primer), Ele- ments of Physics (Stewart's Primer), French and German, translation at sight of easy prose, English and General History, Ancient History and Geography.	line, Cato Major, eight orations of Cicero; also, easy German and Plane and Solid Geometry entire. All these, in addition to Chart re- quirements. There are two ex- aminations: one preliminary, one final. May be one year apart, each covering about one-half of requirements.		
Loomis's, through Quad.	Loomis, Books 1 and 3.		Arithmetic, English Grammar, Ge- ography, Ancient and Modern.	Sustains school of Medicine and Post-Graduate course. Maintains		
Loomis's, through Quad.	Loomis, Books 1 and 3.		Arithmetic, English Grammar, Ge- ography, Descriptive and Physi- cal.	quired to elect between gymnas- tics and military exercises.		
Through Quad.	Plane and Solid.		Common English, including Met- ric System, Craik's English of Shakespeare, Cæsar, Act I., Ot- to's French, thirty-seven chap- ters.	Sustains Post - Graduate course. Students may pass a preliminary examination one year in advance in Greek. Grammar and Reader and three books of Anabasis; also, Latin Grammar, Cæsar and Cicero, or Cæsar and six books of Freid, che in Arithmetic.		
Through Quad.	Plane and Solid.		Common English, including Met- ric System, exercises in English Composition, Craik's English of Shakespeare, Julius Cæsar, Act I.	but in no other branches. Sev- eral prizes; 625 scholarships of \$1,000 each; income given to aid meritorious students. Col- lege rents Gymnasium for exclu- sive use of students.		
To Quad.	Four books of Legendre.		Common English, including Met- ric System, Physical Geography, Hart's Composition and Rheto- ric.	Admits students at sixteen. Sus- tains Post-Graduate course. For the Literary course, Latin Gram- mar and Reader and four books of Cæsar are required, in addi- tion to requirements for Scien-		
To Quad,	Four books of Legendre, or Loomis's.		Common English, including Met- ric System, Physical Geography, Hart's Composition and Rheto- ric.	tific course; also colleges of Agriculture, Mechanics, Mining, Engineering, Chemistry, Medi- cine, Pharmacy, Military Tactics. Law School just established.		

<sup>4</sup> Also a brief essay on some theme to be announced at the time of the examination.

				LATIN.		GREEK, OR MODERN LANGUAGES.		
NAME OF COLLEGE, OR UNIVERSITY.	Course.	Com. of Cæsar, No. of Books.	Virgil.	Orations of Cicero.	Latin Prose.	Books Anabasis.	Books Homer.	Greek Prose.
Chicago University (Baptist), Chicago,	Classical.	Four. <sup>5</sup>	Six of Æneid.	Seven.	First two parts Hark- ness, or equivalent.	Three.	Odyssey from Boise and Freeman's Selections.	Jones's.
Both Sexes, Established 1859.	Scientific.	6						
Colby University (Baptist), Waterville, Maine. Both Soxes. Established 1819.	Classical (all courses).	Four, and Sal- lust's Cati- line. <sup>7</sup>	Six of Æneid.	Six, in- cluding Manil- ian Law.	First two parts Hark- ness, or equivalent.	Three, or equiv- alent.		Jones's, twelve exercises.
Columbia College (Episcopal), New York, New York. Established 1754.	Classical (all courses). <sup>8</sup>	A11.5	Six of Æneid.	Six.	First two parts Hark- ness, or equivalent.	Four.	Three.	Arnold's.
Cornell University (Non-sectarian), <i>Rhaca</i> ,	Classical.	Four.5	Six of Æneid, Bucolics.	Eight.	First twelve chapters Arnold.	Four.	Three.	Arnold's.
Both Soxes. Established 1865.	Scientific.					Otto's French Grammar, Vol- taire, three books Charles XII., or equivalent; or Ger- man, with seventy-five pages Whit. Reader, or equivalent.		
Cornell College (Methodist), Mount Vernon,	Classical.	Four. <sup>5</sup>		Six.	Harkness, one part.	Two.		Simple exercises.
<i>Iowa</i> , Both Sexes. Established 1851.	Scientific.	Four.		Six.	Harkness, one part.	French ( one hund	Frammar and red pages to	d Reader, canslation.
Dartmonth College (Congregational), Hanover	Classical.	Four. <sup>7</sup>	Georgics, Six of Æneid.	Six.	Abbott's.	Four.	Two.	First twenty exercises, Jones.
New Hampshire. New Hampshire. Established 1769.	Scientific.							
Hamilton College (Presbyterian), Clinton, New York, Established 1812.	Classical (all courses).	Four, and Sal- lust's Cati- line. <sup>7</sup>	Six of Æneid, Eclogues.	Eight.	Arnold, twelve chapters, or equivalent.	Two.	Two.	

<sup>5</sup> Roman pronunciation in Latin. <sup>6</sup> See General Remarks for Philosophical Course. <sup>7</sup> English pronunciation in Latin. <sup>8</sup> For admission to the School of Mines, Arithmetic, including Metric System, five chapters of Peek's Manual of Algebra, five books of Davies's Legendre, twenty-five lessons of Jewett's Ollendorff's French Grammar, and twenty lessons of Otto's German Grammar, are required.

	MATHEMATICS.					
Algebra.	Geometry.	Trigonometry.	. MISCELLANEOUS	GENERAL REMARKS.		
Loomis's, to Chap- ter XVIII.	First six books.		Common English, including Met- ric System, Elements of Natu- ral Philosophy, Freeman's Out- lines of History.	Sustains schools of Law, Medicine, and Theology. For the Philo- sophical course, four books of Create and four orations of Cice-		
Loomis's, to Chap- ter XVIII.	First six books.		Common English, including Met- ric System, Elements Natural Philosophy, Freeman's Outlines of History, Physical Geography.	ro are added to the requirements of the Scientific course.		
Through Quad., Olney's complete.	Olney's, Part II., seven sec- tions Plane.		Arithmetic, English Grammar, Ge- ography, Ancient and Modern. (Pupils are urged to read atten- tively some manual of Greek and Roman History.)	Maintains a large number of schol- arships for meritorious students; also several prizes. Gymnasium, exercise voluntary. Pupils are allowed to take a partial course, and receive certificates for suc- cess attained.		
To Quad- ratics.	Simple Pro- portions. No Areas, Four of Davies's Le- gendre.		Common English, including Metric System, Ancient Geography. <sup>9</sup>	Several prizes maintained and spe- cial courses of study. A num- ber of free scholarships. Free tuition to meritorious pupils.		
Through Quad., including Radicals.	All Plane.		Physiology, Huxley and Youmans, Physical Geography, Grecian History, Smith's, Common Eng- lish, including Metric System.	There are also courses in Litera- ture and Philosophy, both of which require Latin, but not Greek, for admission. There are, also, departments of Agri- culture, Architecture, Civil En-		
University complete.	Plane and Solid.	Plane and Spherical.	Common English, including Metric System, Physiology, and Physi- cal Geography.	gineering, Military Science, and schools of special studies besides, and an extended Post-Graduate course. Ladies must be seven- teen years of age, for admission. Over five hundred students.		
Through Quad.	Four.		Common English.	Military drill required, unless stu-		
Through Quad.	Four.		Common English.	dents are specially excused.		
To Quad., Olney's Univer- sity.	Olney's Plane.		Common English, including Metric System, Ancient Geography, English History.	Maintains an Agricultural and Medi- cal Department. Also, Thayer School of Civil Engineering, es- pecially for Post-Graduates. Sev- eral mizes in repulse adhere		
Olney's School Al- gebra com- plete.	Plane.		Common English, including Metric System, Physical Geography, Physiology, Book-keeping.	courses. Pupils are admitted on diplomas of college preparatory institutions, and are then on pro- bation for three months.		
To Quad.	All Plane.		Common English, including Metric System, Ancient Geography, Grecian and Roman Antiquities.	Sustains a Law Department. Sev- eral prizes in college courses. Whole number of graduates to 1878-2,085.		

<sup>9</sup> First seventeen pages of Schmidt's "Course of Ancient Geography." Students will be required to name the principal towns of Greece; also upon page 90, et seq., of the same work, to "Upper Italy," page 102, and to state the principal towns of Italy and Sicily; and further, upon "Asia Minor," page 191, et seq., Mysia, and the principal rivers, mountains, and towns of Asia Minor.

		LATIN.				GREEK, OR MODERN LANGUAGES.			
NAME OF COLLEGE, OR UNIVERSITY.	Course.	Com. of Cæsar, No. of Books.	Virgil.	Orations of Cicero.	Latin Prose.	Books Anabasis.	Books Homer.	Greek Prose.	
Harvard College (Non-sectarian), Cambridge, Massachusetts. Established 1688.	Course I. <sup>10</sup>	All. 11 13	All of Æneid.	Ten.	Harkness or Arnold's.	A11.	Three.	Arnold's.	
	Course II.	Two.	Six of Æneid.	Eight, or six and Cato Major.	Harkness or Arnold's.	Four.	Two.	Arnold's.	
Illinois Industrial University (Non-sectarian), Urbana, Illinois. Both Saxes. Established 1365.	Classical.	Four. <sup>13</sup>	Six of Æneid.	Six.	First two parts Harkness, or Arnold's, to Pas. Voice.	Four.		Arnold's or Jones's.	
	English and Modern Languages.	Four.	Six of Æneid.		First two parts Hark- ness, or Ar- nold's, to Pas. Voice.				
Indiana Asbury Uni- versity (Methodist), Greencastle, Indiana. Both Sexee. Established 1887.	Classical.	Two.	Two of Æneid.		Harkness two parts.	Two.		Jones's.	
	Philosoph- ical.	Two. <sup>18</sup>	Two of Æneid.		Harkness two parts.				
Iowa State Univer- sity (Non-sectarian),	Classical.	Two. <sup>34</sup>	Six of Æneid.	Four.	Allen and Greenough, or equivalent.	Ahn's (	German, wit Reader.	h Adler's	
Iowa City, Iowa. Both Sexes. Established 1860.	Scientific.					Ahn's (	Ahn's German, with Adler's Reader.		
Johns Hopkins Uni- versity, Baltimore, Maryland. Established 1876.	Classical.	Four. Also Ovid, 2,500 verses. 13	Five of Æneid, Eclogues, also Livy, Book 21.	Seven, also Horace, Odes, Books 1 and 2.	Harkness, or equivalent.	Three, also He- rodotus, Book 8.	Three, also Eu- ripides's Medea, or any one play.	Jones's.	
	Scientific.	Four. Also Ovid, 2,500 verses.	Five of Æneid, Eclogues, also Livy, Book 21.	Seven, also Horace, Odes, Books 1 and 2.	Harkness, or equivalent.	Proficien Germa ough Gramu and w	ncy in Fra 111, includi acquainta: mar. Abili rite these h	ench and ng thor- nee with ty to read anguages.	

<sup>10</sup> These two courses are called Method II. Method I. prescribes a minimum requisition in every study, and a maximum in two, to be selected from the four following principal studies, Latin, Greek, Mathematics, Physical and Natural Science. Method I. will be used exclusively in 1851 and thereafter, as follows: Minimum in Latim—Casear, four books; Vingil, four of *Ene*id, and Eclogues; Easy Lutin at sight; Latin Prose. Maximum—Virgil's *Ene*id, Books V.-IX.; Ciecro's Orations against Catiline; average passages from Ciecro's Orations at sight. Minimum in Greek—Anahasis, four books; Thiad, two books; White's Lessons in Greek, fifty-one lessons. Maximum—Herodotus in Goodwin (pages 112–191), and Iliad, Books III., IV., and VI. Minimum in Mathematics—As in Course I. Maximum—Logarithms and Plane Trigonometry, and Solid Geometry. Minimum in Science—Rolfe's and Gillette's Natural Philosophy, or first two parts of Arnott's Physics. Maximum—Arnott's Physics to Part IV, See. III., and either Eliot and

MATHEMATICS.							
Algebra.	Geometry.	Trigonometry.	MISCELLANEOUS.	GENERAL REMARKS.			
Through Quad. and Logs.	All Plane or thirteen chap- ters Pierce.		Common English, including Met- ric System, Ancient History (Smith's Smaller) and Geogra- pby, Physical Geography and Science, <sup>15</sup> French or German.	Departments of Law, Theology, and Medicine, and Post-Graduate courses; also Schools of Dentis- try and Agriculture, Teachers' courses in Lawrence Scientific School, and elective courses of			
All.	Plane and Sol- id. Also Ele- ments of Plane Analytical Geometry.	Six chapters Pierce, or eight chap. Chauvenet, large print.	Common English, including Met- ric System, Ancient History and Geography, Physical Geog- raphy and Science, French or German, easy translations.	study. There may be two exam- inations for admission, one year apart, but at the preliminary examination students must pass in at least five subjects entire. More than 1,800 students.			
Through Quad.	Plane and Solid.		Common English, including Met- ric System and Word Analysis, Elements of English Composi- tion.	Maintains four colleges, namely, Agriculture, Natural Science, Literature and Science, Engi- neering, in each of which are			
Through Quad.	Plane and Solid.		Common English, including Met- ric System and Word Analysis, Dalton's Physiology, Elements of English Composition, Botany, Peck's Ganot's Philosophy.	several Schools or Departments. There are also Schools of "Mili- tary Science," "Domestic Sci- ence," and Art. It is eminent- ly a Polytechnic Institution.			
Olney's complete.			Common English, including Met- ric System, Physical Geogra- phy, Boolt-keeping, Geography of Heavens, Physiology, Draw- ing, Natural History, Elements of Natural Philosophy.	Admits students at fourteen. Main- tains a Theological and Normal course. Military drill required			
Olney's complete.			Common English, including Met- ric System, Physical Geogra- phy, Book-keeping, Geography of Heavens, Physiology, Draw- ing, Natural History, Elements of Natural Philosophy.	the first two years ; optional, last two. Several prizes.			
Ficklin's Univer- sity.	Two books Robinson.		Common English, Hart's Compo- sition and Rhetoric, Dalton's Physiology, Elements of As- tronomy.	Maintains Departments of Law, Medicine, and Civil Engineering.			
Ficklin's Univer- sity.	Two books Robinson.		Common English, Hart's Compo- sition and Rhetoric, Dalton's Physiology, Elements of As- tronomy, Chemistry, Physics, and Mineralogy.	Students must be sixteen. Sev- eral prizes awarded. Greek commenced with Freshman year.			
Todhunt- er, chapters 1–38.	Chauvenet's, nine books, also minimum course of Howison's Analytical.	Chauvenet's, eight chap- ters, also use of Logs.	Common English, including Met- ric System, Ancient History and Geography, Greek and Roman Antiquities; also one of the fol- lowing: Botany, Natural Phi- losophy, Physical Geography.	Maintains extended courses of in- struction beyond the regular Col- lege course. Númerous lecture courses in Classics and Sciences. Unusual facilities for Laboratory			
Todhunt- er, chapters 1-38.	Chauvenet's, nine books, also minimum course of Howison's Analytical.	Chauvenet's, eight chap- ters, also use of Logs.	Common English, including Met- ric System, Ancient History and Geography, Greek and Roman Antiquities; also one of the fol- lowing: Botany, Natural Phi- losophy, Physical Geography.	practice. Several scholarships Four examinations—prelimina- ry, matriculation, baccalaureate, final. It is eminently a Post- Graduate Institution.			

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Storer's Chemistry, or Botany (Gray's "How Plants Grow"); English and French, or German, as in "Miscellaneous." Candidates should have a thorough acquaintance with English Literature. <sup>11</sup> Salluat's Catiline, 4,000 lines of Ovid, and Cato Major, are preferred in place of two books of Cæsar, two Orations of Cicero, and the last five books of the English. <sup>18</sup> Roman pronunciation. <sup>19</sup> Roman pronunciation. <sup>14</sup> English pronunciation. <sup>15</sup> In Physical Science, pupils should prepare in Gray's "How Plants Grow," with analysis of simple specimens, or Balfour Stew-art's "Primer of Physics," with knowledge of simple experiments, or Rolfe and Gillet's "Handbook of the Stars" (124 pages), or Roscoe's "Primar of Chemistry."

		LATIN.				GREEK, OR MODERN LANGUAGES.		
NAME OF COLLEGE, OR UNIVERSITY.	Course.	Com. of Cæsar, No. of Books.	Virgil.	Orations of Cicero.	Latin Prose.	Books Anabasis.	Books Homer.	Greek Prose.
Kenyon College (Episcopalian), Gambier, Ohio. Established 1924.	Classical (all courses).	Three.	Four of Æneid.	Four.	Arnold, seven chapters.	Three.	One.	Simple exercises.
Lafayette College (Presbyterian), Easton, Pennsylvania. Established 1882.	Classical.	Four. <sup>16</sup>	Six of Æneid, and Bucolics.	Seven.	Harkness, Part I.	All.	None but Gospels in Greek Tes- tament, ex- cept Mark.	Arnold's twenty sections, or Jones's twelve lessons.
	Scientific.	Four (op- tional).	Six of Æneid, Bucolics (optional).	Seven (op- tional).	Harkness, Part I. (optional).			
Meadville, or Alle- gheny College (Methodist), Meadville, Pennsylvania. Both Sexes. Established 1815.	Classical (all courses).	Four, or Sal- lust's Cati- line. <sup>17</sup>	Six of Æneid, and Bucolics.	Eight.	Harkness, two parts, or equivalent.	Four books Anabasis, and Goodwin's Reader, or six terms French or German.		
Michigan State Uni- versity	Classical.	Four. <sup>17</sup>	All of Æneid.	Six.	First two parts Hark- ness, or Ar- nold, forty- four exercises.	Three.		Jones's, or Arnold's.
(Non-sectarian), Ann Arbor, Michigan. Both Sexes. Established 1841.	Scientific.	18				Otto's Grammar, with sever five pages Bocher's Ott French Reader.		h seventy- r's Otto's
Middlebury College (Congregational), Middlebury, Vermont. Established 1797.	Classical (all courses).	Four. <sup>17</sup>	Six of Æneid, and Bucolics.	Six.	Arnold's, six chapters.	Three.	Two.	Jones's twelve lessons.
Minnesota State Uni- versity	Classical.	Three.	Four of Æneid.	Four.		Three.		
(Non-sectarian), St. Anthony, Minnesota. Both Sexes. Established 1863.	Scientific.							

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<sup>16</sup> English pronunciation. <sup>17</sup> Roman pronunciation. <sup>18</sup> One year's study of Latin will be required for admission to the course on and after September, 1879. Jones's First Latin Book, or Harkness's Latin Reader.

	MATHEMATICS.					
Algebra.	Geometry.	Trigonometry.	MISCELLANEOUS.	GENERAL REMARKS.		
To Quad.	Tappan's, to and including theory of Par- allel Lines.		Common English, including Met- ric System, Ancient Geography, Liddell's History of Rome, twen- ty-four chapters, Smith's His- tory of Greece to page 102; Baird's Classical Manual is also recommended.	Maintains a Theological course.		
To Quad.	Plane, two books.		Arithmetic, Metric System, Geog- raphy, Ancient and Modern.	Maintains special courses in Civil Engineering and Chemistry, Min- ing Engineering, and Metallurgy; also, a Post-Graduate course.		
Through Quadrat's.	Plane, two books.		Common English, Metric System, Elements of Natural Philosophy, Outlines of History, general con- tents of Bible.	Awards several prizes. Has a Law Department, which em- braces two years of study.		
Algebra complete.	Three books.		Arithmetic, English Grammar, Or- thography, general facts of History, Physiology, Elements of Natural Philosophy and Bot- any.	Students admitted at fifteen. School of Military Science recently es- tablished. In Scientific course, French and German take the place of much of the Greek and Latin of the Classical course. There is a course of Latin and Modern Languages, which omits Greek entirely.		
Olney's, complete, to Appendix.	Plane, Solid, Spherical, or Olney, two parts.		Common English, <sup>19</sup> including Met- ric System, Hart's Rhetoric, An- cient Geography (Italy, Greece, and Asia Minor), Grecian and Roman History (Smith's).	Maintains course in Civil Engineer- ing, Mining Engineering, Archi- tecture, and Design; also, De- partments of Law, Medicine, and Surgery (including Homeopathic College of Dentistre		
Olney's, complete, to Appendix.	Plane, Spheri- cal, Solid, or Olney, two parts.		Common English, including Met- ric System, General History (Anderson), Natural Philoso- phy, Gray's Botany, twenty- seven chapters, Shaw's English Literature, Geometrical Draw- ing, Huxley and Youmans's Physiology.	School of Pharmacy; also, a Post-Graduate course. Another course, which shall be the natu- ral sequel of the so-called English Course of High Schools, has re- cently been established. No lan- guages are required, but a thor- ough knowledge of English, Mathematics, and Sciences. Over eleven hundred students.		
Through Quad.	Three books Loomis,		Arithmetic, Ancient History, and Geography.	Maintains several prizes and schol- arships.		
To Theory of Equations.	Plane.		Common English, Outlines of Gen- eral History, English Composi- tion and Rhetoric, Gray's Bot- any, Ancient History and Geog- raphy, Elements of Geology.	Admits students at fourteen. Main-		
To Theory of Equations,	Plane.		Common English, Outlines of Gen- eral History, Gray's Botany, English Composition and Rhet- oric, Physical Geography, Natu- ral Philosophy, Elementary As- tronomy, English History, High- er English Analysis, Physiology, Elements of Geology, Free-hand and Geometrical Drawing.	tains Coneges of Agriculture and Mechanical Arts, with those of Law and Medicine proposed. Mili- tary exercise required in Collegi- ate Department.		

