(No. 40.)



# 1885.

# PARLIAMENT OF TASMANIA.

# TASMANIAN SCHOLARSHIPS:

EXAMINERS' REPORT FOR 1884.

Presented to both Houses of Parliament by His Excellency's Command.



# TASMANIAN COUNCIL OF EDUCATION.

# TASMANIAN SCHOLARSHIPS.

**THE** Council of Education has directed the publication of the names of the under-mentioned Candidates who have passed the Examination for the Tasmanian Scholarships to the satisfaction of the Examiners; and to whom Scholarships, of the value of £200 per annum each have been awarded, tenable for four years from the 1st June next, subject to the conditions laid down by the Council's Regulations :—

JAMES HARCOURT SMITH, aged (1st September) 19 years and 10 months : A.A. Degree, 1881. Rev. W. H. Savigny, M.A., Tutor.

FREDERICK CHARLES HALES, aged (1st September) 19 years and 5 months: A.A. Degree, 1881. Rev. W. H. Savigny, M.A., Tutor.

The Report of the Examiners is annexed.

By Order of the Council,

GEORGE RICHARDSON, Secretary.

Hobart, 17th December, 1884.

# EXAMINERS' REPORT.

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

WE have the honor to report that the Examination for the Tasmanian Scholarships began on Friday, December 5, and ended on Saturday, December 13.

Six presented themselves, of whom four fulfilled the Council's three conditions for eligibility to the Scholarship, by gaining 500 marks in Classics and 300 in Mathematics, and a total of 2200. Of the six candidates, one gained an adequate total, but was disqualified by not gaining a sufficiency in Mathematics. Another was disqualified by failing to gain the required total, although satisfying the Classical and Mathematical tests.

It is not easy to compare with any degree of accuracy the marks of one year with another, owing to the different options which candidates have of bringing up alternative subjects. This year German has been brought up for the first time as a substitute for French; and what is a still more important alternative as contrasted with last year, two candidates brought up the higher classics for the first time. Seeing, however, that neither of these two were successful, it may be fairly inferred that for this year at least the scale of marks is upon much the same standard as heretofore, and it is remarkable how nearly the results approximate to the same figures.

Of the two successful candidates, "C" stood highest in both Classics and Mathematics; "B" stood highest in English, and second in Mathematics.

On opening the envelopes containing the mottoes it was found that the Scholars for 1884 were –

JAMES HARCOURT SMITH, A.A., 1881, Church Grammar School.

FREDERICK CHARLES HALES, A.A., 1881, Church Grammar School.

And that two others had qualified ; viz.-

Ralph Stuart Stevenson, A.A., 1882, Horton College. Edwin Arthur Lamprill, A.A., 1883, High School.

A full Schedule of Marks is appended to this Report.

Hobart, 16th December, 1884.

J. E. BROMBY, Examiner-in-Chief.

EXAMINATION for TASMANIAN SCHOLARSHIPS, December, 1884.

TABLE	$\mathbf{OF}$	MARKS.
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	Full	Motto.						
	Marks.	A.	в.	C.	D.	E.	G.	
Modern Languages and History. I. English	400	185	247	187	198	207	177	
II. French	400	149	155	201	156		132	
IV. Modern History	400 400	220	180	160	255	129 127	105	
Total	1600	554	582	548	609	563	414	
LOWER CLASSICS.	400	303	307	933	171	106	169	
II Greek Prose History and Grammar	350	195	262	944	161	99 <b>7</b>	103	
III Greek Authors, prescribed	400	270	282	313	239	196	170	
IV. Latin Prose, History, and Grammar	350	143	197	201	168	130	130	
Total	1500	911	1048 ·	1091	739	749	576	
Ilverran Grussian								
I. Latin Authors, not specified	400				203	208		
II. Greek Authors, not specified III. Critical, Historical, and Philological	400	•••	•••		220	95	•••	
Questions IV Verse Composition, Latin and Greek	350 350	•••	•••	•••	$\begin{array}{c}143\\115\end{array}$	188 190	•••	
Total	1500				681	611		
20000								
LOWER MATHEMATICS.					· . ·			
I. Arithmetic and Algebra II. Euclid, Geometrical Conics, and Lo-	350	178	115	245	120	199	196	
garithms	375	205	234	223	88	99	129	
III. Trigonometry and Analytical Geometry	375	175	175	200	58	78	97	
IV. Natural Philosophy	400	104	89	169	28	94	43	
Total	1500	662	613	837	294	470	465	
	1							
HIGHER MATHEMATICS.	950	0.65	179	106			~~	
I. Incory of Equations	350	200	173	186		•••	11	
III Differential and Integral Calculus	400	176	256	272	•••	•••	32	
IV. General Problems	400	177	132	223			81	
Total	1500	717	763	877			234	
GRAND TOTAL		2844	3006	3353	2323	2393	1689	

# J. E. BROMBY, D.D., Examiner-in-Chief.

Council of Education, Hobart, 16th December, 1884.

# English.

#### Four hours.

#### DR. BROMBY, Examiner.

- 1. Name the four principal elements whereby two languages may be shown to have had the same origin.
- 2. Give examples in English of nouns, pronouns, adjectives, and verbs completing their parts from different roots.
   3. If we shall
  - If we shall Imp out our drooping country's broken wing.

---Richard II.

Warwick was a bug that fear'd us all.

## -HENRY VI.

Explain these sentences. To what family of languages do *imp* and *bug* belong? In what sense do we find them or their derivatives still employed?

- 4. Mention the principal changes which have taken place in the English language since Alfred's time.
- 5. State what you know about the Ormulum and its author. What other early English book is extant? Give dates.
- 6. What two symbols were there in Old English to express sound, which symbols have now dropped out of use?
- 7. What is a diphthong? What a digraph? Of the so-called vowels in the English alphabet which are true vowels? and which are diphthongs? What are the constituent vowel sounds in these diphthongs? By what artifices are the pure vowels, which are not in the alphabet, represented?
- 8. Give four examples of a radical reversed or modified in meaning by prefixing an insignificant particle; other four when the prefix is significant.
- 9. Furnish a list of ten words in English, in which the c of the original root has become ch. What is there peculiar in the history of the word *ache*?
- 10. Analyse the word spinster; connect both parts of it with other roots in the English language. Adduce other examples of words with the same termination.
- 11. Give six examples of adjectives converted into verbs by the termination en.
- 12. By what artifice is the verb *ought* distinguished into a present and a past tense? Prove that this is a mere conventional artifice by substituting some equivalent for *ought*, which has both present and past tenses.
- 13. What is the origin of the noun ought?
- 14. Name the authors of the following, and the work in which each occurs :---

The sentinel stars set their watch in the sky.

To all, to each a fair good night

And pleasing dreams, and slumbers light!

O for a lodge in some vast wilderness,

Some boundless contiguity of shade.

There were his young barbarians all at play, There was their Dacian mother—he their sire Butcher'd to make a Roman holiday.

O love, they die on yon rich sky,

They faint on hill or field or river : Our echoes roll from soul to soul,

And grow for ever and for ever. Lives of great men all remind us

We can make our lives sublime And departing leave behind us

Footprints on the sands of time. The child is father of the man.

She was good as she was fair

None—none on earth above her !

As pure in thought as angels are, To know her was to love her.

But pleasures are like poppies spread, You seize the flower, its bloom is shed. Or like the snowfall in the river, A moment white, then melt for ever.

## Modern Mistory.

#### Three hours.

#### DR. BROMBY, Examiner.

- 1. Name the first Frankish King who was Emperor of the Romans. What was Francia in those days? What became of it at his death? Trace the changes till the modern Kingdom of France was established, and exhibit its connection with England.
- 2. Under what King were the Danes and the Northmen at the height of their power? What was the cause of the Northmen losing their importance in European history?
- 3. Give a sketch of the reign of Henry II. in England. Describe the extent of his dominions.
- 4. How did trial by jury come to be established in England? What is the great distinction between a modern and an ancient jury?
- 5. Sketch out the life of Simon de Montfort.
- 6. In which of the crusades did the kings of England take part? Give a general account of the Kingdom of Jerusalem. By what organisations was it principally supported? By what event, and at what date did it come to an end?
- 7. What king was it who equipped the Spanish Armada? Give some account of his reign, and of that of his father.
- 8. Sketch a history of the reign of Edward VI. of England.
- 9. What was the famous Exclusion Bill? By whom introduced? How eventually dealt with?
- 10. In which reign was the Artillery Company formed? With what object? On what occasion was it in active requisition?
- 11. What circumstances led up to the Self-denying Ordinance?
- 12. Give a brief account of Eustace, Count of Boulogne, Prince Eugene, Prince Rupert, Paul Jones, and Lord George Gordon.

#### French.

#### Four hours.

#### DR. BROMBY, Examiner.

1. Translate into French-

One day while Charles the Twelfth, King of Sweden, was dictating some letters to his secretary, a bombshell fell on the house, penetrated the roof, and burst close to the room of the king. Half of the floor fell to pieces; the closet in which the king was dictating, being built partly in a thick wall, did not suffer at all from the concussion; and by surprising good luck none of the splinters, which flew into the air, entered the closet, although the door was open. At the noise of the bomb, and the crash of the house, which seemed to be falling, the pen fell from the hand of the secretary. "What's the matter? (said the king quietly.) Why do you stop writing?" The secretary could only reply, "O Sire, the bomb !" "Well ! but what has that to do with the letter I am dictating? Go on."

2. Translate into French-

It is really astonishing with what stubbornness the spirit of man loves to cling to ancient dogmas and to ridiculous traditions, even when it comes to be made sensible of their absurdity and of their pernicious influence. The history of the discoveries of sciences and arts in all ages and in every country is only a melancholy recital of the continual struggles of truth against error, of knowledge against ignorance. From the remotest times to our own days not a single important discovery in physics, medicine, or the arts has been announced without encountering the most lively opposition on the part of the multitude. The astronomical system which Copernicus announced to the sixteenth century had been perceived by Thales and other philosophers of Greece more than 2000 years previously. Nevertheless what a number of absurd theories, what a number of fanciful speculations were there which men wished to substitute for this beautiful system, at once so sublime and so simple, and so much in harmony with the rest of nature's appearances and operations ! What a number of prejudices had it to conquer, and superstitions to fight against! The discovery of the circulation of the blood by Harvey, of vaccination by Jenner, of the application of steam to navigation by Fulton, subjected their authors for a time, if not to persecution, at least to the reproaches and the ridicule of the world.

3. Translate—

La maitresse m'interrompit :--Bah ! bah ! dit elle, c'est l'affaire d'une heure, la rivière est à deux pas; allons, paresseux, prends ta lanterne et ta serpe, ajouta t'elle en s'adressant à Maurice, qui était retombé dans cette apathie résignée habituelle aux gens que leur position a faits pour obéir,---et dépêche-toi.

Ta lanterne et ta serpe pour aller a la pêche !! Ah ! dès lors Maurice fut perdu, car il me prit une envie irrésistible de voir une pêche qui se faisait comme un fagot.

Maurice poussa un soupir et prit, avec une énergie qui tenait du désespoir, une serpe pendue au milieu des instruments de cuisine, et une lanterne d'une forme singulière.

