SECONDARY EDUCATION (SCOTLAND).

I.—CIRCULARS.

II.—PAPERS

SET AT THE

EXAMINATION FOR LEAVING CERTIFICATES, 1890,

HELD BY THE

SCOTCH EDUCATION DEPARTMENT.

III.—RESULTS OF THIS EXAMINATION.

INSPECTION OF HIGHER CLASS SCHOOLS, 1890.— LEAVING CERTIFICATE.

CIRCULARS TO CORRESPONDENTS OF HIGHER CLASS SCHOOLS.

Circular 109.

Scotch Education Department,
SIR,   2nd January 1890.

I AM to state that my Lords have now under consideration the arrangements for the leaving certificate examination in connection with the inspection of higher class schools during the forthcoming year.

They propose that the examination for certificates should begin on Monday, the 16th of June. But in regard to this they will be guided by the convenience of the majority of schools.

My Lords would be glad to be informed *at your earliest convenience* whether the managers intend to present pupils at the examination.

I am to remind you that the examination is confined to higher class schools inspected by the Department in virtue of sections 19 and 20 of the Education (Scotland) Act, 1878, and under the Educational Endowments Acts.

I have, &c.
H. CRAIK.

Higher Class Schools.   Circular 110.
Inspection, 1890.

Scotch Education Department,
SIR,   16th January 1890.

ADVERTING to their Lordships' circular letter of 15th January 1886, I am to state that my Lords have had under consideration the arrangements for the inspection of higher class schools in the current year.

I am accordingly to request you to inform my Lords, *as soon as possible*, whether inspection is this year desired for the school which you represent. Should inspection be desired one of each of the enclosed forms should be filled up and forwarded to the Department in due course.

In the case of schools from which pupils are presented for the leaving certificate, my Lords do not think it necessary that the inspection should take the form of a detailed written examination every year. But, in regard to this, they would be glad to learn the views of the managers.

I have, &c.
H. CRAIK.

Higher Class Schools.   Circular 111.

Inspection under the Educational Endowments
   (Scotland) Act, 1882.

         Scotch Education Department,
Sir,   16th January 1890.

  WITH a view to the completion of arrangements for the inspection of higher class schools this year, I am directed by my Lords to inquire at what time it will be most convenient that the inspection of the above school, in terms of section 19 (or section 45) of the Educational Endowments (Scotland) Act, 1882, should take place.

  My Lords would be glad if you would, at your early convenience, fill up and forward to the Department one of each of the enclosed forms.

  In the case of schools from which pupils are presented for the leaving certificate, my Lords do not think it necessary that the inspection should take the form of a detailed written examination every year. But, in regard to this, they would be glad to learn the views of the governing body.

            I have, &c.
            H. CRAIK.

          Circular 113.
           Scotland.

        Scotch Education Department,
Sir,   1st April 1890.

  I AM directed to remind you that the examination for leaving certificates will begin on Monday the 16th June, and I am to give the following further particulars with respect to it.

  About a month before the examination, my Lords will issue a form, on which they will ask for exact information as to the numbers to be examined in the various grades of each subject.

  In the present year the examination will be in the following subjects :—English (including questions on Modern History and Geography), Latin, Greek, French, German, Mathematics (including Arithmetic), and Book-keeping with Commercial Arithmetic.

  Certificates of three grades,—second, higher, and honours—will be given in each of these subjects except book-keeping and commercial arithmetic, where one grade of certificate only will be given.

  For full information as to the examination in mathematics, I am to call your attention to the note as to mathematical papers, a copy of which has already been sent to you.

  The papers will not be based upon the professed work of each or of any school, but the profession of the schools will be kept in view in drawing up the papers, and due allowance will be made, both in drawing up the papers and in judging the answers, for the fact that the examination is general and not in prescribed books. In certain subjects, where this might operate unfairly, as in the subjects of history, literature, and geography, my Lords will endeavour to meet the difficulty by giving a considerable choice of questions relating to different periods. Such an amount of knowledge as will enable a candidate to answer a sufficient number of the questions set in history and geography, may be expected from every pupil. However, their Lordships will consider special cases, in which an unsatisfactory appearance in these subjects is compensated by special excellence in the other branches of English.