<sup>19</sup> In Eng'ish Language, each candidate will be required to write not less than two pages (foolscap), correct in spelling, punctuation, grammar, etc., on a subject assigned at time of examination.
2

		LATIN.				GREEK, OR MODERN LANGUAGES.		
NAME OF COLLEGE, OR UNIVERSITY.	Course.	Com. of Cæsar, No. of Books.	Virgil.	Orations of Cicero.	Latin Prose,	Books Anabasis.	Books Homer.	Greek Prose,
Northwestern Uni- versity (Methodist), Evanston, Illinois. Both Sexes. Established 1855.	Classical.	Four.º0	Eight of Æneid.	Seven.	First two parts Harkness, or equivalent.	Three.	Three.	Jones's.
	Scientific.			•				
Notre Dame Univer- sity (Roman Catholic), Notre Dame, Indiana, Established 1842.	Classical.	Two. <sup>21</sup>	Nepos, five lives, instead of Virgil.	St. Je- rome Hi- larionis Vita, in- stead of Cicero.	Arnold, fifty exercises.	Three.		Simple exercises.
	Scientific.	÷				A good i or Frei	knowledge nch.	of German
Oberlin College (Congregational), <i>Oberlin,</i> <i>Ohio.</i> Both Sexes, Established 1888.	Classical and Scientific.	One. Also Sal.'s Catil. <sup>20</sup>	Five.	Four.	First two parts Harkness, or equivalent.	Three.	Two.	
	Literary.		atin Gramn atin Reader	oar.	First part Harkness, or equivalent.	71 -		
Princeton, or College of New Jersey (Presbyterian), Princeton, New Jersey. Established 1746.	Classical.	Five. Also Sal.'s Catil. or Ju- gurtha.	Six of Æneid.	Six.	First twelve chapters Arnold.	Three.	Two.	First thirty ex- ercises of Arnold.
	Scientific.	Three.	Two of Æneid.					
Rensselaer Polytech- nie Institute (Non-sectarian), Troy, New York. Established 1824.	Civil Engineering.	•						

<sup>20</sup> English pronunciation.
<sup>21</sup> Both English and Continental pronunciation in use.

<sup>22</sup> Roman pronunciation.

MATHEMATICS.		3.				
Algebra.	Geometry.	Trigonometry.	MISCELLANEOUS.	GENERAL REMARKS.		
Through Quad.	Plane.		Common English, including Metric System, Ancient History and Geography, Natural Philosophy.	Maintains Colleges of Law, Music, Medicine, and Theology; <sup>23</sup> also, courses in Civil Engineering, Modern Languages, and Art. Has a Stock-Company Gymna-		
Through Quad.	Plane.		Common English, including Metric System, Elements of Natural Philosophy and Physiology.	sum. A large number of prizes awarded. Very extensive libra- ry. Over four hundred students, exclusive of Preparatory and Theological Departments.		
Robin- son's Uni- versity to Series.	Plane.		Common English, including Metric System, Roman History.	Maintains a Law Department; also in Civil Engineering, Commer- cial and Post-Graduate courses, Gold Medala are awarded for pro-		
Robin- son's Uni- versity to Simple Equations.			Common English, including Metric System.	ficiency; also many other prizes.		
Olney's, complete, or equivalent.	Plane.		Common English, including Metric System, Ancient History, Al- den's Science of Government.	Maintains a Theological course; also, Conservatory of Music. About six hundred students er.		
Olney's, complete, or equivalent.		-	Common English, including Metric System.	clusive of Preparatory Depart- ment; eleven hundred in all.		
Through Quad. of one unknown quantity.	First book Euclid, or equivalent.	-	Common English, including Metric System, Ancient Geography.	Scientific course includes Civil En- gineering and Architecture. Sev- eral prizes and scholarships maintained; also, fellowships for Post-Graduates. No secret societies allowed. Biennial ex-		
Through Quad. of one unknown quantity.	Fîrst book Euclid, or equivalent.		Common English, including Metric System.	aminations in College Depart- ment. Gymnasium, including billiards. Nearly five hundred students.		
Through Quad.	Davies's Legendre, five books.		Higher Arithmetic, including Met- ric System, English Grammar (including Spelling), and Geog- raphy.	This institution, although main- taining but one course of study, offers special advantages to stu- dents desiring discipline in math- ematics, and Physical and Nat- ural Sciences, Graduates num- ber about six hundred.		

<sup>23</sup> The Theological School is called the "Garrett Biblical Institute," and is a corporate institution, entirely distinct from the University.

				LATIN.		GREEK, OR MODERN LANGUAGES.		
NAME OF COLLEGE, OR UNIVERSITY.	Course.	Com. of Cæsar, No. of Books.	Virgil.	Orations of Cicero.	Latin Prose.	Books Anabasis.	Books Homer.	Greek Prose.
Rochester University (Baptist), Rochester,	Classical.	Four. <sup>24</sup>	Six of Æneid.	Four, includ- ing Poet Archias, and Manilian Law.	Harkness's Part II., or Arnold's to Passive Voice, or equivalent.	Three.	One.	
Established 1850.	Scientific.	Four.	Six of Æneid,	Four, as above.	Harkness's Part II., or Arnold's to Passive Voice, or equivalent.			
Simpson Centenary College (Methodist),	Classical.	Two.25	Six of Æneid,		First two parts Harkness.	Three.		Jones's.
Indianola, Iowa, Both Sexes. Established 1866.	Scientific.							
Smith College (Non-sectarian), Northampton, Massachusetts. Woman's. Established 1875.	Classical (all courses).	Four, or Sal- lust's Catil. <sup>25</sup>	Six of Æneid.	Seven.	First thirty exercises Arnold's.	Three.	Two.	First eighteen exercises, Jones's.
Syracuse University (Methodist), Syracuse, New York.	Classical.	Four. Also, Sal.'s Catil. <sup>26</sup>	Six of Æneid.	Four.	First two parts Harkness, or Allen and Greenough's Part I., complete.	Three.	Two.	
Both Sexes. Established 1872.	Scientific.	Four, or equiv.						
Trinity College (Episcopalian), Hartford, Connecticut. Established 1828.	Classical (all courses).	Six. <sup>25</sup>	Six of Æneid, Eclogues, and one of Georgics.	Seven, includ- ing Manilian law.	Twelve chapters of Arnold.	Five.	Two.	Arnold to Section Twelve.
Tufts College (Universalist), College Hill, Massachusetts. Established 1855.	Classical.	Four. Also, Andr.' Ovid's Meta- mor- phoses. 25	Six of Æneid.	Seven, including Manilian Law.	First two parts Harkness, or equivalent.	Four.	Three,	Simple exercises.
	Philosophic.	Four. Also, Andr.' Ovid's Meta- mor- phoses,	Six of Æneid.	Seven, including Manilian Law.	First two parts Harkness, or equivalent.	Otto's Fr Six b	ench Gram ooks Télér	mar entire. naque.

<sup>24</sup> English and Continental. <sup>25</sup> English pronunciation. <sup>26</sup> Both English and Roman pronunciation in use.

	MATHEMATICS.					
Algebra.	Geometry.	Trigonometry.	MISCELLANEOUS.	GENERAL REMARKS.		
To Quad., Robin- son's Uni- versity.	Six books Robinson.		Common English, including Metric System, Gilmore's Art of Ex- pression.	Maintains an Eclectic course for students not candidates for a degree. Maintains several prizes and scholarshing. including. Post-		
To Quad., Robin- son's Uni- versity.	Six books Robinson.		Common English, including Metric System, Gilmore's Art of Ex- pression.	Graduate Scholarships.		
To Quad.	Plane.		Common English, including Metric System, Composition and Rhet- oric, and Natural Philosophy.	Maintains a Law Department (lo- cated at Des Moinea): also Fe		
To Quad.	Plane.		Common English, including Metric System, Composition and Rhet- oric, and Natural Philosophy.	lectic and Commercial courses of study.		
Through Quad.	Two books.		Common English, including Metric System.	Greek required for admission. A Literary course, with special at- tention to Modern Languages, especially English, and a Scien- tific course, with special attention		
				to Mathematics and Natural Sci- ences, are maintained, besides the Classical course, but requirements are the same to all. High-school graduates may take a special course of from one to four years.		
Robinson's University to Quad., including Radicals.	Plane, Davies's Legendre, five books.		Common English, including Metric System, Ancient History, Smith's Greece, fourteen chapters; Meri- vale's Rome, twenty-five chap- ters; Ancient Geography; Nat- ural Philosophy (Steele's).	Maintains a Medical College, also a College of Fine Arts, and a Post- Graduate course. Photography is taught in the College of Fine		
To Quad., as above.	Plane, as above.		Common English, including Metric System, Physical Geography, and Natural Philosophy.	Arts, which also includes Archi- tecture and Engraving.		
Through Quad. (Loomis).	Plane, Loomis's four books.		Arithmetic, English Grammar, in- cluding Orthography, Modern Geography, Roman History in Worcester's Elements, Smith's Smaller History of Greece, An- cient Geography.	Students may pursue special courses of study. Scholarships provided for indigent students. Several prizes. Gymnasium, with exer- cise voluntary.		
Olney's Introduc- tion,	Pierce's Plane.		Common English, including Metric System, Smith's Roman History, outlines of Grecian History and Geography, a brief essay on some standard work in English litera- ture, subjects announced in each annual catalogue.	Maintains a Theological course, also a course in Engineering. There		
Olney's Introduc- tion.	Pierce's Plane.		Common English, including Metric System, Smith's Roman History, outlines of Grecian History and Geography, a brief essay on some standard work in English litera- ture, subjects announced in each annual catalogue.	are twenty-seven scholarships ; also a goodly number of prizes.		

				LATIN.		GREEK, OR MODERN LANGUAGES.				
NAME OF COLLEGE, OR UNIVERSITY.	Course.	Com. of Cæsar, No. of Books,	Virgil.	Orations of Cicero.	Latin Prose.	Books Anabasis.	Books Homer.	Greek Prose.		
Union College (Non-sectarian), Schenertady, New York. Established 1795.	Classical.	Four. Also, Sal.'s Catil., or Jugur- tha. <sup>27</sup>	Six of Æneid.	Six, in- cluding Milo.	Leighton's.	Three.	One.	Jones's.		
	Scientific.									
Vanderbilt Univer- sity (Southern Methodist), Nashville, Tennessee. Established 1873.	Classical.	Four, and Sal.'s Cati- line. <sup>27</sup>	Four of Æneid.	Four Against Cat., also two books Livy.	Harkness, first part, or equivalent.	Two; also two of Memo- rabilia.		Jones's.		
Vassar College, Poughkeepsie, New York. Woman's. Established 1861.	All courses.	Four. <sup>27</sup>	Six of Æneid, and six Eclogues.	Six.		Two. <sup>28</sup>				
Washington and Lee University (Non-sectarian), Lexington, Virginia. Established 1749.	Classical. ( <i>See</i> General Remarks.)	Four.27	Sallust instead of Virgil.	Ovid in- stead of Cicero.	Simple exercises,	Four.		Simple exercises.		
Wellesley College (Non-sectarian), Wellesley,	All courses.	Four. <sup>97</sup>	Six of Æneid, and Eclogues.	Seven.	Harkness's Part I., or Ar- nold's twelve chapters, or Allen and Greenough's Part I.	Elec- tive, until 1881. (See General RE- MARES.)	Elective, until 1881.	Elective, until 1881.		
Massachusetts. Woman's, Established 1875.	Scientific, in 1881.	Four.	Six of Æneid, Eclogues.	Seven.	Arnold's twelve chapters, or equivalent.	A thore Frencl mar; a Frencl and to positio prepar guages	ough know a or Germ ability to re a or Germ o write a s an. Studer re in both 3.	vledge of an Gram- ad at sight an prose, hort com- its should these lan-		

27 Roman pronunciation.

<sup>28</sup> German or French will be accepted in place of Greek.

	MATHEMATICS	l.		
Algebra.	Geomet <del>ry</del> .	Trigonometry.	MISCELLANEOUS.	GENERAL REMARKS.
To Quad.	Plane, five books.		Common English, including Metric System, and Ancient Geography.	Colleges of Medicine and Law, which are located at Albany. Main- tains departments of Civil Engi- neering and Agriculture. Gymna- sium exercise compulsory. Mili- tary tactics taught. There are
To Quad.	Plane, five books.		Common English, including Metric System.	a large number of scholarships, including prize scholarships; also medals and prizes.
Through Quad.	Plane.		Common English, including Metric System, Ancient Geography, and Mythology.	Maintains a Biblical, Law, and Medical Department; also Post- Graduate courses, and courses in Civil and Mining Engineering. Several medals, prizes, scholar- ships, and fellowships.
Through Quad. Olney's Univer- sity.	Plane, Chauvenet, three books.		Common English, Guyot's Physical Geography, Ancient Geography, Hart's Rhetoric, Universal His- tory (Weber's Outlines), first book.	Admits at sixteen. All students are required to take Latin, and to elect one of the following: Greek, German, or French. Maintains special courses, also a Prepara- tory Department for pupils at least fifteen years of age, who must be able to pass a satis- factory examination in common English.
To Quad.	Plane.		Common English.	The College does not designate its departments as Classical and Sci- entific, but is divided into Elec- tive Schools, and students are allowed large liberty in choice of studies. Maintains a Law Department. Has a Gymna- sium. Several prizes.
Olney's Univer- sity to Part III.	First five books Loomis or Olney's Plane.	,	Common English, including Met- ric System, Physical Geography, French or German.	Students must be sixteen on ad- mission. In 1881, all candidates for Classical course must be fitted in Greek, Anabasis, four books; Iliad, three books; and simple exercises in prose compo- sition, with same requirements in Latin as at present. Special op- portunities are offered to teach- ers. There are courses for hon- ors in Classics and Sciences: also.
Olney's Univer- sity, through Quad.	Olney's Plane	•	Common English, including Met- ric System, Physical Geogra- phy.	Post-Graduate courses. Has a large Gymnasium for the use of students. A prize of \$250 will be given to the student who enters the Freshman Class in Septem- ber, 1879 and 1880, best fitted in Latin, Greek, and Mathematics. To the one best fitted in Greek, \$100; second, \$75; third, \$50; fourth, \$25.

				LATIN.		GREEK, OR MODERN LANGUAGES.				
NAME OF COLLEGE, OR UNIVERSITY.	Course.	Com. of Cæsar, No. of Books.	Virgil.	Orations of Cicero.	Latin Prose.	Books Anabasis.	Books Homer.	Greek Prose,		
Wesleyan University (Methodist), <i>Middletoan</i>	Classical.	29	Bucolics, Georgics, Six of Æneid.	Eight.	First two parts Harkness, or equivalent.	Four.	Three.	Simple exercises.		
Connecticut. Both Sexes. Established 1881.	Scientific.									
Williams College (Congregational), Williamstown, Massachusetts. Established 1798.	Classical. (all courses).	Four. <sup>30</sup>	Six of Æneid, and Georgics.	Seven.	Arnold's, to Passive Voice.	Four.	One.			
William and Mary's College (Non-sectarian, for- merly Episcopalian),	Classical.	Four. <sup>81</sup>	Six of Æneid.			Four.				
Williamsburg, Virginia. Established 1693.	Scientific.									
Wisconsin State Uni- versity (Non-sectarian), Madison	Classical.	Four. <sup>31</sup>	Six of Æneid.	Eight.	First thirty- five chapters Allen's, comp., or equivalent.	Four.	Two.	Jones's.		
Wisconsin. Both Sexes. Established 1850.	College of Arts.									
Yale College (Congregational), New Haven.	Classical.	Four. <sup>29</sup>	Six of Æneid, and Buco- lics and Georgics.	Seven.	First twelve chapters Arnold.	Four.	Three.	Jones's or White's Lessons.		
Connecticut. Established 1701.	Scientific.	Six.			First twelve chaps. Arnold, or Harkness's one hundred and twelve pages.					

<sup>29</sup> English pronunciation. <sup>30</sup> English pronunciation used, Roman preferred.

<sup>\$1</sup> Roman pronunciation.

	MATHEMATICS							
Algebra.	Geometry.	Trigonometry.	MISCELLANEOUS.	GENERAL REMARKS.				
Through Quad.	Five books Chauvenet, or equivalent.		Common English, including Met- ric System.	Students may pursue a Post-Grad- uate course. Long list of prizes.				
Loomis's to General Theory of Equations.	Chauvenet's, to Appendix I.	Chauvenet's, Part I., 8 chaps., large print, Part II., 2 chaps.	Common English, including Met- ric System.	A Gymnasium is provided, with ample apparatus for exercise. Oldest Methodist College in the United States.				
To Quad.	Two books Loomis (Books I. and III.).		English Grammar and Arithmetic, Geography, Ancient and Mod- ern, Outlines Greek and Roman History.	Students may pursue a partial course. The income of over one hundred thousand dollars is de- voted to scholarships for merito- rious students. Long list of prizes.				
To Quad.	Plane.		Common English.	Oldest college in the United States,				
			Common English, especially Arith- metic.	except Harvard.				
Element- ary.	All Plane.		Common English, including Met- ric System, Physical Geogra- phy.	Maintains a Law School and Post- Graduate course; also, schools in Agriculture, Civil Engineering, Mechanical Engineering, Mining, Metallurgy; also, a school in Mili-				
Element- ary.	All Plane.		Common English, including Met- ric System, Physical Geogra- phy, Physiology, Botany, Nat- ural Philosophy.	tary Science. Military drill is re- quired of Freshmen and Sopho- mores. Requirements for techni- cal courses are same as for Soph- omore Class of College of Arts,				
Loomis's to Loga- rithms.	Euclid two books, or Loomis's Books I., III., and IV.		English Grammar, Geography, and Arithmetic, including Metric System, Greek History (Smith's or Fyffe's).	Colleges of Law, Theology, Medi- cine, School of Fine Arts, Post- Graduate course. Several prizes. Scholarships and fellowships.				
Loomis's Treatise to General Theory of Equations.	Chauvenet nine books, or Loomis, with app. to Transversals.	Wheeler's or Richards's Plane,	English Grammar, U. S. History, Geography, and Arithmetic, in- cluding Metric System, Natu- ral Philosophy—Snowball and Lund.	Gymnasium for physical exer- cise; over one thousand stu- dents. Ladies admitted to School of Fine Arts.				

#### CLASSIFICATION OF UNIVERSITIES AND COLLEGES IN

This classification, in general, gives the number of pupils in attendance during the present college year of 1878–779, although the statistics of a few colleges are from the Catalogues of one of the two previous years. It has been difficult in all cases to separate the students of the classical from those of the scientific and technical courses; but, as these statistics are of special interest in view of the "new education" theory, great care has been taken to make them authentic, and in nearly all cases where the catalogues have failed to draw the lines of distinction the compiler has obtained the facts from direct correspondence

NAME OF COLLEGE	Students pursuing the	Students	Total		. PROFESSIONAL
NAME OF COLLEGE.	Classical Course, <sup>32</sup>	Technical Courses. 33	Academic Depart- ments.	Medicine.	Law.
Columbia College	227	231	458	418	462
Harvard University	877	459	836	238	160
Yale College	587	166	758	58	68
Princeton College	377	89	416	No Med. Department.	No Law Department.
Dartmouth College	212	69	281	100	No Law Department.
Union College	88	80	168	123	· 92
Vanderbilt University	52	74	126	171 *	26
Amherst College.         Lafayette College.         Brown University.         Bowdoin College.         Williams College.         Hamilton College.	<b>317</b> <b>161</b> <b>195</b> <b>116</b> <b>194</b> <b>160</b>	10 99 20 26 None. None.	827 260 215 142 194 160	No Med. Department. No Med. Department. 93 No Med. Department. No Med. Department. No Med. Department.	No Law Department. No Report. No Law Department. No Law Department. No Law Department. 17
Institute	None.	166	166	No Med. Department.	No Law Department.
Rochester University	114	33	147	No Med. Department.	No Law Department.
versity	52	62	114	No Med. Department.	. 20
Trinity College	100	2	. 102	No Med. Department.	No Law Department.
Johns Hopkins University	46		46	No Med. Department.	No Law Department.
Tufts College	55	19	74	No Med. Department.	No Law Department.
Kenyon College	32	8	40	No Med. Department.	No Law Department.
Middlebury College	56	None.	56	No Med. Department.	No Law Department.
Total	8,518	1,563	5,081	. 1,196	845

I. COLLEGES ADMITTING

<sup>32</sup> Those who pursue both Latin and Greek.

<sup>33</sup> Courses which do not require both Latin and Greek.

#### REFERENCE TO THE NUMBER OF STUDENTS IN ATTENDANCE.

with the Presidents of the colleges, so that we believe them to be more nearly correct than those ever before published. The first list contains the Colleges which are at present open to gentlemen only, and have with one exception no preparatory department; the second list contains those which admit both sexes, and is classified according to sexes, and contains also the enumeration of students in the preparatory department. It will be noticed that, of the thirty-eight colleges, thirteen sustain preparatory schools, with a sum total of 1,652 gentlemen and 748 ladies.

GENTLEMEN ONLY.

SCHOOLS.	Other Rohoole	Post-	Grand	DEMADES
Theology.	Other Schools,	Graduates.	Totals.	LEMARKS.
No Theological Department.	No other Schools.	7	1,340	§ 231 are in School of Mines. For col- lege year of 1877-78.
23	Agricultural School, 4; Dental School, 13.	} 52	1,326	Post-Graduates include candidates for higher degree; holders of fellow- ships and others not candidates for degrees. For college year of 1878-'79.
67	Fine Arts, 30; of whom 22 are ladies.	46	1,022	For college year of 1878–'79. Ladies admitted to School of Fine Arts.
No Theological Department.	Special Course, 11.	68	495	For college year of 1878–'79. Post- Graduates include 10 holders of fellowships
No Theological Department.	Partial Course, 3.	1	385	For college year of 1878-'79.
No Theological Department.	No other Schools.	None.	383	Law and Medical Schools located at
			1	( Albany. ( Courses consist of a large number of
59	No other Schools.	None.	382	schools in Elective studies. For college year of 1876-777.
No Theological Department.	Partial Course, 6.	2	335	For college year of 1878-'79.
No Theological Department.	No other Schools.	7	267	For college year of 1877–'78.
No Theological Department.	No other Schools	None.	245	For college year of 1878–79.
No Theological Department.	Partial Course, 14.	None.	208	For college year of 1878-'79.
No Theological Department.	No other Schools.	None.	177	For college year of 1878-'79.
No Theological Department.	No other Schools.	None.	166	Sustains only a course in Civil Engi-
No Theological Department.	Eclectic Course, 6.	None.	153	For college year of 1877-'78.
No Theological Department.	No other Schools.	None.	134	For college year of 1876-'77.
			110	(For college year of 1877-'78. Stu-
No Theological Department.	Special Courses, 10.	None.	112	Latin.
No Theological Department.	No other Schools.	58	104	) No courses recognized. College large- ly Post Graduate in its influence.
25	No other Schools.	None.	99	For college year of 1878-'79.
7	Preparatory School, 24 : Irregulars 3	{ None.	74	For college year of 1877-'78.
No Theological Department.	No other Schools.	None.	56	For college year of 1878-'79.
181	138	255	7,696	

CLASSIFICATION OF UNIVERSITIES AND COLLEGES, IN REFERENCE TO THE NUMBER OF STUDENTS IN ATTENDANCE.