Vous venez donc? me dit Maurice, apres avoir fait ses préparatifs, et voyant que je m'apprêtais à le suivre.

Certes, répondis-je, cette pêche me paraît originale.

Oui, oui, grommela-t'-il entre ses dents, c'est fort original de voir un pauvre homme barbotter dans l'eau, quand il devrait, à la même heure, dormir, enfoncé dans son foin jusqu'au cou.

A. DUMAS.

# 4. Translate—

L'Aigle, c'est le génie ! oiseau de la tempête,

Qui des monts les plus hauts cherche le plus haut faîte ;

Dont le cri fier du jour chante l'ardent réveil ;

Qui ne souilli jamais sa serre dans la fange, Et dont l'œil flamboyant incessamment échange Des éclairs avec le soleil.

Son nid n est pas un nid de mousse; c'ést une aire, Quelque rocher, creusé par un coup de tonnerre,

Quelque brêche d'un pic, épouvantable aux yeux,

Quelque croulant asile, aux flancs des monts sublimes,

Qu'on voit, battu des vents, pendre entre deux abîmes, Le noir précipice et les cieux.

La brume de ton aube, Ami, va se dissoudre. Fais-toi connaítre, aiglon, du soleil, de la foudre.

Viens arracher un nom par tes chants inspirés;

Viens; cette gloire, en butte à tant de traits vulgaires

Ressemble aux fiers drapeaux qu'on rapporte des guerres,

Plus beaux quand ils sont déchirés.

## VICTOR HUGO.

5. From out of the two foregoing passages, derive the following words :- Pas, paresseux, serpe, ajouta, adressant, résignée, dépêche, pêche, envie, pousse, soupir, cuisine, donc, apres, apprêtais, eau, devrait, même, enfoncé, dans, foin, cou, oiseau, hauts, cherche, réveil, œil, flancs, aube, foudre, arracher.

In making these derivations, it will be necessary to point out the steps of the change, when not perfectly obvious.

6. State the difference of construction which bien and beaucoup require after them.

- 7. Enunciate a rule for the verb in a relative proposition to be in the subjunctive mood.
- 8. Lengthen the following words so as to give them a depreciative sense :---Cligner, trembler, chanter, griffer, rêver.
- 9. Put into French-I shall not deny his being a man of merit. I suppose he reads the book you lent him. He will not go unless you ask him. He does not know what he is saying. The houses which he has had built are beautiful. I have paid the sums which I owed. I am very much displeased with you; you know why.

#### German.

#### Four hours.

## JOHN A. JACKSON, B.A., Examiner.

1. Translate-

Den jungen Spartanern war es verboten, sich zu schmücken, ausgenommen, wenn sie in das Treffen oder in sonst eine grosse Gefahr gingen. Dann erlaubte man ihnen, ihre Haare, schön aufzuputzen, ihre Kleider zu schmücken und Zierrathen an den Waffen zu tragen. Das Haar, sagte Lykurgus, mache schöne Leute schöner und hässliche fürchterlich. Es war gewiss ein feiner Kunstgriff des Gesetzgebers, etwas Lachendes und Festliches mit Gelegenheiten der Gefahr zu verbinden, und ihnen dadurch das Schreckliche zu benehmen. Er ging noch weiter. Er liess im Kriege von der strengen Disciplin etwas nach; die Lebensart war dann freier, und Vergehungen wurden weniger hart geahndet. Daher kam es, dass der Krieg den Spartanern allein eine Art von Erholung war, und dass sie sich darauf, wie auf eine fröhliche Gelegenheit, freuten. Rückte der Feind an, so liess der spartanische König das Kastorische Lied anstimmen, die Soldaten rückten in festgeschlossenen Reihen unter Flötengesang fort, und gingen freudig und unerschrocken, nach dem Klange der Musik, der Gefahr entgegen.

2. Translate—

#### GROSSINQUISITOR.

Nein! Ich bin nicht mit Ihnen Zufrieden.—Ihren ganzen vorigen Regentenlauf zu lästern! Wo war damals Der Philipp, dessen feste Seele, wie Der Angelstern am Himmel, unverändert Und ewig um sich selber treibt? War eine ganze Vergangenheit versunken hinter Ihnen? War in dem Augenblick die Welt nicht mehr Die nämliche, da Sie die Hand ihm boten? Gift nicht mehr Gift? War zwischen Gut und Uebel Und Wahr und Falsch die Scheidewand gefallen? Was ist ein Vorsatz, was Beständigkeit, Was Männertreue, wenn in einer lauen Minute eine sechzigjähr'ge Regel Wie eines Weibes Laune schmilzt?

#### König.

Ich sah in seine Augen—Halte mir Den Rückfall in die Sterblichkeit zu gut. Die Welt hat einen Zugang weniger Zu deinem Herzen. Deine Augen sind erloschen.

#### GROSSINQUISITOR.

Was sollte İhnen diefer Mensch? Was konnte Er Neues Ihnen vorzuzeigen haben, Worauf Sie nicht bereitet waren? Kennen Sie Schwärmersinn und Neuerung so wenig? Der Weltverbess'rer prahlerische Sprache Klang Ihrem Ohr so ungewohnt? Wenn das Gebäude Ihrer Ueberzeugung schon Von Worten fällt—mit welcher Stirne, muss Ich fragen, schrieben Sie das Bluturtheil Der hunderttausend schwachen Seelen, die Den Holzstoss für nichts Schlimmeres bestiegen?

3. Translate—

Ewiger Wonnebrand, Glühendes Liebeband, Siedender Schmerz der Brust, Schäumende Gotteslust. Pfeile, durchdringet mich, Lanzen, bezwinget mich, Keulen, zerschmettert mich, Blitze, durchwettert mich, Dass ja das Nichtige Alles verflüchtige, Glänze der Dauerstern Ewiger Liebe Kern !

4. Translate into German-

From this great vexation, the king, who had a characteristic fondness for display, tried for a time to turn his thoughts to the coming splendor of his coronation, which he was about to celebrate on a scale of unprecedented magnificence. The 19th July, 1821, was fixed for the ceremony. Unluckily the queen demanded to be crowned at the same time. This the king absolutely refused, and refused also her demand to be present on the occasion. She, indignant at this prohibition, declared that she would attend in spite of it. It was generally supposed that this declaration was only a threat, and that she would feel what was due to her own dignity, and not expose herself by forcing herself into the king's presence at such a time and at such a place. Yet this was nevertheless her real determination; and on the morning of the coronation she went to the Abbey at a very early hour and demanded to enter.

- 5. Distinguish between the meanings of the following sets of words:--(1) Yungfer, Yungfrau, Dirne, Magd, Mädchen; (2) Knabe, Bube, Yunge, Bursche; (3) Manche, viele; (4) Müssen, sollen; (5) Reden, sprechen, sagen; (6) Saufen, trinken; (7) Fell, Haut; (8) Schreien, rufen.
- Discuss the etymologies, and give the meanings of the following words:-Strasse, Klage, Yammer, Käfig, Kiste, Kleinode, Metze, Lanze, Gaukler, Welschland, Ding, Adler, Landschaft, Fürstenthum.
- 7. Give the exact meanings of the following verbs :---Verbitten, verbieten, verdenken, verführen, vertragen, verfolgen, versetzen, verstellen, verweisen.

8. What are the principal general rules for determining the gender of German neuter nouns?

9. What peculiarities occur in the declination of the following adjectives ?--(1) Adjectives ending in el. (2) Those ending in en and er. (3) Hoch. And what peculiarities occur in the comparison of the following adjectives ?--Bitter, alt, klar, bekannt, gern, blau.

10. Give the German equivalents of-

(1) Are the ripe apples yours, or the sour ones. (2) Birds of a feather flock together. (3) Man proposes, but God disposes. (4) All's well that ends well. (5) An object much to be desired. (6) I might have been able to have accomplished my object if I had had more time to spare. (7) You ought to have seen him come running along the road. (8) Who is it? It is I. (9) The Prussian, the German, the Austrian, and the Spaniard have all gone out to dine. (10) The cock crows, the pig grunts, the horse neighs, the dog barks, the cat purrs, the sheep bleats, the cow bellows, and the donkey brays. (11) What day of the month was the day before yesterday. (12) This day fortnight I was in Oatlands. (13) Upon a given straight line describe an equilateral triangle. (14) Five times five are twenty-five. (15) What has become of Charles, Frank, and William? (16) Do you prefer apples to pears?

- 11. Decline in the singular and plural the following nouns :--Die Haut, Der Monat, Das Instrument, Das Künststück, Die Mutter, Das Haupt, Die Schaar, Der Raum, Die Nacht, Der Thron.
- 12. Give examples showing the different ways in which the present participle in English is rendered in German.

# A.

# Latin.—I.

Four hours.

DR. BROMBY, Examiner.

1. Translate, with particular attention to style of composition-

(A) Nunc, si hunc exitum consulatus mei dii immortales esse voluerunt, ut vos, patres conscripti, populumque Romanum ex cæde miserrima; conjuges, liberosque vestros, virginesque Vestales ex acerbissima vexatione; templa atque delubra, hanc plucherrimam patriam omnium nostrûm ex fœdissima flamma; totam Italiam ex bello et vastitate eriperem : quæcumque mihi uni proponetur fortuna, subeatur. Etenim, si P. Lentulus suum nomen, inductus a vatibus, fatale ad perniciem reipublicæ fore putavit; cur ego non læter meum consulatum ad salutem reipublicæ prope fatalem exstitisse?

Quare, patres conscripti, consulite vobis, prospicite patriæ, conservate vos, conjuges, liberos, fortunasque vestras; populi Romani nomen salutemque defendite: mihi parcere, ac de me cogitare desinite. Nam primum debeo sperare, omnes deos, qui huic urbi præsident, pro eo mihi, ac mereor, relaturos gratiam esse: deinde, si quid obtigerit, æquo animo paratoque moriar. Neque enim turpis mors forti viro potest accidere, neque immatura consulari, nec misera sapienti. Nec tamen ego sum ille ferreus, qui fratris carissimi atque amantissimi præsentis mærore non movear, horumque omnium lacrymis, a quibus me circumsessum videtis. Neque meam mentem non domum sæpe revocat exanimata uxor, abjecta metu filia, et parvulus filius, quem mihi videtur amplecti respublica tamquam obsidem consulatus mei : neque ille, qui exspectans hujus exitum diei, adstat in conspectu meo, gener. Moveor his rebus omnibus, sed in eam partem, ut salvi sint vobiscum omnes, etiamsi vis aliqua me oppresserit, potius quam et illi et nos una cum republica pereamus.

