(No. 9.)



1866.

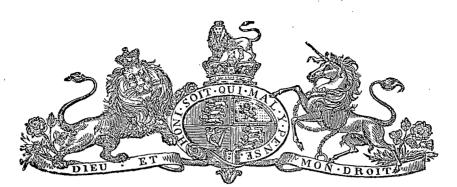
# TASMANIA.

LEGISLATIVE COUNCIL.

# DEGREE OF ASSOCIATE OF ARTS.

EXAMINERS' REPORT, 1865.

Laid upon the Table by Mr. Whyte; and ordered by the Council to be printed, July 31, 1866.



# TASMANIAN COUNCIL OF EDUCATION.

### DEGREE OF ASSOCIATE OF ARTS.—SEPTEMBER, 1865.

IN conformity with the Rules and Regulations of the Tasmanian Council of Education, the Council have directed the publication of the names of the Candidates who have passed the Examination for the Degree of Associate of Arts to the satisfaction of the Examiners, and upon whom that degree has been conferred accordingly :---

#### FIRST CLASS.

- WILLIAM MORRISS, Age 15, Hobart Town, Pupil of Hutchins School, Hobart Town, Rev. J. R. Buckland, B.A., Head Master. Awarded the Council's Gold Medal; also First Prizes of Books of the value of £10 each for Latin, Greek, and French.
- JOHN THOMAS MORRISS, Age 17, Hobart Town, Pupil of Hutchins School, Hobart Town, Rev. J. R. Buckland, B.A., Head Master. Awarded a Second Prize of Books of the value of £5 for French.
- JOHN SNOWDEN, Age 15, Hobart Town, Pupil of High School, Hobart Town, Rev. R. D. Harris, M. A., Rector. Awarded a Second Prize of Books of the value of £5 for Latin.
- CHARLES PERCY SPRENT, Age 16, Hobart Town, Pupil of High School, Hobart Town, Rev. R. D. Harris, M.A. Rector. Awarded a Second Prize of Books of the value of £5 for Greek.
- CHARLES ELLIS DAVIES, Age 18, Hobart Town, Pupil of High School, Hobart Town, Rev. R. D. Harris, M.A., Rector. Awarded a First Prize of Books of the value of £10 for Mathematics.
- GEORGE FREDERICK ARCHER, Age 17, Brickendon, Longford, Tasmania, Pupil of Horton College, Ross. W. W. Fox, Esq., B.A., Head Master.

#### SECOND CLASS.

ROBERT CRELLIN KERMODE, Age 18, Mona Vale, Ross, Tasmania, Pupil of Horton College, Ross, W. W. Fox, Esq., B.A., Head Master; and under Private Tuition, Rev. A. Davenport, B.A.

JOHN WATSON CANAWAY, Age 17, Hobart Town, Pupil of High School, Hobart Town, Rev. R. D. Harris, M.A., Head Master.

#### THIRD CLASS.

WILLIAM ALGERNON GUESDON, Age 16, Hobart Town, Pupil of High School, Hobart Town, Rev. R. D. Harris, M.A., Rector.

- CHARLES JOHN BALL, Age 18, Hobart Town, Pupil of High School, Hobart Town, Rev. R. D. Harris, M.A., Rector.
- CHARLES HUNT ROOPE, Age 16, New Town, Tasmania, Pupil of High School, Hobart Town, Rev. R. D. Harris, M.A., Rector.

CLEMENT BUESNEL, Age 16, Sidbury, Tasmania, Private Tuition, C. Buesnel, Esq.

- SEYMOUR JOHN BENNETT, Age 16, Port Arthur, Tasmania, Pupil of High School, Hobart Town, Rev. R. D. Harris, M.A., Rector.
- FRANCIS REGAN, Age 16, Hobart Town, Pupil of High School, Hobart Town, Rev. R. D. Harris M.A., Rector.

The Council have further directed the publication of the name of the under-mentioned Candidate, over the age of nineteen years, who has passed the Examination for the Degree of Associate of Arts to the satisfaction of the Examiners, and upon whom that degree has been conferred accordingly :--

ANDREW GEORGE GATENBY, Age 19, Longford, Tasmania, Pupil of Grammar School, Campbell Town, H Kemmiss, Esq., B.A., Head Master.

The General and Special Class Lists, together with the Tabulated results of the Examination, are annexed.

By Order of the Council,

25th September, 1865.

MURRAY BURGESS, Secretary.

# EXAMINERS' REPORT.

#### MR. PRESIDENT AND MEMBERS OF THE COUNCIL OF EDUCATION.

THE Examiners appointed by you to conduct the Sixth Examination for the Degree of Associate of Arts have the honor to submit the following Report.

For the Preliminary Examination, on 11th September, sixteen Candidates presented themselves, and all save one succeeded in passing.

The work done on paper by those who passed was, in the main, satisfactory. In Arithmetic, however, three of the Candidates, one of whom afterwards appeared in the First Class, narrowly escaped rejection from blunders due to nothing but inattention. When so few questions are set as in the Preliminary Papers, Candidates have no excuse for failing in correctness of work. The Geography and History were fair; the English and Dictation good.

But the Examiners were much disappointed in the *vivâ voce* Examination, which, taken as a whole, contrasted most unfavourably with last year's. With one or two creditable exceptions, the Candidates this year had not the slightest idea how to read aloud; their reading was hurried, slovenly, and inarticulate, and certainly hardly merited the title of intelligent. It has hitherto been generally understood that no Candidate should be rejected by reason of a bad *vivâ voce*. Examination if his paper work were satisfactory; but, after the experience of this year's *vivâ voce*, the Examiners think it right that the attention of Candidates and Teachers should be called to Clause 23 of the Council's Regulations, wherein it is prescribed that—

"Previously to the Examination for the Degree of Associate of Arts, every Candidate will be required to satisfy the Examiners in reading aloud a passage from some English Prose author."

It is not easy to fix a standard for passing in reading; but thus much is clear, that, to be "satisfactory" as required by the Regulations, reading must be audible, distinct, and correct,—and to this standard it can hardly be said that all Candidates this year attained. If the number of Candidates, as may be hoped, be as large next year as it was this, it will probably be necessary to omit the History and the Geography, and limit the *vivâ voce* Examination to reading aloud.

The ordinary Examination was continued during the remaining days of the week, for four hours in the morning and three in the afternoon.

There was present at the Examination this year, as there was in 1862, a Candidate over 19, whose name therefore does not appear in the ordinary Class Lists. All consideration of his work is omitted in the following Reports; and the Examiners would suggest that in future years the papers of all such Candidates should be known throughout the Examination. For it is probable that in some subjects at least (as in Mathematics this year) a Candidate of more advanced age will outstrip his younger rivals, and an Examiner may unintentionally be led to think unfavourably of their work in comparison with the papers of one who, unknown to the Examiner, has enjoyed superior advantages. In fairness, therefore, to Candidates under the prescribed age, we are of opinion that the names of all Senior Candidates should be affixed to their papers, and not concealed by mottoes as is the custom with all others.

Considering, then, the number of Candidates as fourteen, we have the following Reports on the several subjects of Examination :---

#### I. ENGLISH, INCLUDING HISTORY AND GEOGRAPHY.

Fourteen Candidates. Eleven passed, none with credit; the highest, Snowden, being 65 marks short of the standard fixed.

The defective answering was rather in the purely English than in the History and Geography paper. Too much seems to be left by students in this subject to the light of nature. They seem to think that English is too familiar a matter to require study, and therefore they do not carefully get up the books prescribed. This was particularly noted in the answering to the questions on Milton. Hardly one attempted the question in which the explanation of a few simple but unusual constructions was asked; few knew anything about the derivation of words which ought to have arrested their attention in reading the book carefully, as they would read a Greek play or a book of Virgil; and, finally, hardly any were able to give even a correct account of the action of the book which they ought to have studied. The questions on Trench's English Past and Present, and on Morell's Grammar and Analysis, were better done; but the principles of the analysis of sentences do not appear to be thoroughly understood. The Examination in History and Political Geography was more satisfactory than that in Physical Geography. In the former many of the answers were full and to the point; in the latter a few crude facts and scraps of theories were all that could be extracted. The best paper was that handed in by the Candidate over age; a fact which, combined with the other results of the Examination, seems to point to the conclusion that Physical Geography, unless of a very rudimentary character and limited extent, is a subject in which young lads cannot attain any real proficiency.

#### II. LATIN.

Fourteen Candidates. All passed, four with credit. The results of the Examination were very satisfactory, inasmuch as they evinced an accurate, because grammatical, acquaintance with the authors prescribed,—at once the best test of progress on the past and the best guarantee of success in the future. To this may be traced the facility and correctness with which the Candidates translated a passage set from an author whom they had not previously read. The most notable fact connected with this Examination was, that out of a total of 800 marks W. Morriss attained the large number of 770. This Candidate handed in most creditable copies of Latin Prose and Verse Composition.

## III. GREEK.

Eleven Candidates. All passed, seven with credit. In Greek, as in Latin, the translations were good; and the knowledge of grammatical forms necessary for all further improvement was, on the whole, satisfactory. Considerably more power over the language than has been manifested in any previous year was shown in the translations at sight of a passage of Plato.

#### IV. FRENCH.

Fourteen Candidates. All passed, eight with credit. The translations from French into English were good, and shewed on the whole a fair knowledge of grammar. Several Candidates made creditable attempts at translating from English into French; and the irregular verbs had been well learnt: but none had much idea of connecting together their Latin and their French. The answering of the two Morriss's was particularly good in this subject, and their papers had to be read over a second time to make a decision between them.

#### V. PURE MATHEMATICS.

Thirteen Candidates. All passed, one with credit. It should perhaps be remarked that this subject is, by the Regulations, divided into lower and higher, and that the former portion only is necessary for passing. The lower portion comprises 4 Books of Euclid, Arithmetic, and Algebra. Of these the Euclid was, on the whole, good; some of the Arithmetic very bad, the rest fair. In Algebra, Davies, Archer, Canaway, and Snowden did well; the rest, indifferently. It appears too often that Candidates do not thoroughly understand the meaning of the Algebraic signs they are using: this is particularly the case with the vinculum or bracket.

In the higher paper comprising the 6th and 11th Books of Euclid, Trigonometry and higher Algebra, Davies and Snowden did fairly, the others very moderately. It is much to be regretted, generally and particularly in Mathematics, that Candidates will not take the advice given to them to select and do first the question to answer which they see their way clear at once.

#### VI. ELEMENTARY PRINCIPLES OF MECHANICS AND HYDROSTATICS.

Five Candidates. None passed. It is sufficient to say that this subject seemed quite beyond the grasp of those who attempted it. So far as could be judged from their answering, they did not clearly understand the fundamental principles, or grasp the rudimentary notions required. The fact is that, before meddling with this, the Mathematical subjects of the A.A. should be thoroughly mastered; till this is done all time and work will be far more advantageously employed on them than on Natural Philosophy.