In regard to the question whether a certificate of a lower grade will be issued to pupils who may fail to obtain a certificate in the grade in which they are presented, but who may prove that they have the knowledge required for a lower grade, my Lords think it would be undesirable to encourage the candidature of pupils in a grade higher than that in which they are likely to pass. But my Lords are fully conscious that, for the present, in some subjects allowance may have to be made, and they will in these cases, as last year, issue a certificate in a lower grade, where the circumstances appear to justify this course. They will, however, be unable to issue a second grade certificate in English, or in any language, to candidates who take papers in the honours grade and fail to qualify for a certificate in the higher or honours grade.

In Latin, Greek, French, German, and English two papers will be required in the honours grade. In book-keeping, with commercial arithmetic, two papers will be set, but a certificate will be granted to those candidates only who pass in both branches.

As you have already been informed, my Lords propose that the examination should take place simultaneously in each school, beginning on Monday, June 16. The subjects will be taken in the following order.

Monday, June 16th -	10 a.m.	Arithmetic.
,, ,, ,, -	12 noon	Geometry.
,, ,, ,, -	3 p.m.	Algebra.
Tuesday, June 17th -	10 a.m.	English.
,, ,, ,, -	2 p.m.	English (2nd honours paper).
Wednesday, June 18th	10 a.m.	French.
,, ,, ,,	2 p.m.	German.
Thursday, June 19th	10 a.m.	Latin.
,, ,, ,,	2 p.m.	Latin (2nd honours paper).
Friday, June 20th -	10 a.m.	Greek or Book-keeping.
,, ,, ,, -	2 p.m.	Greek (2nd honours paper) or Commercial Arithmetic.
Monday, June 23rd -	10 a.m.	Trigonometry and Logarithms.*
,, ,, ,, -	12.30 p.m.	Geometrical Conics.
,, ,, ,, -	3 p.m.	Analytical Geometry.
Tuesday, June 24th -	10 a.m.	Dynamics.
,, ,, ,, -	12 p.m.	French (2nd honours paper).
,, ,, ,, -	3 p.m.	German (2nd honours paper).

On each occasion, the papers for the second grade, the higher grade, and the honours grade certificate, in each subject, will be set simultaneously, except where notice to the contrary is given. The time allowed, except where otherwise stated, for each paper in languages and English will be two hours and a half in the second grade, and three hours in the higher and honours grades, except for the second honours paper in French and German, for which the time allowed will be two hours only. For the time allowed for the various subjects in mathematics, you are referred to the note as to mathematical papers.

The authorities of the school must provide a suitable room or rooms for the examination, and pens, ink, scroll paper (on which no notes of

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* The use of a book of mathematical tables is allowed, provided it contain no manuscript notes or printed matter other than such as refers to the use of the tables. Each candidate should be provided with a separate book.

any sort should appear), and blotting paper. Slates may not be used, nor pencils except in the drawing of mathematical figures. The books in which the answers are to be written will be supplied by the Department, and will be forwarded to the head master a few days before the examination. Any candidate introducing any book or note of any kind into the examination room will be instantly dismissed, and the case reported to the Department.

My Lords will endeavour to arrange that the papers in each subject shall be distributed at each school, on the day and at the hour named in the above table, by someone representing the Department.

The selection of candidates from any school rests entirely with the authorities of that school, and, in regard to this, they must act on their own responsibility. At the same time, in order that this examination may form a satisfactory supplement to the inspection of the separate schools (whether this is general or in detail), it is understood that, as a general rule, the pupils of the highest class, or of the highest class and that next to it, in each school, should be presented. It is undesirable, if the examination is to serve as a test of the real merits of a school and the scope of its curriculum, that the candidates should be confined only to a few selected pupils. But, having indicated this view, my Lords do not desire to lay down any strict rule which might interfere with the discretion of the managers.

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I have, &c.

H. CRAIK.

</div>

LEAVING CERTIFICATE, 1890.

NOTE AS TO MATHEMATICAL PAPERS.

A.

Second Grade Certificate.

To obtain a second grade certificate in mathematics candidates must pass in each of the three following papers,* but deficiency in any one paper may, to a certain extent, be compensated by excellence in others.

1. Arithmetic (1½ hours), including practice, proportion, per-centage, square root, simple interest, vulgar and decimal fractions.