(B) Inter quæ diu meditato prolatoque sæpius consilio, tandem Cæsar in Campaniam, specie dedicandi templa apud Capuam Jovi, apud Nolam Augusto, sed certus procul urbe degere. Causam abscessus quanquam, secutus plurimos auctorum, ad Sejani artes rettuli; quia tamen, cæde ejus patrata, sex postea annos pari secreto conjunxit, plerumque permoveor num ad ipsum referri verius sit, sævitiam ac libidinem, cum factis promeret, locis occultantem. Erant qui crederent in senectute corporis quoque habitum pudori fuisse: quippe illi prægracilis et incurva proceritas, nudus capillo vertex, ulcerosa facies ac plerumque medicaminibus interstincta. Et Rhodi secreto vitare cœtus, recondere voluptates insuerat. Traditur etiam matris impotentia extrusum, quam dominationis sociam aspernabatur, neque depellere poterat, cum dominationem ipsam donum ejus accepisset. Nam dubitaverat Augustus Germanicum, sororis nepotem et cunctis laudatum, rei Romanæ imponere: sed precibus uxoris evictus Tiberio Germanicum, sibi Tiberium ascivit. Idque Augusta exprobrabat, reposcebat.

(C) Accidit hæc fessis etiam fortuna Latinis,

Quæ totam luctu concussit funditus urbem.

Regina ut tectis venientem prospicit hostem,

Incessi muros, ignes ad tecta volare,

Nusquam acies contra Rutulas, nulla agmina Turni; Infelix pugnæ juvenem in certamine credit Exstinctum; et, subito mentem turbata dolore, Se causam clamat, crimenque, caputque malorum; Multaque per mæstum demens effata furorem, Purpureos moritura manu discindit amictus, Et nodum informis leti trabe nectit ab alta. Quam cladem miseræ postquam accepere Latinæ, Filia primo manu flavos Lavinia crines Et roseas laniata genas tum cetera circum Turba, furit : resonant late plangoribus ædes. Hinc totam infelix vulgatur fama per urbem. Demittunt mentes ; it scissa veste Latinus, Conjugis attonitus fatis, urbisque ruina, Canitiem immundo perfusam pulvere turpans. [Multaque se incusat, qui non acceperit ante Dardanium Ænean. generumque adsciverit ultro.]

(D) ME. Παύσαι: vicisti castigatorem tuom.

Occlusti linguam : nihil est quod respondeam.
CA. Nunc ego te quaeso ut me opera et consilio iuves
Communicesque hanc mecum meam provinciam
ME. Polliceor operam. CA. Ergo ubi eris paulo post?

ME. Domi:

Numquid vis? CA. Cures tuam fidem. ME. Fit sedulo: (Moving away, then turning back.) a 1 1

. 5

Sed quid ais? CA. Quid vis? ME. Vbi nunc adulescens habet?
CA. Posticulum hoc recepit, quoin aedis vendidit.
ME. Istue volebam scire: i sane nunc iam. (Again moving away, and turning back.)

Sed quid ais, quid nunc virgo? nempe apud test? CA. Itast, Iuxtaque eam curo cum mea. ME. Recte facis.

CA. Numquid prius, quam abeo me rogaturu's? ME. Vale. (Exit Callicles.)

Nihil est profecto stultius neque stolidius [Neque mendacilocum neque adeo argutum magis] Neque confidentiloquius neque periurius Quam urbani adsidui cives, quos scurras vocant. Atque egomet me adeo cum illis una ibidem traho: Qui illorum verbis falsis acceptor fui, Qui omnia se simulant scire neque quicquam sciunt.

Si tibi sancta cohors comitum, si nemo tribunal (E) Vendit Acersecomes, si nullum in conjuge crimen, Nec per conventus et cuncta per oppida curvis Unguibus ire parat nummos raptura Celæno: Tu licet a Pico numeres genus, altaque si te Nomina delectant, omnem Titanida pugnam Inter majores ipsumque Promethea ponas : De quocumque voles proavum tibi sumito libro Quod si præcipitem rapit ambitio atque libido, Si frangis virgas sociorum in sanguine, si te Delectant hebetes lasso lictore secures: Incipit ipsorum contra te stare parentum Nobilitas claramque facem præferre pudendis. Omne animi vitium tanto conspectius in se Crimen habet, quanto major qui peccat habetur. Quo mihi te solitum falsas signare tabellas In templis, quæ fecit avus, statuainque parentis Ante triumphalem? quo, si nocturnus adulter Tempora Santonico velas adoperta cucullo ?

Præter majorum cineres atque ossa volucri Carpento rapitur pinguis Lateranus, et ipse, Ipse rotam astringit multo sufflamine consul, Nocte quidem ; sed luna videt, sed sidera testes Intendunt oculos. Finitum tempu - honoris Quum fuerit, clara Lateranus luce flagellum Sumet et occursum numquam trepidabit amici Jam senis, ac virga prior annuet atque maniplos Solvet et infundet jumentis hordea lassis. 2. Translate and explain-

- Neque dispar apud Coos antiquitas; et accedebat meritum ex loco.
- (b) Patricios conferreatis parentibus genitos.
- (c)Secreti sermonis incusavit eum, adversum majestatem habiti.
- (d)
- Libros per ædiles cremandos censuere patres. Adjunxit Tiberius "se non illuc decurrere, quod promptum rescriptu; posse ipsam Liviam statuere, nubendum post Drusum, an in penatibus iisdem (e) tolerandum haberet.'
- Non alias magis anxia et pavens civitas, egens adversum proximos.
- Hoc fusum labris splendentibus amnem inficit.  $\stackrel{(g)}{(h)}$
- Omnes dant cuneum.
- (i)En, nunc hie, quoius est, ut ad incitast redactus.
- Hæc famigeratio te hone-tet, me autem conlutitét; tibi sit emolumentum honoris; (j)mihi quod obiectent, siet.
- (k)Spectat triscurria patriciorum.
- (l)Cujus supplicio non debuit una parari simia.
- Ausi quod liceat tunicâ punire molestâ. (m)
- Furor est post omnia perdere naulum. (n)
- 3. Where and what are-Leucas, Cimbri, Cydonis, Allobroges, Numantia, Pergamos, Nola?
- 4. Who were Picus, Celæno, Hippona, Cocles, Thersites, Orithyia, Cethgus?
- 5. Derive vexillum, medulla, Edepol, muropola, ferentarius, incitast, obligurio, municipes, acersecomes, nuper, confertus, consul, avunculus, propatulum. Give the English of both the words and their roots.

# A.

## Latin.-II.

Three hours.

DR. BROMBY, Examiner.

1. Translate into Latin prose-

When the news of this memorable defeat reached Rome, and the prætor announced to the assembly of the people that they had suffered a great loss, the consternation was immense; and in these distressing circumstances it was resolved to appoint a dictator. As the consul Cn. Servilius was absent, the people-a thing which had never been done before-elected Q. Fabius Maximus to the office, and M. Minucius was appointed his Master of the Horse. Fabius has a glorious name in history, and in many respects it is well deserved, for he was a calm, cautious, and persevering general; and his recovery of Tarentum was a great military achievement. But his personal character does not merit the praise that is commonly bestowed upon him, for his subsequent opposition to the great Scipio, who was still quite a young man when Fabius had reached the height of his fame, arose from mere personal jealousy. Fabius could not contemplate without grief the rising greatness of Scipio; and it is clear that he would rather have seen Hannibal victorious than see him conquered by Scipio.

2. History of Rome-

- Give briefly the history of Rome under the kings, marking particularly the changes (a)in the constitution.
  - Give a brief account of the invasion of Italy by Pyrrhus, with dates.
  - Write out short biographies of Germanicus, Sejanus, Tacfarinas, and Agrippina.
- (d)State briefly the events connected with these dates-B.C. 451, 391, 265, 241, 215, 134, 110, 88, 72, 31, 14.

3. Latin Grammar-

- In what different ways are frequentative verbs formed in Latin? Give examples. (a)Express by participles in dus the following sentences :---Whilst they are drinking-(b)
  - So long as they are solvent-They are equal to bearing the burden-This action of yours, my friend, tends to the preservation of liberty. Turn into Latin—He informed me that the ship in which his father sailed was
- (c)wrecked on the island of Tænaros-He had contracted to build a bridge over the Thames-If I had known what I know now, I would have acted very differently-What ! will she never meet me without frowning ?—He accused him of having spent another man's money—Be sure and leave this bundle at the bookseller's— He made it his especial object, when in Bavaria, to acquire proficiency in music.

# А.

# Mathematics.—II.

Four hours.

## H. C. KINGSMILL, M.A., Examiner.

#### EUCLID, GEOMETRICAL CONICS, LOGARITHMS.

- 1. Prove that the angles of any rectilineal figure, together with four right angles, equal twice as many right angles as the figure has sides.
- 2. In an obtuse angled triangle, state and prove by how much the square on the side subtending the obtuse angle exceeds the sum of the squares on the sides containing it.
- 3. Draw a line touching two given circles.
- 4. Draw a circle touching two sides of a triangle produced and the third side not produced.
- 5. Give Euclid's definition of Proportion.
- 6. Prove that similar triangles are to one another in the duplicate ratio of their homologous sides.
- 7. Two triangles APB and AQB are on the same base AB, and between the same parallels AB and PQ. A line parallel to AB is drawn meeting AP in L, BP in M, AQ in N, BQ in R. Prove LM = NR.
- 8. If any transversal be drawn cutting the sides *a*, *b*, *c* of a triangle ABC in X, Y, Z respectively, prove that BX . CY : CX . AY :: BZ : AZ. Prove that the bisectors of the exterior angles of a triangle meet the opposite sides in three points which are in a straight line.
- 9. If a solid angle be contained by any number of plane angles, prove that their sum is less than four right angles.
- 10. In a parabola, prove that any ordinate QV and its abscissa PV contain with the parabola an area equal to two-thirds of the parallelogram which has PV, QV for adjacent sides.
- 11. Prove that in a hyperbola the tangent bisects the angle between the focal distances.
- 12. If C be the centre of an ellipse, and OX, OY a pair of tangents, and OC meets the ellipse in P, and XY in R, prove CO .  $CR = CP^2$ .
- 13. If two spheres are inscribed in a right cone, and a plane drawn between them touching both, prove that the points of contact of the spheres with the plane will be the foci of the conic section made by the plane.
- 14. Given log  $2 = \cdot 30103$ , and log  $3 = \cdot 4771213$ , find log 720 and log  $2 \cdot 6$ ; and determine x from the equation  $3^x = 32$ .

# A.

# Mathematics.—I.

#### Three hours.

H. C. KINGSMILL, M.A., Examiner.

## ARITHMETIC AND ALGEBRA.

- 1. A sells to B  $\frac{1}{8}$  of  $\frac{3}{4}$  of  $\frac{7}{19}$  of a package of tea which weighs  $\frac{3}{7}$  of  $\frac{1}{2}$  of 1 cwt. 21 lbs., at 4s. 6d. per lb.? What did it come to?
- 2. If 54:32 Irish miles are equal to 69:14 English, how many English miles are equal to 169<sup>2</sup>/<sub>4</sub> Irish?
- 3. A can do a piece of work in 20 days of 7 hours, and B can do it in 1+ days of 8 hours. For how how many hours a day should A and B be engaged together that the work may be done in 10 days?
- 4. The interest on a certain sum of money for 2 years is  $\pounds 71$  16s.  $7\frac{1}{2}d$ ., and the discount on the same sum for the same time is  $\pounds 63$  17s., simple interest being reckoned in both cases. Find the rate per cent. per annum, and the sum.
- 5. Of the whole cost of constructing a railway,  $\frac{1}{2}$  is held in shares, and the remainder, £400,000, was borrowed on mortgage at 5 per cent. Find what amount of gross annual receipts, of which 40 per cent. will be required for the working expenses of the line and 8 per cent. for a reserve fund, will yield the shareholders a dividend of  $4\frac{1}{2}$  per cent. on their investments?