II. THOSE WHICH ADMIT BOTH SEXES.

				-			-			-									
Constrained to construct with a manual procession, and a man		STUDEN	TS PUI	BNING	SCIEN	TIFIC	AND URSES.							PROFESS	IONAL SC	HOOLS.			
Contracts.         End         End <th< th=""><th></th><th>CLASSI INCLU LATIN</th><th>DING</th><th>OURSE, BOTH GREEK.</th><th>BOTH G</th><th>REQUIE LATIN REFK.</th><th>AND</th><th>POTAL I DEPA</th><th>N ACA</th><th>DEMIC NT.</th><th>CIK.</th><th>INIDIGE</th><th></th><th></th><th>LAW.</th><th></th><th>H.L.</th><th>IROLOGY.</th><th></th></th<>		CLASSI INCLU LATIN	DING	OURSE, BOTH GREEK.	BOTH G	REQUIE LATIN REFK.	AND	POTAL I DEPA	N ACA	DEMIC NT.	CIK.	INIDIGE			LAW.		H.L.	IROLOGY.	
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	iversity, Syracuse, New	14	4	75	36	13	49	107	17	124	43	Ð	48	No Law	r Departm	ient.	No Theo	 logical D	epart.

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<sup>35</sup> Distinct from the University, and called the "Garrett Biblical Institute."

34 College of Agriculture.

#### CLASSIFICATION OF UNIVERSITIES AND COLLEGES,

CLASSIFICATION OF UNIVERSITIES AND COLLEGES, IN REFERENCE TO THE NUMBER OF STUDENTS IN ATTENDANCE-(Continued).

II. THOSE WHICH ADMIT BOTH SEXES.

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	REMARKS,	For year 1878-'7	For year 1878-'7	For year 1877-'71	For year 1877-77	Academic Depar of 1878-779. Other Departm'	For year 1877-'78	For year 1878-'7:	For year 1878-'75	For year 1877-'7
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GRA	Gentlemen.	1,229	558	657	609	510	481	422	337	290
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NAME OF COLLEGE.		University of Michigan, Ann Arbor.	Oberlin College, Oberlin, Ohio	Northwestern University, Evanston, Illinois	Boston University, Boston, Massa- chusetts	University of Iowa, Iowa City	Chicago University, Chicago, Illinois.	Cornell University, Ithaca, New York	University of Wisconsin, Madison	Syracuse University, Syracuse, New York

#### IN REFERENCE TO THE NUMBER OF STUDENTS IN ATTENDANCE.

29

<sup>37</sup> Preparatory Schools not located at Syracuse.

<sup>36</sup> Mostly in College of Fine Arts.

CLASSIFICATION OF UNIVERSITIES AND COLLEGES, IN REFERENCE TO THE NUMBER OF STUDENTS

# IN ATTENDANCE.

# SEXES. THOSE WHICH ADMIT BOTH II.

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STUDENT	CLASSIC INCLUI LATIN	Gentlemen.	142	22	17	82	36	34	127	11	114	1,347	38 Classi
	NAME OF COLLEGE.		ndiana Asbury, Greencastle	Juiversity of California, Berkeley, California	Jornell College, Mount Vernon, Iowa,	llinois Industrial or State Univer- sity, Urbana	Jniversity of Minnesota, Falls of St. Anthony	Nllegheny College, Mcadville, Penn- sylvania	Vesleyan University, Middletown, Connecticut	impson Centenary, Indianola, Iowa.	Jolby University	Totals.	

<sup>39</sup> Literature and Science.

CLASSIFICATION OF UNIVERSITIES AND COLLEGES,
CLASSIFICATION OF UNIVERSITIES AND COLLEGES, IN REFERENCE TO THE NUMBER OF STUDENTS

IN ATTENDANCE-(Continued).

II. THOSE WHICH ADMIT BOTH SEXES.

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#### IN REFERENCE TO THE NUMBER OF STUDENTS IN ATTENDANCE.

41 Of which 171 are unclassified.

31

<sup>40</sup> Of whom 129 are otherwise mentioned.

## FACTS FROM THE ENUMERATION OF STUDENTS.

As a result of the increasing interest in the study of the sciences, and the desire on the part of colleges to have their courses suited to the individual taste and talent of students, many and important changes have been made in the courses of study. Some of the colleges, without encroaching upon the time-honored classics, have extended their curricula, thereby encouraging students to pursue post-graduate studies, as specialties; others have partially eliminated the Greek, to make room for the sciences; others still have substituted French or German for Greek in a so-called Latin-scientific course, and a few have abandoned distinct arbitrary courses entirely, and extended to students the privilege of electing their studies throughout the college curriculum.

To show how far these changes have affected the study of the classics—i. e., Latin and Greek—in different sections of the country, we present the following from the foregoing statistics :

In the thirteen colleges of the New England States, out of a total of 3,434 students in college departments, 2,568, or nearly seventy-five per cent., are in the classical course.

In the nine colleges of New York, New Jersey, and Pennsylvania, out of a total of 2,368 in college department, 1,302, or nearly fifty-four per cent., are in the classical course.

In the sixteen colleges west and south of Pennsylvania, out of a total of 2,941 in college department, 1,259, or less than forty-three per cent., are in the classical course.

These facts show that the students, in the colleges of the Western States particularly, are inclined to pursue the sciences and the modern languages, especially German, in the place of the Greek, while three fourths of all the students in the New England colleges still adhere to the study of the Greek.

In the colleges which admit both sexes, out of a total of 3,776 in the college department, 891, or nearly twenty-four per cent., are ladies. Of the 891 ladies in these colleges, 274, or nearly thirty-one per cent., are in the classical course; 492, or fifty-five per cent., are in the scientific or technical courses; 135 in the Medical Department; four in the Law Department; and three in the Theological Department; seven are in post-graduate courses, which is eleven per cent. of all in this department, and the remainder are pursuing studies in college departments, but not in regular courses. In the thirty-nine colleges, whose summary of students is given, there are more than 16,700 students, of whom 2,400 are in preparatory departments; 9,487 in the college department proper; 2,304 are pursuing the study of medicine; 1,840 the law; 456 theology; while 317 are in post-graduate courses. Of the entire number, 2,053 are ladies.

#### ANCIENT HISTORY AND CLASSICAL GEOGRAPHY.

THE college catalogues are largely indefinite in their statements of requirements for admission in these important branches, and, as a result, preparatory schools do not generally teach them with sufficient care and exactness, and students, on entering college, often find themselves sadly deficient in the systematic knowledge of the historical events and the geography of the classics which they have read.

All pupils in classics should provide themselves with a Classical Atlas (Appletons' or Long's); with a Classical Dictionary (Smith's or Anthon's); with a Dictionary of Antiquities (Anthon's); with Smith's History of Greece, Smith's, Merivale's, or Liddell's History of Rome, or equivalent books, and with Baird's Classical Manual. Let the study in these subjects be systematic and thorough, and students will find that the knowledge gained and the discipline secured, even though it may add a year to their preparatory work, will amply repay for the expense incurred and the time employed.

We therefore give on this page a more detailed account of the exact requirements of some of the universities, and earnestly recommend all students preparing for college to secure competent instruction in at least an average of what these several colleges require.

#### HARVARD UNIVERSITY

requires "Greek History to the death of Alexander; Roman History to the death of Commodus. Smith's smaller histories of Greece and Rome will serve to indicate the amount of knowledge demanded."

#### MICHIGAN UNIVERSITY

requires "In Grecian History the first three books of Smith's History of Greece, exclusive of the chapters on Literature and Art; an outline of Roman History from the foundation of the city to the battle of Actium." The university requires in Ancient Geography that particularly of Italy, Greece, and Asia Minor. Appletons' Hand-book or Atlas of Ancient Geography is undoubtedly the best; Long's Classical Atlas is also excellent.

#### CORNELL UNIVERSITY

requires "Smith's smaller history of Greece."

#### BOSTON UNIVERSITY

requires "History of Greece till its conquest by the Romans; History of Rome to Constantine. Smith's Manuals will suffice." Ancient Geography, "sufficient to illustrate all the authors read."

#### SYRACUSE UNIVERSITY

requires "Merivale's History of Rome, first twenty-five chapters; Smith's larger History of Greece, the first fourteen chapters. Ancient Geography, particularly that of Italy, Greece, and Asia Minor." Appletons' Hand-book or Atlas will suffice.

## CLASSIFICATION OF COLLEGES AND UNIVERSITIES IN REFERENCE TO THE LATIN PRONUNCIATION IN USE OR PREFERRED.

The recent philological researches and discussions on the subject of Latin pronunciation have quite revolutionized the methods of pronunciation in the colleges and universities of our own country, and it becomes a matter of great interest and importance to the high schools and all college preparatory institutions which method prevails among the best classical scholars. It is not ours to judge, but we present below carefully-prepared statistics, tabulated from correspondence with the presidents or Latin professors in all these institutions. While it is true that no college refuses admission to a candidate who may be proficient in either the English, Roman, or so-called Continental pronunciation, it is nevertheless a lamentable fact that pupils applying for admission to colleges are rarely proficient in any particular method. The English and Roman methods are peculiarly distinct, and one or the other should be chosen and thoroughly taught. It will be noticed as a fact of interest that the two oldest colleges of New England differ in their preference : Harvard chooses the Roman, and Yale the English.

NAME OF COLLEGE.	LOCATION.	LATIN PROFESSOR.		
Amherst	Amherst, Mass	Edward P. Crowell, A. M.		
Bowdoin	Brunswick, Me	John Avery, A. M.		
Brown	.Providence, R. I	John L. Lincoln, LL. D.		
Colby	.Waterville, Me	Julian D. Taylor, A. M.		
Dartmouth	Hanover, N. H	.Rev. Henry Elijah Parker, A. M.		
Hamilton	.Clinton, N. Y	.Rev. Abel Grosvenor Hopkins, A. M		
Iowa State	.Iowa City, Iowa	.Amos N. Currier, A. M.		
Kenyon	.Gambier, Ohio	.Rev. Edward C. Benson, A. M.		
Lafayette	.Easton, Pa	.Rev. Lyman Coleman, D. D.		
Northwestern	Evanston, Ill	.Daniel Bonbright, A. M.		
Oberlin	.Oberlin, Ohio	. Giles W. Shurtleff, A. M.		
Rochester 42	.Rochester, N. Y.	.William C. Morey, A. M.		
Simpson Centenary	.Indianola, Iowa	.C. H. Burke, M. A.		
Syracuse	.Syracuse, N. Y	Frank Smalley, A. M.		
Smith	.Northampton, Mass.	.Rev. Josiah Clark.		
Trinity	.Hartford, Conn	.George O. Holbrooke, M. A.		
Tufts	.College Hill, Mass	.Heman A. Dearborn, A. M.		
Wesleyan	.Middletown, Conn	.Rev. Calvin Sears Harrington, D. D.		
Williams <sup>43</sup>	. Williamstown, Mass	.Rev. Edward Herrick Griffin, A. M.		
Yale	New Haven, Conn	.Thomas A. Thacher, LL. D.		

#### COLLEGES WHICH USE OR PREFER THE ENGLISH PRONUNCIATION.

49 Continental also in use.

43 English in use, but Roman preferred by Latin Department.

#### CLASSIFICATION OF COLLEGES AND UNIVERSITIES.

#### COLLEGES WHICH USE OR PREFER THE ROMAN PRONUNCIATION.

NAME OF COLLEGE.	LOCATION.	LATIN PROFESSOR.
Allegheny	Meadville, Pa	.George W. Haskins, A. M.
Boston	Boston, Mass	.Truman H. Kimpton, A. M.
California State	Oakland, Cal	. Martin Kellogg, A. M.
Chicago	Chicago, Ill.	Heman H. Sanford, A. M., Ph. D.
Columbia	New York City	.Charles Short, LL. D.
Cornell	Mount Vernon, Iowa	Rev. Hugh Boyd, M. A.
Cornell	Ithaca, N. Y.	.Tracy Peck, M. A.
Harvard	Cambridge, Mass	.George Martin Lane, Ph. D.
Illinois Industrial	Urbana, Ill	.James D. Crawford, M. A.
Indiana Asbury	Greencastle, Ind	Lewis L. Rogers, Ph. D.
Johns Hopkins	.Baltimore, Md	. Charles D. Morris, A. M.
Michigan State	Ann Arbor, Mich	.Henry S. Frieze, LL. D.
Middlebury	Middlebury, Vt	.Solon Albee, A. M.
Minnesota State	St. Anthony, Minn	Jabez Brooks, M. A., D. D.
Notre Dame 44	Notre Dame, Ind	.Rev. Thomas E. Walsh, C. S. C.
Princeton	Princeton, N. J	. William A. Packard, Ph. D.
Union	Schenectady, N. Y	.Rev. Robert T. S. Lowell, D. D.
Vanderbilt	Nashville, Tenn	.B. W. Arnold, M. A.
Vassar	Poughkeepsie, N. Y	. Charles J. Hinkel, Ph. D.
Washington and Lee	Lexington, Va	. Carter J. Harris, A. M.
Wellesley	Wellesley, Mass	.Frances E. Lord.
William and Mary's	.Williamsburg, Va	.Rev. L. B. Wharton, A. M.
Williams <sup>43</sup>	Williamstown, Mass	.Rev. Edward Herrick Griffin, A. M.
Wisconsin State	Madison, Wis	.William F. Allen, A. M.

Nore.-Excluding the two which seem to vibrate between the English, Roman, and Continental, or do not express a decided preference for either, we have twenty-two which use or prefer the Roman, eighteen the English, and one the Continental. All the Roman Catholic Institutions use the Continental.

44 Continental.

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### ROMAN PRONUNCIATION.

HARVARD, Cornell (New York), and Michigan State Universities are, perhaps, the most prominent colleges which take the lead in earnestly recommending the adoption of this method, and we therefore give the scheme in detail as promulgated by these institutions, in their latest circulars.

These schemes are essentially the same, and do not materially differ from the method as found in the latest revised edition of Harkness's Latin Grammar, which also contains the fullest description of the English method, adhered to by many of the best universities in our country.

#### SCHEME OF MICHIGAN UNIVERSITY.

ROMAN PRONUNCIATION OF LATIN.—This university has adopted the following system of pronunciation, based upon the investigations of Corssen and other eminent philologists, and now employed in its essential features in the universities and leading schools of England and many institutions of this country, as being proved beyond question a close approximation to the Roman pronunciation in the time of Cicero.

#### VOWELS.

 $\tilde{a}$  as in father,  $\check{a}$  as in amend, or in quaff (not as in hat);  $\tilde{e}$  as in they,  $\check{e}$  as in met;  $\tilde{i}$  as in machine,  $\check{i}$  as in pity;  $\tilde{o}$  as in go,  $\check{o}$  as in police (not as in cot);  $\tilde{u}$  as oo in too,  $\check{u}$  as in pull (not as in but); y as i.

#### DIPHTHONGS.

In pronouncing the diphthongs the sound of both vowels is preserved.

ae as the word ay; au as ou in power; oe as oi in oil; eu nearly like u in use; u in ua, ue, etc., like w; ei as in rein.

#### CONSONANTS.

c always as in can; ch as k; g always as in gun; j always as y in young; s always as in sin; t always as in tin; v either as Fr. ou in oui, or like Eng. v.

#### SCHEME OF CORNELL UNIVERSITY.

To answer numerous inquiries in regard to the system of pronouncing Latin now adopted in this university, a statement of its essential deviations from the "English method" is herewith given. The system is, in no proper sense, "new": it is rather the result of investigations independently carried on in different countries and ages to ascertain how the Romans spoke their language at the period of its greatest purity.

#### VOWELS.

Each vowel had, in general, a single elementary sound. Though position somewhat modified the quality of this sound, yet the only important vocal distinction between "long" and "short" vowels was that of quantity. The following are approximate English equivalents of these vowelsounds:

 $\bar{a}$  as in father,  $\check{a}$  as in dogma;  $\check{e}$  as in they,  $\check{e}$  as in valley;  $\check{\imath}$  as in machine,  $\check{\imath}$  as in unity;  $\bar{o}$  as in pole,  $\check{o}$  as in police;  $\bar{u}$  as in rude,  $\check{u}$  as in put.

#### DIPHTHONGS.

In pronouncing the diphthongs, each element should have its own individual sound. But, as these two sounds are made with a single emission of breath, the practical analogies in English are these:

ae (or ai) as ai in aisle; au as ou in house; oe

(or oi) as oi in oil; ei as ei in vein; eu as eu in feud; ui as ui in suite.

#### SEMI-VOWEL.

j uniformly like y; v uniformly like w.

#### CONSONANTS.

c always like k; g always like g in get; s always like s in sit; t always like t in till.

#### SYLLABICATION.

A single consonant between vowels should be joined in pronunciation to the latter. Two or more consonants preceding a vowel should be uttered with that vowel, if the combined consonants begin a Latin (or Greek) word. In compound words, however, the component parts should be pronounced separately.

The above scheme is not claimed to be the exact Roman orthoëpy—the nature of the case must always preclude such absolute knowledge; it is, however, claimed to be so near an approach to the ancient pronunciation that there is full justification for the growing tendency to substitute its main features for the "English method" of speaking Latin—a method which came into being in quite modern times, which is so full of obvious defects that it satisfies few Latinists in England or America, and is an object of amazement and ridicule to classical scholars in other countries.

> TBACY PECK, Professor of Latin, Cornell University, Ithaca, New York.

#### SCHEME OF HARVARD UNIVERSITY.

In Latin, the following pronunciation is recommended:  $\bar{a}$  as in *father*,  $\check{a}$  the same sound, but shorter;  $\bar{e}$  like  $\acute{e}$  in *fete*,  $\check{e}$  as in *set*;  $\check{*}$  as in *machine*,  $\check{*}$  as in *sit*;  $\bar{o}$  as in *hole*,  $\check{o}$  as in *nor*;  $\bar{u}$  as in *rude*,  $\check{u}$  as in *put*; j like y in *year*, c and g like Greek  $\kappa$  and  $\gamma$ .

Norg.—In the so-called Continental method of pronunciation, the sounds of the vowels do not greatly differ from those of the Roman, but there is no fixed law for the sounds of the consonants, especially c, g, j, v; each continental nation yields to the analogies of its own language—for example, the French pronounce Cicero, *Seesayro*; the Germans, *Tseetsayro*; the Italians, *Cheechayro*; the Spaniards, *Theethayro*.

## CLASSIFICATION OF COLLEGES AND UNIVERSITIES IN THE ORDER OF THEIR ESTABLISHMENT.

NAME OF COLLEGE, OR UNIVERSITY.	LOCATION.	PRESIDENT.	Year es- tablished.
1. Harvard	Cambridge, Mass	Charles W. Eliot, LL. D.	1638
2. William and Mary's	Williamsburg, Va	Benjamin S. Ewell, LL. D	1693
3. Yale	New Haven, Conn	Rev. Noah Porter, D. D., LL. D.	1701
4. Princeton	Princeton, N. J.	Rev. James McCosh, D. D., LL. D	1746
5. Washington and Lee	Lexington, Va.	Gen. G. W. C. Lee	1749
6. Columbia	City of New York	Fred. A. P. Barnard, S. T. D., LL. D., L. H. D.	1754
7. Brown	Providence, R. I	Rev. Ezekiel G. Robinson, D. D., LL. D	1764
8. Dartmouth	Hanover, N. H	Rev. Samuel C. Bartlett, D. D	1769
9. Williams	Williamstown, Mass	Paul A. Chadbourne, D. D., LL. D	1793
10. Union	Schenectady, N. Y	Rev. Eliphalet N. Porter, D. D	1795
11. Middlebury	Middlebury, Vt	Rev. Calvin B. Hulbert, D. D	1797
12. Bowdoin	Brunswick, Me	Joshua L. Chamberlain, LL. D	1802
13. Hamilton	Clinton, N. Y	Rev. Samuel G. Brown, D. D., LL. D	1812
14. Allegheny	Meadville, Pa	Rev. Lucius H. Bugbee, D. D	1815
15. Colby	Waterville, Me	Rev. Henry E. Robins, D. D	1819
16. Amherst	Amherst, Mass	Rev. Julius H. Seelye	1821
17. Trinity	Hartford, Conn	Rev. Thomas R. Pynchon, D.D., LL. D	1823
18. Kenyon	Gambier, Ohio	Rev. William B. Bodine, A. M	1824
19. Rensselaer Polytechnic	Troy, N. Y	Hon. James Forsyth	1824
20. Wesleyan	Middletown, Conn	Rev. Cyrus D. Foss, D. D	1831
21. Lafayette	Easton, Pa	Rev. William C. Cattell, D. D	1832
22. Oberlin	Oberlin, Ohio	Rev. J. H. Fairchild.	1833
23. Indiana Asbury	Greencastle, Ind	Alexander Martin, D. D	1837
24. Michigan	Ann Arbor, Mich	James B. Angell, LL. D	1841
25. Notre Dame	Notre Dame, Ind	Very Rev. William Corby, C. S. C	1842
26. Rochester	Rochester, N. Y	Martin B. Anderson, LL. D	1850
27. Wisconsin	Madison, Wis	John Bascom, D. D., LL. D	1850
28. Cornell	Mount Vernon, Iowa	Rev. William F. King, D. D	1851
29. California	Oakland, Cal	John Le Conte, M. D.	1855
30. Northwestern	Evanston, Ill	Oliver Marcy, LL. D. (Acting President)	1855
81. Tufts	College Hill, Mass	Elmer H. Capen	1855
32. Chicago	Chicago, Ill	Rev. Galusha Anderson, D. D	1859
33. Iowa State	Iowa City, Iowa	Hon. Josiah L. Pickard, LL. D	1860
34. Vassar	Poughkeepsie, N. Y	Rev. Samuel L. Caldwell, D. D	1861
35. Cornell	Ithaca, N. Y	Hon. Andrew D. White, LL. D	1865
36. Simpson Centenary	Indianola, Iowa	Rev. T. C. Berry, A. M	1866
37. Illinois Industrial	Urbana, Ill	Rev. John M. Gregory, D. D., LL. D	1868
38. Minnesota State	St. Anthony, Minn	William T. Folwell	1868
39. Boston	Boston, Mass	William F. Warren, S. T. D., LL. D	1871
40. Syracuse	Syracuse, N. Y	Rev. E. O. Haven, D. D., LL. D	1872
41. Vanderbilt	Nashville, Tenn	Landon C. Garland, LL. D	1873
42. Wellesley	Wellesley, Mass	Ada L. Howard	1875
43. Smith	Northampton, Mass	Rev. L. Clark Seelye, D. D., LL. D	1875
44. Johns Hopkins Univers'y	Baltimore, Md	Daniel C. Gilman, LL. D	1876

## CLASSIFICATION OF COLLEGES AND UNIVERSITIES IN REFERENCE TO THE ADMISSION OF THE SEXES.

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#### Colleges exclusively for Gentlemen.