#### VII. GEOLOGY.

Two Candidates presented themselves. One passed. Neither of the Candidates displayed any practical acquaintance with the science.

Such being the Reports of the Examiners in the several subjects, it now remains to speak of the Examination as a whole, and of the evidence it gives as to the past training and present acquirements of the Candidates.

To commence with a comparison with former years, we find-

	1860.	1861,	1862.	1863.	1864.	1865.
Total number of Candidates	12	12	10	6	6	15
Rejected at Preliminary Examination.	3	<b>2</b>	<b>2</b>	1	0	1
Admitted to Degree Examination	9	10	8	5	6	14
Passed for A.A.	4	8	4	3	6	14
First Class	3	$^{2}$	0	0	<b>2</b>	6
Second Class	. 1	<b>2</b>	1	3	<b>2</b>	<b>2</b>
Third Class	0	4	3	· 0	2	6
Highest Marks obtained	2247	2722	2028	2003	3295	2955
Average Marks of all who passed	2132	2013	1788	1921	2228	2028

The first point which claims attention is the gratifying increase in the number of Candidates, larger this year than in any year since the first, when the scheme was new and the risks of failure unknown,—seeming larger by contrast with the last two years, in each of which the entry was only six. With reference to this great increase the words of the Examiners for 1863 are worth quoting. They then said, speaking of the diminution in the number of Candidates, "This is not really a "ground for discouragement, but rather the reverse; for it is probably only a result of what seems "to be a law at the institution of any system like that of this Examination. At first the real "difficulties of the Examination are unknown, and as it is but the outset of the system Examiners "are perhaps more indulgent. Hence for a year or two Candidates are very ready to come forward, "then for a year or two there will be a reaction and a hesitation on the part of Candidates to present "themselves, and of their Teachers to send them in till they are fully prepared." The large number of Candidates this year seems to shew that this period of hesitation is over; and that so many should have attained their Degree speaks well for the training to which they have been subjected. All the elementary work this year (save Arithmetic) shews marked improvement; and the high average of marks,—200 only behind last year's, in spite of the larger number of Candidates,—shews that care has been taken with the higher work as well. It is worth noting that this year, for the first time since the institution of the Examination, a Candidate presented the minimum of subjects for passing, —namely, four. He failed in none, and was placed in the Second Class.

It is also worth noting that for the first time in these Examinations the Senior Associate is also the junior in years of all the Candidates. Two Candidates, W. Morriss the first and Snowden the third on the list, are not yet 16 years of age. There have been instances in which boys of 15 have attained the degree, but none before this year of any so young finding their way into the first class, much less, as in this Examination, heading the list.

This shows conclusively, after the experience of past years, if additional proof were needed, that even if parents do not intend to give to their sons the further years of educational training that a learned profession imperatively demands,—but instead to take them early from school and discipline them at once for their employment in after life,—still, to such boys this degree is accessible; and this Examination should be looked upon as the test whether a boy has rightly used, or has failed to profit by, the teaching he has enjoyed at school.

The faults visible in the Examination have been so fully noted in the various special Reports, that it is hardly needful to mar the generally satisfactory character of the Examination as a whole by adverting again to them here; but the Examiners would urge upon all those preparing Candidates for next year the importance of training them to do good paper work by frequent competitive examinations, and subsequent careful criticism of the manner of their work. So may be added to the amount of knowledge, which at present is satisfactory, neatness and accuracy in reproducing it, and skill and readiness in making new combinations of it, in the paper work of this Examination.

Appended to the Report will be found the Class Lists, General and Special.

The Papers of the Examination were most carefully and quickly prepared by the attention of the Government Printer; and the Secretary to the Council has afforded us every help in conducting the Examination.

For the Examiners,

M. H. IRVING, M.A., Chairman.

21 September, 1865.

# TASMANIAN COUNCIL OF EDUCATION.

# EXAMINATION FOR THE DEGREE OF ASSOCIATE OF ARTS-September, 1865.

# GENERAL CLASS LIST.

			<b>_</b>	
		FIRST	CLASS.	
MARKS.	AGE.	4	SCHOOL.	TEACHER.
2955	15	First Prizes of Books, value £10 each, for	Hutchins School, Hobart Town.	Rev. J. R. Buckland, B.A.
2566	<b>17</b> ·	Second Prize of Books value	Ditto."	Ditto.
2538	15	Second Prize of Books value £5 for Latin.	High School, Hobart Town.	Rev. R. D. Harris, M.A.
2479	16	Second Prize of Books value £5 for Greek.	Ditto.	Ditto.
	18		Ditto.	Ditto.
2246	17	_	Horton College, Ross.	W. W. Fox, B.A.
		SECOND	CLASS.	
1926	18	-		W. W. Fox, Esq., B.A.; Rev. A. Davenport, B.A.
1881	17	—	High School, Hobart Town.	Rev. R. D. Harris, M.A.
		THIRD	CLASS.	
1684	16		High School, Hobart Town.	Rev. R. D. Harris, M.A. Ditto.
1640	16		Ditto.	Ditto.
		-		C. Buesnel, Esq. Rev. R. D. Harris, M.A.
1434	16	-	Ditto.	Ditto.
	2955 2566 2538 2479 2285 2246 1926 1881 1684 1680 1542 1541	2955         15           2566         17           2538         15           2479         16           2285         18           2246         17           1926         18           1881         17           1684         16           1680         18           1641         16           1542         16           1542         16           1541         16	y       y       y       y         2955       15       The Council's Gold Medal. First Prizes of Books, value £10 each, for Latin, Greek, & French.         2566       17       Second Prize of Books value £5 for French.         2538       15       Second Prize of Books value £5 for Greek.         2479       16       Second Prize of Books value £5 for Greek.         2285       18       Fhrst Prize of Books value £10 for Mathematics.         2246       17       —         SECOND         1926       18       —         1881       17       —         THIRD         1684       16         164       16       —         1542       16       —	Section     School.       2955     15     The Council's Gold Medal. First Prizes of Books, value £10 each, for Latin, Greek, & French.     Hutchins School, Hobart Town.       2566     17     Second Prize of Books value £5 for French.     Ditto.*       2538     15     Second Prize of Books value £5 for Greek.     Ditto.*       2479     16     Second Prize of Books value £5 for Greek.     Ditto.       2285     18     First Prize of Books value £10 for Mathematics.     Ditto.       2246     17     —     Horton College, Ross.       T HIR D     C LASS.       1926     18     —     Horton College, Ross, and Private Tuition.       1881     17     —     High School, Hobart Town.       1684     16     —     High School, Hobart Town.       1684     16     —     Ditto.       1684     16     —     Private Tuition.       1641     16     —     Private Tuition.       1641     16     —     Private Tuition.

16th September, 1865.

For the Examiners,

M. H. IRVING, M.A., Chairman.

# SPECIAL CLASS LIST.

			•			
English.	Latin.	Greek.	French.	Pure Mathematics.	Elementary Princi- ples of Hydrosta- tics and Me- chanics.	Geology.
FIRST CLASS.	FIRST CLASS.	FIRST CLASS.	FIRST CLASS.	FIRST CLASS.	FIRST CLASS.	FIRST CLASS.
None	Morriss, W. Snowden. Morriss, J. T. Sprent.	Morriss, W. Sprent. Morriss, J. T. Davies. Kermode. Snowden. Archer.	Morriss, W. Morriss, J. T. Roope. Buesnel. Archer. Guesdon. Kermode. Sprent.	Davies.	None	None.
ECOND CLASS.	SECOND CLASS.	SECOND CLASS.	SECOND CLASS.	SECOND CLASS	. SECOND CLASS.	SECOND CLASS.
Snowden. Sprent. Morriss, W. Ball. Morriss, J. T. Bennett. Guesdon. Kermode. Canaway. Archer. Davies.	Roope. Davies. Guesdon. Regan. Archer. Ball. Kermode. Bennett. Buesnel. Canaway.	Roope. Regan. Buesnel. Canaway.	Bennett. Snowden. Canaway. Davies. Ball. Regan.	Snowden. Morriss, J. T. Canaway. Ball. Archer. Morriss, W. Buesnel. Guesdon. Sprent. Regan. Bennett. Roope.	None.	Morriss, W.

16th September, 1865.

For the Examiners,

M. H. IRVING, M.A., Chairman.

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# TASMANIAN COUNCIL OF EDUCATION.

EXAMINATION for the Degree of Associate of Arts.-September, 1865.

Elementary Principles of Hydrostatics and Mechanics. OF Pure Mathematics. TOTAL No. MARKS. Geology. English. RESULT. French. Greek. TEACHER. Latin. No. NAME. DATE OF BIRTH SCHOOL. Maximum Number of Marks. 800 600 300. 300 300 4600 1000 200 Morriss, William...... 22 Dec. 1849 2955First Class. Hutchins School, Ho-Rev. J. R. Buckland. 633*c* 479 c 287 136 1 650770 c ...... bart Town B.A. Morriss, John Thomas. 25 July, 1848 First Class.  $\mathbf{2}$ Ditto Ditto 577 609*c* 559 c 467 c 3542566n.p.Snowden, John...... 5 August, 1849 380 High School, Hobart 519cFirst Class. 3 Rev. R. D. Harris. 685 617 c 337 2538n.p.-----Town M.A. Sprent, Charles Percy .. | 10 Nov. 1848 First Class. 390*c* Ditto Ditto 684605 c2262479 4 574cn.p. — Davies, Charles Ellis ... 13 May, 1847 Ditto Ditto 500 522c315431c2285First Class. 517 5 ------Horton College, Ross Archer, George Fredk... 20 July, 1848 W. W. Fox, Esq., B.A. 443c300 2246First Class. 6 512491500c-----\_\_\_\_ 7 February, 1847 Second Class. Kermode, Robt. Crellin.. Private Tuition Rev. A. Davenport 523481  $521\,c$  $401\,c$ 1926-----\_\_\_\_ 515 399 336 Canaway, John Watson . 12 June, 1848 High School, Hobart Rev. R. D. Harris, Second Class. 308 323 1881 \_\_\_\_ \_\_\_\_ Town M.A. Guesdon, William A. .. 6 Sept. 1848 High School, Hobart Rev. R. D. Harris, 232Third Class. 9 539406 c 1684507 \_ -----Town M.A. 10Ball, Charles John .....3 October, 184711Roope, Charles Hunt ...9 July, 1849 587 Third Class. 1680 Ditto Ditto 485 297 311n.p.------Third Class. Ditto 543482455 c 1601640 Ditto n.p.\_ -----Buesnel, Clement ..... 17 February, 1849 Private Tuition C. Buesnel, Esq. Third Class. 12432385449c2761542n.p. n.p. \_ Third Class. Bennett, Seymour J. .. 18 August, 1848 High School, Hobart 154113 Rev. R. D. Harris, 549479 338 175-------------Ťown M.A. 1434 Third Class. 14 Regan, Francis . . . . . 24 April, 1849 Ditto Ditto n.p. 497 457 283197 ...... n.p.