6. Find a value of p which will make  $2x^3 + px^2 - 1$  exactly divisible by  $x^2 + 2x + 1$ .

7. Simplify the expressions—

(1) 
$$\frac{2x^{4} + 7x^{3} - 4x^{2} - x - 4}{3x^{4} + 11x^{3} - 2x^{2} + 4x - 16}$$
  
(2) 
$$\frac{3}{x(2x - 3y)(2x - 5z)} + \frac{2}{y(3y - 2x)(3y - 5z)} - \frac{1}{5xyz}$$

8. Find the value of  $\frac{1}{x-2a} + \frac{2}{x+b} \div \left(\frac{2}{x-a} + \frac{1}{x+2b}\right)$  when  $x = \frac{3ab}{b-a}$ . 9. Find by indeterminate coefficients the sum of the series  $1^{c_1} + 2^{c_2} + 3^{c_3} + \&c_4 + n^2$ .

**5.** Find by indeterminate coefficients the sum of the series  $1^{-1} + 2^{-1} + 3^{-1} + \infty$ .

10. Explain the nature of mathematical induction. Prove by this method that  $x^n - a^n$  is divisible by x - a.

11. Solve the equations—

(1)  $\frac{x-3}{2x} - \frac{3}{x(x-2)} = 2\frac{5}{8} + \frac{23}{4(2-x)}.$ (2)  $\begin{cases} 2(x+1)(y-2) = (2x-1)(y-6) + 16\\ y - 4x = \frac{1}{2}(7-x) - \frac{1}{5}(11-y). \end{cases}$ 

(3) 
$$x - y = 10, x + y = 2(\sqrt{xy} + 1).$$

12. Find the square of the expression

$$\sqrt{\frac{x+\sqrt{x^2-4y^2}}{2}}-\sqrt{\frac{x-\sqrt{x^2-4y^2}}{2}};$$

and reduce to the simplest possible form

$$\frac{a^{-\frac{1}{2}}}{a^{-\frac{1}{2}} + a^{\frac{1}{2}}(1 + x^{-1})} + \frac{x^{-\frac{1}{2}}}{x^{-\frac{1}{2}} + x^{\frac{1}{2}}(1 + a^{-1})} + \frac{a^{\frac{1}{2}}x^{\frac{1}{2}}}{a^{\frac{1}{2}}x^{-\frac{1}{2}} + a^{-\frac{1}{2}}x^{\frac{1}{2}} + a^{\frac{1}{2}}x^{\frac{1}{2}}}$$

- 13. Define Ratio. If the ratio a : b be equal to the ratio c : d, show that the ratio  $a^2 c^2 : b^2 d^2$  will be equal to the ratio ac : bd.
- 14. Explain what is meant by Variation. If y varies inversely as 3x a, and the variables are equal when each is equal to a, find the values of the two variables when x = 2y.
- 15. If the number 2 be divided into any two parts, show that the Harmonic mean between the parts is the square of the Geometric mean.

# A.

#### Greek.—I.

#### Four hours.

#### DR. BROMBY, Examiner.

1. Translate $\rightarrow$ 

(A) <sup>6</sup>Ον τοίνυν χρόνον ήμεν ἐκεῖ καὶ καθήμεθ' ἐν Πέλλη, σκέψασθε τί πράττειν ἕκαστος ήμῶν προείλετο. ἐγὼ μὲν τοίνυν τοὺς αἰχμαλώτους ἀνασώζειν καὶ ζητεῖν, καὶ παρ' ἐμαυτοῦ τε χρήματ' ἀναλίσκειν καὶ Φίλιππον ἀξιοῦν, ῶν ἡμῖν ἐδίδου ξενίων, τούτους λύσασθαι οἶτος δὲ αὐτίκα ἀκούσεσθε τί ποιῶν διετέλεσεν. τί οἶν ἤν τοῦτο; τὸ κοινῆ χρήμαθ' ἡμῖν τὸν Φίλιππον διδόναι. ἕνα μηδὲ τοῦτ' ἀγνοῆτε, ἐκεῖνος ἡμᾶς διεκωδώνιζεν ἅπαντας, τίνα τρόπον; ἑκάστῷ προσπέμπων ἰδία καὶ πολύ γε, ῶ ἀνδρες 'Αθηναῖοι, διδοὺς χρυσίον. ὡς δ' ἀπετύγχανεν ὑτουδήποτε (οὐ γὰρ ἐμέ γ' εἰπεῖν ἐμαυτὸν δεῖ, ἀλλὰ τὰ ἔργα καὶ τὰ πεπραγμέν' αὐτὰ δηλώσει), τὰ κοινῆ δοθέντα πάντας ἡγεῖτο εὐήθως λήψεσθαι ἀσφάλειαν οὖν ἔσεσθαι τοῖς ἰδία πεπρακόσιν αύτοὺς, εἰ καὶ κατὰ μικρὸν τοῦ λαβεῖν κοινῆ πάντες μετάσχοιμεν. διὰ ταῦτ' ἐδίδοτο, ξένια δὴ πρόφασιν. ἐπειδὴ δ' ἐκώλυσα ἐγὼ, πάλιν προσδιενείμαντο τοῦθ' οῦτοι. τῷ Φιλίππψ δ', ἐπειδὴ ταῦτ' εἰς τοὺς αἰχμαλώτους ἡξίουν αὐτὸν ἀναλίσκειν ἐγὼ, οὕτε κατειπεῖν τούτων είχε καλῶς οὕτ' εἰπεῖν ὑδεῖνα καὶ ὁ δεῖνα,¨ οῦτς μεν δὴ και τὰ πειθὴνως ἰδίλοτο, ξένια δὴ κοινῆ τεις ἐκαοτος ἡθως λήψεσθαι.

(B) τί γὰρ δή ποτε, Εὔβουλε, Ἡγησίλεω μὲν κρινομένω, δς ἀνεψιός ἐστί σοι, καὶ Θρασυβούλω πρώην, τῷ Νικηράτου θείω, ἐπὶ μὲν τῆς πρώτης ψήφου οὐδ' ὑπακοῦσαι καλούμενος ἤθελες, εἰς δὲ τὸ τίμημα ἀναβὰς ὑπὲρ μὲν ἐκείνων οὐδ' ὁτιοῦν ἔλεγες, ἐδέου δὲ τῶν δικαστῶν συγγνώμην ἔχειν σοι; εἶτα ὑπὲρ μὲν συγγενῶν καὶ ἀναγκαίων ἀνθρώπων οὐκ ἀναβαίνεις, ὑπὲρ Αἰσχίνου δὲ ἀναβήσει, ὃς, ἡνίκ' ἔκρινεν ᾿Αριστοφῶν Φιλόνεικον καὶ δι' ἐκείνου τῶν σοι πεπραγμένων κατηγόρει, συγκατηγόρει μετ' ἐκείνου σου καὶ τῶν ἐχθρῶν τῶν σῶν εἶς ἐξητάζετο; ἐπειδὴ δὲ σὺ μὲν τουτουσὶ δεδιξάμενος καὶ φήσας καταβαίνειν εἰς Πειραιᾶ δεῖν ἤδη καὶ χρήματ' εἰσφέρειν καὶ τὰ θεωρικὰ στρατιωτικὰ ποιεῖν, ἢ χειροτονεῖν ὰ συνεῖπε μὲν οῦτος, ἔγραψε δ' ὁ βδελυρὸς Φιλοκράτης, ἐξ ῶν αἰσχρὰν ἀντὶ καλῆς συνέβη γενέσθαι τὴν εἰρήνην, οῦτοι δὲ τοῖς μετὰ ταῦτ' ἀδικήμασι πάντ' ἀπολωλέκασι, τηνικαῦτα διήλλαξαι; καὶ ἐν μὲν τῷ δήμω κατηρῶ Φιλίππω, καὶ κατὰ τῶν παίδων ὥμνυες ἡ μὴν ἀπολωλέναι Φίλιππον ἂν βούλεσθαι. νῦν δὲ βοηθήσεις τούτω; πῶς οῦν ἀπολεῖται, ὅταν τοὺς παρ' ἐκείνου δωροδοκοῦντας σὺ σώζης; τί γὰρ δήποτε Μοιροκλέα μὲν ἔκρινες, εἰ παρὰ τών τὰ μέταλλα ἐωνημένων εἰκοσιν ἐζέλεξε δραχμὰς παρ' ἑκάστου, καὶ Κηφισοφῶντα γραφὴν ἱερῶν χρημάτων ἐδίωκες, εἰ τρισὶν ὕστερον ἡμέραις ἐπὶ τὴν τράπεζαν ἔθηκεν ἑπτά μνᾶς· τοὺς δὲ ἔχοντας, ὑμολογοῦντας, ἐξελεγχομένους ἐπ' αὐτοφώρῷ ἐπὶ τῷ τῶν συμμάχων ὀλέθρῷ ταῦτα πεποιηκότας, τούτους οὐ κρίνεις, ἀλλὰ καὶ σώζειν κελεύεις.

(C) Παρεών δὲ καὶ μεμφόμενος τὴν γνώμην ταύτην Κροϊσος ὁ Λυδὸς, ἀπεδείκνυτο ἐναντίην τῷ προκειμένῃ γνώμῃ, λέγων τάδε· " Ώ βασιλεῦ, εἶπον μὲν καὶ πρότερόν τοι, ὅτι ἐπεί με Ζεὺς ἔδωκέ τοι, τὸ ἂν ὑρῶ σφάλμα ἐὸν οἴκῷ τῷ σῶ, κατὰ δύναμιν ἀποτρέψειν. τὰ δέ μοι παθήματα, ἐόντα ἀχάριτα, μαθήματα γεγόνεε. Εἰ μὲν ἀθάνατος δοκέεις εἶναι, καὶ στρατιῆς τοιαύτης ἄρχειν, οὐδὲν ἂν εἰη πρῆγμα γνώμας ἐμέ σοι ἀποφαίνεσθαι. εἰ δὲ ἔγνωκας ὅτι ἄνθρωπος καὶ σὺ εἶς, καὶ ἑτέρων τοιῶνδε ἄρχεις, ἐκεῖνο πρῶτον μάθε, ὡς κύκλος τῶν ἀνθρωπηΐων ἐστὶ πρηγμάτων· περιφερόμενος δὲ, οὐκ ἐῷ αἰεὶ τοὺς αὐτοὺς εὐτυχέειν. ἤδη ῶν ἐγὼ γνώμην ἔχω περὶ τοῦ προκειμένου πρήγματος τὰ ἕμπαλιν ἢ οὖτοι. εἰ γὰρ ἐθελήσομεν ἐσδέξασθαι τοὺς πολεμίους ἐς τὴν χώρην, ὅδε τοι ἐν αὐτῷ κίνδυνος ἔνι· ἑσσωθεὶς μὲν, προσαπολλύεις πᾶσαν τὴν ἀρχήν· δῆλα γὰρ δὴ, ὅτι νικῶντες Μασσαγέται, οὐ τὸ ὀπίσω φεύξονται, ἀλλ' ἐπ' ἀρχὰς τὰς σὰς ἐλῶσι. νικῶν δὲ, οὐ νικῷς τοσοῦτον, ὅσον εὶ διαβὰς ἐς τὴν ἐκείνων, νικῶν Μασσαγέτας, ἕποιο φεύγουσι· τώυτὸ γὰρ ἀντιθήσω ἐκείνῷ, ὅτι νικήσας τοὺς ἀντιουμένους ἐλῷς ἰθὺ τῆς ἀρχῆς τῆς Τομύριος. Χωρίς τε τοῦ ἀπηγημένου, αἰσχρὸν καὶ οὐκ ἀνασχετὸν, Κῦρόν γε τὸν Καμβύσεω γυναικὶ εἰξαντα ὑποχωρῆσαι τῆς χώρης. Νῦν ῶν μοι δοκέει, διαβάντας προελθεῖν οσον ἂν ἐκείνοι διεξίωσι· ἐνθεῦτεν δὲ τάδε ποιεῦντας, πειρᾶσθαι ἐκείνων περιγενέσθαι.