Amherst	Amherst, Mass.
Bowdoin	Brunswick, Me.
Brown	Providence, R. I.
Columbia	New York City.
Dartmouth	. Hanover, N. H.
Hamilton	Clinton, N. Y.
Harvard 45	Cambridge, Mass.
Johns Hopkins	Baltimore, Md.
Kenyon	Gambier, Ohio.
Lafayette	. Easton, Pa.
Middlebury	Middlebury, Vt.
Notre Dame	Notre Dame, Ind.
Princeton	Princeton, N. J.
Rensselaer Polytechnic	Troy, N. Y.
Rochester	Rochester, N. Y.
Trinity	Hartford, Conn.
Tufts	College Hill, Mass.
Union	Schenectady, N. Y.
Vanderbilt	Nashville, Tenn.
Washington and Lee	Lexington, Va.
Williams	Williamstown, Mass
William and Mary's	Williamsburg, Va.
Yale 46	New Haven, Conn.

#### Colleges exclusively for Ladies.

V	assar	•			•				•	.Poughkeepsie, N.Y.
W	Vellesley									. Wellesley, Mass.
31	mith					•				. Northampton, Mass.

#### Colleges which admit Both Sexes.

Allegheny	. Meadville, Pa.
Boston	.Boston, Mass.
California State	.Oakland, Cal.
Chicago	. Chicago, Ill.
Colby	.Waterville, Me.
Cornell (Iowa)	.Mount Vernon, Iowa.
Cornell (New York)	.Ithaca, N. Y.
Illinois Industrial	.Urbana, Ill.
Indiana Asbury	.Greencastle, Ind.
Iowa State	.Iowa City, Iowa.
Michigan State	.Ann Arbor, Mich.
Minnesota State	.St. Anthony, Minn.
Northwestern	.Evanston, Ill.
Oberlin	. Oberlin, Ohio.
Simpson Centenary	.Indianola, Iowa.
Syracuse	.Syracuse, N. Y.
Wesleyan	. Middletown, Conn.
Wisconsin State	.Madison, Wis.

Note.—It is perhaps a significant fact that all the State universities, and all the colleges under the fostering care of the Methodist Church (so far as we have enumerated them), admit both sexes.

45 See Harvard Examinations for Women, pages 48-50.

46 Admits ladies to School of Fine Arts.

## CLASSIFICATION OF COLLEGES AND UNIVERSITIES IN REFERENCE TO CHURCH INFLUENCE OR CONTROL.

VERY few of the colleges are sectarian in practice, but we classify them according to the church influence under which they were established, or by which they are generally fostered.

#### Methodist.

Boston University. Cornell College (Iowa). Indiana Asbury University. Allegheny College. Northwestern University. Simpson Centenary College. Syracuse University. Wesleyan University.

Southern Methodist. Vanderbilt University.

Congregational.

Amherst College. Bowdoin College. Dartmouth College. Middlebury College. Oberlin College. Williams College. Yale College.

#### Baptist.

Brown University. Chicago University. Colby University. Rochester University.

Presbyterian.

Hamilton College. Lafayette College. Princeton College.

#### Episcopalian.

Columbia College. Kenyon College. Trinity College.

Universalist.

Tufts College.

Roman Catholic. University of Notre Dame.

#### Non-Sectarian.

California State University. Cornell University (New York). Harvard University. Illinois Industrial University. Iowa State University. Johns Hopkins University. Michigan State University. Minnesota State University. Rensselaer Polytechnic Institute. Smith College. Union College. Vassar Oollege. Washington and Lee University. Wellesley College. William and Mary's College.47 Wisconsin State University.

47 Formerly Episcopalian.

## REQUIREMENTS FOR ADMISSION TO THE UNIVERSITIES AND COLLEGES IN THE UNITED STATES.

THE forty-four colleges whose specific requirements for admission have been given, fairly represent all the universities and colleges of the country. We give below an average of these requirements, a thorough preparation in which will, we believe, admit a student to any of the institutions whose specific requirements are not stated.

#### I. CLASSICAL COURSE.

#### LATIN.

Four books of Cæsar (Harkness's edition recommended); six books of Virgil's Æneid (Frieze's or Bryce's recommended); eight orations of Cicero, including the Manilian Law (Harkness's recommended); the first two parts of Harkness's Latin Prose Composition, or forty-four exercises in Arnold's or an equivalent, with a thorough knowledge of the Latin Grammar, including Prosody (Harkness's recommended).

#### GREEK.

Xenophon's Anabasis, three books (Boise's recommended); two books of Homer's Iliad (Boise's recommended), omitting Catalogue of Ships, Book II.; simple exercises in Greek Prose Composition, with accents, as may be found in the first lessons of Arnold's, Boise's, or Jones's Greek Prose, with a thorough knowledge of the Greek Grammar (Hadley's or Goodwin's recommended).

#### MATHEMATICS.

Arithmetic, including Metric System; Algebra to Quadratics (Loomis's or Olney's recommended); Plane Geometry (Loomis, Olney, Wentworth, or Chauvenet).

#### ANCIENT HISTORY AND CLASSICAL GEOGRAPHY.

History as found in Smith's smaller histories of Greece and Rome. Classical Geography should be studied from such a book as Appletons' Hand-book, or Long's.

#### COMMON ENGLISH.

A thorough knowledge of English Grammar, with such proficiency in the elements of Rhetoric as will enable the student to spell, punctuate, and paragraph correctly; United States History, Political and Mathematical Geography, with elements of Physical Geography.

#### II. SCIENTIFIC COURSE.

To enter the Scientific courses, a student should have an elementary knowledge of Natural Philosophy, or Botany, or Chemistry; the Science Primers will indicate the amount. The same proficiency in Mathematics as mentioned above, with Algebra through Quadratics, and French and German instead of Latin and Greek, or Latin, with French or German, instead of Greek.

## ENUMERATION OF THE COLLEGES IN THE UNITED STATES.

ABBREVIATIONS USED.								
M. E. Methodist Episcopal. M. E. S. Methodist Episcopal South. M. P. Methodist Protestant. A. M. E. African Methodist Episcopal. Bap. Baptist. F. B. Free Baptist. F. W. B. Free-Will Baptist. S. D. B. Seventh-Day Baptist. Press. Presbyterian. U. P. United Presbyterian. C. P. Cumberland Presbyterian. A. R. P. Associated Reformed Presbyterian.	8. P. Cong, P. E. Luth. Chr. Univ. U. B. Unit. R. C. Fr. G. R. Ref.	Southern Presbyterian. Congregationalist. Protestant Episcopal. Lutheran. Christian. Universalist. United Brethren. Unitarian. Roman Catholic. Friends. German Reformed. Reformed (Dutch).	C. and P. Mor. N. C. Jew. E. A. Mas. State. Non-Sec. U. S. G.	Congregational and Presbyterian. Moravian. New Church. Jewish. Evangelical Association. Masonic. Stato Universities. Non-Sectarian. United States Government. — Unknown. * Admits both sexce. ' * Exclusively for ladies.				

Maine.       Lewiston       F. B.         Buttes College *       Lewiston       F. B.         Bownon College *       Waterville       Bap.         St. Stephen's College.       Brunswick.       Cong.         Obler Virverseiry *       Waterville       Bap.         New Hampshire.       Banover.       Cong.         Vermont.       Hanover.       Cong.         Middlebury.       Cong.       Schaetest.         Norwich University of Vermont.       Burlington.       Non-Sec.         Massachusetts.       Amherst.       Cong.         Massachusetts.       Amherst.       Cong.         Massachusetts.       Amherst.       Cong.         Massachusetts.       Amherst.       Cong.         Soston College.       Boston.       K. C.         Boston College.       Boston.       K. C.         College of the Holy Crones.       College of the Holy Crones.       Non-Sec.         St. Benedic's College.       New Brunswick.       Ref.         College fill.       Univ.       Pensylvania.         Muttass College.       Non-Sec.       Seton Hall College.       New York City.         Muttassource.       College fill.       Nonosec.       Burlington College. <th>STATE.</th> <th>Location.</th> <th>Church or other Control.</th> <th>STATE.</th> <th>Location.</th> <th>Church or other Control.</th>	STATE.	Location.	Church or other Control.	STATE.	Location.	Church or other Control.
Massachusetts.Amherst.Cong.Infinit Huffer Congy.Junito	Maine. Bates College * Bowdoin College Colby University * New Hampshire. Dartmouth College Vermont. Middlebury College Norwich University University of Vermont *.	Lewiston Brunswick Waterville Hanover Middlebury Northfield Burlington	F. B. Cong. Bap. Cong. Cong. P. E. Non-Sec.	New York (continued). St. Lawrence University * St. Stephen's College Syracuse University *. University of City of New York * University of Roches- TER Vassar College † Wells College † Wortin Luther College	Canton Annandale Syracuse Schenectady New York City Rochester Poughkeepsie Aurora Buffalo	Univ. P. E. M. E. Non-Sec. Non-Sec. Non-Sec. Non-Sec. Lath
Rhode Island.       Providence.       Bap.       Franklin and Marshall         BROWN UNIVERSITY.       Providence.       Bap.       College.       Lancaster.       G. R.         Middletown.       M. E.       Lasalle College.       West Haverford.       Fr.         WESLEYAN UNIVERSITY *       Middletown.       M. E.       Labal College.       Providence.       Providence.         WESLEYAN UNIVERSITY *       Middletown.       M. E.       Labale College.       Providence.       Providence.       Providence.       Providence.       Providence.       Providence.       Providence.       Providence.       G. R.         WESLEYAN UNIVERSITY *       Middletown.       M. E.       Lasalle College.       Providence.       Providencore	Massachusetts. Amherst College Boston College College of the Holy Cross Harvard College Smith College † Tufts College † Wellesley College f	Amherst. Boston. Boston. Worcester. Cambridge Northampton College Hill Wellesley. Williamstown	Cong. R. C. M. E. R. C. Non-Sec. Non-Sec. Univ. Non-Sec. Cong.	New Jersey. College of New JERSEY. Rutgers College St. Benedict's College Seton Hall College Burlington College Pennsylvania. ALLEGHENY COLLEGE * Diobinger College	Princeton New Brunswick Newark South Orange Burlington	Pres. Ref. R. C. R. C. P. E. M. E.
New York.Lincoln UniversitySouth BechnelminI. H.Alfred University*Alfred	Rhode Island. Brown University Connecticut. Trinity College Wesleyan University * Yale College.	Providence Hartford Middletown New Haven	Bap. P. E. M. E. Cong.	Franklin and Marshall College Haverford College LAFAYETTE COLLEGE La Salle College * Lebanon Valley College *	Lancaster West Haverford Easton Philadelphia Annville South Bathlehem	M. E. G. R. Fr. Pres. R. C. U. B. P F
Rutgers Female College +       New York City       Non-See.       University of Lewisburg.       Lewisburg       Bap.         RENSSELAER       POLYTECH-       Non-See.       Univer. of Pennsylvania.       Philadelphia       State.         NIC       INSTITUTE       Troy       Non-See.       Ursinus College       Philadelphia       Bap.         St. Francis College       Brooklyn       R. C.       Wash, and Jefferson Col.       Washington       Pres.         St. John's College       Brooklyn       R. C.       Wasnesburg College *	New York. Alfred University * Canisius College Col. of City of New York Col. of St. Francis Xavier COLUMBIA COLLEGE CORNELL UNIVERSITY * Elmira Female College †. HAMILTON-COLLEGE Hobart College Ingham University † Madison University † Manhattan College Rutgers Female College † RENSELLER POLYTECH- NIC INSTITUTE St. Bonaventure's College St. Francis College St. John's College	Alfred. Buffalo New York City New York City Ithaca. Elmira. Clinton Geneva. Le Roy Hamilton. New York City New York City Troy. Allegany. Brooklyn Brooklyn	S. D. B. R. C. City. R. C. P. E. Non-Sec. Pres. P. E. Pres. Bap. Non-Sec. Non-Sec. R. C. R. C. R. C. R. C.	Lincoln University Mercersburg College Monongahela College * Moravian College Muhlenberg College * Palatinate College * Palatinate College * Pansylvania College St. Francis College St. Joseph's College St. Vincent's College * Thiel College * University of Lewisburg. Univer, of Pennsylvania. Ursinus College Villanora College Wash, and Jefferson Col.	Oxford. Mercersburg. Jefferson. Bethlehem Allentown. Newcastle. Myerstown Gettysburg. Loretto. Philadelphia. Batty's Swarthmore Greenville. Lewisburg. Philadelphia. Freeland. Villanora. Washington.	Pres. G. R. Bap. Mor. Luth. Non-Sec. G. R. Luth. R. C. R. C. Fr. Luth. Bap. State. Ref. R. C. Pres. C. P.

#### ENUMERATION OF COLLEGES.

STATE.	Location.	Church or other Control.
Delaware.		
Delaware College	Newark	State.
Maryland.		
Frederick College	Frederick	State.
JOHNS HOPKINS UNIVER.	Baltimore	Non-Sec.
Lovola College	Baltimore	R. C.
Rock Hill College	Ellicott City	R. C.
St. Charles College	Ellicott City	R. C.
St. John's College	Annapolis	State.
Washington College	Chestertown	Non-Sec.
Wes. Maryland College *	Westminster	M. P.
Mount St. Mary's	Emmetsburg	R. C.
Mount St. Clement's	Ilchester	R. C.
Calvert College	New Windsor	R. C.
Virginia.	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
COLLEGE OF WILLIAM		
AND MARY	Williamsburg	Non-Sec.
Emory and Henry Col	Emory	M. E. S.
Hampden-Sidney College	Hampden-Sidney.	Pres.
Randolph-Macon College	Ashland	M. E. S.
Richmond College	Richmond	Bap.
Roanoke College	Salem	Luth.
University of Virginia	Univer. of Va. P. O.	State.
WASH. AND LEE UNIVER.	Lexington	Non-Sec.
West Virginia.		
Bethany College	Bethany	Chr.
West Virginia College	Flemington	F. W. B.
West Virginia University	Morgantown	State.
St. Vincent's College	Wheeling	R. C.
North Carolina.		
Riddle University	Charlotta	Prog
Davidson College	Davidson Col P O	Pres.
North Carolina College	Mount Pleasant	Luth
Rutherford College*	Happy Home	M. E.
Trinity College.	Trinity	M. E. S.
Univer. of North Carolina	Chapel Hill	State.
Wake Forest College	Forestville	Bap.
Weaverville College *	Weaverville	Non-Sec.
Wilson College *	Wilson	Non-Sec.
Yadkin College	Yadkin Col. P. O	Non-Sec.
South Carolina.		
College of Charleston	Charleston	Non-Sec.
Erskine College	Due West	A. R. P.
Furman University	Greenville	Bap.
Newberry College	Walhalla	Luth.
Nofford College	Spartanburgh	M. E. S.
Univer. of South Carolina	Columbia	State.
Georgia.		
Atlanta University *	Atlanta	Non-Sec.
Clark University *	Atlanta	M. E.
Emory College	Oxford	M. E. S.
Gainesville College *	Gainesville	Non-Sec.
Mercer University	Macon	Bap.
Pio Nono College	Macon	K. U.
Orlethorne College	Athens	Pros
Christ's Collogo	Montnelier	PE
Alab	monoponer	
Alabama.	Caramahan	NEG
Howard College	Marion	Ran.
Spring Hill College	Mahila	B C
University of Alabama	Tuscaloosa	State
East Alabama College	Auburn.	M. E.S.
Talladega College	Talladega.	
Winder		
Mississippi.	Contro III	Dan .
Mississippi College.	Clinton	Bap.
mississippi conege	Ommon	Dah.

- STATE.	Location.	Church or other Control.
Lississippi (continued).		
Shaw University *	Holly Springs	M. E.
Alcorn University *	Rodney	Non-Sec.
Jakland College	Oakland	Pres.
Page Christian College	Pass Christian	Blate,
fadison College	Sharon	10. U.
Congaloo University	Tongaloo	
lefferson College	Washington	
Louisiana.		
Thomson University	Baldwin	M. E.
Louisiana State	Baton Rouge	State.
St. Charles College	Grand Coteau	R. C.
Jount Lebanon Univer	Mount Lebanon	Bap.
college of the Immacu.	Jackson	ш. ц. о.
late Conception	New Orleans	R. C.
Leland University *	New Orleans	Bap.
Straight University *	New Orleans	Cong.
Vefferson Uollege	St. James	K. C.
vew offeaus oniversity	New Oricans	ML. IA.
Texas.	Decementille	DO
St. Joseph's College	Columbia	Luth
Jolorado College	Galveston	R. C.
Henderson College *	Henderson	Non-Sec.
Baylor University	Independence	Bap.
St. Mary's College	San Antonio	R. C.
Vaco University *	Waco	M E
Wiley University *	Seguin	R. C.
Salado College *	Salado	Non-Sec.
Southwestern University	Georgetown	M. E. S.
Frinity University *	Tehuacana	C. P.
Arkansas.		
Arkansas College *	Balesville	Pres.
Cane Hill College *	Boonsboro	C. P.
Ark. Industrial Univer	Fayetteville	Ran
st. John's College	Little Rock	Mas.
Rentwolm		
Rentucky.	Rona	Cong
Bethel College	Russellville	Bap.
Cecilian College	Cecilian	R. C.
Central University	Richmond	8. P.
Jentre College	Danville	Pres.
Concord College *	Eminence	Chr
Georgetown College	Georgetown	Bap.
Shent College *	Ghent	Non-Sec.
Kentucky University	Lexington	State.
Kentucky Wesley. Univ.	Millersburg	M. E. S.
St. Mary's College	St. Mary's	R. C.
Warren College	Bowling Green	M. E. S.
Missouri.		
University of Missouri *.	Columbia	State.
Baptist College *	Louisiana	Bap.
Central College	Fayette	M. E. S.
St. Vincent's College	Cape Girardeau	R.C.
Lewis College *	Glasgow	M. E.
Jefferson City College	Jefferson City	P. E.
William Jewell College	Liberty	Bap.
Palmyra College	Palmyra	P.E.
St. Charles College	St. Charles	M.E.S.
Christian Brothers Col.*.	St. Louis	R. C.