TABULATED RESULTS.

NOTE.—n.p. not passed. c. passed with credit. — subject not attempted by Candidates.

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# GENERAL CLASS LIST.

# (CANDIDATE ABOVE THE AGE OF NINETEEN YEARS.)

NAME.	MARKS.	AGE.		SCHOOL.	TEACHER.
Gatenby	2513	19	_	Grammar School, Campbell Town.	H. Kemmiss, Esq., B.A.

For the Examiners,

M. H. IRVING, M.A., Chairman.

# SPECIAL CLASS LIST.

## (CANDIDATE ABOVE THE AGE OF NINETEEN YEARS.)

English.	Latin.	Greek.	French.	Pure Mathematics.	Natural Philosophy.
Second.	First.	_	First.	First.	First.

For the Examiners,

M. H. IRVING, M.A., Chairman.

# TABULATED RESULTS.

# SPECIAL RETURN.-CANDIDATE OVER 19 YEARS OF AGE.

NAME.	AGE.	SCHOOL.	TEACHER.	English.	Latin.	Greek.	French.	Pure Mathematics.	Elementary Principles of Hydrostatics and Mechanics.	Geology.	Total No. of Marks.
		4 - 1		, 	Wa	ximun	a Nun	ber of	Marl	(Si	<u> </u>
~				1000	800	300	600	800	300	300	<b>£600</b>
······································			·				·		<u> </u>		<b></b> -
Gatenby, Andrew George	19	Grammar School, Campbell Town	H. Kemmiss, B.A.	714	595	-	409	560	235		2513

For the Examiners,

M. H. IRVING, M.A., Chairman.

# TASMANIAN COUNCIL OF EDUCATION.

## EXAMINATION FOR THE DEGREE OF ASSOCIATE OF ARTS .-- SEPTEMBER, 1865.

#### Preliminary Bramination.

#### MONDAY, 11TH SEPTEMBER. 9 A.M. to 1 P.M.

- 1. Multiply together fourteen thousand five hundred and seven, three thousand eight hundred and ninety-six, seven hundred and fifty-three: divide the product by two hundred and eight thousand four hundred and seventy-six; and write down the quotient in words.
- 2. A has 1968 books which cost him 4s. 6d. each: B has 1432 which cost 7s. 3d. each. How much more did B's books cost than A's?
- 3. In the University Boat Race this year, the winners rowed the distance 4½ miles in 21 minutes and 20 seconds, and rowed 39 strokes in each minute. How many strokes did they row in all, and how many feet did the boat go at each stroke? (N.B.—There are 5280 feet in the mile.)
- 4. What is the total cost of equipping a regiment of 1000 volunteers, if each man's uniform costs £2 7s. 6d.; his belts 8s. 9d.; his rifle and sword £2 12s. 8d.?
- 5. Mention in order from North to South the principal seaport Towns, Rivers, and Capes of the East Coast of North America between the St. Lawrence and Mexico.
- 6. Mention in order from East to West eight of the principal Rivers of Continental Europe which discharge into the Baltic Sea, the North Sea, or the English Channel.
- 7. Name in order the principal Gulfs and Seas on the Coast of Asia.
- 8. Where are Algeria, Baffin's Bay, California, Cape Clear, Cape Otway, Ceylon, the Cheviots, the Danube, the Forth, the Himalayas, the Isthmus of Suez, Port Jackson?
- 9. Give the dates of the accessions of Stephen, Henry III., Richard II., Edward IV., William and Mary, and Queen Victoria? To what monarch did each succeed?
- 10. Name two leading men in each of the following reigns :--Henry II., Edward III., Elizabeth, Charles II., George III., William IV.; and state briefly for what each was distinguished.
- 11. In whose reign and between whom were these battles fought :---Bannockburn, Boyne, Corunna, Lexington, Neville's Cross?
- 12. In whose reign and from what causes did each of the following events occur :---The Abolition of Slavery; the summoning of a House of Commons; Jack Cade's Insurrection; the Petition of Right; the use of English in Law Pleadings; the Union of England and Scotland?

#### Preliminary Examination.

#### MONDAY, 11TH SEPTEMBER, 1865. 2 to 5 P.M.

- 1. Parse every word in the following :----
  - A man born blind is ignorant of the pleasures of which he is deprived.--SYDNEY SMITH.

2 Analyse the following :---

So all day long the noise of battle roll'd

Among the mountains by the winter sea;

Till all King Arthur's Table, man by man,

Had fallen in Lyonness about their Lord King Arthur: then, because his wound was deep,

The bold Sir Bedivere uplifted him,

Sir Bedivere, the last of all his Knights.—TENNYSON.

3. Write down with their meanings English words of the same sound as the following, but differently spelt :--

Ate, bread, male, our, pray, pour, rote, sail.

#### Passage for Dictation.

Four generations had not sufficed to blend the hostile blood of the Normans and Anglo-Saxons, or to unite by common language and mutual interests two hostile races, one of which still felt the elation of triumph, while the other groaned under all the consequences of defeat. The power had been completely placed in the hands of the Norman nobility by the event of the Battle of Hastings, and it had been used, as our histories assure us, with no moderate hand. The whole race of Saxon princes and nobles had been extirpated or disinherited, with few or no exceptions. Nor were the numbers great who possessed land in the country of their fathers even as proprietors of the second or of yet inferior classes. The royal policy had long been to weaken by every means legal or illegal the strength of a part of the population which was justly considered as nourishing the most inveterate antipathy to their victor. All the monarchs of the Norman race had shewn the most marked predilection for their Norman subjects; the laws of the chase and many others equally unknown to the milder and more free spirit of the Saxon constitution had been fixed upon the necks of the subjugated inhabitants to add weight as it were to the feudal chains with which they were loaded.—Scott.

#### Mathematics.—I.

#### TUESDAY, 12TH SEPTEMBER. 9 A.M. to 1 P.M.

- 1. Define a line, a plane angle, a parallelogram, an oblong, a circle, a straight line touching a circle, similar segments. Draw a figure to shew the gnomon XYZ.
- 2. Prove that the greater side of any triangle is opposite to the greater angle.
- 3. Prove that, if any side of a triangle be produced, the exterior angle is equal to the two interior and opposite angles; and that the three angles of a triangle are together equal to two right angles.

To how many right angles will the interior angles of a polygon of n sides be equal? Prove your answer.

- 4. Prove that the perpendicular upon a straight line from a given point without it is the shortest line which can be drawn from the point to the line.
- 5. Prove that, if a straight line be divided into two equal and also into two unequal parts, the squares of the unequal parts are together double of the square of half the line and of the square of the line between the points of section.

Give also an algebraic proof of the preceding.

6. Find the magnitude of the angle (a) in a semicircle, (b) in a segment of a circle greater than a semicircle, (c) in a segment of a circle less than a semicircle.

Shew that in a right-angled triangle the lines drawn perpendicular to the sides from their middle points meet in the middle point of the hypothenuse.

7. From a given point outside a circle draw a straight line touching it.

- 8. Describe about a given circle a triangle equiangular to a given triangle.
- 9. Find the value of  $\frac{21}{35}$  of  $6\frac{3}{7}$  of a cwt. of coffee at  $\frac{2}{5}$  of 7s. 6d. a pound.
- 10. Add together  $\frac{2}{5}$  of 21s.,  $\frac{3}{4}$  of £1 7s., and  $\frac{5}{2}$  of 17s. 6d., and reduce the sum to the decimal of a pound.
- 11. Reduce to a common denominator, and add together  $\frac{9}{3}$ ,  $\frac{3}{4}$ ,  $\frac{5}{6}$ ,  $\frac{9}{7}$ ,  $\frac{7}{8}$ .
- 12. Reduce the preceding to decimals; add together, and shew that the resulting decimal is the same as the fraction found before.
- 13. What do you mean by a circulating decimal?

To what fractions are 9 .543 .0909 severally equal?

14. Find the greatest common measure of 1863 and 1782; and of  $a^3 + 3 a^2 b + 3 a b^2 + b^3$  and  $a^5 + b^5$ .

15. Reduce to its simplest form-

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

16. Solve the equations-

(1.) 
$$\frac{2x}{7} + \frac{x-1}{6} = x-4$$
  
(2.) 
$$\frac{2x+a}{3(x-a)} + \frac{3x-a}{2(x+a)} = \frac{13}{6}$$
  
(3.) 
$$\frac{x+2}{x-1} - \frac{4-x}{2x} = \frac{7}{2}$$
  
(4.) 
$$x^3 + y^3 = 9$$
  

$$x + y = 3$$

17. A sum of £16 5s is paid in half-crowns and half-guineas. The number of coins is 50: how many are half-guineas, and how many half-crowns?

18. Find out a formula for the sum of any number of terms of a series in Arithmetical Progression.

Hence find the sum of 3, 9, 15 &c. to 8 terms, and the last term ; and of 8, 6, 4, &c. to 9 terms and the last term.

#### Geography and History.

## TUESDAY, 12TH SEPTEMBER, 1865. 2 to 5 P.M.

- 1. In the great Continents what *similarities* may be observed in the general configuration, extension, and direction of the larger promontories? and what *contrasts* in the formation and length of coast-line? Prove your answer in detail.
- 2. Of the Continent of Africa what is the greatest length, and what the greatest breadth? What do you take as your points of determination N. & S., E. & W.?
- 3. How would you geographically describe a desert? Give the situation, the area, and the general characteristics of the Sahara.
- 4. Give generally the limits and directions of the Trade Winds. What theories have been proposed to account for the Easting of these winds?
- 5. What results have been arrived at by comparative observations of the temperature of the sea, and that of the atmosphere?
- 6. To what extent and why is the climate of a country influenced by its Latitude? How are these influences modified by proximity to the Equator?

- 13
- 7. Mention the principal ports on the west coast of England and Wales and the openings on which they are situated.
- 8. Where are the following places and what is their export trade :-Bordeaux, Callao, Canton, Jamaica, Mauritius, New Orleans ?
- 9. On what rivers are the following towns built :--Calcutta, Florence, Hamburgh, Lisbon, Paris, Vienna, Warsaw, Washington?
- 10. What and where are the following :--The Altai, Archangel, Mount Egmont, Funen, Hecla, New Hebrides, Taimura, Teneriffe ?
- 11. By what crowning act of usurpation did Napoleon involve himself in the Peninsular War? Trace the successive steps by which he had rendered this usurpation possible.
- 12. What was the object of the Walcheren Expedition? Who commanded it, and to what causes do you trace its failure?
- 13. What were the numbers, the condition, and the prospects of the French army when it crossed the Niemen in advance: and what alteration had taken place in these respects when it recrossed the Niemen in retreat?
- 14. Give a short account of the campaign of 1811 on the Portuguese frontier. Mention the most important successes gained by the British in this year.
- 15. In what battles did the powers of Austria, Prussia, and Russia severally come first into actual collision with Napoleon? Give dates.