(D) τοῦτο μὲν αὐτῷ κακὸν ἕν κῷθ ἕτερον νυκτερινὸν γένοιτο. ἡπιαλῶν γὰρ οἴκαδ ἐξ ἱππασίας βαδίζων, εἶτα κατάξειέ τις αὐτοῦ μεθύων τῆς κεφαλῆς ᾿Ορέστης μαινόμενος ὁ δὲ λίθον λαβεῖν βουλόμενος ἐν σκότῷ λάβοι, ἐπάξειεν δ' ἔχων τὸν μάρμαρον, κἄπειθ' ἁμαρτὼν βάλοι Κρατῖνον.

#### ΘΕΡΑΠΩΝ.

ώ δμώες οι κατ' οίκόν έστε Λαμάχου, ΰδωρ ὕδωρ ἐν χυτριδίω θερμαίνετε όθόνια, κηρωτήν παρασκευάζετε, έρι' οίσυπηρά, λαμπάδιον περί το σφυρόν. άνηρ τέτρωται χάρακι διαπηδών τάφρον. καί τὸ σφυρὸν παλίνορον έξεκόκκισε, καί της κεφαλης κατέαγε περί λίθον πεσών, καί Γοργόν' έξηγειρεν έκ της ασπίδος. πτίλον δὲ τὸ μέγα κομπολακύθου πεσὸν πρός ταις πέτραισι δεινόν έξηύδα μέλος. ώ κλεινόν όμμα, νύν πανύστατόν σ' ίδων. λείπω φάος γε τουμον, ουκέτ' είμ' έγώ. τοσαύτα λέξας είς ύδρορρόαν πεσών ἀνίσταταί τε καὶ ξυναντῷ δραπέταις ληστὰς ἐλαύνων καὶ κατασπέρχων δορί. όδι δε καυτός άλλ' άνοιγε την θύραν.

2. Translate and explain-

(a) 'Αλλὰ μὴν ὑπέρ γε τοῦ προϊκα ἢ μὴ.

(b) έβόων, έξέκρουόν με, τελευτώντες έχλεύαζον.

(c) ώσθ' ύμας έκπεπληγμένους τη παρουσία του φιλίππου πραοτέρους γενέσθαι τινός.

(d) oùdè  $\gamma \rho \overline{v}$ .

- (e) τη τετράδι φθίνοντος.
- (f) τίς ούν ή ταύτης περιουσία τών φόβων ἀφηρημένων καὶ τών κινδύνων τών τοῦ βουληθέντος ἂν αὐτην ἀδικήσαι.
- (g) καίτοι δύο χρησιμωτέρους τόπους τῆς οἰκουμένης οὐδ' ἂν εἶς ἐπιδείξαι τῷ πόλει, κατὰ μὲν γῆν Πυλῶν, ἐκ θαλάττης δὲ τοῦ Ἑλλησπόντου, ἃ συναμφότερα οὖτοι πεπράκασι.
- (h) καί τι και νεανιευσαμένου τοιούτον.
- (i) τους χρήματ' είληφότας και δώρα ἀφείσαν και νοῦν ἔχειν ήγοῦντο και τὴν πόλιν εὐθενείσθαι.
- (j) έστι τη με νικάς.
- (k) αύθαίρετον αύτοις επάγονται δουλείαν, Φιλίππου ξενίαν ύποκοριζόμενοι.

- (1) καθαρθείς τον φόνον.
- (m) τὸ πολλὸν ἡγέαται ἰσχυρὸν εἶναι.
- 3. Give the Attic forms for τρώματα, προστιθείσι, ἀπολαμπρύνεαι. σφεα, τεθνεός, ἀμβώσας, κατεστράφατο, ῶν; and the forms which in Herodotus the following assume :—ἑαυτόν, ἐπολιορκείτο, ναυπηγίαν, πρᾶγμα, ὑπόθεν, πόλεις (acc.), ἀφικνείται.
- 4. Derive the following words :-συνεπελάφρυνον, έδωλίοισι, κραταιρίνοιο, ποδαβρέ, εὐηθέστατον, ἐναγέων, συνηλίζουτο, μετεξέτεροι, ἰσοπαλέων, εὐεστοῖ, μεταγνόντα, ἐγκώμιον, παροινία, κεκραξιδάμας.
- 5. Where and what are the following :--Mæander, Kúpvoç, Rhegium, Caucasus, Orchomenos, Coronæa, Phocis?

6. Who were the following :- Achæmenidæ, Massagetæ, Amphictyones?

7. Sketch out roughly the plot of "The Acharnians."

# Α.

# Careek.—II.

#### Three hours.

#### DR. BROMBY, Examiner.

1. Translate into Greek-

Never was a field so well prepared for the reception of such a crew. On the one hand a rising generation, full of genius, passion, and imagination—in their infancy brought up in a harem amidst women with no pretensions to the dignity of wives or mothers—in their boyhood managed by slaves, and left destitute of any instruction but a little music, a little grammar, and the exercises of the gymnasium—and in their youth let loose into the forum to listen to the profligate lessons of the demagogues of the day, and to have all truth and conscience obliterated from their minds amidst the whirl of a daily revolution. Living, as we do at this day, with security for the permanence of moral principles in the permanence of the Church, and amidst at least the forms of old established laws, we can scarcely realise to ourselves the frightful vortex of things and opinions, which involved the young men of Athens.—SEWELL.

- 2. Give some account of the lives of Solon, Lycurgus, Agesilaus, and Philopæmen.
- 3. What was the title borne by the generalissimo of Thessaly? Who was the most remarkable man who bore this title? Sketch his history.
- 4. Draw a map of Greece, and mark on it the positions of Thebes, Megara, Ægina, Pylos, Malea, Sunium, Messene, Drepanum, Argos, Tænarum, Sicyon, Tegea.
- 5. Give the future, perfects, active, and passive when in use, and aorist, practically used by the Attics for the following verbs :--δράω, ἔρχομαι, ἄγω, (ἁλίσκω,) τίθημι, ἀποκτεῖνω, ἁμαρτάνω, ὀσφραίνομαι, σβέννυμι, τρέχω, χέω, φαίνω.
- 6. Give examples of other parts of speech which are dependent upon different roots for their completion.
- 7. Put into Greek—
  - (a) Unless the physician had come, he would have died.
  - (b) If you were to rise early, you would be in good health.
  - (c) If you had gone to Corinth the year before last, you would now be rich.
  - (d) If men possessed wings, armies would fight in the air, marshalled three feet deep in globular array.
  - (e) If you find the silver drachma you have lost, give half of it to the poor.
  - (f) See that some one bury the body of this dead man.
  - (g) He is gone off, after having bound his captive with strong chains.
  - (h) I enquired whether Aristarchus were still living at Corinth.
  - (i). He asked me, of-what-country were these strange animals.
  - (k) O basest of men, thou camest hither to excite the people to revolt.
  - (1) Having studied music scientifically, he understood the gamut perfectly.
  - (m) Lawgivers would act wisely, if, instead of tampering with the constitution, they would be content to let well alone.

# A.

## Mathematics.---III.

#### Four hours.

## H. C. KINGSMILL, M.A., Examiner.

- TRIGONOMETRY AND ANALYTICAL GEOMETRY.

(1) Sin  $x + \sin 2x + \sin 3x = \cos x + \cos 2x + \cos 3x$ .

- (2)  $\begin{cases} 1 = 2 \sin A \sin B + 3 \cos^2 B, \\ 9 = 6 \sin A \sin B + 8 \cos^2 A. \end{cases}$
- 2. Prove that  $\tan 2A \tan 3A \tan 5A = \tan 5A \tan 3A \tan 2A$ .
- 3. Show how to solve a triangle when two sides and the included angle are given. Given  $A = 63^{\circ}$ , B = 7 ft., C = 5 ft., find the number of degrees, minutes, and seconds in the angles B and C.
- 4. Prove that the area of a triangle equals  $\frac{\sin A}{2\cos^2 A}$  (c a cos B) (b a cos C).
- 5. Prove that the area of a quadrilateral in a circle whose sides are a, b, c, d is  $\sqrt{(s-a)(s-b)(s-c)(s-d)}$ , s being  $\frac{a+b+c+d}{2}$ .

6. Show that the series  $\sin \theta = \theta - \frac{\theta^3}{13} + \frac{\theta^5}{15}$ , &c. is always convergent.

- 7. Sum to *n* terms the series  $\sin a + \sin \left(a + \frac{2\pi}{n}\right) + \sin \left(a + \frac{4\pi}{n}\right) + \&c$ .
- 8. Find the equations of the bisectors of the angles between the lines 3x + 4y 9 = 0, 12x + 5y 3 = 0. Show which of them bisects the angle containing the origin.
- 9. Determine the condition that the general equation of the second degree should represent a pair of straight lines at right angles.
- 10. Obtain the polar equation of the ellipse, the focus being the pole. Prove that the harmonic mean between the segments of a focal chord is constant.
- 11. In the ellipse  $\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1$ , find the equation of the tangent parallel to the line  $\frac{y}{x} = \frac{b}{a} \tan \phi$ .
- 12. Find the parameter of the parabola  $\frac{x^2}{a^2} \frac{2xy}{ab} + \frac{y^2}{b^2} \frac{2x}{a} \frac{2y}{b} + 1 = 0$ , the axes being rectangular.
- 13. In the hyperbola  $\frac{x^2}{a^2} \frac{y^2}{b^2} = 1$ , find the length of the perpendicular from a focus on an asymptote.
- 14. Find the locus of a point such that the tangents drawn from it to two given circles are in a given ratio.

# A.

#### Hathematics.-IV.

## Three hours.

H. C. KINGSMILL, M.A., Examiner.

#### NATURAL PHILOSOPHY.

- 1. Assuming the parallelogram of forces true for the direction of the resultant, prove it true for the magnitude.
- 2. If two forces meet at a point, prove that the algebraic sum of their moments about a given point

equals the moment of the resultant about the same point. A roof, of weight W, is composed wholly of beams forming isosceles triangles, whose sides make an angle  $\phi$  with the horizon. Find the horizontal thrust on each wall.