#### ENUMERATION OF COLLEGES.

STATE.	Location.	Church or other Control.	STATE,
Missouri (continued). Christian University * Drury College	Canton Springfield	Chr. Cong. Ban	Ohio (continu Muskingien Colle Miami University Wittenham Cult
La Grange College* Lincoln College	La Grange Greenwood	Bap. U. P.	Heidelberg Colleg Urbana Universi
St. Louis University Thayer College * Washington University	St. Louis Kidder St. Louis	K. C. Cong. Non-Sec.	Willoughby Colle University of Wo
Johnson College St. Joseph's College	Macon City St. Joseph	R. C.	Wilberforce Univ Xenia College*.
<b>Tennessee.</b> University of Nashville East Ten. Wes. Univer.*	Nashville Athens	State. M. E.	One-Study Unive Ohio Central Coll
King College Greenville and Tusculum College *	Bristol	Pres.	OBERLIN COLLEGE Geneva College*.
Bethel College * Central Tennessee Col.*. Christian Brothers Col	McKenzie Nashville	C. P. M. E. B. C.	Hebrew Union Co KENYON COLLEGE. McCorcle College
Cumberland University* East Tennessee Univer	Lebanon Knoxville	C. P. Non-Sec.	University of Cinc Wilmington Colle
Henderson Masonic * Hiwassee College	Henderson Hiwassee Col. P. O.	Non-Sec. M. E. S.	Indiana Universit Brookville Colleg
McKenzie College* Manchester College* Maryville College*	McKenzie Manchester Maryville	Non-Sec. Non-Sec. Pres.	Wabash College . Franklin College* Fort Wayne Colle
Mosheim College* Mossy Creek College Neophogen College*	Mosheim Mossy Creek Gallatin	Luth. Bap. Non-Sec.	Concordia Colleg Hanover College. Hartsville Univer
So. Wes. Bap. Univ So. Wes. Pres. Univ Univ. of South	Jackson Clarksville Sewanee	Bap. Pres. P. E.	North Wes. Chr. Union Christian ( Moores Hill Colla
VANDERBILT UNIVERSITY. Woodbury College* Pres Synodical College	Nashville Woodbury La Grange	M. E. S. Non-Sec. Pres	Purdue Universit Salem College
Jonesborough College Union University Franklin College.	Jonesborough Murfreesboro Near Nashville	M. E. Bap. Chr.	Earlham College* St. Meinrad's Col
Michigan. Adrian College*	Adrian	M. P.	Smithson College Howard College
Albion College* St. Philip's College Hillsdale College*	Albion Detroit Hillsdale	M. E. R. C. F. W. B.	INDIANA ASBURY Butler University
Hope College* Kalamazoo College* Olivet College*	Holland Kalamazoo	Ref. Bap.	Bedford College* Illinois.
UNIVERSITY OF MICHI- GAN.	Ann Arbor	State.	ILL. INDUSTRIAL Abingdon College Illinois Wes. Uni
Battle Creek College* Ohio.	Battle Creek	S. D. B.	St. Viateur's Coll Blackburn Univer St. Ignatius Colle
Ohio University* Buchtel College* Baldwin University*	Athens Athens Berea	State. Univ. M. E.	St. Aloysius College*. Lombard University
German Wallace Col.* St. Xavier's College Mount St. Mary's of the	Berea Cincinnati	M. E. R. C.	Knox College* Illinois College* McKendree Colle
West Farmer's College* Capitol University	Cincinnati College Hill Columbus	R. C. Non-Sec. Luth.	Lincoln Universit Monmouth Colleg Northwestern Co
Denison University Harlem Springs College. Western Reserve College	Granville Harlem Springs Hudson	Bap. Non-Sec.	Augustina College Quincy College Jubilee College
St. Louis College Marietta College Mount Union*	Louisville Marietta Mount Union	R. C C. & P. M. E.	Shurtleff College' Westfield College Wheaton College
Franklin College	New Athens	U. P.	UNIV. OF CHICAG

	Location.	Church or other Contro <sup>1</sup> .			
ed).					
ge	New Concord	Non-Sec.			
*	Springboro	Fr.			
ge*	Springfield	Luth.			
	Urbana.	N. C.			
sity*	Westerville	U. B.			
ge* .	Willoughby	M. E.			
oster*.	Wooster	Pres. Unit			
ersitv*.	Xenia	A. M. E.			
	Xenia	M. E.			
rsity*	Delaware	M.E.			
rsity*	Iberia	U. P.			
ege.	Hiram	Chr.			
*	Oberlin	Cong.			
	West Geneva	Pres.			
mege*.	Gambier	P.E.			
*	Sago	Pres.			
einnati*	Cincinnati	Non-Sec.			
ege*	Wilmington	Fr.			
ty*	Bloomington	State.			
e*	Brookville	M. E. Pros			
é	Franklin.	Bap.			
ege*	Fort Wayne	M. E.			
e	Fort Wayne	Luth.			
oity	Hanover	Pres.			
Univ.	Indianapolis	Chr.			
ollege*	Merom	Chr.			
ge*	Moore's Hill,	M. E.			
y	Bourbon	Bap.			
DAME	Notre Dame	R. C.			
••••••	Richmond	Fr.			
lege	St. Meinrad's	R. C.			
*	Logansport	Univ.			
	Kokomo				
e*	Ridgeville	F. W. B.			
UNIV.*.	Irvington	M. L. Chr			
	Bedford	Chr.			
UNIV.*	Urbana	State.			
9**	Abingdon	Chr.			
v.*	Bloomington	M. E.			
ege	Kankakee	R. U. Pres			
ge	Chicago	R. C.			
ege	East St. Louis	R. C.			
	Eureka	Chr.			
sity"	Galesburg	Cong.			
	Jacksonville	Cong.			
ge*	Lebanon	M. E.			
ty*	Monmouth	U.P.			
llege*	Naperville	E. A.			
e	Rock Island	Luth.			
	Quincy	M. E.			
* • • • • •	Upper Alton	Bap			
e*	Westfield	U.B.			
*	Wheaton	Cong.			
0*	Chicago	Bap.			

#### ENUMERATION OF COLLEGES.

STATE.	Location.	Church or other Control.		STATE.	Location.	Church or other Control.
Illinois (continued). St. Joseph's College Roek River University*.	Lentopolis Dixon	R. C. Non-Sec.		Kansas (continued). Washburn College* Lane University	Topeka	Cong. U. B.
NORTHWESTERN UNIV.* Lake Forest University*.	Evanston Lake Forest	M. E. Pres.		St. Mary's College	St. Mary	R. C.
Ill. Agri. College* Hedding College*	Abingdon	M. E.		University of Nebraska* Doane College*	Lincoln	State. Cong.
Carthage College*	Carthage	Luth.		Nebraska College Congregational College	Nebraska City Fontenelle	P. E. Cong.
Wisconsin.			1	Oregon.		
UNIV. OF WISCONSIN*	Madison	State.		University of Oregon*	Eugene City	State.
Laurence University*	Appleton	M. E.	1	Christian College*	Monmouth	Chr.
Balait Collago	Beloit	Dap.		Corvallis College*	Corvallis	M. E. S.
Galesville University*	Galesville	M. E.		McMinnville College*	McMinnville	Bap.
Janesville College	Janesville			Philometh Colloge*	Philometh	E.A.
Pio Nono College	St. Frances	R. C.		Willamette University*	Salem	ME
Milton College*	Milton	S. D. B.		Holy Angels' College	Vancouver	R. C.
Racine College	Racine	P.E.		Oregon College	Oregon City	Bap.
St John's College	Prairie du Chien	B C		Colorado.		
Northwestern Univ.*	Watertown	Luth.		University of Colorado	Boulder	State.
Carroll College	Waukesha	Pres.		California		
Winnesota				University on Courses		
UNIT OF MINNESOTA*	Falls of St Ant'ny	State		NTA*	Berkeley	State
St. John's College	St. Joseph.	R.C.	1	College of St. Augustine.	Benicia	P. E.
Carleton College*	Northfield	Cong.		St. Vincent's College	Los Angeles	R. C.
Torres		C .		Marysville College	Marysville	
IOWA STATE UNIT *	Town City	State		Petaluma College	Petaluma	Bap.
Burlington University*	Burlington	Ban		St. Ignatius College	San Francisco	R. C.
Griswold College	Davenport	P. E.		University College	San Francisco	<b>N</b> . U.
Nor. Lutheran College	Decorah	Luth.		San Rafael College	San Rafael	R. C.
Fairfield College*	Fairfield	Luth.		Franciscan College	Santa Barbara	R. C.
Upper Iowa University*.	Fayette	M. E.		College of Our Lady of		-
Iowa Weslevan Univ *	Mount Pleasant	M E		Guadelupe	Santa Inez.	R. C.
Central Univ. of Iowa*	Pella.	Bap.		Univ. of the Facinc*	Santa Clara	M.E.
Humboldt College*	Springfield	Unit.		Pacific Methodist Col.*	Vacaville	M. E.
Tabor College*	Tabor	Cong.		California College*	Vacaville	Bap.
CORNELL COLLEGE*	Mount Vernon	M. E.		Hesperian College *	Woodland	Chr.
German College*	Mount Pleasant.	M. E.		Pierce Christian Col.*	College City	Chr.
Parson's College*	Fairfield	Pres		Sacred Heart College	San Francisco	R. C.
Penn College*	Oskaloosa	Fr.		Washington College*	Washington	Non-Sec
SIMPSON CENTENARY COL.*	Indianola	M. E.		mabangeon concec		11011 10001
Univ. of Des Moines*	Des Moines	Bap.		District of Columbia.	a .	7.0
Western College*,	Western	U.B.		Georgetown College	Georgetown	R. C.
Amity College*	College Spring	Non Soc		Gonzaga College	Washington	B C
Transity Concession	conce opring	NOII-1966.		Howard University*	Washington	Cong.
State Universite#	Lawronac	State		Nat. Deaf Mute College.	Washington	Non-Sec.
State University*	Atchison	R C		United States Govern-		
Baker University*	Baldwin City	M. E.		ment.		
Highland University*	Highland	Pres.		U. S. Naval Academy	Annapolis, Md	U. S. G.
Ottawa University*	Ottawa	Bap.		U. S. Military Academy.	West Point, N. Y.	U. S. G.

NOTE.—Excluding the Roman Catholic Institutions, none of which admit ladies, there are three hundred and fifty-five universities and colleges, of which one hundred and eighty-three, or fifty-two per cent., admit both sexes.

## CLASSIFICATION OF UNIVERSITIES AND COLLEGES BY STATES,

## Giving the Ratio in each State to Population.

NAMES OF STATES.	POPULATION. <sup>48</sup>	NUMBER OF COLLEGES.	BATIO OF COLLEGES TO POPULATION,
Maine.	626,915	3	1 to 208,972
New Hampshire	318,300	1	1 ** 318,300
Vermont	000,001	0	1 " 110,184
Massachusetts	01/201	1	1 4 01/ 928
Connecticut	527 454	3	1 4 170 151
Connecticut			1 1/0,101
Total in New England States	3,487,924	20	1 to 174,396
NY TT 1	1000 540	00	3 L. 3 NO NOM
New YORK	4,382,759	28	1 to 106,527
New Jersey	900,090	90	1 1 101,219
Delawara	195 018	20	1 4 195 015
Mawyland	780 894	11	1 4 70,000
Virginia	1 225 168	8	1 " 153 145
West Virginia	442.014	4	1 " 110.503
District of Columbia.	131,700	5	1 " 26.340
Total in Middle States, including District of Columbia	11,515,592	91	1 to 126,545
North Caroline	1 071 021	10	1 +0 10/ 192
South Carolina	705 606	6	1 6 107,150
Coorgia	1 1 94 100	0	1 4 191 569
Alabama	006 009	6	1 4 166 165
Florida	187 748	ő	1 100,100
Tennessee	1,258,520	27	1 to 46,612
Total in Southeastern States	5,404,336	58	1 to 93,178
Kentucky	1,321,011	14	1 to 94,358
Ohio	2,665,260	87	1 " 72,034
Indiana	1,680,637	23	1 " 73,506
Illinois	2,539,891	30	1 " 84,663
Michigan	1,184,059	10	1 " 118,405
Wisconsin.	1,054,670	13	1 ** 81,128
Total in North-Central States east of the Mississippi	10,445,528	127	1 to 82,249
Missouri	1,721,295	23	1 to 74,839
Iowa	1,194,020	21	1 " 56,858
Minnesota	439,706	8	1 " 146,569
Kansas	364,399	8	1 ** 45,550
Nebraska	122,993	4	1 ** 30,748
Total in North-Central States west of the Mississippi	3,842,413	59	1 to 65,126
Mississippi	007 000	10	1 40 00 000
Louisiana	827,922	10	1 10 82,792
Arbonsos	120,910	10	1 4 06 904
Texas	818 579	12	1 4 68 215
	010,010		1 00,210
Total in South-Central States	2,857,887	37	1 to 77,240
California	560 947	20	1 to 28.012
Oregon	90,923	9	1 " 10 103
Nevada.	42.491	0	
Colorado	39,864	1	1 to 39,864
Total in Western States	733,525	30	1 to 24,451
Total east of the Mississippi 49	82 408 917	816	1 to 102 558
Total west of the Mississippi	5.878.938	106	1 " 55.462
Total in the United States	0,010,000	400	1 4 00 800
Total in the United States	38,287,205	422	1 90,728

<sup>48</sup> Census of 1870, excluding "Indians, not taxed."

<sup>49</sup> Including the whole of Louisiana.

# CLASSIFICATION OF COLLEGES IN REFERENCE TO CHURCH OR OTHER CONTROL,

## Including those whose specific requirements for admission are given.

COLLEGES.	New England States.	Middle States.	South- eastern States.	North- Central States east of the Mis- sissippl,	North- Central States west of the Mis- sissippi.	South- Central States,	Western States.	Total in the United States.
Roman Catholic	2	23	8.	15	7	8	9	67
Methodist Episcopal	. 2	3	5	19	10	. 4	8	46
South Methodist Episcopal		2	7	2	2	2	2	17
Methodist Protestant				1		· • •	•• *	1
African Methodist Episcopal	••			1		• •	••	1
Total Methodist					• •			65
Baptist	2	6	7	10	8	7	4	44
Free Baptist	1							1
Seventh-day Baptist		1		2				3
Free-will Baptist		1		2		••		8
Total Baptist	••			••	••			51
Presbyterian		8	9	9	2	2		30
United Presbyterian		2		3	1			6
Cumberland Presbyterian		1	2	1		. 2	••	6
Southern Presbyterian	••			1	1	••	••	2
Total Presbyterian	••	• •				·	••	44
Congregationalist	6	1		9	8	1		25
Protestant Episcopal	2	5	2	3	3		1	16
Lutheran	• •	5	3	6	2	1	••	17
Christian		1	1	8	2		8	15
Universalist	1	1		3			• •	5
United Brethren	• •	1		8	2	• •	1	7
Unitarian	••	• •	••	1	.1	••	• •	2
Friends	••	. 2	••	. 2	1	• •	••	5
German Reformed	• • •	8		•••	• •	••	••	ð
Reformed (Dutch)	••	2	• •	3	••	••	••	0
Congregationalist and Fresbyter'n	• •	••	•••	T			••	1
Now Church	••	1	• •	1	* *			1
Jewish		0.9		1				1
Evangelical Association				1			1	2
Masonic.						1		1
City		1						1
State Universities		6	5	6	5	2	3	27
Non-sectarian	4	15	18	9	2	4	1	48
Unknown	••	• •	1	4	2	8	2	12
Total	20	91	58	127	59	87	80	422

#### HARVARD UNIVERSITY EXAMINATION FOR WOMEN.

ALTHOUGH Harvard University has not opened its doors to women, for class recitation and regular matriculation, it has, nevertheless, following the examples of the English universities, practically expressed its entire accord with the increasing sentiment in favor of the higher education of women, by establishing a system of examinations, under the supervision of its faculty, the details of which, since they are not generally understood, especially among young lady students, we give below, taken from the circular for 1879.

These examinations were held for the first time in 1874, in Boston. The sixth examination will be held simultaneously in Cambridge, New York, Philadelphia, and Cincinnati, beginning at some date between May 27 and June 5, 1879, and will be of two grades: 1. A general or preliminary examination for young women who are not less than seventeen years old; 2. An advanced examination for those who have passed the preliminary examination, and are not less than eighteen years old.

1

#### I. PRELIMINARY EXAMINATION.

The Preliminary Examination embraces the following subjects: English, Physical Geography, either Elementary Botany or Elementary Physics, Arithmetic, Algebra through quadratic equations, Plane Geometry, History, and any two of the four languages — French, German, Latin, and Greek—at least one of the two chosen being a modern language.

This examination can be taken as a whole only by young women who are at least seventeen years old. It may, however, at the option of the candidate, be divided between two years; and, in this case, the minimum age of admission is sixteen years. No candidate will, in any case, be admitted to examination on a part of any subject; and no account will be made of a partial examination, unless the candidate has passed satisfactorily in at least three subjects. If the candidate passes in three or more subjects, the results of the partial examination will be recorded by the university; but no certificate will be given until the whole examination has been passed. Candidates who divide the Preliminary Examination will be expected to attain a somewhat higher degree of excellence than those who present the nine subjects at once.

#### ENGLISH.

Candidates will be examined upon the history of English literature, and be required to write a short composition upon a subject to be given out at the time of examination.

In 1879, the subject will be Shakespeare's *Hamlet* and *Midsummer-Night's Dream*, as edited for the Clarendon Press series by William Aldis Wright.

In 1880, Macbeth and Henry V. Candidates should consult Abbott's "Shakesperian Grammar" and be able to give a succinct account of the life and works of Chaucer, Spenser, Shakespeare, Bacon, Herbert, Herrick, Milton, Bunyan, Dryden, Addison, Defoe, Pope, Gray, Goldsmith, Johnson, Burke, Burns, Cowper, Jane Austen, Shelley, Byron, Scott, Coleridge, Maria Edgeworth, Wordsworth.

#### PHYSICAL GEOGRAPHY.

A good knowledge of the ordinary school-books on this subject should be secured. Candidates may also use to advantage Guyot's "Earth and Man," Ritter's "Comparative Geography," and other similar books.

#### ELEMENTARY PHYSICS.

Balfour Stewart's "Elementary Physics," Ganot's "Elements," may be used for reference.

#### BOTANY.

Gray's "School and Field Botany" and "How Plants Behave." Each candidate will be required to submit a list of fifty species, of different genera, which she has studied and determined, and also to fill up three schedules with a description of three plants accompanying the schedules.

#### MATHEMATICS.

Arithmetic, Algebra, and Geometry, entire.

#### HISTORY.

History of England as far as the year 1689. Such books as Bright's "History of England" (first two volumes) and Green's "History of the English people" will be of value for reading and study; a familiarity with Geography and Chronology is indispensable.

#### FRENCH.

The candidate must be able to read French fluently and with a fair pronunciation. Knapp's or Fasquelle's or Otto's French Grammar will serve to indicate the grammatical knowledge demanded. No books are prescribed; but those enumerated below will be sufficient to show the vocabulary and character of the French which candidates should be able to read.

1. Voltaire, "Charles XII." 2. George Sand, "La famille de Germandre." 3. Alfred de Vigny, "Cinq Mars." 4. Sandeau, "Mlle. de la Seiglière" (comedy). 5. Molière, "Le Misanthrope." 6. Racine, "Athalie."

#### GERMAN.

Candidates will be expected to pronounce the language with reasonable correctness. No books are prescribed; but all are advised to read the following: the introduction to Dr. Buchheim's "Deutsche Lyrik," together with some of the poems in the work itself, and also these:

Zschokke: Der zerbrochene Krug; Das Wirthshaus zu Cransac.

Gerstäcker; Germelshausen. Paul Heyse: La Rabbiata; Die Blinden. Theodore Mügge: Signa die Seterin. Adelbert Stifter: Brigitta. Schiller: Wilhelm Tell. Lessing: Minna van Barnhelm. Goethe: Hermann und Dorothea.

#### LATIN.

Candidates will be examined upon

1. Latin Grammar and Writing Latin.

2. Caesar, first three books: Nepos, Lives of Miltiades, Themistocles, Aristides, Alcibiades, Epaminondas, Hannibal.

3. The first three books of Virgil's Aeneid.

Ability to read Latin as Latin with accuracy and confidence is desirable.

In reading Latin, the aim should be not only to put the accent in the right place, but to give every syllable its due quantity; for instance, to sound *měmčriǎ* in such a way that the ear may readily detect a succession of short syllables; to sound the u in l&ax (l&acis) long, in d&ax (d&acis) short; o long in consul, confido; short in contra; to let  $\bar{s}$  be heard in infans,  $\check{s}$  in indoctus,  $\bar{e}$  in déns,  $\check{e}$  in déntis, etc., etc.

At all events, an accurate knowledge of the quantity of the penultimate syllable of polysyllabic words is indispensable. Such mispronunciations as *arböris*, *arbūtus*, *tempõris*, *dolõris*, *gladiõlus*, enimvěro, improbus, metuëret are unpardonable. Care must be taken to distinguish words which look alike or nearly alike to the eye; and Latin words which have derivatives in English must especially be looked at with suspicion.

The Roman pronunciation is recommended.

Besides an acquaintance with the outlines of Roman History, some knowledge of Roman Antiquities and of manners and customs is necessary, as well as an acquaintance with the leading events of the period in which the writer who is studied belongs.

#### GREEK.

Candidates will be examined :

1. Either (A.) in the translation at sight of easy passages of Xenophon (suited to the proficiency of those who have studied the first 111 pages of Goodwin's Greek Reader), with a vocabulary of the less usual words; or (B.) in the first 111 pages of Goodwin's Reader and Book I. of the Iliad, with questions on the subject-matter, and on constructions and grammatical forms.

2. Also, in the translation into Greek of simple sentences, such as those in the first 51 lessons of White's First Lessons in Greek, to test the candidates' practical knowledge of grammar.

Attention to Greek History is strongly recommended. At least some compendium, like Smith's smaller History, should be read; but all who have the needed time and the taste are advised to read the chapters of Grote which illustrate the different parts of their studies.

#### II. ADVANCED EXAMINATION.

The Advanced Examination is for young women who have passed the Preliminary Examination, and who are not less than eighteen years old. It is divided into five sections, in one or more of which the candidate may present herself. These sections are as follows:

1. Languages.—Candidates may offer any two of the following languages: English, French, German, Italian, Latin, Greek.

2. *Physical Science.*—Candidates may offer any two of the following subjects : Chemistry, Physics, Botany, Mineralogy, Geology.

3. Mathematics.—Candidates must present Solid Geometry, Algebra, Logarithms, and Plane Trigonometry, and one of the three following subjects: Analytic Geometry, Mechanics, Spherical Trigonometry, and Astronomy.

4. History.—In 1879, candidates may offer either of the two following subjects: 1. The History of Continental Europe during the period of the Reformation, 1517-1648; 2. English and American History from 1688 to the end of the eighteenth century. 5. Philosophy.—Candidates may offer any three of the following subjects: Mental Philosophy, Moral Philosophy, Logic, Rhetoric, Political Economy.

#### FORMS OF CERTIFICATES TO BE GIVEN BY THE UNIVERSITY.

#### HARVARD UNIVERSITY.

#### PRELIMINARY EXAMINATION FOR WOMEN.

A B has passed (passed with distinction) (passed with the highest distinction) the Preliminary Examination, held at , on the of , 187, under the direction of the Faculty of Harvard University, and is entitled to proceed to the Advanced Examination.

President.

CAMBRIDGE, August 1, 187 .