16. State what you know of—

- 1. The Bullion Report.
- 2. The Luddite disturbances.
- 3. The Non-Intercourse Act.
- 4. The Twenty-ninth Bulletin,
- 5. The Treaty of Kalisch.
- 17. Who were the following persons, and what part did each play in the war:-The Archduke Charles, Hofer, Sir John Moore, Palafox, Moreau, Schwartzenberg?

#### Mathematics.—II.

## WEDNESDAY, 13TH SEPTEMBER. 9 A.M. to 1 P.M.

- Prove that, if in a right-angled triangle a perpendicular be drawn from the right angle to the base, the triangles on each side of it are similar to the whole triangle and to each other. State the three proportions which result as corollaries from the preceding proposition.
- 2. If two triangles which have two sides of the one proportional to two sides of the other be joined at one angle, so as to have their homologous sides parallel, prove that the remaining sides are in the same straight line.
- 3. Prove that, if from any angle of a triangle a straight line be drawn perpendicular to the base, the rectangle contained by the sides of the triangle is equal to the rectangle contained by the perpendicular and the diameter of the circle described about the triangle.
- 4. What is the inclination of a straight line to a plane? What are equal and similar solid figures? What is a cone? What are the three varieties of cones?
- 5. Prove that, if two straight lines meeting one another be parallel to two others that meet one another and are not in the same plane with the first two, the first two and the other two shall contain equal angles.

- 14
- 6. Prove that if a solid angle be contained by three plane angles any two of them are greater than the third.
- 7. Determine the values of the Trigonometrical Ratios for an angle of 60° and an angle of 30°.
- 8. Assuming the formulæ for sin  $(A \pm B)$ , and cos  $(A \pm B)$ , prove that

(1.) 
$$\frac{\sin A + \sin B}{\sin A - \sin B} = \frac{\tan \frac{A + B}{2}}{\tan \frac{A - B}{2}}$$
  
(2) 
$$\tan (A - B) = \frac{\tan A - \tan B}{1 + \tan A \cdot \tan B}$$
  
(3.) 
$$\sin \frac{A}{2} = \pm \sqrt{\frac{1 - \cos A}{2}}$$

Explain the double sign in the last.

- 9. A, B, C being the angles of a triangle, a, b, c the sides severally opposite to them, prove that  $b = a \cos C + c \cos A$ . Prove also that, if  $\cos B = \frac{\sin A}{2 \sin C}$ , the triangle is isosceles.
- 10. Draw the figure of the 47th proposition of the First Book. Prove that the three triangles formed by joining the adjacent angles of each pair of squares have the same area as the original triangle and that one is similar to it.
- 11. Find the area in acres roods and perches of the circle inscribed in a triangular field each side of which is half a mile long.
- 12. Find the area of the regular polygon described about a circle, and of that inscribed in it. Hence determine the area of a circle.
- 13. If two angles of a triangle are 30° 25′ 10″ and 45° 40′ 16″, and the length of the side between them 14 feet 3 inches, find the area of the triangle in square feet and inches.
- 14. What is a logarithm to a given base? State and prove those properties of logarithms by which Arithmetical calculations are simplified.
- 15. Find by logarithms the cube root of 456832, and the fifth root of 815379 to three places of decimals.
- 16. A has left to him £2000 which is to accumulate for four years at 6 per cent. compound interest. How much will be receive at the end of the four years?
- 17. Solve the equations-

(1.) $x^{-2} + 2x^{-1} = 8.$	(4.)	$\frac{2}{x} + \frac{3}{y} - \frac{4}{z} = \frac{1}{12}$
(2.) $\sqrt[4]{x+7} + \frac{3}{4}\sqrt{x+7} = 5.$		$\frac{3}{x} - \frac{4}{y} + \frac{5}{z} = \frac{19}{24}$
(3.) $x^4 + y^4 = 641$ $xy (x^2 + y^2) = 290$		$\frac{4}{x} + \frac{5}{y} + \frac{6}{z} = \frac{1}{2}$

18. What will be the cost of excavating a circular tank of 7 feet radius to a depth of 12 feet at 2s. 3<sup>1</sup>/<sub>2</sub>d. per cubic yard? How many gallons of water will it hold after it is bricked and cemented at the bottom and the sides, the thickness of brick and cement being 5 inches, and a gallon of water 277.274 cubic inches?

## The English Language.

### WEDNESDAY, 13TH SEPTEMBER, 1865. 2 to 5 P.M.

1. Give Morell's Table of the Parts of Speech.

2. Parse every word in-

#### "Leader of those armies bright "Which but the Omnipotent none could have foiled."

- 3. Write down the Degrees of Comparison of six irregularly compared words.
- 5. State with examples the principal ways of forming primary and secondary derivative verbs in English.

6. Point out, explain, and correct the errors in the following :---

- (1.) Friends am I with you all.
- (2.) Who are Her Majesty's Ministers are the accidents of History.
- (3) Every one of those present were astonished of his learning.
- (4.) I count it preferable to reign in Hell than to serve in Heaven.
- 7. What is meant by a strong, and by a weak Preterite? Give two instances of each. How does Trench justify the use of the names Strong and Weak, and what other names does Morell employ?
- 8. Shew how the older or the more correct spelling of these words makes plain their origin and meaning-Bran-new, Dirge, Frontispiece, Grocer, Jaw, Morris dance, Satyrical, Sovereign, Syren, Whole.
- 9. Trace from their derivation the original meaning of the following words: quote if you can passages in which the original meaning appears :--Influence, Miscreant, Treacle, Worship.
- 10. What is the meaning and the etymology of Astrologer, Leaven, Meritorious, Preface, Proverb, Repent: and what words of English (or Saxon) origin have they severally replaced?
- 11.

#### His form had yet not lost

All her original brightness, nor appeared Less than Archangel ruined, and the excess Of glory obscured : as when the sun, new risen, Looks through the horizontal misty air-Shorn of his beams; or from behind the moon In dim eclipse, disastrous twilight sheds On half the nations, and with fear of change Perplexes monarchs.

Arrange the words of the preceding according to Trench's plan into (a) Saxon, (b) Latin, (c) French-Latin, (d) from other languages.

Write notes on the grammar of 'her' and 'new,' and on the etymology of 'behind,' 'brightness,' 'misty.'

- 12. What is the derivation and the meaning of Chain, Conclave, Compeer, Ensign, Envy, Fanatic, League, Myriad, Organ, Precipice, Pygmy, Revenge ?
- 13. Who were the Tuscan artist, Uther's son, Mulciber, Charlemain, and how does Milton mention them ?
- 14. Where are Adria, Alcairo, Dodona, Lemnos, Memphis, and Pelorus?

15.

Such as stood like these. At once as far as angels' hen, he views----Whom I now of force believe Almighty. Never since created man. -----To be weak is miserable Doing or suffering.

In the foregoing explain fully the construction of the words in italics.

Of man's first disobedience, and the fruit Of that forbidden tree whose mortal taste Brought death into the world and all our woe With loss of Eden, till one greater Man Restore us and regain the blissful seat, Sing, heavenly Muse, that on the sacred top Of Oreb or of Sinai didst inspire That Shepherd who first taught the chosen seed, In the beginning, how the heavens and earth Rose out of chaos.

17. Narrate concisely in your own language without quotation the action of the first book of Paradise Lost.

#### Greek.—I.

#### THURSDAY, 14TH SEPTEMBER. 9 A.M. to 1 P.M.

[In parsing a verb give person, number, tense, mood, voice together with the present, future, aorist, and perfects in use. Questions 1, 2, 3, 4, 5 must be answered to the satisfaction of the Examiner to entitle Candidates to pass.]

1. Decline throughout κριτής, πόλις, τείχος, πατήρ, πολύς, σαφής, μείζων, ὅστις.

2. Parse σωθείη, ήδει, συμβάντων, παράσχοι, απελά, επισάξαι, επιθώνται, ησθένει.

3. Write down the following :---

2 person singular 1 porist indicative active middle and passive of  $\tau i \pi \tau \omega$ .

3 person plural perfect indicative active of  $\tau i \theta \eta \mu i$ .

3 person dual future indicative active of  $\epsilon \chi_{0} \mu \alpha_{i}$ .

- 2 person singular present subjunctive active of  $\chi_{\rho \nu \sigma \delta \omega}$  (contracted form).
- 3 person plural imperfect indicative of  $\epsilon i \mu$  (*ibo*).

4. Translate literally into English—

Καὶ δς ἀκούσας ταῦτα καταπηδήσας ἀπὸ τοῦ ὅππου ἀθεῖται αὐτὸν ἐκ τῆς τάξεως, καὶ τὴν ἀσπίδα ἀφελόμενος ὡς ἐδύνατο τάχιστα ἕχων ἕπορεύετο ἐτύγχανε δὲ καὶ θώρακα ἔχων τὸν ἱππικὸν, ὥστε ἐπιέζετο. Καὶ τοῖς μὲν ἔμπροσθεν ὑπάγειν παρεκελεύετο, τοῖς δέ ὅπισθεν παριέναι μόλις ἑπομένοις. Οἱ δ᾽ ἀλλοι στρατιῶται παίουσι καὶ βάλλουσι καὶ λοιδοροῦσι τὸν Σωτηρίδην, ἔστε ἡνάγκασαν λαβόντα τὴν ἀσπίδα πορεύεσθαι. Ὁ δὲ ἀναβὰς, ἕως μὲν βάσιμα ἦν, ἐπὶ τοῦ ὅππου ἦγεν, ἐπεὶ δὲ ἄβατα ἦν, καταλιπὼν τὸν ὅππον ἔσπευδε πεζῷ. Καὶ φθάνουσιν ἐπὶ τῷ ἄκρῷ γενόμενοι τοὺς πολεμίους.

Parse ἀφελόμενος, φθάνουσι.

5. Translate literally into English-

(a) TP.  $i\omega$  µoi µoi.  $i\omega$   $\tau\lambda\eta\mu\omega\nu$ .

τί δὲ σοι παίδες πατρός ἀμπλακίας μετέχουσι; τί τούσδ' ἔχθεις; οἶμοι, τέκνα, μή τι πάθηθ' ὡς ὑπεραλγῶ. δεινὰ τυράννων λήματα, καί πως ὀλίγ' ἀρχόμενοι, πολλὰ κρατοῦντες, χαλεπῶς ὀργὰς μεταβάλλουσιν. τὸ γὰρ εἰθίσθαι ζῆν ἐπ' ἴσοισιν κρεῖσσον ἕμοιγ' οῦν, εἰ μὴ μεγάλως, ὀχυρῶς γ' εἶη καταγηράσκειν.