5. Prove that every system of heavy particles has one, and only one, centre of gravity.

A flat board, which has the shape of a regular hexagon, each of whose sides is in length eight 18 lbs. Weights of 7, 11, 15, 19, 23, and 27 lbs. are suspended from the six a, weight 18 lbs. corners in order. Show that the board will balance about a point situated in one of the lines joining two opposite corners at a distance  $\frac{a}{5}$  from the centre.

- 4. Find the ratio of P to W on the system of pullies in which each string is attached to the weight, the pullies not being supposed weightless.
  - If the pullies be 8 in number, and each weigh 1 lb., show that no power is required to sustain a weight of 247 lbs.
- 5. Find the condition of equilibrium in the case of a smooth screw. If the pitch be 30°, the radius of the cylinder 9 inches, and the arm 4 feet, what power will overcome a resistance of 15 cwt. ?
- 6. Define Uniform Velocity, and state how it is measured.

If two bodies approach each other in a straight line, what must be the ratio of their velocities that their centre of gravity may remain at rest?

7. Prove the formula  $s = \frac{ft^2}{2}$ . If gravity is represented by 14 instead of 32.2 when the unit of time is 5 seconds, what is the unit of space?

- · 8. A and B are the highest and lowest points of a vertical circle. From any point P in the circumference a tangent PT is drawn to meet a horizontal straight line through B in T. Show that a particle will run down PT in a time which varies inversely as AP.
  - 9. Show how to find the pressure at any point of a heavy inelastic fluid. If a rectangular dock gate be 30 feet deep and 11 feet broad, how many tons pressure is there upon it when the dock is full? N.B.-A cubic foot of water weighs 1000 ozs.
- 10. Define Specific Gravity, and find a formula for that of a mixture of given volumes of given substances. A body whose specific gravity is  $\rho$  floats half immersed in a fluid, but is three-fourths immersed in a mixture of equal volumes of that fluid and water. Find  $\rho$ , neglecting atmospheric pressure.
- 11. A barometer has an unusually long tube. It stands at the sea level at 30 inches; a water barometer marking at the same time 34 feet. A diver takes it down with him into the sea, and by an electric light notices its height to be h inches at a certain depth. At three times that depth he finds its height 2h inches. Find the depth if the S.G. of the sea water is 1.02. times that in the water barometer.

# B.

## Mathematics.—IV.

#### Four hours.

## H. C. KINGSMILL, M.A., Examiner.

## GENERAL PROBLEMS.

- 1. A parallelogram is totally immersed in water in any position. Prove that the sum of the pressures at the extremities of one diagonal is equal to the sum of those at the extremities of the other diagonal.
- 2. In a triangle ABC a circle is inscribed touching the sides a, b, c at the points X, Y, Z. Prove that the lines AX, BY, CZ meet in a point.
- 3. ABCD is a square, the letters being taken in order round the square. Outside the square any line is drawn. AP, BQ, CR, DS are perpendiculars on it. Prove that the area of the square equals square on AP + square on CR - 2 rect. BQ. DS.
- 4. Find the locus of a point such that the tangent drawn from it to a given circle equals its distance from a given point.
- 5. ABC is a triangle, D, E, F the middle points of BC, CA, AB respectively. Prove that the forces represented by AD, BE, CF maintain equilibrium.
- 6. A certain sum of money put out to interest amounts in 8 months to £297 12s., and in 15 months its amount is £306 at simple interest. Find the sum and the rate per cent.
- 7. Assuming De Moivre's theorem, prove that if k be written for  $\cos 1 + \sqrt{-1} \sin 1$ , then  $2\cos\theta = k^{\theta} + k^{-\theta}$ , and  $2\sqrt{-1}\sin\theta = k^{\theta} - k^{-\theta}$ .
- 8. If r be the radius of a circle inscribed in the triangle ABC, and  $r_1$ ,  $r_2$ ,  $r_3$  the radii of the escribed circles, prove that the area of the triangle equals  $\sqrt{rr_1 r_2 r_3}$ .
- 9. A billiard ball is driven from the side of a billiard table, strikes the opposite side, and returns to the first side. If the coefficient of elasticity be e, find the ratio of the times of going and returning.
- 10. Solve the equations  $x^{\frac{3}{2}} + y^{\frac{2}{3}} = 3x$ .  $x^{\frac{1}{2}} + y^{\frac{1}{3}} = x.$

- 11. A rectangular mass of cast iron rests upon an inclined plane of oak, and is upon the point of slipping down it, and also upon the point of overturning. Its base is two feet square. What is its height, being given the coefficient of friction of iron on oak = .62?
- 12. From a point O tangents OA and OB are drawn to any conic section, OPQ is any line meeting the conic in P, Q and AB in R. Prove that  $\frac{1}{OP} + \frac{1}{OQ} = \frac{2}{OR}$ .

## В.

#### Classics.-I.

Four hours.

#### DR. BROMBY, Examiner.

#### 1. Translate—

(a) Dum longiùs ab munitione aberant Galli, plus multitudine telorum proficiebant; posteaquam propiùs successerunt, aut se ipsi stimulis inopinantes induebant, aut in scrobes delapsi transfodiebantur, aut ex vallo ac turribus transjecti pilis muralibus interibant. Multis undique vulneribus acceptis, nullà munitione perruptà, quum lux appeteret, veriti, ne ab latere aperto ex superioribus castris eruptione circumvenirentur, se ad suos receperant. At interiores, dum ea, quæ a Vercingetorige ad eruptionem præparata erant, proferunt, priores fossas explent; diutius in is rebus administrandis morati, priùs suos discessisse cognoverunt, quàm munitionibus appropringuarent. Ita, re infectà, in oppidum reverterunt.

quàm munitionibus appropinquarent. Ita, re infectâ, in oppidum reverterunt. Bis magno cum detrimento repulsi Galli, quid agant, consulunt; locorum peritos adhibent: ab his superiorum castrorum situs munitionesque cognoscunt. Erat a Septemtrionibus collis, quem, propter magnitudinem circuitûs, opere circumplecti non potuerant nostri, necessariòque pæne iniquo loco et leniter declivi castra fecerant.

(b) Pluribus recito, ac si quid mihi credis, tunc acerrime emendo. Nam tanto diligentius, quanto solicitius intendo. Optime autem reverentia, pudor, metus judicant. Idque adeo sic habe. Nonne si locuturus es cum aliquo quamlibet docto uno, tamen minus commovereris, quam și cum multis vel indoctis? Nonne cum surgis ad agendum, tum maxime tibi ipse diffidis? tum commutata, non dico plurima, sed omnia cupis? utique si latior scena, et corona diffusior. Nam illos quoque sordidos pullatosque reveremur. Nonne si prima quæque improbari putes, debilitaris et concidis? Opinor, quia in numero ipso est quoddam magnum collatumque consilium, quibusque singulis judicii parum, omnibus plurimum. Itaque Pomponius Secundus, hic scriptor tragocdiarum, si quid forte familiarior amicus tollendum, ipse retinendum arbitraretur, dicere solebat, "Ad Populum Provoco": atque ita ex populi vel silentio, vel assensu, aut suam, aut amici sententiam sequebatur. Tantum ille populo dabat. Recte, an secus, nibil ad me. Ego enim non populum advocare, sed certos, electosque soleo, quos intuear, quibus credam, quos denique, et tanquam singulos observem, et tanquam non singulos timeam. Nam quod M. Cicero de stilo, ego de metu sentio. Timor est emendator acerrimus.

) Quanta tibi dederint nostri monumenta libelli,

O mihi me conjux charior, ipsa vides.

Detrahat auctori multum Fortuna licebit;

Tu tamen ingenio clara ferere meo.

Dumque legar, mecum pariter tua fama legetur : Nec potes in mœstos omnis abire rogos.

Cumque viri casu possis miseranda videri,

Invenias aliquas, quæ quod es, esse velint : Non ego divitias dando tibi plura dedissem ;

Nil feret ad manes divitis umbra suos.

Perpetui fructum donavi nominis; idque Quo dare nil potui munere majus, habes. Adde quod, ut rerum sola es tutela mearum,

Ad te non parvi venit honoris onus.

Quod nunquam vox est de te mea muta, tuique Judiciis debes esse superba viri.

Quæ ne quis-possit temeraria dicere, persta :

Et pariter serva meque piamque fidem. Nam tua, dum stetimus, turpi sine crimine mansit,

Et famæ probitas irreprehensa fuit.

Esse bonam facile est, ubi, quod vetet esse, remotum; Et nihil officio nupta quod obstet habet.

Dum Deus intonuit, non se subducere nimbo,

Id demum pietas, id socialis amor.

(d)

Adverso nituerunt vela profundo: Lemnia classis erat. Rapuit gavisa Polyxo Fortunam atque iterat : "Superisne vocantibus ultro Desumus? Ecce rates! Deus has, Deus ultor in iras Apportat, cæptisque favet : nec imago quietis Vana meæ : nudo stabat Venus ense, videri Clara mihi, somnosque super--- Quid perditis ævum? (Inquit) Age aversis thalamos purgate maritis. Ipsa faces alias, melioraque fœdera jungam.' Dixit : et hoc ferrum stratis, hoc (credite) ferrum Quin, O miseræ ! dum tempus agit rem, Imposuit. En validis spumant eversa lacertis Consulite. Bistonides veniunt fortasse maritæ.' Æquora. Hic stimuli ingentes, magnusque advolvitur astris Clamor. Amazonio Scythiam fervere tumultu, Lunatumque putes agmen descendere, ubi arma Indulget pater, et sævi movet ostia belli, Nec varius fremor, aut studia in contraria rapti Dissensus, ut plebe solet; furor omnibus idem, Idem animus solare domos, juvenumque senumque Præcipitare colos, plenisque aufrangere parvos Uberibus, ferroque omnes exire per annos.

# В.

# Mathematics.—II.

Three hours.

H. C. KINGSMILL, M.A., Examiner.

#### SPHERICAL TRIGONOMETRY.

1. Two spherical triangles ABC, A'B'C' are such that  $A + a' = B + b' = C + c' = \pi$ . Prove that  $A' + a = B' + b = C' + c = \pi$ .

2. In a spherical triangle, prove  $\frac{\sin A}{\sin B} = \frac{\sin a}{\sin b}$ .

- 3. A ship sails in a great circle from A to B. She starts from A in a direction N. 49° E., and her course on arriving at B is S. 70° E. The distance sailed is 3000 miles. Find the latitudes of A and B, supposing the earth to be a sphere whose diameter is 8000 miles.
- 4. In a spherical triangle if A = 2B, prove  $2 \sin^2 b (\cos b \cos c \cos a)^2 = \sin b \sin c \sin^2 a (\cos a \cos b \cos c) + \sin^2 a \sin^2 b \sin^2 c$ .

5. In a spherical triangle, prove  $\tan \frac{1}{2}a - b = \frac{\sin \frac{1}{2}A - B}{\sin \frac{1}{2}A + B} \tan \frac{1}{2}c$ .