#### HARVARD UNIVERSITY.

#### ADVANCED EXAMINATION FOR WOMEN.

A \_\_\_\_\_ B \_\_\_\_\_, håving duly passed the Preliminary Examination on the \_\_\_\_\_ of \_\_\_\_\_, 187, has been admitted to the Advanced Examination in the section (sections) of \_\_\_\_\_\_, and has passed (passed with distinction) (passed with the highest distinction) the prescribed examinations in \_\_\_\_\_\_, held at \_\_\_\_\_, under the direction of the Faculty of Harvard University, on the \_\_\_\_\_ of \_\_\_\_\_, 187.

CAMBRIDGE, August 1, 187 .

President.

Notice of intention to be candidates must be sent to the Secretary of the Woman's Educational Association, 114 Boylston Street, Boston, or to the Secretary of the New York Local Committee, 59 East Twenty-fifth Street, New York, or to the Secretary of the Philadelphia Local Committee, 401 South Eighth Street, Philadelphia, before April 1, 1879.<sup>50</sup>

<sup>50</sup> These examinations will be continued from year to year, and candidates should govern themselves accordingly. Candidates for the Preliminary Examination must specify which of the elective studies (Botany or Physics, and German, Latin, or Greek) they will take. Candidates for the Advanced Examination must specify which section and which subjects they elect.

Exact notice of the place of the examination, and also of the time (day and hour), will be sent to all candidates on April 15, 1879.

The Preliminary Examination will cover parts of two weeks. Less time will be required for the Advanced Examination, according to the number of subjects chosen.

The fee for the Preliminary Examination, including certificate, will be *fifteen dollars*.

The fee for the Advanced Examination will be ten dollars.

The Woman's Educational Association and the Local Committees will provide board and lodging at moderate cost for those who need such accommodation.

Young women in narrow circumstances will be aided in meeting the cost of these examinations. Applicants for such aid should address the Secretary of the Educational Association or the Secretary of the Local Committee, stating their circumstances fully—the amount of help they need, the kind of assistance they would prefer, whether a remission of fees, a loan, or gratuitous board and lodging, during the examination—and inclosing certificates of scholarship and character from their teachers.

If an applicant is under twenty-one years of age, her application must be accompanied by the written approval of her parent or guardian.

A pamphlet has been printed containing full lists of books and specimen examination-papers. Copies will be forwarded to any address upon the receipt of twenty-five cents, and any further information that may be desired will be gladly furnished by the Secretary of the Woman's Educational Association, 114 Boylston Street, Boston, Massachusetts, or by the Secretary of the New York Local Committee, 59 East Twenty-fifth Street, New York, or by the Secretary of the Philadelphia Local Committee, 401 South Eighth Street, Philadelphia, or by Professor Charles F. Dunbar, Dean of College Faculty, Cambridge, Mass. An erroneous impression prevails among many students, that colleges do not insist upon all their requirements for admission; that students may apply with a poor or half preparation, and still be admitted.

To dispel this illusion, and to encourage thorough preparation, which alone renders college life the most fruitful in profit, interest, and pleasure, we give below some specimen sets of questions recently used.

In comparison with others, they are only of average difficulty.

#### YALE COLLEGE.

#### English Grammar.

1. How is the comparison of adjectives affected by their number of syllables?

2. Compare the following: Bad; Little; Many; Much; Near.

3. Give an example of the independent construction and of the absolute construction of nouns.

4. Explain the use of the dative-objective case of nouns, and give examples.

5. Give the principal parts of the following irregular verbs: Abide; Awake; Be; Bring; Lie; Ring; Sink; Spit; Stride; Tread; Win.

Analyze the following sentence: Events which, if they ever happened, happened in ages and nations so remote that the particulars never could have been known to him, are related with the greatest minuteness of detail."

Parse the words in italics, giving full particulars of voice, mood, tense and agreement of the verbs.

#### Geography.

1. Name the countries and larger islands which lie in the Southern Temperate Zone.

2. Name the principal divisions of South America.

3. Describe the relative situation of Australia, Tasmania, Borneo, Papua, New Zealand.

4. Bound the State of Georgia.

5. Locate Sacramento, Prague, Seville, Lima, Ghent, Basle, Warsaw, Lake St. Clair, the Island of Java, the Isle of Man, Cape Comorin, the two capes Sable.

6. Name the principal rivers of England and Spain.

#### Arithmetic.

# 1. Add $\frac{3\frac{1}{4}}{6\frac{7}{4}}$ to $\frac{5}{6}$ of $\frac{19}{85}$ of $\frac{9}{8}$ of $(\frac{3}{4} - \frac{1}{4})$ .

2. Multiply 903.14 by .063 and extract the square root of the product to three decimal places.

3. Divide 6 by .089 and extract the cube root of the quotient to two decimal places.

4. What is the value, at \$4,500 per acre, of a piece of ground containing 30 rd., 19 ft., 89 in.?

5. How many litres in a box 1.2<sup>m</sup> long, 8<sup>cm</sup> wide, and 50<sup>mm</sup> deep?

#### Algebra.

1. Find the value of each of the following expressions:

(a) 
$$\frac{1-x^3}{1+y} \times \frac{1-y^2}{x+x^2} \times \left(1+\frac{x}{1-x}\right);$$
  
(b)  $(a^{-3}-a^{\frac{9}{5}})^2;$   
(c)  $3\sqrt{\frac{5}{5}}+2\sqrt{\frac{1}{10}}+4\sqrt{\frac{1}{40}}.$   
2. (a)  $\frac{1}{x}+\frac{1}{y}-\frac{1}{z}=a; \frac{1}{x}-\frac{1}{y}+\frac{1}{z}=b; -\frac{1}{x}+\frac{1}{y}$   
 $-\frac{1}{z}=c; \text{ find } x, y, \text{ and } z.$ 

(b) Solve the equation :  

$$\frac{17-3x}{5}-\frac{4x+2}{3}=5-\left(6x-\frac{7x+14}{8}\right)$$

3. Solve the equations:

(a) 
$$\frac{10}{x} - \frac{10}{x+1} = \frac{3}{x+2}$$

(b)  $2x^{\frac{9}{3}} + 3x^{\frac{1}{3}} = 2.$ 

4. (a) Find the sum of 13 terms of the series  $2\frac{1}{3}$ ,  $2\frac{5}{5}$ ,  $3\frac{1}{5}$ , etc.

(b) Find the value of  $1 + \frac{1}{4} + \frac{1}{16} + \frac{1}{64}$ , etc., to infinity.

5. By the binomial theorem expand to five terms  $(a^2 + x^2)^{-\frac{3}{2}}$ .

#### Latin Grammar.

[In writing Latin words, mark the quantity of the penult in each.]

1. Write the genitive singular of *frigus*, virus, nemus, limen, and the nominative singular of salutem, sitim, litore, silicis, vulnera, aethere, sulcis.

2. Give the gender of the same nouns.

3. Write out in full the declension of *aliquis*, *ingens*, *exsul*, *hic*.

4. Compare magnus, tristis, malus, nequam, proximus.

5. The principal parts of the verbs from which the following forms are derived: *tenebat*, *audebat*, *cernimus*, *bibet*, *labatur*, *haerent*.

6. Inflect the future indicative active of nosco and debeo, and the present and perfect subjunctive of morior and possum.

7. Write out in full the conjugation of *fero* in the active voice.

8. What parts of the verb are formed from the perfect stem?

#### Latin.

Translate into Latin-

1. The rule (*regula*) of expediency (*utilitas*) is the same as that of honor.

2. He told many falsehoods (*mentior*) about his age, that he might seem younger.

3. There were some who denied that virtue and vice were contrary to each other.

4. The business which you promised to finish (conficio) has not yet been finished.

5. That you may be able to die courageously live virtuously.

6. What difference does it make (*interest*) whether the Romans conquered or were conquered?

7. On the top of the mountains the cold (fri-gus) is so great, that the snow (nix) never melts (liquesco) there.

8. He says that he has done good (prosum) to very many.

1. Virg. Aen., II. 437-444.

Hic vero ingentem pugnam, ceu cetera nusquam Bella forent, nulli tota morerentur in urbe, Sie Martem indomitum Danaosque ad tecta ruentes

Cernimus, obsessumque acta testudine limen. Haerent parietibus scalae, postesque sub ipsos Nituntur gradibus, clipeosque ad tela sinistris Protecti objiciunt, prensant fastigia dextris.

2. (a) Why is *forent* subjunctive? How was a *testudo* formed? (b) Distinguish between *paries* and *moenia*, *tela* and *arma*. (c) Who were called *Danai*? By what other names does Virgil designate them?

3. (a) Divide lines 4 and 5 into feet, marking the quantity of each syllable. (b) In this passage, what final syllables having a short vowel are made long by position? (c) Mark the quantity of each syllable in *diei*, *ab*, *pacis*, *dabamus*.

[6 may be substituted for 4 or 5.]

4. Virg. Ecl., I. 59-63.

Ante leves ergo pascentur in aethere cervi, Et freta destituent nudos in litore pisces, Ante, pererratis amborum finibus, exsul Aut Ararim Parthus bibet, aut Germania Tigrim, Quam nostro illius labatur pectore voltus.

Locate the rivers mentioned in line 4. Distinguish between *lēvis* and *lēvis*.

5. Virg. Geor., I. 129-135.

Ille malum virus serpentibus addidit atris, Praedarique lupos jussit, pontumque moveri, Mellaque decussit foliis, ignemque removit, Et passim rivis currentia vina repressit, Ut varias usus meditando extunderet artes Paulatim, et sulcis frumenti quaereret herbam, Ut silicis venis abstrusum excuderet ignem.

6. Ovid. Met., III. 55-62.

Ut nemus intravit, letataque corpora vidit, Victoremque supra spatiosi corporis hostem Tristia sanguinea lambentem vulnera lingua, ' Aut ultor vestrae, fidissima corpora, mortis, Aut comes,' inquit, ' ero.' Dixit, dextraque molarem Sustulit, et magnum magno conamine misit.

Illius impulsu cum turribus ardua celsis Moenia mota forent: serpens sine vulnere mansit.

1. Cic. Cat., I. 6.

Quod ego praetermitto et facile patior sileri, ne in hac civitate tanti facinoris immanitas aut exstitisse aut non vindicata esse videatur. Praetermitto ruinas fortunarum tuarum, quas omnes impendere tibi proximis Idibus senties: ad illa venio, quae non ad privatam ignominiam vitiorum tuorum, non ad domesticam tuam difficultatem ac turpitudinem, sed ad summam rem publicam atque ad omnium nostrum vitam salutemque pertinent.

2. (a) Explain the subjunctive videatur.

(b) What days of the months were the Kalends, the Nones, and the Ides? How were the days numbered from these points? Express in Latin October 21st.

3. Cic. Cat., III. 7.

Omnia norat, omnium aditus tenebat; appellare, temptare, sollicitare, poterat, audebat; erat ei consilium ad facinus aptum, consilio autem neque manus neque lingua deerat. Jam ad certas res conficiendas certos homines delectos ac descriptos habebat; neque vero, cum aliquid mandarat, confectum putabat: nihil erat quod non ipse obiret, occurreret, vigilaret, laboraret; frigus, sitim, famem ferre poterat.

4. (a) Where are the forms norat and poterat found? Construction of ei, consilio. Explain the form sitim.

(b) What is asyndeton? Give an example from this passage.

#### 5. Cic. Arch., I.

Quod si haec vox, hujus hortatu praeceptisque conformata, nonnullis aliquando saluti fuit, a quo id accepimus quo ceteris opitulari et alios servare possenus, huic profecto ipsi, quantum est situm in nobis, et opem et salutem ferre debemus.

6. (a) Give the antecedents of a quo, and of quo.

(b) What was the charge against Archias? What claim had he to Cicero's services?

#### Greek.

[Any two of the passages may be omitted.]

1. Xen. An., I. 5, 8.

ένθα δη μέρος τι της εὐταξίας ην δεάσασθαι. βίψαντες γὰρ τοὺς πορφυροῦς κάνδυς ὅπου ἔτυχεν ἕκαστος ἑστηκώς, ἵεντο ὥσπερ ἀν δράμοι τις περὶ νίκης καὶ μάλα κατὰ πρανοῦς γηλόφου, ἔχοντες τούτους τε τοὺς πολυτελεῖς χιτῶνας καὶ τὰς ποικίλας ἀναξυρίδας, ἐνιοι δὲ καὶ στρεπτοὺς περὶ τοῖς τραχήλοις καὶ ψέλια περὶ ταῖς χερσίν · εὐθὺς δὲ σὺν τούτοις εἰσπηδήσαντες εἰς τὸν πηλὸν θᾶττον ἡ ῶς τις ἀν ῷετο μετεώρους ἑξεκόμισαν τὰς ἁμάξας.

Give the present of  $\delta \rho \dot{\alpha} \mu \omega$ , the comparison of  $\vartheta \tilde{\alpha} \tau \tau \omega \nu$ . Explain the euphonic changes in  $\vartheta \tilde{\alpha} \tau \tau \omega \nu$ . Point out the predicate adjective in this sentence.

#### 2. Xen. An., II. 5, 16.

ἀλλ ήδομαι μέν, ፩ Κλέαρχε, ἀκούων σου φρονίμους λόγους · ταῦτα γὰρ γιγνώσκων εἰ τι ἐμοὶ κακὰν βουλεύοις, ὑιμα ἀν μοι δοκεῖς καὶ σαυτῷ κακόνους εἰναι. ὡς δ' ὰν μάθης, ὅτι οὐδ ἀν ὑμεῖς δικαίως οὕτε βασιλεῖ οὐτ ἐμοὶ ἀπιστοίητε, ἀντάκουσον. εἰ γὰρ ὑμᾶς ἑβουλόμεθα ἀπολέσαι, πότερά σοὶ δοκοῦμεν ἰππέων πλήθους ἀπορεῖν ῆ πεζῶν ἡ ὁπλίσεως;

What use of the participle is seen in *akobwv*? To what does  $\delta v$  (the one after  $\delta \mu a$ ) belong? Construction of  $\mu o \iota$ , of *kakóvov*, and of  $\pi \lambda \eta \vartheta o v \varsigma$ ?

#### 3. Xen. An., III. 2, 9.

τοῦτο δὲ λέγοντος αὐτοῦ πτάρνυταί τις ἀ ἀκούσαντες δ' οἱ στρατιῶται πάντες μιῷ ὁρμῃ προσεκὑνησαν τὸν ϑεόν, καὶ Ξενοφῶν εἶπε, Δοκεῖ μοι ὡ ἀνδρες, ἐπεὶ περὶ σωτηρὶας ἡμῶν λεγόντων, οἰωνὸς τοῦ Διὸς τοῦ σωτῆρος ἐφάνη, εὑξασθαι τῷ ϑεῷ τοὑτῷ ϑὑσειν σωτήρια ὑπου ἀν πρῶτον εἰς φιλίαν χώραν ἀφικώμεϑα, συνεπεύξασθαι δὲ καὶ τοῖς ἁλλοις ϑεοῖς ϑὑσειν κατὰ δὑναμιν. καὶ ὅτῷ ὁοκεῖ ταῦτ<sup>\*</sup>, ἔφη, ἀνατεινάτω τὴν χεῖρα. καὶ ἀνἔτειναν ἅπαντες. ἐκ τούτου εὕξαντο καὶ ἐπαιάνισαν.

Reason for the subjunctive in  $\partial \phi_{\mu} \omega \phi_{\alpha}$ . Construction of  $\eta_{\mu} \omega_{\nu}$ . Construction of the antecedent of  $\delta \tau \varphi$ .

4. Xen. An., IV. 4, 15.

έντεῦθεν ἔπεμψαν νυκτός Δημοκράτην Τεμενίτην ἀνόρας δόντες ἐπὶ τὰ ὅρη, ἔνθα ἔφασαν οἱ ἀποσκεδαννύμενοι καθορῶν τὰ πυρά • οὐτος γὰρ ἐδόκει καὶ πρότερον πολλὰ ἡὅŋ ἀληθεῦσαι τοιαῦτα, τὰ ὅντα τε ὡς ὅντα καὶ τὰ μὴ ὅντα ὡς οὐκ ὅντα. πορευθεὶς ὅὲ τὰ μὲν πυρά οὐκ ἔφη ἰδεῖν, ἀνδρα δὲ συλλαβὰν ἤκευ ἄγων ἔχοντα τόξον Περσικὸν καὶ φαρέτραν καὶ σάγαριν, οἱανπερ al ᾿Αμαζόνες ἔχουσιν. ἐρωτώμενος ὅὲ τὰ ποδαπὸς εἰη, Πέρσης μὲυ ἔφη εἰναι, πορεύεσθαι ở ἀπὸ τοῦ Τιριβάζου στρατεύματος, ὅπως ἐπιτήδεια λάβοι.

Construction of  $\nu\nu\kappa\tau\delta\varsigma$ . To what does  $\tau\delta$  belong? Reason for the optative in  $\epsilon i\eta$  and in  $\lambda\delta\beta\omega$ .

5. Plato Apol. Soc.

καὶ γὰρ ἐν ταῦς μάχαις πολλάκις δῆλον γίγνεται ὅτι τό γε ἀποθανεῖν ἀν τις ἐκφύγοι καὶ ὅπλα ἀφεὶς καὶ ἐφ ἰκετείαν τραπόμενος τῶν διωκόντων · καὶ ἀλλαι μηχαναί εἰσιν ἐν ἐκάστοις τοῖς κινδύνοις ὥστε διαφεύγειν θάνατον, ἑάν τις τολμῷ πῶν ποιεῖν καὶ λέγειν. ἀλλὰ μὴ οὐ τοῦτ' ϟ χαλεπ∂ν, ὡ ἀνδρες, θάνατον ἐκφυγεῖν, ἀλλὰ πολὺ χαλεπώτερον πονηρίαν · θᾶττον γὰρ θανάτου θεῖ. καὶ νῦν ἐγὰ μὲν, ἅτε βραδὺς ῶν καὶ πρεσβύτης, ὑπὸ τοῦ βραδυτέρου ἐάλων, οἱ δ' ἐμοὶ κατήγοροι, ἅτε δεινοὶ καὶ ὀξεῖς ὄντες, ὑπὸ τοῦ θάττονος, τῆς κακίας.

What shows the mode of  $\tau o \lambda \mu \tilde{a}$ ? What is understood before  $\mu \dot{\eta}$ ? Construction of  $\chi a \lambda \epsilon \pi \dot{\omega} \tau \epsilon \rho o \nu$ and of  $\pi o \nu \eta \rho i a \nu$ . Present of  $\dot{\epsilon} \dot{a} \lambda \omega \nu$ .

#### Greek History.

1. What is known of Miltiades, of Kleon, of Aratus?

2. Who were the chief men in Greek politics, philosophy, and art between 400 and 300 B. C.?

3. What are the prominent points in the history of Syracuse?

Greek Grammar and Composition.

[All Greek words are to be written with the accent.]

1. Decline throughout  $\gamma \lambda \bar{\omega} \sigma \sigma a$ ,  $\lambda \delta \gamma o \varsigma$ ,  $\pi a \tau h \rho$ , and the pronouns  $\tau i \varsigma$  and  $o \tilde{v} \tau o \varsigma$ .

2. Give the synopsis (i. e. first form in every mode) of the future active and middle of  $\sigma \tau \epsilon \lambda \lambda \omega$ , and of the perfect middle of  $\phi a \ell \nu \omega$ .

3. Analyze  $\lambda \omega \omega \mu a u$ , stating where this form is made.

4 What is the difference of meaning between είσι and εισί, ων and ων, δ αντός άνθρωπος and δ άνθρω πος αντός ?

5. Translate into Greek-

His mother sends for him from the province which he holds.

When he had halted <sup>51</sup> his chariot before the phalanx, he sent for Menon to come to him.

If any one had gone into the city, what would he have suffered?

<sup>51</sup> Express "when he had halted " by a participle.

#### Algebra.

1. Remove the parentheses from  $-a + m - \frac{1}{2} - c + x - [a - m - (c - x)]$ , and reduce the result to its simplest form.

2. Factor  $a^2x - 3 a^3 x^2$  and  $121 m^4 - 100 n^2$ .

3. Find the least common multiple of  $x^2 + xy$ ,  $xy - y^2$ , and  $x^2 - y^2$ .

4. Add  $\frac{a}{a+c}$ ,  $\frac{2c}{a-c}$ ,  $\frac{c}{a+c}$ . 5. Solve the equations  $\begin{cases} x+y-z=1\\ 8x+3y-6z=1\\ 3z-4x-y=1 \end{cases}$ 

6. Extract the cube root of  $27 a^3 + 108 a^2 + 144 a + 64$ .

7. Solve the equation:

$$x + a = \sqrt{a^2 + x}\sqrt{b^2 + x^2}.$$

#### Geometry.

1. If the opposite sides of a quadrilateral are equal, each to each, the equal sides are parallel, and the figure is a parallelogram.

2. If four quantities are proportional, the sum of the first and second is to their difference, as the sum of the third and fourth is to their difference.

3. The diameter which is perpendicular to a chord bisects the chord and also the arc which it subtends.

4. The area of a trapezoid is equal to the product of its altitude by half the sum of its parallel sides.

5. In any right-angled triangle, the square described on the hypothenuse is equivalent to the sum of the squares described on the other two sides.

#### Caesar, Second Book.

#### 1. Translate the following:

Caesar honoris Divitiăci atque Aeduorum causa sese eos in fidem receptūrum et conservatūrum dixit; sed quod erat civitas magna inter Belgas auctoritāte, atque hominum multitudine praestābat, sexcentos obsides poposcit. His traditis omnibusque armis ex oppido collātis, ab eo loco in fines Ambianōrum pervēnit, qui se suăque omnia sine mora dedidērunt. Eōrum fines Nervii attingēbant; quorum de natūra moribusque Caesar quum quaereret, sic reperiebat : nullum aditum esse ad eos mercatoribus : nihil pati vini reliquarumque rerum ad luxuriam pertinentium inferri, quod iis rebus relanguescere animos et remitti virtūtem existimārent; esse homines feros magnaeque virtūtis: increpitāre atque incusāre relinquos Belgas, qui se populo Romāno dedidissent patriamque virtūtem projecissent: confirmāre, sese neque legātos missūros, neque ullam conditionem pacis acceptūros.