2. Algebra (1½ hours), including fractions, factors, square root, equations of the first degree, simultaneous equations of first degree, easy quadratic equations, problems leading to the above equations.

3. Geometry (1½ hours). The subject matter of Euclid, Books I., II., and III., with easy deductions. Demonstrations other than Euclid's will be accepted if these assume no propositions which in Euclid's order are subsequent to the proposition under consideration.

Candidates for a second grade certificate may also take the paper in dynamics, success in which will be recorded on the certificate. No certificate in dynamics will be awarded to any candidate who does not obtain a certificate in mathematics.

The papers in geometrical conics and analytical geometry cannot be taken by candidates for a second grade certificate.

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* Candidates for any grade must take all the papers belonging to that grade, *i.e.* they may not take geometry of the second grade and algebra of the higher, &c.

B.

Higher Grade and Honours.

To obtain a higher grade certificate candidates must pass in each of the first four following subjects,* but deficiency in any one paper may, to a certain extent, be compensated by excellence in others. They may also take any of the three additional subjects, success in which will be recorded on the certificate.

To obtain an honours certificate candidates must pass with credit in the first four following subjects, and in at least two of the additional subjects. Candidates for honours who fail to attain the standard necessary for honours, but show sufficient proficiency to merit a higher grade certificate, will be awarded such a certificate.

1. Arithmetic ($1\frac{1}{2}$ hours). The whole subject.

2. Algebra ($1\frac{1}{2}$ hours), as far as the binomial theorem, inclusive.

3. Geometry (2 hours). The subject matter of Euclid, Books I., II., III., IV., VI., and XI., with deductions, and such propositions in modern geometry as are usually taught as a sequel to Euclid.

4. Trigonometry and logarithms† ($1\frac{1}{2}$ hours), as far as the logarithmic solution of triangles, inclusive.

Additional Subjects.

1. Geometrical conics ($1\frac{1}{2}$ hours). The properties of the parabola, ellipse, and hyperbola, and the sections of the cone treated geometrically.

2. Analytical geometry ($1\frac{1}{2}$ hours). The straight line, the circle, and the conic sections treated by Cartesian co-ordinates, but not including the investigation of the general equation of the second degree.

3. Elements of dynamics ($1\frac{1}{2}$ hours). Velocity, acceleration, the motion of a uniformly accelerated particle, the laws of motion, the composition of forces, equilibrium, the centre of mass (gravity), common machines, work and energy, elementary hydrostatics, specific gravity.

There will be no paper in differential calculus.

No candidate may take any of the additional subjects who is not a candidate for a certificate in mathematics, and no certificate of success in any of the additional subjects will be given unless the candidate obtains a certificate in mathematics.

For the present year candidates in the higher and honours grades who fail in these grades may, if they show sufficient knowledge, obtain a second grade certificate, but this concession will not be continued in future.

C.

Book-keeping and Commercial Arithmetic.

To obtain a certificate in book-keeping and commercial arithmetic candidates must pass in each of the following papers:—

1. Book-keeping ($2\frac{1}{2}$ hours). Candidates will be required to journalise (and thence post to their proper accounts in the ledger) a number of imaginary transactions of moderate difficulty, to adjust these accounts, and to set forth the final result either in the form of a balance sheet or a balance account. Credit will be given for style and accuracy as regards dates and folios.

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* Candidates for any grade must take all the papers belonging to that Grade, *i.e.*, they may not take geometry of the second grade and algebra of the higher, &c.

† The use of a book of mathematical tables is allowed, provided it contain no manuscript notes or printed matter other than such as refers to the use of the tables.

Proper books will be provided.

2. Commercial arithmetic (1½ hours). Arithmetic with special reference to discount, interest, exchange, foreign weights and measures, and such questions as are likely to arise in ordinary commercial transactions.

D.

Arithmetic Certificate.

Candidates may be examined in arithmetic alone, either in the second or higher grade.

Candidates who fail to obtain a certificate in mathematics may be awarded a certificate in arithmetic if they show sufficient proficiency in that subject.

LEAVING CERTIFICATE, 1890.

EXAMINATION PAPERS.

ENGLISH.

SECOND GRADE.