- 6. In a spherical triangle,  $A = 1^{\circ} 7'$ ,  $b = 37^{\circ} 48'$ ,  $c = 38^{\circ} 15'$ . Find a.
- 7. If in a spherical triangle  $b + c = \frac{\pi}{2}$ , prove  $\cos a = \sin 2c \cos^2 \frac{A}{2}$ , and that  $(\cos c + \sin c) \sin A = 2 \cos^2 \frac{1}{2}a \sin \overline{B + C}$ .

8. Prove that the area of a spherical triangle may be deduced from its spherical excess.

## В.

# Classics.—III.

# Three hours.

# DR. BROMBY, Examiner.

1. "The Romans enriched their vocabulary by the adoption of many legal words and phrases. Illustrate this statement by any terms you remember, especially by all the compounds of *rogo*.

2. What was a consul suffectus? Describe generally how the consuls were elected.

3. Describe a gladiatorial fight.

- 4. What was the difference between a prætorian and proconsular province? between ærarium and fiscus?
- 5. Frame sentences to illustrate the differences between vel and aut and sive; sed and at and autem; sumere and capero; coram and pro; dives and locuples.
- 6. Sketch a history of Greek Tragedy and Comedy, down to the time of Menander.

- 7. Give some account of the constitution of the Roman army.
- 8. Describe the constitution of the Athenian Senate, and the method of its meetings.
- 9. Enunciate the rule for government by attraction in Greek. Does this principle obtain in any Latin constructions?
- 10. When must the perfect subjunctive, and when the imperfect, be employed in Latin? Illustrate by examples.
- 11. What is the difference between annals and histories? What are the periods which the annals and histories of Tacitus severally embrace? In what respect does Suetonius chiefly differ from Tacitus?
- 12. What difference was there between the punishments of exilium, relegatio, and deportatio?
- 13. Draw out a scheme for Trochaic verse in use with Attic dramatists.
- 14. What is the meaning of the commercial terms—collybus and cerarium?
- 15. How would the Romans express—(a) He invested 6000 sesterces at 8 per cent. per annum ?(b) He paid me nine million sesterces. Give the value of each sum in English money.

# В.

# Mathematics.—III.

Four hours.

H. C. KINGSMILL, M.A., Examiner.

DIFFERENTIAL AND INTEGRAL CALCULUS.

1. Differentiate-

(1) 
$$y = \frac{(x-1)^{\frac{5}{2}}}{(x-2)^{\frac{3}{4}}(x-3)^{\frac{7}{3}}}$$
  
(2)  $y = \cos^{-1}\frac{b+a\cos x}{a+b\cos x}$   
(3)  $y = \frac{\sqrt{(1+x)} + \sqrt{(1-x)}}{\sqrt{(1+x)} - \sqrt{(1-x)}}$   
of  $\frac{x-\sqrt{2x^2-a^2}}{\sqrt{x^2-a^2}}$  when  $x = a$ .

2. Find the value of  $\frac{x - \sqrt{2x^2 - a^2}}{2x - \sqrt{5x^2 - a^2}}$  when x = a. 3. In the equation y = f(x), show under what circumstances  $\frac{dy}{dx} = 0$  det

3. In the equation y = f(x), show under what circumstances  $\frac{dy}{dx} = 0$  determines (1) a maximum value of y, (2) a minimum, (3) neither a maximum nor a minimum.

Given the sides a, b, c, d of a quadrilateral, show that it is a maximum if it can be inscribed in a circle.

4. Show that the equation of the tangent to a curve  $\phi(xy) = 0$  at the point  $\xi$ ,  $\eta$  on the curve is  $(\eta - y)\left(\frac{d\phi}{d\phi}\right) + (\xi - x)\left(\frac{d\phi}{d\phi}\right) = 0.$ 

$$\begin{array}{l} \eta - y \end{pmatrix} \left( \frac{-r}{dy} \right) + (\xi - x) \left( \frac{-r}{dx} \right) = 0. \\ \text{Find the equations of tenesults to the equations of tenesults} \end{array}$$

Find the equations of tangents to the curve  $y = x^4 - 5x^2 + 4$ , at the points (1,0), (-1, 0), (2, 0), and (-2, 0).

- 5. Obtain an expression for the radius of curvature in the locus f(x, y) = 0. Find the radius of curvature of the hyperbola xy = 1 at the origin.
- 6. Integrate the following expressions-

(a) 
$$\int \frac{6x^2 + 13x - 43}{x^3 - 13x - 12} dx.$$
 (b)  $\int \frac{dx}{x\sqrt{x^2 - 1}}.$   
(c)  $\int \frac{dx}{\sqrt{2ax + x^2}}.$  (d)  $\int \sin^4 x \, dx.$ 

7. Find the value of-

(a) 
$$\int_0^a \frac{dx}{1+x^2}$$
 (b)  $\int_0^{\pi} \cos^2 x \, dx$ .

8. Obtain a formula in which the length of a curve is represented as an integral.

In the parabola  $y^2 = 4ax$ , find the length of the arc cut off by the latus rectum.

- 9. Find by integration the area of the surface of a sphere.
- 10. Trace the curve whose polar equation is  $r = a \sin 2\theta$ .

# **B**.

## Classics.—II.

#### Four hours.

#### DR. BROMBY, Examiner.

# 1. Translate—

Ό μεν Έρμοκράτης τοσαυτα είπε. Των δε Συρακουσίων ό δημος εν πολλη πρός ἀλλήλους εριδι ήσαν, οι μεν, ως οὐδενι ἂν τρόπω ελθοιεν οι Αθηναιοι, οὐδ' ἀληθη ἐστιν ἂ λέγει τοις δε, εἰ και ελθοιεν, τί ἂν δράσειαν αὐτοὺς, ὁ, τι οὐκ ἂν μείζον ἀντιπάθοιεν; ἄλλοι δε και πάνυ καταφρονοῦντες ἐς γέλωτα ἔτρεπον τὸ πρᾶγμα ἀλίγον δ' ἦν τὸ πιστεῦον τῷ Έρμοκράτει, και φοβούμενον τὸ μέλλον. Παρελθών δ' αὐτοις ᾿Αθηναγόρας, ὡς δήμου τε προστάτης ην, και ἐν τῷ παρόντι πιθανώτατος τοις πολλοις ἐλεγε τοιάδε.

Τούς μέν 'Αθηναίους ὅστις μη βούλεται, οὕτω κακῶς φρονησαι, καὶ ὑποχειρίους ἡμῖν γενέσθαι ἐνθάδε ἐλθόντας, ἢ δειλός ἐστιν, ἢ τῆ πόλει οὐκ εὕνους· τοὺς δ' ἀγγέλλοντας τὰ τοιαῦτα, καὶ περιφόβους ὑμᾶς ποιοῦντας, τῆς μὲν τόλμης οὐ θαυμάζω, τῆς δὲ ἀζυνεσίας, εἰ μὴ οἰονται ἔνδηλοι είναι. Οἰ γὰρ δεδιότες ἰδία τὶ, βούλονται τὴν πόλιν ἐς ἕκπληξιν καθιστάναι, ὅπως τῷ κοινῷ φόβῳ τὸ σφέτερον ἐπηλυγάζωνται. Καὶ νῦν αῦται αὶ ἀγγελίαι τοῦτο, δύνανται, οὐκ ἀπὸ ταὐτομάτου, ἐκ δὲ ἀνδρῶν, οἵπερ ἄει τάδε κινοῦσι, ξύγκεινται. Ύμεῖς δὲ, ἢν εῦ βουλεύησθε, οὐκ ἐξ ῶν οῦτοι ἀγγέλλουσι σκοποῦντες λογιεῖσθε τὰ εἰκότα, ἀλλ' ἐξ ῶν ἂν ἀνθρωποι δεινοὶ καὶ πολλῶν ἔμπειροι (ὥσπερ ἐγὼ 'Αθηναίους ἀζῶ) δράσειαν.—THUCYDIDES.

#### 2. Translate—

Ο Δημοσθένης λέγεται τοῖς τῶν Ἑλλήνων ὅπλοις ἐκτεθαρρηκὼς, καὶ λαμπρῶς ὑπὲρ ρώμης καὶ προθυμίας ἀνδρῶν τοσούτων προκαλουμένων τοὺς πολεμίους αἰρομένους, οὖτε χρησμοῖς ἐϥ̄ν προσχεῖν, οὖτε μαντείας ἀκούειν· ἀλλὰ καὶ τὴν Πυθίαν ὑπερνοεῖν ὡς φιλιππίζουσαν, ἀναμμνήσκων Επαμινώνδου τοὺς Θηβαίους, καὶ Περικλεους τοὺς Αθηναίους, ὡς ἐκεῖνοι τὰ τοιαῦτα δειλίας ἡγούμενοι προφάσεις, ἐχρῶντο τοῖς λογισμοῖς. Μέχρι μὲν οὖν τοὐτων ἀνὴρ ῆν ἀγαθός· ἐν δὲ τῆ μάχῃ κἀλὸν οὐδὲν οὐδ' ὁμολογούμενον ἐργον οἶς εἶπεν ἀποδειξάμενος, ὥχετο τὴν τάξιν ἀποδρὰς αἰσχιστα, καὶ τὰ ὅπλα ρίψας, οὐδὲ τὴν ἐπιγραφὴν τῆς ἀσπίδος αἰσχυνθεὶς, ἐπιγεγραμμένης γράμμασι χρυσοῖς, Αγαθῆ Τύχῃ. Παραυτίκα μὲν οὖν ὁ Φίλιππος ἐπὶ τῷ νίκῃ διὰ τὴν χαρὰν ἐξυβρίσας, καὶ κωμάσας ἐπὶ τοὺς νεκροὺς μεθύων, ἦδε τὴν ἀρχὴν τοῦ Δημοσθένους ψηφίσματος πρὸς πόδα διαιρῶν καὶ ὑποκρούων,

Δημοσθένης Δημοσθένους Παιανιεύς ταδ' είπεν.

Εκνήψας δὲ καὶ τὸ μέγεθος τοῦ περιστάντος αὐτὸν ἀγωνος ἐν νῷ λαβὼν ἔφριττε τὴν δεινότητα καὶ τὴν δύναμιν τοῦ ρήτορος ἐν μέρει μικρῷ μιᾶς ἡμερας τὸν ὑπὲρ τῆς ἡγεμονίας καὶ τοῦ σώματος ἀναρρίψαι κίνδυνον ἀναγκασθεὶς ὑπ' ἀὐτοῦ. Διῖκτο δὲ ἡ δόξα μέχρι τοῦ Περσῶν βασιλέως, κἀκεῖνος ἔπεμψε τοῖς σατράπαις γράμματα, χρήματα Δημοσθένει διδόναι κελεύων, καὶ προσέχειν ἐκείνῳ μάλιστα τῶν Ελλήνων, ὡς περισπάσαι δυναμένῳ, καὶ κατάσχειν ταῖς Ελληνικαῖς ταραχαῖς τὸν Μακεδόνα.—Plutarch.