2. To what age of Roman literature does Caesar belong ? and say what you can of him. 3. Locate the tribes named in this section.

4. Parse words in second line.

#### Prose and Grammar.

1. Forms for expressing time.

2. I had scarcely read your letter when Curtius came to me.

3. Discuss (a) Tenses of participles, (b) Use of participles.

4. The Belgians, influenced by the love of glory and relying upon their valor, waged *many* wars with the Germans.

5. Synonymes for temple; wall; battle.

6. In the consulship of Lucius Cassius, the Helvetians routed the Roman army, and sent it under the yoke.

7. Forms for expressing concession.

#### Aeneid, Book III.

#### 1. Translate the following:

Tendunt vela Noti: fugimus spumantibus undis, Qua cursum ventusque gubernatorque vocabat. Jam medio apparet fluctu nemoroso Zacynthos, Dulichiumque, Sameque, et Neritos ardua saxis. Effugimus scopulos Ithacae, Laërtia regna, Et terram altricem saevi exsecramur Ulixi. Mox et Leucatae nimbosa cacumina montis, Et formidatus nautis aperitur Apollo. Hunc petimus fessi, et parvae succedimus urbi; Ancora de prora jacitur, stant litore puppes. Ergo insperata tandem tellure potiti, Lustramurque Jovi, votisque incendimus aras, Actiaque Iliacis celebramus litora ludis. Exercent patrias oleo labente palaestras Nudati socii: juvat evasisse tot urbes Argolicas, mediosque fugam tenuisse per hostes.

2. What kind of a poem is the Aeneid, when written, and in what measure?

3. Give the story of first six books.

4. Locate Zacynthos, Dulichium, Same, Neritos, and Ithaca.

5. Say what you can of Ulixes, Apollo, and Jupiter.

6. Mark scanning of first four verses.

7. Give rules of quantity first verse.

8. Synopsis of first five verbs (same person and number as in text).

9. Parse gua, nautis, tellure, and evasisse.

10. Derivation of gubernator, altricem, potiti, and Greek for Jupiter, Ulixes, urbes, and qua.

11. Name places visited by Aeneas in the journey from Troy to Italy. How many years do the events of this book cover?

#### Cicero—Oration III. against Catiline.

1. Translate the following:

Ac ne longum sit, Quirites, tabellas proferri jussimus quae a quoque dicebantur datae. Primum ostendimus Cethego signum : cognovit. Nos linum incidimus : legimus. Erat scriptum ipsius manu Allobrogum senatui et populo, sese quae eorum legatis confirmasset facturum esse; orare ut item illi facerent quae sibi eorum legati recepissent. Tum Cethegus, qui paulo ante aliquid tamen de gladiis ac sicis, quae apud ipsum erant deprehensa, respondisset, dixissetque se semper bonorum ferramentorum studiosum fuisse, recitatis litteris debilitatus atque abjectus conscientia repente conticuit. Introductus est Statilius : cognovit et signum et manum suam. Recitatae sunt tabellae in eandem fere sententiam : confessus est. Tum ostendi tabellas Lentulo, et quaesivi cognosceretne signum. Adnuit.

2. When, where, and why was the third oration delivered ?

3. Explain the word *Quirites* as applied to the Romans.

4. What can you say of *Cethegus*, *Statilius*, and *Lentulus*?

5. Derivation of tabellas, senatui, legatis, ferramentorum, and litteris.

6. Reason for the subjunctives in the above.

7. Parse all the words in first two lines.

8. Greek corresponding to erat, illi, ipsum, and se.

#### Greek.

Translate-

Κλέαρχος δ έλεγεν · Ήμεῖς οὐτε συνήλθομεν ὡς βασιλεί πολεμήσοντες οὐτ' ἐπορευόμεθα ἐπὶ βασιλέα · ἀλλὰ πολλὰς προφάσεις Κῦρος εὐρισκεν, ὡς καὶ σὰ eὐ οἰσθα, ἱνα ὑμᾶς τε ἀπαρασκευάστους λάβοι καὶ ἡμᾶς ἐνθάδε ἀναγάγοι. Ἐπεὶ μέντοι ἤδη αὐτὸν ἑωρῶμεν ἐν δεινῷ ὅντα, ήσχύνθημεν καὶ θεοὺς καὶ ἀνθρώπους προδοῦναι αὐτόν, ἐν τῷ πρόσθεν χρόνῷ παρέχουτες ἡμᾶς αὐτοὺς εὐ ποιεῖν. Ἐπεὶ δὲ Κῦρος τέθνηκεν, οὕτε βασιλεῖ ἀντιποιούμεθα τῆς ἀρχῆς οὕτ' ἐστιν ὕτου ἐνεκα βουλοίμεθ ὰν τήν βασιλέως χώραν κακῶς ποιεῖν · οὐδ' ἀὐτὸν ἀποκτεῖναι ὰν ἑθέλοιμεν, πορευοίμεθα δ' ὰν οἰκαδε, εἰ τις ἡμᾶς μὴ λυποίη · ἀδικοῦντα μέντοι πειρασόμεθα σὺν τοῖς θεοῖς ἀμύνασθαι · ἐὰν μέντοι τις ἡμᾶς καὶ εὐ ποιῶν ὑπάρχη, καὶ τούτου εἰς γε ὅύναμιν οὐχ ἡττησόμεθα εὐ ποιοῦντες.

1. Give the parts of λέγω, εἰρίσκω, ὀράω, προδίδωμι, and παρέχω.

2. Write the synopsis of λάβοι, προδοῦναι, ἀποκτεῖναι, and λυποίη.

3. State the different kinds of pronouns in this extract.

4. Give the dat. plu. for all the common nouns found here.

5. Inflect  $\sigma \psi$ ,  $\theta \epsilon \delta \varsigma$  in sing.,  $K \bar{\nu} \rho o \varsigma$ ,  $\dot{a} \rho \chi \eta$  in sing. and dual. 6. Write the personal endings of the secondary tenses of the passive voice.

7. Give illustrations of all the kinds of reduplication in the Greek verb.

8 What are the chief uses of the Greek genitive?

9. What reason can you give for the change from the aorist to the imperfect, in lines 1 and 2?

10. Translate into Greek-

(a) Let us war with the barbarians, but not with our own friends.

(b) The bad always find many pretexts not to do what they ought.

(c) If we saw you in danger, we should be ashamed not to furnish you money and men.

(d) We shall find, as you too know, many citizens wishing to betray both generals and country.

(e) Who will tell us for what reason he is wronging the Greeks?

#### Translate---

δυ τινα μέν βασιλήα καὶ ἔξοχου ἀνόρα κιχείη, του δ' ἀγανοῖς ἐπέεσσιν ἐρητύσασκε παραστάς · '' δαιμόνι', οὐ σε ἑοικε κακον ὡς δειδίσσεσθαι, ἀλλ' ἀὐτός τε κάθησο καὶ ἀλλους ἴδρυε λαούς. οὐ γάρ πω σάφα οἶσθ' οἶος νόος 'Ατρείωνος · νῦν μεν πειρᾶται, τάχα δ' ἰψεται υἰας 'Αχαιῶν. ἐν βουλή δ' οὐ πάντες ἀκούσαμεν οἰον ἑειπεν. μή τι χολωσάμενος ῥέξη κακον υἶας 'Αχαιῶν. θυμος δὲ μέγας ἐστι διοτρεφέος βασιλῆος, τιμή δ' ἐκ Διός ἐστι, φιλεῖ δέ ἐ μητίετα Ζεύς.'' δν δ' αυ δήμου ἀνδρα ἰδοι βοόωντά τ' ἑφεύροι, τον σκήπτρῷ ἑλάσασκεν ὅμοκλήσασκέ τε μύθῷ.

1. Give the name of the agent, the cause, and the purpose of the action here described.

2. Write the synopsis of παραστάς, οluθ, ίδου, εφεύρου.

3. Account for the moods in kixely and \$\$59.

4. Compare άγανοῖς, κακόν, and μέγας.

5. Inflect  $\delta \nu \tau \iota \nu a$  in sing. mas.,  $\delta \nu \delta \rho a$  and  $a \dot{\nu} \tau \delta \varsigma$ in sing.,  $o I \sigma \theta$  throughout,  $\pi \dot{a} \nu \tau \epsilon \varsigma$  in plural, and Zet  $\varsigma$ .

6. What is the construction of ἐπέεσσεν, σε, αυτός, and οίος ?

7. Note all the enclitics in the extract.

8. What would you write in Attic prose for βασιλημα ἐπέεσσιν, διοτρεφέος, ἐ (v. 10) and βοόωντά?

Describe the species of verse before you.
 Write a scheme for *iambic trimeter acata*-

lectic.

#### DARTMOUTH COLLEGE.

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#### United States History.

1. Give a brief account of the French and Indian wars, and the questions settled by them.

2. Benjamin Franklin's work in the Revolution; state the cause, principal events, and results of the war of 1812.

3. Date of the Secession movement; names of states that participated in it; its length, and the issue.

4. Name and define the departments of the United States Government.

#### English History.

1. Henry the Eighth and the Reformation.

2. The great Revolution and Oliver Cromwell.

3. Principal events in Queen Victoria's reign.

4. Name the distinguishing features of the Government of England.

#### Geography.

1. Population and area of the United States.

Population and area of the New England States.

Where are the coal areas of America?

What does the District of Columbia include, and how is it governed ?

2. Government, population, and products of Brazil and Mexico.

3. Give the political divisions of Europe with the capital and chief cities of each; what states are included in the German Empire?

4. Name the divisions of Ancient Greece and the chief cities. What were the possessions of the

· Carthaginians at the beginning of the First Punic War? Name the provinces embraced in the Roman Empire-in the days of Trajan.

#### Grammar.

1. Give the rules for the formation of the plural of nouns and also for the comparison of adjectives and adverbs.

2. Give the different uses of the word that, and illustrate each ; what are the forms and uses of the potential mode?

3. Distinguish between a complex and a compound sentence, and illustrate with four sentences -the first two complex and the last two compound.

4. Parse the italicised words in the following sentence: Were he my own brother, this hand would strike him dead.

Correct, explaining the correction: Whom do men say that I am?

#### Arithmetic.

 $3\frac{1}{4} + 1\frac{1}{2} \div \frac{2}{8} = ?$  What is a fraction? Find 61-1×4 the least common multiple and highest common divisor of 8, 12, and 40. Name the metric units of weights and measures. How many metres in 25 feet? Find the cubic root of 3.375.

\$1,000 includes a sum to be invested and a commission of five per cent. of the sum to be invested. What is the sum to be invested?

#### Algebra.

Define term, factor, coefficient, exponent, power, root, equation. What is the degree of a term? What is a polynominal homogeneous?

Write the following without using the radical sign:

$$\sqrt{a}$$
;  $\sqrt{a^3}$ ;  $\sqrt{a^2 + b^2 - 2ab}$ .

Write the following without using negative exponents:

$$a^{-2}; ab^{-1}; \frac{a^{-2}}{b^{-2}}$$

Multiply  $a - b\sqrt{-1}$  by  $a + b\sqrt{-1}$ . Also  $a-b\sqrt{-1}$  by  $a+c\sqrt{-1}$ .

Raise  $a - b \sqrt{-1}$  to the 3d power. Simplify the radical  $(a^3 - 2a^2b + ab^2)$ .

Solve 
$$\frac{a^2 - x^2}{a + x} - \frac{a^2 - x^2}{a - x} = b$$
. Also  $\frac{a}{x^{-1}} + bx^9$   
+  $c = 0$ . Also  $\frac{x - 1}{2} - \frac{x - 2}{3} = \frac{x + 1}{6}$ . Also  $\frac{a\frac{1}{2} - (a - x)\frac{1}{2}}{a\frac{1}{2} + (a - x)\frac{1}{2}} = \frac{1}{a}$ .

#### Geometry.

Define line, angle, surface, figure. What are similar figures? Name the classes of quadrilaterals. Prove that two triangles with the three sides of the one equal to the three sides of the other, each to each, are equal. Prove that the three angles of a triangle are equal to two right angles. Prove that the angle made by two chords intersecting in a circle is measured by one half the sum of the arcs intercepted between its sides and the sides of its vertical, or opposite, angle. Prove that, if two chords intersect each other in a circle, their segments are reciprocally proportional.

#### Latin.

Give general rules for gender of nouns.

Give the regular methods of forming the second and third roots of verbs.

Give the principles that govern the use of the

indicative, subjunctive, and infinitive moods, and illustrate by some Latin examples.

Give the Roman method of expressing dates, both of the year and the month.

Translate idiomatically one of the three following passages:

#### Caesar, Gallic War, Bk. II. ch. XXV.

XXV. Caesar ab decimae legionis cohortatione ad dextrum cornu profectus, ubi suos urgeri, signisque in unum locum conlatis, duodecimae legionis confertos milites sibi ipsos ad pugnam esse impedimento vidit,-quartae cohortis omnibus centurionibus occisis, signiferoque interfecto, signo amisso, reliquarum cohortium omnibus fere centurionibus aut vulneratis aut occisis, in his primipilo P. Sextio Baculo, fortissimo viro, multis gravibusque vulneribus confecto, ut jam se sustinere non posset; reliquos esse tardiores, et nonnullos ab novissimis deserto proelio excedere ac tela vitare, hostis neque a fronte ex inferiore loco subeuntes intermittere, et ab utroque latere instare, et rem esse in angusto vidit, neque ullum esse subsidium quod summitti posset,-scuto ab novissimis uni militi detracto, quod ipse eo sine scuto venerat, in primam aciem processit; centurionibusque nominatim appellatis, reliquos cohortatus, milites signa inferre et manipulos laxare jussit, quo facilius gladiis uti possent. Cujus adventu spe inlata militibus, ac redintegrato animo, cum pro se quisque in conspectu imperatoris etiam in extremis suis rebus operam navare cuperet, paulum hostium impetus tardatus est.

#### Sallust, Catilina, ch. XII.

XII. Postquam divitiae honori esse coepere, et eas gloria, imperium, potentia sequebatur, hebescere virtus, paupertas probro haberi, innocentia pro malivolentia duci coepit. Igitur ex divitiis invasere; rapere, consumere, sua parvi pendere, aliena cupere, pudorem, pudicitiam, divina atque humana promiscua, nihil pensi neque moderati habere. Operae pretium est, quum domos atque villas cognoveris in urbium modum exaedificatas, visere templa deorum, quae nostri maiores, religiosissumi mortales, fecere. Verum illi delubra deorum pietate, domos suas gloria decorabant, neque victis quidquam praeter iniuriae licentiam eripiebant. At hi contra, ignavissumi homines, per summum scelus omnia ea sociis adimere, quae fortissumi viri victores reliquerant; proinde quasi iniuriam facere id demum esset imperio uti.

#### Sallust, Iugurtha, ch. XXVIII.

XXVIII. At Iugurtha, contra spem nuncio accepto, quippe cui Romae omnia venum ire in animo haeserat, filium et cum eo duos familiares ad Senatum legatos nittit, hisque ut illis, quos, Hiempsale interfecto, miserat, praecepit, omnes mortales pecunia adgrediantur. Qui postquam Romam adventabant, Senatus a Bestia consultus est, placeretne legatos lugurthae recipi moenibus; ilque decrevere, nisi regnum ipsumque deditum venissent, uti in diebus proximis decem Italia decederent. Consul Numidis ex Senati decreto nunciari iubet : ita infectis rebus illi domum discedunt. Interim Calpurnius, parato exercitu, legat sibi homines nobiles, factiosos, quorum auctoritate quae deliquisset munita fore sperabat; in quis fui Scaurus, cuius de natura et habitu supra memoravimus.

#### Also translate:

#### Cicero, Second Oration against Catiline, ch. VIII.

VIII. Sed cur tamdiu de uno hoste loquimur : et de co hoste, qui jam fatetur se esse hosten; et quem, quia (quod semper volui) murus interest, non timeo; de his, qui dissimulant, qui Romae re-manent, qui nobiscum sunt, nihil dicimus? quos quidem ego, si ullo modo fieri possit, non tam ulcisci studeo, quam sanare, et ipsos placare reipublicae; neque, id quare fieri non possit, si me audire volent, intelligo. Exponam enim vobis, Quirites, ex quibus generibus hominum istae copiae comparentur : deinde singulis medicinam consilii atque orationis meae, si quam potero, afferam. Unum genus est eorum, qui, magno in aere alieno, majores etiam possessiones habent, quarum amore adducti dissolvi nullo modo possunt. Horum hominum species est honestissima (sunt enim locupletes), voluntas vero et causa impudentissima. Tu agris, tu aedificiis, tu argento, tu familia, tu rebus omnibus ornatus et copiosus sis; et dubites de possessione detrahere, acquirere ad fidem ? Quid enim expectas? bellum? quid? ergo in vastatione omnium tuas possessiones sacrosanctas futuras putas? An tabulas novas? errant, qui istas a Catilina expectant. Meo beneficio tabulae novae proferentur, verum auctionariae: neque enim isti, qui possessiones habent, alia ratione ulla salvi esse possunt. Quod si maturius facere voluissent, neque (id quod stultissimum est) certare cum usuris fructibus praediorum; et locupletioribus his et melioribus civibus uteremur. Sed hosce homines minime puto pertimescendos, quod ant deduci de sententia possunt; aut, si permanebunt, magis mihi videntur vota facturi contra rempublicam, quam arma laturi.

#### Virgil, Georgics, Bk. IV. II. 507-527.

"Septem illum totos perhibent ex ordine menses Rupe sub aeria deserti ad Strymonsis undam Flevisse, et gelidis haec evolvisse sub antris, Mulcentem tigres, et agentem carmine quercus: Qualis populea maerens Philomela sub umbra Amissos queritur fetus, quos durus arator Observans nido implumes detraxit: at illa Flet noctem, ramoque sedens miserabile carmen Integrat, et maestis late loca questibus implet. Nulla Venus, non ulli animum flexere hymenaei; Solus hyperboreas glacies Tanaimque nivalem, Arvaque Rhipaeis nunquam viduata pruinis Lustrabat, raptam Eurydicen atque irrita Ditis Dona querens: spretae Ciconum quo munere matres.

Inter sacra deum nocturnique origa Bacchi, Discerptum latos juvenem sparsere per agros. Tum quoque, marmorea caput a cervice revulsum Gurgite quum medio portans Oeagrius Hebrus Volveret, 'Eurydicen' vox ipsa et frigida lingua 'Ah miseram Eurydicen!' anima fugienta vocabat:

'Eurydicen' toto referebant flumine ripae."

#### Virgil, Aeneid, Book VI. ll. 102–123. Incipit Aeneas heros: "Non ulla laborum, O virgo, nova mi facies inopinave surgit: Omnia praecepi, atque animo mecum ante peregi. Unum oro—quando hic inferni janua regis Dicitur, et tenebrosa palus Acheronte refuso— Ire ad conspectum cari genitoris et ora Contingat: doceas iter, et sacra ostia pandas. Illum ego per flammas et mille sequentia tela Eripui his humeris, medioque ex hoste recepi:

Ille, meum comitatus iter, maria omnia mecum Atque omnes pelagique minas coelique ferebat Invalidus, vires ultra sortemque senectae. Quin, ut te supplex peterem et tua limina adirem, Idem orans mandata dabat. Natique patrisque, Alma, precor, miserere; potes namque omnia: nec te

Nequidquam lucis Hecate praefecit Avernis: Si potuit manes arcessere conjugis Orpheus, Threicia fretus cithara fidibusque canoris; Si fratrem Pollux alterna morte redemit, Itque reditque viam toties. Quid Thesea, magnum Quid memorem Alciden? Et mi genus ab Jove summo."

Mark the quantities of the last three lines.

Locate the following: Rome, Mantua, Arpinum, Eryx, Palinurus, Samnium, Campania, Gaul, Rhodanus, Liger, Garumna.

Translate into Latin:

The noble Brutus hath told you that Caesar is ambitions. If it were so it were a grievous (maxima) fault. Walking is pleasanter than riding, but it strikes me that we should not enter the wood without taking arms. On the 10th of July my friend will set out for Italy, then go to Athens, and then to Syria.

#### Greek Grammar.

[N. B.-All Greek words must be written with their accents.]

 Decline τιμή, πολίτης, νήσος, παις, μέγας, αὐτός, έγω.

2. Compare σοφός, ταχύς, φίλος, δάδιος.

3. Inflect  $\lambda t \omega$  in Aorist Imperative, Middle Voice;  $\lambda e t \pi \omega$  in Second Aorist Subjunctive, Middle Voice;  $\phi a t \nu \omega$  in Aorist Indicative, Active Voice.

4. Describe all the regular forms of conditional sentence referring to the future. How would you express a wish which cannot be fulfilled? a purpose which was not carried out?