Parse  $\pi \acute{a}\theta\eta\tau\epsilon$ ,  $\epsilon i\theta \acute{i}\sigma\theta a\iota$ . What peculiarity is there (I.) in the contraction  $\zeta \eta\nu$ , (II.) in the augment of  $\epsilon i\theta \acute{i}\sigma\theta a\iota$ ? Mention any verbs that share the peculiarity of contraction with

 $\tilde{\zeta}\tilde{\eta}\nu$ , and any that share the peculiarity of augment with  $\epsilon l\theta l\sigma\theta a l$ . Do you trace any political allusion in this extract ?

- *(b)* ΜΗ. φίλαι, πάλαι δη προσμένουσα την τύχην καραδοκώ τἀκείθεν οἱ προβήσεται. και δή δέδορκα τόνδε των Ίάσονος
  - στείχοντ' οπαδών πνεύμα δ' ηρεθισμένον δείκνυσιν ώς τι καινόν ἀγγελεῖ κακόν.
    - ΑΓ. & δεινόν έργον παράνομόν τ' είργασμένη Μήδεια, φεῦγε φεῦγε, μήτε ναΐαν λιποῦσ' ἀπήνην μήτ' ὄχον πεδοστιβῆ.
  - ΜΗ. τί δ' άξιόν μοι τησδε τυγχάνει φυγης;
  - ΑΓ. ὅλωλεν ή τύραννος ἀρτίως κόρη
  - Κρέων θ' δ φύσας φαρμάκων τῶν σῶν ῧπο.
  - ΜΗ. κάλλιστον είπας μύθον, έν δ' εὐεργέταις
    - το λοιπον ήδη και φίλοις έμοις έσει.

Mark the scansion of the first three lines in this extract, and give the name of the metre. What case is  $\phi v \gamma \tilde{\eta} \varsigma$ , and why? Distinguish between  $\delta \lambda \omega \lambda \epsilon v$ ,  $\delta \lambda \omega \lambda \epsilon \kappa \epsilon v$ ,  $\delta \phi \tilde{v} \sigma a \varsigma$ , By what grammatical process is  $\tau d\kappa \epsilon i \theta \epsilon \nu$  abbreviated ? ό φύς.

- 6. Give with an instance of each the meaning of the substantival terminations  $-\tau\eta\varsigma$ ,  $-\sigma\iota\varsigma$ ,  $-\mu a$ ,  $-\iota a$ , and of the adjectival terminations -alog,  $-\pi\lambda a\sigma log$ ,  $-i\kappa og$ ,  $-\tau \epsilon og$ .
- 7. What was the primary signification of the Middle Voice in Greek, and what its subsequent modifications? Prove your answer by examples.
- 8. What cases do the following verbs govern :---ἀκούω, ἁμαρτάνω, διδάσκω, φείδομαι, φθονέω, χράομαι?

9. Translate into Greek :---

- (a) In the time of  $(\epsilon \pi i)$  Pericles the Athenians became more powerful ( $\delta \nu \nu \alpha \tau \delta c$ ) than eveř.
- ( $\beta$ ) Of existing things some are in our own power  $(i\pi i)$ , some are not.
- ( $\gamma$ ) He said, that he would gladly buy ( $\dot{a}\gamma o\rho \dot{a}\zeta \omega$ ) this for three minæ.
- (δ) They accused (διώκω) Socrates of impiety, and condemned (καταγιγνώσκω) him to death.
- (ε) We must persuade ( $\pi \epsilon \iota \sigma \tau \epsilon \circ \nu$ ) Cheirisophus, but obey ( $\pi \epsilon \iota \sigma \tau \epsilon \circ \nu$ ) Xenophon.
- ( $\zeta$ ) I know not which way to turn.
- 10. Translate into English :---

άνδρών άριστέων, οι το πάγχρυσον δέρος Πελία μετηλθον.

Give a short account of the expedition here referred to, and explain how Pelias was connected with it.

- 11. 'Sit Medea ferox, invictaque.' Shew by quotations, if you can, by distinct references, if you cannot, how far this character of Medea is justified by this play of Euripides.
- 12. Give the meaning and derivation of  $\dot{a}\mu\alpha\beta\dot{\eta}$ ,  $\phi\rho\sigma\bar{\nu}\delta\sigma\varsigma$ ,  $\epsilon\dot{a}\lambda a\pi i\nu\eta$ ,  $\epsilon\dot{\nu}\omega\delta\eta\varsigma$ ,  $\xi\nu\nu\omega\rho\dot{\varsigma}$ ,  $\nu\epsilon\sigma\delta\mu\dot{\eta}\varsigma$ , σκευοφόρος, σταθμός, ἀκρωνυχία, λοχαγός.

#### Greek.—II.

## THURSDAY, 14TH SEPTEMBER. 2 to 5.30 P.M.

- [N.B.-In parsing a verb give person, number, tense, mood, voice, together with the present, future, aorist, and perfects in use. Questions 1, 2 must be answered to the satisfaction of the Examiner to entitle a Candidate to pass].
- 1. Parse, and give the Attic forms of the following :-  $i \mu \epsilon \nu$ ,  $i \mu \mu \epsilon \nu \alpha i$ ,  $a \mu \mu i$ ,  $\tau i \theta \epsilon i$ ,  $i \pi i \beta \epsilon i \rho \mu \epsilon \nu$ , κάββαλε, εἰρύαται, κομίσσατο, ἴδηαι.

## 2. Translate literally into English-

- 85 αί δ' ὅτε δὴ ποταμοῖο ῥόον περικαλλέ ἕκοντο, ἕνθ' ἤτοι πλυνοὶ ῆσαν ἐπηετανοί, πολὺ ὃ' ὕδωρ καλὸν ὑπεκπρορέει μάλα περ ῥυπόωντα καθῆραι, ἔνθ' αι γ' ἡμιόνους μὲν ὑπεκπροέλυσαν ἀπήνης. καὶ τὰς μὲν σεῦαν ποταμὸν πάρα δινήεντα
- 90 τρώγειν ἄγρωστιν μελιηδέα. ταὶ δ' ἀπ' ἀπήνης είματα χερσιν ἕλοντο καὶ ἐσφόρεον μέλαν ὕδωρ, στείβον δ' ἐν βόθροισι Ͽοῶς ἔριδα προφέρουσαι. αὐτὰρ ἐπεὶ πλῦνάν τε κάθηράν τε ρύπα πάντα, ἑξείης πέτασαν παρὰ Ͽῖν' ἁλός, ῆχι μάλιστα
- 95 λάιγγας ποτι χέρσον ἀποπλύνεσκε βάλασσα.
- αί δὲ λοεσσάμεναι καὶ χρισάμεναι λίπ' ἐλαίω δεῖπνον ἔπειθ' εϊλοντο παρ' ὄχθησιν ποταμοῖο, είματα δ' ἠελίοιο μένον τερσήμεναι αὐγῆ. αὐτὰρ ἐπεὶ σίτου τάρφθεν δμωαί τε καὶ αὐτή,
- 100 σφαίρη ταί γ' ἄρ' ἕπαιζον, ἀπὸ κρήδεμνα βαλοῦσαι· τῆσι δὲ Ναυσικάα λευκώλενος ἤρχετο μολπῆς.
- Parse  $\kappa a \theta \tilde{\eta} \rho a \iota$ ,  $\pi \epsilon \tau a \sigma a \nu$ ,  $\tau \dot{a} \rho \phi \theta \epsilon \nu$ . What case is  $\chi \epsilon \rho \sigma \iota \nu$  (l. 91) and  $\mu o \lambda \pi \tilde{\eta} \varsigma$  (l. 101), and why?

Notice the exact force imparted by the prepositions in  $\delta \pi \epsilon \kappa \pi \rho o \rho \epsilon \epsilon \iota$ ,  $\delta \pi \epsilon \kappa \pi \rho o \epsilon \lambda \upsilon \sigma a \nu$ . Explain the phrase  $\lambda i \pi' \epsilon \lambda a i \omega$ .

- 3. What is the meaning of  $\rho a \psi_{\psi} \delta ia$ ? What argument against the unity of the Homeric Poems has been based on the etymology of this word, and how far does the argument hold good?
- 4. What explanation can you give of the substantival suffix  $-\phi\iota$  in  $\beta \ell \eta \phi\iota$ ,  $\delta\epsilon$  in  $a\sigma\tau \upsilon \delta\epsilon$ ,  $-\theta\epsilon \upsilon$  in  $o\ell \kappa \sigma \theta\epsilon \upsilon$ ,  $-\theta\iota$  in  $\eta \omega \theta\iota$ , and of the verbal termination  $-\sigma\kappa \sigma \upsilon$  in  $a\pi\sigma\pi\lambda \delta \nu\epsilon\sigma\kappa \sigma \nu$ ?
- 5. 'Prepositions came into use as definitions of the relations of the cases.' Shew the truth of this remark by translating and commenting upon  $\pi a \rho a \beta a \sigma i \lambda \epsilon \omega s$ ,  $\pi a \rho a \beta a \sigma i \lambda \epsilon i$ ,  $\pi a \rho a \beta a \sigma i \lambda \epsilon i$ .
- 6. Translate, and notice any peculiarity of construction in the following :----
  - (a) άθανάτησι φυήν και είδος όμοίη.
  - (β) ἐν δέ οἱ ὄσσε δαίεται.
  - (γ) ἀεικέλιος δέατ' είναι.
  - (δ) ἐκ ποταμοῦ χρόα νίζετο δῖος Ὀδυσσεύς ἅλμην.
  - (ε) ού τοι ραδίως γε συμβαλών έχθραν τις αυτή καλλίνικον άσεται.
  - (ζ) καίτοι τοκάδος δέργμα λεαίνης αποταυρούται δμωσίν.
  - (η) κείνην μέν ούς έδρασεν έρξουσιν κακώς.
- 7. What do you observe in the use of the article, and the relative pronoun in Homer? Do you find any traces of this use in Attic writers?
- 8. To which tense of a verb would you generally look for the root, and by what process would you construct the subsequent formations? Exemplify this in the case of the verb  $\tau i \pi \tau \omega$ .
- 9. What do you know of the Cyclic Poets?
- 10. Cive the English and explain fully the derivation of the following words :— $\sigma \tau \rho \omega \phi \dot{a} \omega$ ,  $\dot{a} \mu \phi \dot{a} \delta \omega c$ ,  $\dot{a} \rho \dot{a} \gamma \nu \omega \tau o c$ ,  $\dot{b} \pi \epsilon \rho \phi \dot{a} \lambda o c$ ,  $\ddot{a} \mu \sigma \tau o v$ ,  $\ddot{a} \pi a \sigma \tau o c$ ,  $\dot{a} \lambda \phi \eta \sigma \tau \eta c$ .
- 11. Translate into English—