Tuesday, 17th June. 10 A.M. to 12.30 P.M.

Not more than TEN questions to be attempted, of which at least FIVE
must be in Section I., ONE in Section II., and ONE in Section III.

SECTION I.

1. Write out and punctuate the passage read for dictation.

2. Paraphrase the following :—

   "Hark ! 'tis the twanging horn ! O'er yonder bridge,
   That with its wearisome but needful length
   Bestrides the wintry flood, in which the moon
   ·   Sees her unwrinkled face reflected bright,
   He* comes, the herald of a noisy world,
   With spattered boots, strapped waist and frozen locks,
   News from all nations lumbering at his back.
   True to his charge, the close-packed load behind,
   Yet careless what he brings, his one concern
   Is to conduct it to the destined inn,
   And, having dropped the expected bag, pass on.

3. Analyse the first five lines of the above quotation.

4. Point out any faults in the following sentences, and correct
   them :—
   (a.) Passing up the stairs, a rapid consultation was held.
   (b.) He met the very person whom he thought was least
        likely to be present.
   (c.) Philosophy never has and never can be a popular
        subject.
   (d.) If we examine this sentence, we will find it faulty.
   (e.) Nothing that remains in any part of the world is so grand
        as the pyramids.

5. Parse the italicised words in the following sentences :—
   (a.) My father ! *Methinks* I see my father.
   (b.) Nobody knows it *but you*.
   (c.) It is easy *to see* that.
   (d.) *Seeing* is believing.
   (e.) Cut *me* a slice.
   (f.) We will make him a *corporal*, if *you* please.
   (g.) He is a friend of *mine*.

* The postman.

6. Explain, with an example of each, the meaning of the terms: intransitive verb, auxiliary verb, subjunctive mood, compound noun, compound sentence, noun of multitude, indefinite pronoun.

7. Give some instances of Romance suffixes added to Teutonic roots, and of Teutonic suffixes added to Romance roots. Explain the force of each suffix.

8. Give the derivations of the following words: Madam, Twenty, Provost, Biscuit, Ancestor, Bishopric, Pilgrim, Hotel, Panorama, Strange, Planet.

9. Name, with dates, the authors of the following works : *The Fairy Queen, Macbeth, The Pilgrim's Progress, The Cotter's Saturday Night, The Ancient Mariner.* Give an account of any *one* of these works.

10. Name, with a brief account of one of the works of each, either (*a*) two poets of the fourteenth century, or (*b*) two dramatists or two theologians of the sixteenth century, or (*c*) two poets or two historians of the seventeenth century, or (*d*) two satirists or two novelists of the eighteenth century, or (*e*) two poets or two men of science of the nineteenth century.

SECTION II.

11. What do you know of the conversion of the English to Christianity ?

12. Write a sketch of the relations between the kings and the barons during the reigns *either* of the Norman *or* of the Plantagenet kings.

13. Explain the grounds of the quarrel between Henry II. and Becket.

14. Write a sketch of the reign *either* of James I. of Scotland *or* of James IV.

15. How did the Reformation in Scotland differ from the Reformation in England ?

16. What were the causes of the hostility of England and Spain in the reign of Elizabeth ? What do you know of Drake and Raleigh ?

17. What were the chief causes of dispute which brought on the Great Rebellion ?

18. What do you know of the Cabal, the Exclusion Bill, the Trial of the Seven Bishops, the battle of Killiecrankie ?

19. Write a sketch *either* of Clive's career in India, *or* of the War of American Independence.

20. What do you know of the Irish Rebellion of 1798, the Abolition of the Slave Trade, and the Holy Alliance ?

SECTION III.

21. Draw a straight line from Perth to Sheffield, *or* from Newcastle to Bristol, and show near what important towns, and across what rivers and mountain-ranges, the line would pass.

22. In what parts of Great Britain are lead, salt, and slate respectively found in the greatest abundance ?

23. From what countries, and to what ports, do we chiefly import tea, sugar, wheat, and timber ?

24. Name the chief possessions of Great Britain in North America, with the dates and main circumstances of their acquisition.

25. Draw an outline map of Ireland, *or* of England south of the Mersey, indicating the districts most thickly, and those most thinly, populated.

ENGLISH.