5. In what different ways can the Greek express "purpose"?

6. What is a palatal? a lingual? a mute?

7. What is Crasis? Elision? Syncope? Aphaeresis?

8. With verbs of accusing, what construction is used?

9. Translate έμοι τούτο μέλει, and explain the case of τούτον.

Translate one of the three following passages from Xenophon's Anabasis:

Bk. II. 6, 16-19:

Πρόξενος δε ό Βοιώτιος εὐθὺς μὲν μειράκιον ῶν ἐπεθύμει γενέσθαι ἀνὴρ τὰ μεγάλα πράττειν [κανὸς· καὶ διὰ ταύτην τὴν ἐπιθυμίαν ἔδωκε Γοργία ἀργύριον τῷ Λεοντινῷ. ἐπεί δὲ συνεγένετο ἐκείνφ, ἱκανὸς νομίσας ἤδη εἶναι καὶ ἀρχειν καὶ φίλος ῶν τοῖς πρώτοις μὴ ἡττῶσθαι εὐεργετῶν, ἦλθεν εἰς ταύτας τὰς σὺν Κύρφ πράξεις· καὶ ὡετο κτήσεσθαι ἐκ τούτων ὕνομα μέγα καὶ δύναμιν μεγάλην καὶ χρήματα πολλά. τοσούτων ὅ ἐπιθυμῶν σφόδρα ἕνδηλον αδ καὶ τοῦτο εἶχεν, ὅτι τούτων οὐδὲν ἂν θέλοι κτῶσθαι μετὰ ἀδικίας, ἀλλὰ σὺν τῷ δικαίφ καὶ καλῷ ῷετο δεῖν τούτων τυγχάνειν, ἄνευ δὲ τούτων μή. ἄρχειν δὲ καλῶν μὲν καὶ ἀγαθῶν δυνατός ἦν · οὐ μέντοι οὕτ' αἰδῶ τοῖς στρατιώταις ἑαυτοῦ οὕτε φόβον ἱκανός ἐμποιῆσαι, ἀλλὰ καὶ ἦσχύνετο μᾶλλον τοὺς στρατιώτας ἢ οἱ ἀρχόμενοι ἐκεῖνον, καὶ φοβούμενος μᾶλλον ἦν φανερός τὸ ἀπεχθάνεσθαι τοῖς στρατιώταις ἢ οἱ στρατιῶται τὸ ἀπιστεῖν ἐκείνφ.

#### Bk. III. 1, 45-47:

Μετά δὲ τοῦτον εἶπε Χειρίσοφος, 'Αλλὰ πρόσθεν μέν, δ Ξενοφῶν, τοσοῦτον μόνον σε ἐγίγνωσκον, ὅσον ἤκουον 'Αθηναῖον εἶναι, νῦν δὲ καὶ ἐπαινῶ σε ἐφ' οἶς λέγεις τε καὶ πράττεις, καὶ βουλοίμην ἀν ὅτι πλείστους εἶναι τοιούτους κοινὸν γὰρ ἀν εἴη τὸ ἀγαθόν. καὶ νῦν, ἔφη, μὴ μέλλωμεν, δ ἀνδρες, ἀλλ' ἀπελθόντες ἤδη αἰρεῖσθε οἱ δεόμενοι ἀρχοντας, καὶ ἐλόμενοι ἤκετε εἰς τὸ μέσον τοῦ στρατοπέδου καὶ τοὺς αἰρεθέντας ἀγετε. ἔπειτ' ἐκεῖ συγκαλοῦμεν τοὺς ἀλλους στρατιώτας. παρέστω δ' ἡμῦν, ἔφη, καὶ Τολμίδης ὅ κῆρυξ. καὶ ἅμα ταῦτ' εἰπῶν ἀνέστη, ὡς μὴ μέλλοιτο, ἀλλὰ περαίνοιτο τὰ δέοντα. ἐκ τούτου ἡρέθησαν ἅρχοντες ἀντὶ μὲν Κλεάρχων Τιμασίων Δαρδανεύς, ἀντὶ δὲ Σωκράτους Εανθικλῆς ᾿Αχαιός, ἀντὶ δὲ Προξένου Ξενοφῶν 'Αθηναῖος.

Bk. IV. 2, 17-20:

Kal έν τούτφ τῷ χρόνφ ἦλθεν 'Αρχαγόρας δ 'Αργείος πεφευγώς και λέγει ώς απεκόπησαν από τοῦ πρώτου λόφου καί ότι τεθνασι Κηφισόδωρος και 'Αμφικράτης και άλλοι δσοι μή άλλόμενοι κατά της πέτρας πρός τούς όπισθοφύλακας αφίκοντο. ταῦτα δὲ διαπραξάμενοι οἱ βάρβαροι Ϋκον έπ' ἀντίπορον λόφον τῷ μαστῷ και Ξενοφῶν διελέγετο αύτοις δι έρμηνέως περί σπονδών και τούς νεκρούς άπήτει. οί δὲ ἔφασαν ἀποδώσειν ἐφ' ῷ μὴ καίειν τὰς κώμας. συνωμολόγει ταῦτα δ Ξενοφῶν. ἐν ఢ δὲ τὸ μὲν ἄλλο στράτευμα παρήει, οί δε ταῦτα διελέγοντο, πάντες οι έκ τοῦτου τοῦ τόπου συνερρύησαν. ένταῦθα ίσταντο οἱ πολέμιοι. καὶ έπει ήρξαντο καταβαίνειν από τοῦ μαστοῦ πρός τοὺς ἄλλους, ένθα τὰ δπλα έκειντο, ίεντο δη οί πολέμιοι πολλώ πληθει καί θορύβφ · καί έπει έγένοντο έπι της κορυφής του μαστού, άφ' οδ Ξενοφών κατέβαινεν, έκυλίνδουν πέτρας και ένδς μέν κατέαξαν το σκέλος, Ξενοφώντα δε ό ύπασπιστης έχων την ασπίδα απέλιπεν.

Translate *both* of the following passages from Homer's "Iliad":

#### Bk. I. 245-253:

<sup>6</sup>Ωs φάτο Πηλείδηs, ποτὶ δὲ σκῆπτρον βάλε γαίῃ χρυσείοις ἥλοισι πεπαρμένον, ἕζετο δ' αὐτός <sup>5</sup>Ατρείδης δ' ἐτέρωθεὐ ἐμήνιε. τοῖσι δὲ Νέστωρ ἡδυεπὴς ἀνόρουσε, λιγὸς Πυλίων ἀγορητής, τοῦ και ἀπὸ γλώσσης μέλιτος γλυκίων ῥέεν αὐδή. τῷ δ' ήδη δύο μὲν γενεαὶ μερόπων ἀνθρώπων ἐφθίαθ', οἶ οἱ πρόσθευ ἅμα τράφεν ἦδ' ἐγένοντο ἐν Πύλφ ἦγαθέῃ, μετὰ δὲ τριτάτοισιν ἅνασσεν.

#### Bk. II. 190-197:

" Δαιμόνὶ, οὕ σε ἔοικε κακὸν ὡς δειδίσσεσθαι, ἀλλ' ἀντός τε κάθησο καὶ ἅλλους ὅδρυε λαούς. οὐ γάρ πω σάφα οἶσθ' οἶος νόος ᾿Ατρείωνος ° νῦν μὲν πειρῶται, τάχα δ' ὕψεται υἶας ᾿Αχαιῶν. ἐν βουλῆ δ' οὐ πάντες ἀκούσαμεν οἶον ἔειπεν. μή τι χολωσάμενος ῥέξη κακὸν υἶας ᾿Αχαιῶν.

58

θυμός δὲ μέγας ἐστὶ διοτρεφέος βασιλήος, τιμή δ' ἐκ Διός ἐστι, φιλεῖ δέ ἑ μητίετα Ζεύς."

Greek Prose Writing.

Translate into Greek :

1. All these soldier's have the same general.

2. They themselves will fight according to their ability.<sup>52</sup>

3. The general himself saved entire cities, with the help of the gods.

4. If he is a brother of yours, you will not take these things without a battle.<sup>53</sup>

#### Geography.

Locate the river Eurotas, the Peneus, Taygetus Mountains, Pindus Mountains, Heymettus Mountain. Which is the longest river in Greece?

BOWDOIN COLLEGE.

#### Arithmetic.

#### [Time allowed, half an hour.]

1. (a) Add together 214, 182, 4, 265.

(b) Find the value of

 $(\frac{2}{7} \times 2\frac{1}{5} \div \frac{2}{5} + \frac{4}{5}) \div \frac{2}{7}$ 

(c) Reduce  $\frac{3619}{6251}$  to its lowest terms.

(d) Change {{}} to an equivalent fraction having 671 for its denominator.

2. (a) Reduce  $\frac{7}{12}$  to a decimal of 4 places.

(b) Multiply two thousand five hundred and thirty-four millionths by three thousand two hundred and fifty-six hundred thousandths, and divide the product by eighty ten-thousandths.

8. (a) Sold a horse for \$132 at a loss of 12 per cent.; what per cent. would have been gained if the horse had been sold for \$159?

(b) What is the amount of \$575 at 6 per cent. for 2 years, 6 months and 15 days ?

4. Find the square root of 45.9684; of 4.59684; of .00001.

#### Algebra.

[Candidates are expected to answer at least *twelve* questions. These may be selected at pleasure, *two from each section*. The time allowed for the examination is one hour and a half.]

1. (1) Find the numerical value of  $\sqrt{b^2 - ac}$ + $\sqrt{(2ac + c^2)}$  when a = 6, b = 5, c = 4.

(2) Add together  $14a^3x - 7a^2b^3 + 3a^2$ ,  $5a^2b^2c^2 + 3a^2b^2 + 2a^2$ ,  $-(5a^3x + a^2 - 2a^3b^2c^2)$ , and  $4a^2b^2 - (9a^3x + 4a^3)$ .

(3) Multiply  $2a^3 - 3ab + 4$  by  $a^2 + 2ab - 3$ .

(4) Divide  $40a^3b^3 + 60a^2b^3 - 17ab$  by -ab.

2. (5) Find the greatest common divisor of  $4a^3$ -  $2a^2 - 3a + 1$  and  $3a^3 - 2a - 1$ .

(6) What is the "least common multiple" of two or more quantities?

3. (7) Reduce 
$$\frac{14a^2 - 7ab}{10ac - 5bc}$$
 to its lowest terms.

(8) Reduce 
$$(a-1)^3 - \frac{(a-1)^3}{a}$$
 to the form

(9) Add together 
$$\frac{a}{2}$$
,  $\frac{a-2m}{4}$ , and  $\frac{a+2m}{4}$ .

<sup>52</sup> κατὰ δύναμιν. <sup>58</sup> ἀμαχεί.

(10) Divide 
$$\frac{a}{a+b} + \frac{b}{a-b}$$
 by  $\frac{a}{a-b} - \frac{b}{a+b}$ .

4. (11) Solve the equation,  $3x - \frac{6x + 1}{7} =$ 

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

(13)

= 9.

(12) A bookseller sold 10 books at a certain price, and afterward 15 more at the same rate. At the last sale he received \$25 more than at the first. What did he receive for each book?

$$\frac{1}{x} = m - \frac{1}{y}$$
$$\frac{1}{y} = \frac{1}{x} - n$$

Find x and y.

If y = 2x, which is greater, m or n? How much greater?

5. (14) Write  $(-4a^{3}x^{-3}y^{2})^{-3}$  without negative exponents.

(15) Find the cube root of  $-\frac{125a^3b^9x^{12}}{216c^6x^9}$ 

(16) Find the square root of  $8ab^3 + a^4 - 4a^3b^4 + 4b^4$ .

6. (17) What is a "radical quantity"? A "surd"? Give examples.

(18) Write  $2a^2bx$  as a radical of the third degree.

(19) Reduce  $\sqrt{3}$ ,  $2^{\frac{6}{5}}$  and  $2^{\frac{6}{4}}$  to a common index.

(20) Multiply  $(3 + \sqrt{5})^{\frac{1}{3}}$  by  $(3 - \sqrt{5})^{\frac{1}{2}}$ .

(21) Find the square root of  $4 + 2\sqrt{3}$ .

(22) Solve the equation  $\sqrt{(x+19)} + (x+10)^{\frac{1}{9}}$ 

#### Geometry.

#### [Time allowed, one hour.]

(a) What is a geometrical figure? Illustrate.
 (b) When is one angle the complement of another? The supplement? Illustrate.

(c) Can a right-angled triangle be isosceles? Is a rhombus a parallelogram? Draw a figure of each.

(d) In an obtuse-angled triangle can a perpen-

dicular be drawn from each of the angular points to the opposite side? Illustrate.

2. Prove this proposition :

If from a point within a triangle two straight lines are drawn to the extremities of either side, their sum will be less than the sum of the other two sides of the triangle.

3. (a) What is a segment of a circle? Illustrate.

(b) Construct the following figure :

Describe a circle; take any point A upon the circumference; draw the diameter AB; take any other point C upon the circumference; join AC and BC.

What is the angle A CB? What is it measured by ?

4. Prove this proposition :

The angle formed by two chords which cut each other is measured by one half of the sum of the arcs intercepted between its sides and between the sides of its vertical angle.

#### Latin.

[Write only on one side of the paper. Number the sheets and write your name at the top of each. On the first sheet state the length of time you have given to the study of Latin, and the amount which you have read. Translate II. and III., and either IV. or V.]

I.

1. Inflect Aeneas, deus, filius (in sing.), and vis.

2. What is the gender of nouns of the fourth and fifth declensions?

3. What is a patronymic?

4. Inflect qui and alius.

5. Compare the following adjectives and the adverbs derived from them: audax, bonus, fortis, miser, proximus.

6. Write the abl. sing. of the following: *felix*, *levis*, *melior*, *senex*. When do you find a and when *ia* in the nom. pl. neut. of adjectives?

7. Give a synopsis of *malo* and *capio* through active voice.

9. Give the principal parts of gaudeo, interficio, lavo, paeiscor, tollo.

9. Inflect *rego* and *audio* in pres. indic., and mark the quantity of the penult.

10. What parts of the verb are formed from the supine stem?

#### II.

Sed quoniam earum rerum quas ego gessi non eadem est fortuna atque condicio quae illorum qui externa bella gesserunt, —quod mihi cum eis vivendum est quos vici ac subegi, isti hostis aut interfectos aut oppressos reliquerunt, —vestrum est, Quirites, si ceteris facta sua recte prosunt, mihi mea ne quando obsint providere. Mentes enim hominum audacissimorum sceleratae ac nefaria ne vobis nocere possent ego providi: ne mihi noceant vestrum est providere.

Cic., in Cat. Or., III.

- 1. When is Quirites used rather than Romani?
- 2. Explain the subjunctive in possent.
- 8. Give the construction of mihi and vestrum.

#### III.

Ecce, manus juvenem interea post terga revinctum Pastores magno ad regem clamore trahebant Dardanidae, qui se ignotum venientibus ultro, Hoc ipsum ut strueret Trojamque aperiret Achivis, Obtulerat, fidens animi, atque in utrumque paratus, Seu versare dolos, seu certae occumbere morti. Verg. Acn., Lib. II.

Talibus orabat dictis arasque tenebat, Cum sic orsa loqui vates: "Sate sanguine divům, Tros Anchisiade, facilis descensus Averno; Noctes atque dies patet atri janua Ditis; Sed revocare gradum superasque evadere ad auras, Hoe opus, hic labor est." *Id., Lib. VI.* 

1. What is the subject of the second book of the Aeneid? What of the sixth?

2. When did the author live?

8. Describe the metre. Scan the first line, marking the caesura. Point out any cases of elision in either passage.

4. Explain the derivation of *Dardanidae*. By what other names were the Trojans known?

5. Give the construction of manus, venientibus, sanguine, and noctes.

6. Explain the subjunctive of strueret.

#### IV.

Caesar, cum septimam legionem, quae juxta constiterat, item urgeri ab hoste vidisset, tribunos militum monuit, ut paulatim sese legiones conjungerent, et conversa signa in hostes inferrent. Quo facto, cum alius alii subsidium ferret, neque timerent ne aversi ob hoste circumvenirentur, audacius resistere ac fortius pugnare coeperunt.

Caes. de Bell. Gall., Lib. II.

1. Explain the subjunctive in *conjungerent* and *circumvenirentur*.

#### v.

Postquam, ut dixi, senatus in Catonis sententiam dicessit, consul optumum factu ratus noctem, quae instabat, antecapere, ne quid eo spatio novaretur, triumviros, quae supplicium postulabat, parare jubet: ipse, dispositis praesidiis, Lentulum in carcerem deducit: idem fit ceteris per praetores. Est in carcere locus, quod Tullianum appellatur, ubi paullulum ascenderis ad laevam; circiter duodecim pedes humi depressus. Sall. Cat.

1. Parse optumum and factu.

#### Latin Composition.

1. Nothing deters a wise man from obeying the laws of virtue.

2. He says that he was not engaged in the battle.

3. At early dawn, when the top of the mountain was held by Labienus, Considius hastened to Caesar, with his horse at full speed, and said that the mountain was held by the enemy.

1. Deterreo, sapiens, quominus, parere, lex, virtus.

2. Nego, intersum, proelium.

8. Primus, lux, cum, summus, mons, teneo, accurro, ad, equus, admitto, hostis.

Greek.

[N. B.—Write your name on the top of each page; stating on the first page the amount of Greek read, and the number of lessons studied in Jones's Greek Prose Composition.]

Translate-

Πολύ δὲ μᾶλλον ὁ Κλέαρχος ἔσπευδεν, ὑποπτεύων μὴ ἀεἰ οὕτω πλήρεις είναι τὰς τάφρους ὑδατος · οὐ γὰρ ἦν ῶρα οῦα τὰ πεδίον ἀρδειν · ἀλλ' ἱνα ἦδη πολλὰ προφαίνοιτο τοῖς Ἐλλησι δεινὰ εἰς τὴν πορείαν, τούτου ἕνεκα βασιλέα ὑπώπτευεν ἐπὶ τὰ πεδίον τὰ ὑδωρ ἀφεικέναι. πορευόμευοι δὲ ἀφίκοντο εἰς κώμας, ὅθεν ἀπέδειξαν οἱ ἡγεμόνες λαμβάνειν τὰ ἐπιτήδεια.—ΑΝΑΒ., Π. 3.

1. Decline, writing the accent,  $\pi o \rho \epsilon i a v$ ,  $\tau \dot{a} \phi \rho o v \varsigma$ ,  $i \delta \omega \rho$ ,  $\pi \lambda \dot{\eta} \rho \epsilon i \varsigma$ ,  $\pi o \lambda \lambda a$ . What are the characteristic stem-endings of the three declensions?

2. Synopsis of ξσπευδεν, είναι, ἀφεικέναι. Name the tenses of the Greek verb, with the meaning of each. Separate φαίνοιτο, ἐδειξαν, into their elements. Which modes have special mode-signs? Name the signs. How is the passive voice formed?

 Composition and literal meaning of iποπτεύων, ἀφεικέναι, ἀφίκοντο.

4. Restore the euphony in the following words, giving the rule applicable to each case:  $i\lambda \epsilon\gamma\theta\eta\nu$ ,  $l\delta\tau\epsilon$ ,  $\tau\rho(\beta\sigma\omega$ ,  $\epsilon\nu\pi\alpha\varsigma$ ,  $i\tau(\theta\eta\mu$ .

5. Accent the following verb-forms: λιπου, λιπων, λελυκως, παυσαι (infin.), λελυμενος.

Translate-

Ενθα δή προσέρχεται τῷ Ξενοφῶντι τῶν πελταστῶν τις ἀνὴρ 'Αθήνησι φάσκων δεδουλευκέναι, λέγων, ὅτι γιγνώσκοι τὴν φωνὴν τῶν ἀνθρώπων. καὶ οἶμαι, ἐφη, ἐμὴν ταύτην πατρίδα είναι καὶ εἰ μή τι κωλύει, ἐθέλω αὐτοῦς διαλεχθήναι. ἀλλ' οὐδὲν κωλύει, ἔφη, ἀλλὰ διαλέγου καὶ μάθε πρῶτον, τίνες εἰσίν. οἱ δ' εἰπον ἐρωτήσαντος ὅτι Μάκρωνες.—ΑΝΑΒ., ΙV. 8.

1. Explain the use of the optative in  $\gamma_{i\gamma\nu\omega\sigma\kappa\sigma\iota}$ , and the indicative in  $\kappa\omega\lambda\omega\epsilon\iota$ . State the different ways of expressing condition.

2. Explain the word 'Αθήνησι. How does οίμαι differ in meaning from olδα?

3. In what year was this expedition undertaken? What troops composed the army of Cyrus?

Translate-

"\* Έρχεσθον κλισίην πηληϊάδεω 'Αχιλήος • χειρός έλόντ' άγέμεν Βρισηίδα καλλιπάρηον • εἰ δέ κε μή δώησιν, έγὼ δέ κεν αὐτός ἕλωμαι έλθῶν σὺν πλεόνεσσι • τό οἱ καὶ ῥίγιον ἔσται."

<sup>6</sup>Ως εἰπῶν προίει, κρατερὸν ở ἐπὶ μῦθον ἐτελλεν. τῶ ở ἀἐκοντε βάτην παρὰ θῖν' ἀλὸς ἀτρυγέτοιο, Μυρμιδόνων ở ἐπί τε κλισίας καὶ νῆας ἰκέσθην. ΙLIAD, Ι.

1. Name the metre, and mark the feet and caesura of the first two lines.

 Attic form of ἀγέμεν, δώησιν, πλεόνεσσι, βάτην.

 Root of προίει, δώησιν, έλθών. Derivation of κρατερόν, ἀέκοντε.

4. Decline έγώ, ol, άλος.

Translate-

"Ω φίλοι, 'Αργειων ήγήτορες ήδὲ μέδοντες, εἰ μέν τις τὸν ὅνειρον 'Αχαιῶν ἀλλος ἐνισπεν, ψεῦδός κεν φαῖμεν καὶ νοσφιζοίμεθα μᾶλλον ° νῦν ὅ ἰδεν ὅς μέγ' ἀριστος 'Αχαιῶν εὐχεται εἶναι. ἀλλ' ἀγετ', αἰ κέν πως θωρήξομεν υἰας 'Αχαιῶν." ΙΙΙΑΡ, Π.

1. Compare  $\mu \tilde{\alpha} \lambda \lambda \sigma v$ ; explain the double  $\lambda$ . Give the suffixes of comparison.

2. Tense and mode of  $\delta \nu \iota \sigma \pi e \nu$ ,  $\phi a \bar{\iota} \mu e \nu$ . Mode of  $\theta \omega \rho h \bar{\varsigma} o \mu e \nu$ ; what would be the Attic form used?

3. What Attic form do al kev represent?

4. What is this dialect called ? Name the Greek dialects.

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It seemed best to us to go to Cyrus. Do not fight with your brother, O Cyrus. If the soldiers arrive this night, the city will not be taken. The general marched rapidly, in order that he might fight as quickly as possible.

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