τοῦτό ἐστι τὸ πλοῖον, ὡς φασιν Ἀθηναῖοι, ἐν ῷ Θησεύς ποτε εἰς Κρήτην τοὺς δὶς ἐπτά ἐκείνους ῷχετο ἄγων καὶ ἔσωσέ τε καὶ αὐτὸς ἐσώθη. τῷ οῦν Ἀπόλλωνι εὕξαντο, ὡς λέγεται, τότε, εἰ σωθεῖεν, ἑκάστου ἔτους Ξεωρίαν (sacred embassy) ἀπάξειν εἰς Δῆλον· ἡν δὴ ἀεὶ καὶ νῦν ἔτι ἐξ ἐκείνου κατ' ἐνιαυτὸν τῷ Ξεῷ πέμπουσιν. ἐπειδὰν οῦν ἄρξωνται τῆς Ξεωρίας, νόμος ἐστὶν αὐτοῖς ἐν τῷ χρόνῳ τούτῷ καθαρεύειν τὴν πόλιν καὶ δημοσία μηδένα ἀποκτιννύναι, πρὶν ἂν εἰς Δῆλόν τε ἀφίκηται τὸ πλοῖον καὶ πάλιν δεῦρο· τοῦτο δ' ἐνίοτε ἐν πολλῷ χρόνῷ γίγνεται, ὅταν τύχωσιν ἀνεμοι ἀπολαβόντες αὐτούς.

## Latin.-I.

#### FRIDAY, 15TH SEPTEMBER. 9 A.M. to 1 P.M.

[N.B.—In parsing a word, if a Noun give case, number, gender, together with nominative and genitive singular; if a Verb give person, number, tense, mood, voice together with the first person singular present and perfect indicative, the supine in um, and the infinitive; and wherever practicable explain the construction fully. Questions 1, 2, 3, 4 must be answered to the satisfaction of the Examiner to entitle Candidates to pass.]

1. Decline throughout ager, pater, mons, olus, vetus, idem.

2. Parse illeverit, laterum, fateare, constrictos, fore, veribus, tonsis.

3. Translate literally, parsing the words in Italics :----

Sic Venus; et Veneris contra sic filius orsus : (a) "Nulla tuarum audita mihi neque visa sororum, O-quam te memorem, virgo? namque haud tibi vultus Mortalis, nec vox *hominem* sonat: O dea certe : An Phœbi soror? an nympharum sanguinis una? Sis felix, nostrumque leves, quæcumque, laborem, Et quo sub cœlo tandem, quibus orbis in oris Jactemur, doceas. Ignari hominumque locorumque Erramus, vento huc et vastis fluctibus acti.

( $\beta$ ) Dixit, et in mensam laticum libavit honorem, Primaque, *libato*, summo tenus attigit ore; Tum Bitiæ dedit increpitans : ille impiger hausit Spumantem pateram, et pleno se proluit auro; Post alii proceres. Cithara crinitus Iopas Personat aurata, docuit quem maximus Atlas. Hic canit errantem lunam solisque labores; Unde hominum genus et pecudes; unde imber et ignes; Arcturum pluviasque Hyadas geminosque Triones; Quid tantum oceano properent se tingere soles Hiberni, vel quæ tardis mora noctibus obstet. Ingeminant plausu Tyrii, Troësque sequuntur.

4. Translate literally, parsing the words in Italics :---

- (a) Tum pueri nautis, pueris convicia nautæ
   Ingerere. "Huc appelle." "Trecentos inseris : ohe Jam satis est !" Dum æs exigitur, dum mula ligatur, Tota abit hora. Mali culices ranæque palustres Avertunt somnos. Absentem ut cantat amicam Multa prolutus vappa nauta atque viator Certatim, tandem fessus dormire viator Incipit, ac missæ pastum retinacula mulæ Nauta piger saxo religat stertitque supinus.
- ( $\beta$ ) Tum Prænestinus salso multoque fluenti Expressa arbusto regerit convicia, durus Vindemiator et invictus, cui sæpe viator Cessisset, magna compellans voce cucullum. At Græcus, postquam est Italo perfusus aceto, Persius exclamat, "Per magnos, Brute, Deos te Oro, qui reges consueris tollere, cur non Hunc Regem jugulas? Operum hoc, mihi crede, tuorum est."

5. Give with examples the forms of inceptive, frequentative, and desiderative verbs in Latin.

- 6. "Multa quoque in bello passus, dum conderet urbem, Inferretque Deos Latio." What is the exact force of the Subjunctive in this passage? Give any general rules for your guidance in using the Subjunctive in preference to the Indicative mood.

7. Notice, and account for any peculiarities of construction in the following expressions :--

(a) Hinc populum venturum excidio Libyæ.

Cerealiaque arma (β) Expediunt fessi rerum.

- $(\gamma)$  Nodo sinus collecta fluentes.
- (8) Urbem, quam statuo, vestra est.
- (ε) Judice, quo nosti, populo.
- ( $\zeta$ ) Mene incepto desistere victam !
- $(\eta)$  Spumas salis ære ruebant.
- 8. Contrast the meanings of pietas, religio; nefas, injuria; acies, agmen; sol, sõles; libertus. libertinus; possum, queo; fallo, decipio; jaceo, jacio.
- 9. Translate, and explain from the context the following extracts :---
  - (a) Quinas hic capiti mercedes exsecat,
  - $\begin{array}{c} (\beta) & \text{Quum tu quadrante lavatum} \\ \text{Rex ibis.} \end{array}$
  - $\mathbf{T}$
  - $(\gamma)$  Heredes monumentum ne sequeretur.
  - (d) Non invenias etiam disjecti membra poetæ.
  - (c) Dorsum immane mari summo.
  - ( $\zeta$ ) Ilus erat, dum res stetit Ilia regno.
- 10. Explain the allusions in the following selections :- Miseræ Kalendæ, octonis Idibus, Lydorum quicquid Etruscos incoluit fines, ab ovo usque ad mala, credat Judæus Apelles, fortissima Tyndaridarum, licet antestari, claudentur Belli portæ, judicium Paridis.
- 11. What was the Latin 'Satira,' and who were the principal Latin Satirists? Give the dates and places of their birth.

Or—

What does Horace mean by 'Comœdia Prisca'? Whom does he mention as the principal authors in this branch of literature, and what does he specify as their chief characteristic?

- 12. What information do you glean from the authors you propose to be examined on, and what do you know from other sources, of the following places :---Tyre, Patavium, Byrsa, Forum Appii, Argos, Canusium ?
- 13. What circumstances led to the famous journey to Brundisium, described in the 5th Satire of Book I.? Who were fellow travellers with Horace on this occasion?

14. What do you understand by 'Cæsura'?

Mark the scansion of the following lines : notice and justify any apparent irregularities :-

Posthabitâ coluisse Samo. Hìc illius arma.

Illi se prædæ accingunt, dapibusque paratis.

Et vera incessu patuit Dea. Ille ubi matrem.

Jactemur, doceas; ignari hominumque, locorumque.

#### French.

#### FRIDAY, 15TH SEPTEMBER, 1865. 2 to 5 P.M.

[To pass in French the first five questions must be answered to the satisfaction of the Examiners.]

- 1. Write down the feminine of beau, blanc, frais, lequel, premier, un.
- 2. Write down in French, I came to the Examination in this city with fifteen others.
- 3. Write down throughout the present subjunctive of avoir, the imperative of être, the conditional of aimer, the imperfect subjunctive of recevoir, the present indicative of rendre.

4. Translate literally—

Je sais, lui répond Romulus, que les Samnites sont en marche pour venir au secours des Marses, mais la ville d'Auxence est sur leur route, et Auxence est en votre pouvoir. Allez vous enfermer dans ses murs, pour les défendre en cas d'attaque. Ne gardez avec vous que le tiers de vos troupes; envoyez le reste au-devant des Samnites, sous la conduite du meilleur de vos généraux. Défendez-lui surtout d'en venir aux mains avec ce peuple redoutable; vos soldats ne pourraient pas leur résister; mais que votre armée harcèle la leur; qu'en évitant le combat, elle fatigue les Samnites, et empêche leur jonction avec les Marses.

5. Write down the 1st person present indicative, the 1st person preterite definite, and the past participle of the verbs venir, répondre, pouvoir, garder.

#### 6. Translate—

Romains, vous êtes nés pour la guerre; vous ne pouvez vous agrandir, vous soutenir même, que par elle. La paix serait pour vous le plus grand des fléaux; elle amollirait vos courages, elle affaiblirait vos bras invincibles. Jugez de l'avantage que vous aurez toujours sur les autres nations, lorsque, ne quittant jamais les armes, vous perfectionnant sans cesse dans l'art difficile des héros, vous attaquerez un ennemi énervé par une longue paix: Quand même, ce qui est impossible, son courage serait égal au vôtre, il ne pourra vous opposer ni des forces ni une expérience égales. Avant que ces faibles adversaires se soient aguerris, en combattant contre vous, avant qu'ils aient appris de vous l'art terrible dans lequel vous serez maîtres, ils seront défaits et soumis. Ainsi, attaquant tour à tour tous les peuples de l'Italie, les divisant pour mieux les vaincre, vous alliant avec les faibles, et les accablant après vous en être servis, vous parviendrez en peu de temps à la conquête du monde, promise à Rome par Jupiter. Toutes les voies sont permises pour accomplir les volontés des dieux, et la victoire justifie tous les moyens qui l'ont procurée.

Romains, ne songez qu'à la guerre; qu'elle soit votre unique science, votre seule occupation. Laissez, laissez les autres peuples cultiver un sol ingrat qu'ils arrosent de leurs sueurs; laissez-les s'occuper du soin d'acquérir des trésors par le commerce, par l'industrie, par toutes ces viles inventions de la faiblesse; vous moissonnerez le blé qu'ils sèment, vous dissiperez les richesses qu'ils amassent. Ils sont les enfants de la terre, c'est à eux de la cultiver; vous êtes les fils du dieu Mars, votre seul métier c'est de vainere. Romains, guerre éternelle avec tout ce qui refusera le joug. L'univers est votre héritage, tous ceux qui l'occupent sont des usurpateurs de vos biens; n'interrompez jamais la noble tâche de reprendre ce qui est à vous.