SECOND GRADE.

Tuesday, 17th June. 10.45 A.M.

Passage for Dictation.

His colleagues for a time continued to entertain the expectation that his health would soon be restored, and that he would emerge from his retirement. But, month followed month, and still he remained hidden in mysterious seclusion, and sunk, as far as they could learn, in the deepest dejection of spirits. They at length ceased to hope or to fear anything from him ; and, though he was still nominally Prime Minister, took without scruple steps which they knew to be diametrically opposed to all his opinions and feelings, allied themselves with those whom he had proscribed, disgraced those whom he most esteemed, and laid taxes on the colonies, in the face of the strong declarations which he had recently made.

ENGLISH.

HIGHER GRADE AND FIRST PAPER FOR HONOURS GRADE.

Tuesday, 17th June. 10 A.M. to 1 P.M.

Not more than TWELVE questions to be attempted, of which at least FIVE must be in Section I., TWO in Section II., and TWO in Section III.

SECTION I.

1. Write an essay of two or three pages on *one* of the following subjects :—

    (1.) The influence of different professions on character.
    (2.) The history of novel-writing in England.
    (3.) The respective advantages of classical and of mathematical studies.
    (4.) The effects of commercial prosperity on a nation.

2. Give the derivations of the following words : Custom, Feeble, Talkative, Venison, Fancy, Umpire, Doff, Asterisk, Daisy, Perhaps, Farthing, Disease, Mathematics, Arrive.

3. What remains of inflexion have we in substantives and verbs ? What do you know of the origin of these inflexions ?

4. What did our language gain, and what did it lose, by the Norman Conquest ?

5. What do you know of the introduction of printing into England, and of its effects on literature ?

6. Describe any play by Shakespeare, *or* any poem by Milton, that you have read.

Give some account of the works of any *two* writers who were living (*a*) in the reign of Richard II. ; *or* (*b*) in the reign of James IV. of Scotland ; *or* (*c*) in the year of the Spanish Armada ; *or* (*d*) in the reign of Queen Anne ; *or* (*e*) in the year of the battle of Waterloo.

8. Write a full account of any poem that you know by Burns, *or* Scott, *or* Tennyson, and show how it illustrates the qualities of the writer's genius.

9. Analyse the following, explaining the principles upon which you base your analysis :—

> But, as it sometimes chanceth, from the might
> Of joy in minds that can no further go,
> As high as we have mounted in delight
> In our dejection do we sink as low,
> To me that morning did it happen so ;
> And fears and fancies thick upon me came,
> Dim sadness and blind thoughts, I knew not, nor could
>   name.

Section II.

10. Write a short account of the life and work of King Alfred.

11. " Feudalism took firmer root in Scotland than it ever did in England." Explain and comment on this statement.

12. What do you know of Domesday Book, the Constitutions of Clarendon, and the provisions of Magna Charta ?

13. Sketch the policy of Edward I. towards Scotland and Wales.

14. What were the permanent effects of the Wars of the Roses ?

15. Describe the policy of Queen Elizabeth in Ecclesiastical matters.

16. Explain the main difficulties which Cromwell had to meet in carrying on the government of the Commonwealth.

17. What were the most important events in the history of Scotland during the reign of Charles II. ?

18. What do you know of the Toleration Act, the rise of the Wesleyan movement, and the causes of the fall of Walpole ?

19. Write an account and estimate of the policy of the younger Pitt.

20. What additions have been made to the British Empire since the Accession of Queen Victoria ?

Section III.

21. Indicate on an outline map the racial differences of the inhabitants of Great Britain and Ireland, including the main islands.

22. Name five of the chief towns *either* in the Southern Lowlands of Scotland, *or* in Yorkshire and Lancashire, and mention the chief industries of each.

23. In what parts of Great Britain and Ireland are wheat, oats, hops, potatoes, and apples respectively most cultivated ?

24. Draw a map of South Africa, indicating the physical features and political divisions; *or* draw a map of the larger West Indian islands, indicating the British possessions and their commercial importance.

25. Draw a map of Central Europe, showing the distribution of the mountain ranges and the plains, and pointing out some political effects of this distribution.

ENGLISH.

Honours.—Second Paper.

Tuesday, 17th June. 2 to 5 P.M.