#### 3. Translate---

Στας δ' έν μέσω Ταλθύβιος, ω τόδ' ην μέλον, ευφημίαν άνείπε και σίγην στρατώ Κάλχας δ' ό μάντις ές κανούν χρυσήλατον έθηκεν όξυ χειρι φάσγανον σπάσας κολεών έσωθεν, κράτα δ' έστεψεν κόρης. ό παῖς δ' ό Πηλέως ἐν κύκλψ βωμόν θεᾶς λαβών κανοῦν ἔθρεξε χέρνιβάς θ' ὑμοῦ. έλεξε δ', ώ Διός Αρτεμις Θηροκτόνε, τὸ λαμπρον είλισσουσ' ἐν εὐφρόνη φάος, δέξαι τὸ θῦμα τόδ', ὑ γέ σοι δωρούμεθα στρατός τ' 'Αχαιών Αγαμέμνων άναξ θ' όμοῦ άχραντον αίμα καλλιπαρθένου δέρης, και δός γενέσθαι πλούν νεών απήμονα, Τροίας τε Πέργαμ' έξελειν ήμας δορί. ές γην δ' Ατρείδαι, πας στρατός τ' έστη βλέπων. ίερευς δὲ φάσγανον λαβών ἐπεύξατο, λαιμόν τ' ἐπεσκοπείθ', ΐνα πλήξειεν ἄν.

- EURIPIDES.

4. Translate—

# Θύρσις :

'Αδύ τι τὸ ψιθύρισμα καὶ ἁ πίτυς, Αἰπόλε, τήνα, 'Α ποτὶ ταῖς πηγαῖσι μελίσδεται' ἀδὺ δὲ καὶ τὺ Συρίσδες· μετὰ Πᾶνα τὸ δεύτερον ἇθλον ἀποισῷ. Αἴκα δ' αἶγα λάβῃ τῆνος γέρας, ἐς τὲ καταρεῖ 'Α χίμαρος· χιμάρω δὲ καλὸν κρέας, ἔστε κ' ἀμέλξῃς.

#### Αἴπολος :

<sup>6</sup> Αδιον ὦ ποιμάν, τὸ τεὸν μέλος, ἠ τὸ καταχὲς
Τῆν' ἀπὸ τᾶς πέτρας καταλείβεται ὑψόθεν ὕδωρ
Αἴκα ταὶ Μῶσαι τὰν ὀ¹ιδα δῶρον ἄγωνται
<sup>8</sup> Αρνα τὸ σακίταν λαψῷ γέρας al δὲ κ' ἀρέσκῃ
Τήναις ἄρνα λαβεῖν, τὸ δὲ τὰν οἴν ὕστερον ἄξεις.

- THEOCRITUS.

# B.

## Mathematics.—I.

Three hours.

#### H. C. KINGSMILL, M.A., Examiner.

#### THEORY OF EQUATIONS.

1. If a be a root of f(x) = 0, prove that f(x) is divisible by x - a.

2. Apply Cardan's rule to solve the equation  $x^3 + qx + r = 0$ . If the roots are all real, show that the assumptions made in this method are inconsistent.

3. Investigate a method of ascertaining if an equation has two equal roots.

4. An equation otherwise complete wants n consecutive terms. Show that it has n impossible roots. 5. Solve the equations—

- (1)  $x^4 + 4x^3 10x^2 + 4x + 1 = 0.$
- (2)  $x^4 2x^3 7x^2 + 26x 20 = 0.$
- (3)  $x^4 + 4x^3 2x^2 12x + 8 = 0.$
- (4)  $x^3 + 3x = a^3 \frac{1}{a^3}$ .

N.B.—(2) and (3) have two roots in common.

6. If the roots of the equation  $x^3 + px^2 + qx + r = 0$  are in G.P., prove  $rp^3 = q^3$ .

7. Resolve  $x^8 + 1$  into quadratic factors.

8. Show that the equation  $3x^4 + 8x^3 - 6x^2 - 24x + 20 = 0$  has no real roots.

# **B**.

## Classics.—IV.

#### Three hours.

#### DR. BROMBY, Examiner.

1. Turn into Latin hexameters-

Tired nature's sweet restorer, balmy sleep— He, like the world, his ready visit pays Where fortune smiles; the wretched he forsakes, Swift on his downy pinion flies from woe, And lights on lids unsullied with a tear.

2. Turn into Latin elegiacs, or lyrics-

- Once more, once more, Inarimé,
- I see thy purple hills : once more
- I hear the billows of the bay

Wash the white pebbles on thy shore.

High o'er the sea-surge and the sands, Like a great galleon wrecked and cast Ashore by storms, thy castle stands, A mouldering landmark of the Past.

Upon its terrace-walk I see

A phantom gliding to and fro; It is Colonna,—it is she Who lived and loved so long ago.

# 3. Turn into Greek Iambics-

Romeo.

# I know not, sir.

Servant. Rom.

O, she doth teach the torches to burn bright ! ther beauty hangs upon the cheek of night Like a rich jewel in an Æthiop's ear : Beauty too rich for use, for earth too dear ! So shows a snowy dove trooping with crows, As yonder lady o'er her fellows shows. The measure done, I'll watch her place of stand, And touching hers, make happy my rude hand.

What lady's that, which doth enrich the hand Of yonder Knight?

Hobart, 22nd October, 1883.

## EXAMINATION FOR TASMANIAN SCHOLARSHIPS, 1884.

HE Council of Education have directed the publication of the following Regulations and Scheme of Examination for the Thermonics Scheme directed the following Regulations and Scheme of Examination for the Tasmanian Scholarships for the year 1884.

By Order of the Council,

GEORGE RICHARDSON, Secretary.

#### **REGULATIONS FOR THE TASMANIAN SCHOLARSHIPS.**

Every Candidate for a Scholarship must, by the provisions of the Act, be above the age of sixteen and under the age of twenty years. He must also have been resident in the Colony for the period of five years next before the time of his examination, and have taken the Degree of Associate of Arts.

The first day of September in each year is fixed and appointed as the date upon which the ages of Candidates for the Tasmanian Scholarships shall in each year be ascertained and computed.

Every youth desiring to become a Candidate for any such Scholarship shall send in his name to the Council at least one week before the first day of the Examination at which he desires to compete for such Scholarship, and shall furnish proof satisfactory to the Council that he is qualified according to the Act to become a Candidate, otherwise he shall not be allowed to compete at such Examination.

By the 14th Section of the Act, the examination for Tasmanian Scholarships must comprise the following subjects :-

1. Classics-Translations from Greek and Latin authors into English, Greek and Latin Composition, Classics—Translations from Greek and Latin authors into Linguist, etc., Ancient History, Philology.
 Mathematics—Arithmetic, Algebra, Euclid, Plane Trigonometry.
 Natural Philosophy—Elementary Statics, Dynamics, and Hydrostatics.
 Modern History—The History of England.
 The momentary static Language, and French or Greek

5. The grammatical structure of the English Language, and French or German, at the option of the Candidate.

Every Scholar shall forward to the Secretary of the Council a certificate from the proper authority testifying to his having become a Member of some University of the United Kingdom; and until such certificate be received by the Secretary to the Council, or by their accredited Agent in Great Britain, the Council will not authorise the payment of any portion of the annual value of the Scholarship: provided always, that this condition shall not apply in any case where it has been proved to the satisfaction of the Council that the Scholar has been prevented by sickness or other sufficient cause from entering himself on the books of a University.

The Council will order to be paid by the Secretary, or an accredited agent in Great Britain, quar-terly, to the said Scholar, the amount of his Scholarship for the quarter, upon the receipt by their Secretary, or by such accredited agent, of a testimonial from the authorities of the University or College to which he may belong, stating that he is conducting himself diligently and steadily.

In the event of any Tasmanian Scholar not being able to produce such a testimonial for any three months, he shall forfeit the amount to which he would be otherwise entitled for the said three months; and should he fail to do so for twelve months, his Scholarship shall be declared vacant, and he shall have no claim for moneys accruing therefrom: provided always, that this Rule shall not apply to Scholars when they have been incapacitated by illuess from attending to their University or College duties.

For the further encouragement of Tasmanian Scholars to prosecute their studies diligently in the University or College to which they belong, the Council of Education will cause to be published in their Annual Reports the names of those who have obtained Prizes, Scholarships, or Exhibitions, or who have appeared in the "Honour List," together with the description or class of Honour which may have been awarded to them.

## SCHEME of Examination for the TASMANIAN SCHOLARSHIPS for the Year 1884

# CLASSICS.

# (A.)

LATIN.—Cicero, Orations against Catiline; Tacitus, Annals, Book IV.; Virgil, Æneid, Book XII.; Plautus, Trinummus; Juvenal, Satire VIII.

GREEK.-Demosthenes, De Falsa Legatione; Herodo'us, Booh I.; Aristophanes, Acharnians.

Questions will be set upon the historical and geographical allusions contained in the above-named Books, and in the grammar of the Latin and Greek languages.

Passages will be set for translation from English into Greek and Latin Prose. Questions will be set on the principal events and eras of Roman and Grecian History.

(**B**.)

1. A Paper in Latin Authors not specified.

2. A Paper in Greek Authors not specified.

3. A Paper in Critical, Historical, and Philological Questions.

4. A Paper in Verse Composition, Latin and Greek.

## MATHEMATICS AND NATURAL PHILOSOPHY.

## $(\mathbf{A}_{q})$

Arithmetic, Algebra, except Theory of Equations; Euclid, Books I. to VI. inclusive, and XI. to the 21st Proposition inclusive; Plane Trigonometry, including Logarithms; Conic Sections, treated both Geometrically and Analytically; Elementary Statics, Dynamics, and Hydrostatics.

#### $(\mathbf{B}_{\bullet})$

A Paper in Theory of Equations.
 A Paper in Spherical Trigonometry.
 A Paper in Differential and Integral Calculus.

4. A Paper in Problems in all the subjects of the course.

Candidates may have the option of being examined in the extra Classical or extra Mathematical subjects marked (3), by giving notice to the Secretary before the 1st September in the year of the Examination, but no Candidate will be allowed to present himself for both.

## MODERN HISTORY.

The History of England, with that of foreign nations, so far as connected therewith.

## MODERN LANGUAGES.

ENGLISH.—The history and philology of the English Language.

FRENCH OR GERMAN.\*

FRENCH.-Grammar and Composition. Passages will be set for translation from French into English and from English into French prose.

-Grammar and Composition. Passages will be set for translation from German into GERMAN.-English and from English into German prose.

The following values have been affixed to the several subjects of examination:-

	1. Classics	-	-	$-\begin{cases} \mathbf{A} \\ \mathbf{B} \end{cases}$	$1500 \ 1500$	Marks
	2. Mathematics and Natural Philosophy	-	-	(A) (B)	$\frac{1500}{1500}$	"
	3. Modern History	-	-	·(_)	400	"
	4. Modern Languages- (a.) English (b.) French or German	-	-	400 ) 400 }	800	,,
-					-	

It shall be essential to success that a Candidate yain at least 2200 Marks ; of which 500 shall have been gained in Classics and 300 in Mathematics.

• Intending Candidates are requested to inform the Council, on or before the 1st September, 1884, whether they wish to be examined in French or German.

WILLIAM THOMAS STRUTT. GOVERNMENT PRINTER, TASMANIA.