- 7. In the preceding extract why are not the participles quittant and perfectionnant made to agree with vous as they would be in Greek or Latin? When does the present participle so agree? Can you give any reason for the rule? Why is égales plural? Why is procurée feminine? Would it be right to say, 'Ces moyens ont procurée la victoire?' Give a reason for your answer. What is the ellipse before guerre éternelle?
- 8. What is the meaning of the following words :--cheval, combler, élire, époux, femme, maître, paupière, père, sourcil, toit? From what Latin word is each formed, and by what change? Give if you can another word or two similarly formed to each of them.
- 9. Give the meanings of these words :--bûcher, cîme, crinière, désaltérer, eblouir, flétrir, hêtre, rosée, sanglier, saule, souillé, vivres.
- 10. Give the present participle, the past participle, the 1st person present indicative, and the 1st person preterite definite of the verbs craindre, devoir, élire, mordre, partir, prendre, suivre, voir.
- 11. Translate and explain, referring to the context if necessary-
  - (1.) Dans ce char était la déesse Cérès, couronnée d'épis, et portant une gerbe et une faucille.
  - (2.) Le feu brûle déjà sur l'autel de Jupiter Férétrien.
  - (3.) Je suis le fils de Mars et non pas de Thémis.
  - (4.) Il va donc renaître le siècle d'or, le règne d'Astrée.
- 12. Translate into English-

Une longue file de cavaliers, de voitures et de chariots de bagage, traversa les rues de Tolède, et se dirigea vers la porte du nord. Le roi suivit à cheval le cortége de sa fille, jusqu'à un pont jeté sur le Tage, à quelque distance de la ville; mais la reine ne put se résoudre à retourner si vite, et voulut aller au-delà. Quittant son propre char, elle s'assit auprès de Galeswinthe, et, d'étape en étape, de journée en journee, elle se laissa entraîner à plus de cent milles de distance. Chaque jour elle disait, "C'est jusque-là que je veux aller," et, parvenue à ce terme, elle passait outre. A l'approche des montagnes, les chemins devinrent difficiles ; elle ne s'en aperçut pas, et voulut encore aller plus loin. Mais comme les gens qui la suivaient, grossissant beaucoup le cortége, augmentaient les embarras et les dangers du voyage, les seigneurs goths résolurent de ne pas permettre que leur reine fît un mille de plus. Il fallut se résigner à une séparation inévitable, et de nouvelles scènes de tendresse, mais plus calmes, eurent lieu entre la mère et la fille. La reine exprima, en paroles douces, sa tristesse et ses craintes maternelles. "Sois heureuse," dit-elle; "mais j'ai peur pour toi ; prends garde, ma fille, prends bien garde." A ces mots, qui s'accordaient trop bien avec ses propres pressentiments, Galeswinthe pleura et répondit, "Dieu le veut ; il faut que je me soumette ;" et la triste séparation s'accomplit.—THIERRY.

#### 13. Translate into French—

To distinguish time of war from time of peace Numa is said to have built a temple to the God Janus, whose faces looked different ways. During the whole of his reign the door of the temple was closed in sign of peace; but from his time to the time of the Emperor Augustus it remained open in sign of war, except for a few years after the first Punic War.

Yet Numa willed not that the Romans should offer costly sacrifices to the gods, but ordained that they should present corn and the fruits of the earth, and not any living thing: for he was a lover of husbandry, and was anxious that this peaceful art should flourish. Therefore he took pains to secure each man in possession of his land, and fixed the bounds of each farm by landmarks or termini which no one would dare to remove, for they were under the protection of the God Terminus.—LIDDELL.

#### Latin.—II.

# SATURDAY, 16TH SEPTEMBER. 9 A.M. to 1 P.M.

- [N.B.—In parsing a word, if a noun give case, number, gender, together with nominative, and genitive, singular; if a verb give person, number, tense, mood, voice, together with the first person singular perfect indicative, the supine in um, and the infinitive; and whenever practicable explain the construction fully. Questions 1, 2, 3 must be answered to the satisfaction of the Examiner to entitle Candidates to pass.]
  - 1. Of the following words write down the gender, the ablative singular, the genitive plural; vir, vis, mare, nubes, turris, lapis, cornu, domus, dies.

2. Write down-

- 3 singular imperfect subjunctive active of pario, punio.
- 2 singular perfect indicative active of fero, sentio, capio.
- 2 singular present subjunctive passive of amo, moneo.
- 3 plural present subjunctive of veneo, volo.
- 2 singular present indicative of morior, mentior.
- 3. Translate literally, parsing the words in Italics—

Lucius Catilina, nobili genere natus, fuit magna vi et animi et corporis, sed ingenio malo pravoque. Huic ab adolescentia bella intestina, cædes, rapinæ, discordia civilis grata fuere, ibique juventutem suam exercuit. Corpus patiens inediæ, algoris, vigiliæ, supra quam cuiquam credibile est. Animus audax, subdolus, varius, cujus rei lubet simulator ac dissimulator, *alieni* appetens, sui profusus, ardens in cupiditatibus; satis eloquentiæ, sapientiæ parum. Vastus animus immoderata, incredibilia, nimis alta semper *cupiebat*.

In the preceding extract explain the meaning of the adjectival affixes, bilis in credibilis, ax in audax, ilis in civilis, inus in intestinus.

- 4. Translate and explain from the context the following selections :----
  - (a) Quem Censores senatu probri gratiâ moverant.
  - ( $\beta$ ) Quorum jus libertatis imminatum erat.

- (γ) Itaque Q. Fabio Sangæ, cujus patrocinio civitas plurimum utebatur, rem omnem aperiunt.
- (d) Sint misericordes in furibus ærarii.
- (ɛ) Ex libris Sibyllinis regnum Romæ tribus Corneliis portendi.
- 5. Translate into Latin the following sentences :--
  - (a) I exchange (muto) my silver for brass.
  - ( $\beta$ ) That is of great importance (interest) to me.
  - $(\gamma)$  I hope (spero) to come.
  - ( $\delta$ ) I fear (vereor) that he will not obey (pareo) the laws.
  - (ɛ) Caius married Caia, and Caia married Caius.
  - ( $\zeta$ ) I will enquire how many there are of you.
- 6. Distinguish between consulo Caium, consulo in Caium, consulo Caio; dixit oppidum expugnatum iri, dixit fore ut oppidum expugnaretur; veni ut videam, veni ut viderem; si quid habet dabit, si quid haberet daret.
- 7. Give instances of nomina abundantia in which (I.) both the gender and declension vary, (II.) the theme itself varies, (III.) the gender varies according to the number.
- 8. Form and write down the compounds of ex and plaudo, in and claudo, ab and fero, con and facio, ob and cædo, ad and cado, de and doceo; and in each instance shew how the signification of the simple verb is affected by the compound formation.
- 9. It has been remarked, that the genius of the Latin language is prone to contraction. Prove the truth of this remark by various examples.
- 10. Translate into English—

Potestne tibi hæc lux, Catilina, aut hujus cœli spiritus esse jucundus, quum scias horum esse neminem, qui nesciat te pridie Kalendas Januarias, Lepido et Tullo consulibus, stetisse in comitio cum telo? Manum, consulum et principum civitatis interficiendorum causâ, paravisse? Sceleri ac furori tuo non mentem aliquam, aut timorem tuum, sed fortunam populi Romani obstitisse? Ac jam illa omitto. Neque enim sunt aut obscura, aut non multa post commissa.

- 11. To what project of Catiline does Cicero refer in the preceding extract? What circumstances caused Catiline to entertain this project, and by what means was its success frustrated?
- 12. Translate into Latin Prose-

The original accomplices in the conspiracy were not the only persons whose <sup>5</sup>feelings were estranged, but the lower classes too as a body, from a desire for revolution, entirely approved of the designs of Catiline. In fact, it seemed that they were doing so of their natural temper; for always in a state, those who have no means, envy the respectable, exalt the worthless, hate what is old, long eagerly for what is new, in disgust at their own estate desire a change in everything, and without concern fatten upon riot and divisions.

13. Translate into Latin Elegiacs-

The sun is careering in glory and might 'Mid the deep blue sky, and the cloudlets white. The bright wave is tossing its foam on high, And the summer breezes go lightly by : The air and the water dance, glitter, and play, And why should not I be as happy as they ?

## Elementary Principles of Mechanics and Mydrostatics.

#### SATURDAY, 16TH SEPTEMBER, 1865. 2 to 5 P.M.

- 1. State and prove the principle of the Transmissibility of Force. Quote the two Principles on which your proof depends.
- 2. Find the magnitude and the direction of the resultant of three forces 10, 20, 10 lbs. respectively; the angle between the first and the second, and that between the second and the third, being each 45°.
- 3. A circular table, radius 2 feet, is supported upon four legs placed at the extremities of a pair of diameters at right angles. On the table in the line joining the centre and one point of support at a distance of 8 inches from the centre is placed a weight of one cwt. Find the pressure in pounds on each leg of the table.

4. Define Centre of Gravity, Mechanical Advantage, Force. Give an example of each.

- 5. Find geometrically the Centre of Gravity of half of a regular Hexagon.
- 6. What is a false balance? Calculate a general formula for the true weight of any body weighed by a false balance.

A body, whose true weight is 10 pounds, is weighed at each end of a false balance whose total length is 3 feet, and the sum of the apparent weights is 25 lbs. Find the point of suspension.

- 7. Two planes of equal height are joined at the vertex. The angle of one plane is 45°, the angle of the other  $60^{\circ}$ . On the former rests a weight P of 10 lbs. exactly balancing a weight W, which is connected with it by a string passing over the vertex and rests on the second plane. Find W.
- 8. Give the construction of the Screw. Calculate for it the ratio of P to W.
- 9. Enunciate the First Law of Motion. What is the difficulty in proving it: and how is it established?
- 10. State the law of Motion which is verified experimentally by an Attwood's Machine. Draw a diagram of the machine and explain fully its working.
- 11. A ball is shot from a rifle with a velocity of 1100 feet per second, vertically upwards. To what height would it go, supposing the air to offer no resistance?
- 12. A body has been falling for 11 seconds. Find the space traversed and the velocity acquired.
- 13. One balloon A is at rest; a second B is moving horizontally with a uniform velocity of 6 miles an hour, 1000 feet below A, and in such a direction as to pass directly under A. How far off will B be from this point at the moment when if a weight be let fall from A it will strike B as it passes under?
- 14. When pressure is communicated to a fluid mass in Equilibrio, how is it transmitted? Describe an experiment to prove your answer, stating fully all the conditions of your experiment and why they are necessary.
- 15. Two squares whose sides are 9 and 5 inches respectively are immersed in a fluid so as to be parallel with its surface. The former is sunk 6 inches: how deep must the latter be sunk so that the pressure on it may be 4 times that on the former?
- 16. Describe the common hydrometer. How is it used to ascertain the specific gravity of a fluid?
- 17. Describe the common pump, and its mode of operation.

If the spout be 15 feet above the water to be raised; area of piston 10 square inches; what power is required to work the pump, the handle being a lever whose longer arm is 30 inches and shorter 3 inches?

18. Fourteen pounds of silver and six pounds of gold are mixed together. Find the specific gravity of the alloy.

## Geology.

## SATURDAY, 16TH SEPTEMBER, 1865. 2 to 5 p.m.

- 1: Explain the origin of caves and fissures in rocks; and enumerate the natural causes by which mountains have been raised and valley's excavated.
- 2. Explain the terms 'Unconformity,' 'Escarpment,' 'Cleavage,' 'Fault,' 'Synclinal,' 'Dyke,' illustrating your answer with drawings.
- 3. Distinguish between the terms 'crystalline'—'crystallised;' 'porous'—'cellular;' 'concretionary'—'conglomerate;' and give examples of rocks to which these terms are severally applicable.
- 4. What is known of the temperature of the interior of the earth? Why is the surface of the globe so little affected by its interior heat?
- 5. By what characteristics may the Lacustrine. Estuarine, and Marine Strata be distinguished? Mention examples of such deposits in Palæozoic, Mesozoic, and Cainozoic Periods.
- 6. Present, in chronological order, a tabular view of the principal Systems of the Neozoic and Palæozoic Cycles; opposite to each System write the name of some fossil found in it, and mention any general characteristics distinguishing the Palæozoic fishes, corals, and plants from those of the Neozoic formations.
- 7. Mention one extinct genus in each great class of animals and state in what stratum or group of strata it occurs.
- 8. How do you account for the luxuriance and homogeneity of vegetable growth indicated by the coal-fields of Britain, America, and Australia?
- 9. Account for the occurrence of the remains of extinct Mammalia in rock caverns, and enumerate some of the more remarkable ossiferous caverns in Europe.
- 10. By what evidence is it shewn that parts of the north temperate regions were formerly colder than at present?
- 11. Explain the formation of rock-salt, chalk, boulder-clay, and coral reefs.
- 12. What facts respecting the history of our globe may be conclusively deduced from a study of the systems and periods of the Geologist ?
- 13. Name the rocks and minerals marked A B C D E F G H K L, and describe any two of them.

EXAMINATION for the Degree of Associate of Arts-September, 1865.

TIME TABLE.

Monday, 11th September.	Tuesday, 12th September.	Wednesday, 13th September.	Thursday, 14th September.	Friday, 15th September.	Saturday, 16th September.
<b>9</b> to <b>1</b> .	9 to 1.	<b>9</b> to <b>1</b> .	9 to 1.	<b>9</b> to <b>1</b> .	<b>9</b> to <b>1</b> .
Preliminary Examination.	Mathematics, I.	Mathematics, II.	<b>9</b> ю <b>1.</b> Greek, I.	<b>9</b> <i>to</i> <b>1.</b> Latin, I.	LATIN, II.
ARITHMETIC, HISTORY, AND GEOGRAPHY.					
***					
<b>2</b> to <b>5</b> .	2 to 5.	<b>2</b> to <b>5</b> .	2 to 5.30,	2 to 5.	2 to 5.
Preliminary Examination. English.	HISTORY AND GEOGRAPHY.	English Language.	GREEK, II.	FRENCH.	NATURAL PHILOSOPHY GEOLOGY.

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# DIRECTIONS TO CANDIDATES.

I. Look carefully at the annexed Time Table, in which the hours are fixed for the subjects of Examination on each day, and always be at your seat in the Examination Room five minutes before the time.

II. When the questions are given you, read them over carefully, and mark those which you think you can answer best; and do them first. If, after that, you still have time to spare, try some of the others.

III. Before you begin to write your answers, insert in the blank spaces at the top of your paper,—

- 1. The motto by which you are known in the Examination.
- 2. The subject in which the questions are set which you are about to answer.
- 3. The number of the question. Not more than one question is to be answered on each sheet.

IV. In writing your answers-Write only on the ruled side of the paper.

V. As soon as notice is given, (which will be five minutes before the end of the time), finish your papers, and see that they are numbered rightly, and in their proper order.

VI. You are not to leave the Room until the Examination is closed, except by special permission of the Examiners.

N.B.—Candidates are strictly forbidden to communicate with one another during the Examination. Any Candidate taking an unfair advantage will be dismissed from the Examination.

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## TASMANIAN COUNCIL OF EDUCATION.

Hobart Town, 3rd March, 1864.

## EXAMINATION FOR THE DEGREE OF ASSOCIATE OF ARTS, 1865.

THE Council of Education have directed the publication of the following Scheme of Examination the Degree of Associate of Arts for the year 1865.

The Conditions upon which the Degree is granted, and Honours and Prizes are awarded, are appended for general information.

By Order of the Council,

MURRAY BURGESS, Secretary to the Council.

SKETCH of the Examination for the Degree of Associate of Arts for the Year 1865.

ENGLISH.—The Candidate will be examined in Milton. Paradise Lost, Book I., with Questions on the Etymology and Grammatical construction of the Language; in Alison's Epitome of the History of Europe, from commencement of Peninsula War to Battle of Leipsic; and will be required to write a short original Composition, or a Report founded upon some abstract of facts furnished to him. He will also be examined in Physical, Commercial, and Political Geography. Books recommended: Trench's English, Past and Present, (3s. 6d, Parker); Morell's Grammar and Analysis with the Exercises, (3s. 6d., Constable); Cornwell's School Geography, (3s. 6d., Simpkin & Co.); and Hughes's Physical Geography, (3s. 6d., Longman.)

LATIN.—Virgil, *Æneid*, Book I., Horace, Satires, Book I.; and Sallust, Catilina. Questions will also be given on the Language, and the historical and geographical allusions. A passage for translation from some other Latin author; and passages of English for translation into Latin Prose and Verse.

GREEK.—Xenophon, Anabasis, Book III.; Homer, Odyssey, Book VI.; Euripides, Medea. Questions on the Language, and the historical and geographical allusions. A passage for translation from some other Greek author.

FRENCH.—Passages will be given from Florian, Numa Pompilius, for translation into English; with questions on the Language, and the historical and geographical allusions. Also a passage from some other French author for translation into English, and from some English author into French.

GERMAN.—Passages will be given from Schiller's *Revolt of the Netherlands*, or *Wallenstein*, with questions on the Language, and the historical and geographical allusions; also a passage from some other German author for translation into English, and from an English author into German.

ITALIAN.—Passages will be given from Silvio Pellico, Le Mie Prigioni, with questions on the Language, and the grammatical construction; also a passage from some other Italian author for translation into English, and from an English author into Italian.

PURE MATHEMATICS.—Questions will be set in Euclid, Books I. II. III. IV., Arithmetic, and Algebra. Candidates for Honours will be required to satisfy the Examiners in Euclid, Books VI. and Book XI. to the 21st proposition inclusive, Plane Trigonometry, the use of Logarithms, and Mensuration.

NATURAL PHILOSOPHY.—The Candidate must be prepared to answer questions set in Newth's First Book of Natural Philosophy.

CHEMISTRY.—The Candidate will be examined in Inorganic Chemistry. Book recommended : Wilson's Chemistry, (3s., Chambers' Educational Course.)

ZOOLOGY AND BOTANY.—Elementary questions will be set on the description and classification of animals, their habits and geographical distribution; and on the mercantile and industrial uses of animal products. Also, the description and classification of plants, their uses, and geographical distribution. Plants, and parts of plants, will be given for description. Text Books: Milne Edwards's Zoology, 7s. 6d., (Renshaw) and Lindley's Elements of Botany, 12s., (Bradbury).

GEOLOGY.—The Candidate will be examined in Page's Introductory Text Book of Geology, 1s. 6d.,. (Blackwood,) and his Advanced Text Book of Geology, 5s., (Blackwood.)

DRAWING.—Drawing from the Flat, both in Outline and Shaded; from Models, and from Memory. Questions will be given in Perspective. A fair degree of skill in freehand Drawing will be required in order that a Student may pass in this section.

## SCALE OF MARKS.

SUALE OF MARKS.	
	arks obtainable.
English	1000
English Latin	800
Greek	800
French, German, or Italian	600
Pure Mathematics	800
Elementary Principles of Hydrostatics and Mechanics Chemistry	300
Chemistry	300
Zoology and Botany	300
Geology	300
Drawing ,	<b>3</b> 00
	Marks.
Standard for First Class	2150
Standard for Second Class	
Standard for Third Class	

## PRELIMINARY EXAMINATION FOR THE DEGREE OF ASSOCIATE OF ARTS.

Previously to the Examination for the Degree of Associate of Arts, every Candidate will be required to satisfy the Examiners in—

1. Reading aloud a passage from some English prose author.

2. Writing from dictation.

3. The Analysis and Parsing of a passage from some standard English author.

- 4. The first four Rules of Arithmetic, Simple and Compound.
- Geography. Under this head a competent knowledge will be required of the chief ranges of mountains, the principal rivers, the principal towns, and the coast-line of one or more of the countries in the following list:—England, Scotland, Ireland, Europe, Asia, Africa, North America, South America, Australasia.
- 6. The outlines of English History since the Conquest; that is to say, the succession of Sovereigns, the chief events, and some account of the leading men in each reign.

#### EXAMINATION FOR THE DEGREE OF ASSOCIATE OF ARTS.

The examination for those Students who have satisfactorily passed the preliminary examination will comprise the subjects mentioned in the following ten sections, in four of which at least, Latin or Pure Mathematics being one, the Candidate must satisfy the Examiners :----

1. English.	6. The Elementary Principles of Hydrostatics
2. Latin.	and Mechanics.
3. Greek.	7. The Elements of Chemistry.
4. French, German, or Italian.	8. Zoology and Botany.
5. Pure Mathematics.	9. Geology.
	10. Drawing.

#### PRIZES.

1. The Council's Gold Medal, of the value of Ten Pounds, will be awarded to the Senior Associate, provided he be placed by the Examiners in the First Class of Associate of Arts.

2. Books to the value of Ten Pounds will be awarded as the First Prize in Sections 1, 2, 3, 4, and 5, to the Candidate who most distinguishes himself in each of those subjects, provided he be placed by the Examiners in the First Class of the Associates of Arts.

3. Books to the value of Five Pounds will be awarded as the Second Prize for each of the abovenamed Subjects, at the discretion of the Examiners.

4. Prizes of the value of Five Pounds each will, at the discretion of the Examiners, be awarded to the Candidates who most distinguish themselves in Sections 6, 7, 8, 9, and 10, provided their names appear in the Class List of those recommended for the Degree.

5. In the event of any Candidate being specially recommended by the Examiners as displaying a very high order of proficiency in English, Greek, Latin, or Mathematics, the Council will be prepared to award their Gold Medal to such Candidate.

JAMES BARNARD, GÖVERNMENT PRINTER, TASMANIA.