Section I.

1. Show the influence of social, political, and religious conditions upon literature in the time of Chaucer *or* Shakespeare *or* Pope *or* Byron.

2. Is it the fact, and, if so, how would you account for the fact, that our prose literature reached great excellence more slowly than our poetry ?

3. At what periods of our history have 'drama, satire, and history respectively flourished most ? Give an account and estimate of any satirist *or* any historian.

4. Describe fully any one of Shakespeare's most famous characters.

5. Compare as writers either Chaucer and Spenser, or Milton and Bunyan, or Johnson and Goldsmith, or Burns and Wordsworth, or Scott and Dickens.

6. What do you know of the scientific achievements of any two of the following : Bacon, Newton, Darwin ?

Section II.

Optional Questions.

7. Translate into modern English :—

Efne ða ða se apostol thas lare spreeende wæs, ða bær sum widewe hire suna lic to bebyrgenne, se hæfde gewifod þritigum nihtum ær. Seo dreorige *modor* þa samod mid þam licmannum rarigende [lamenting] hi astrehte æt þæs halgan apostoles *fotum*, biddende þæt he hire sunu on Godes naman arærde, swa

swa he dyde þa widewan Drusianam. Iohannes ða ofhreow
þære meder and ðara liemanna dreorignysse, and astrehte his
liehaman to eorðan on langsumum gebede, and ða æt nextan
aras, and eft upahafenum *handum* langliee bæd.

Deeline the italieised substantives.

8. Translate into Anglo-Saxon :—

(*a.*) When it was evening, the lord of the vineyard (win-
geard, *m.*) said to his officer (gerefa), Call the labourers (*sing.*
wyrhta) and give them their rewards (*sing.* med, *f.*).

(*b.*) A hundred men, eoming in three ships, lost two of the
ships, and sold (sellan) themselves to the king, who proteeted
them (beorgan).

9. Translate into modern English as literally as possible :—

(*a.*) Thus eom lo! Engelond into Normandies hond.
    And the Normans ne eouthe speke tho bote hor owe
      speehe,
    And speke French as hii dude atom, and hor ehildren
      dude also teehe.
    So that heiemen of this lond, that of hor blod eome,
    Holdeth alle thulke speehe that hii of hom nome.
    Vor bote a man eonne Frenss, me telth of him lute;
    Ae lowe men holdeth to Engliss, & to hor owe speche
      yute.

(*b.*) Of mouth of ehilder and soukand
    Made thou lof in ilka land,
    For thi faes, that thou fordo
    The faa, the wreker him unto.
    For I sal se thine hevenes hegh,
    And werkes of thine fingres slegh;
    The mone and sternes mani ma,
    That thou grounded to be swa.

10. Show from these two passages in what dialeet eaeh is written ; and
traee the history of the three main dialects after 1350.

11. In what sense can English be ealled a mixed language ?

LATIN.

Second Grade.

Thursday, 19th June. 10 A.M. to 12.30 P.M.

Candidates should in all cases attempt Question 6.

1. Translate into English :—

(*It is disgraceful to wish for death, seeing that we always
have it in our power to get that wish fulfilled.*)

Nihil mihi videtur turpius, quam optare mortem. Nam si vis
vivere, cur optas mori ? Si non vis, quid deos rogas quod tibi
naseenti dederunt ? Nam *tibi*, ut mortalibus omnibus, etiam
invito moriendum erit : si eitius mori voles, id in manu tua est.
Alterum tibi neeesse est ; alterum lieet. Turpissimum *his diebus*
disertissimi viri illud verbum legi : ' Ita,' inquit, ' quam primum

moriar !' Homo demens, optas rem tuam : fortasse inter has voces senex factus es. Quid in mora est ? Nemo te tenet : elige quamlibet naturae partem qua tibi praeberi exitum *iubeas.* Haec nempe sunt elementa, *quibus* his mundus administratur ; aqua, terra, spiritus. Omnia ista tam causae *vivendi* sunt, quam viae mortis. Non vult mori, qui optat. Deos *vitam* roga, et salutem : si mori placuit, hic mortis est fructus, *optare* desinere.

2. Parse each of the words italicised in the above passage, and give in each case the reason for the case or mood employed.

3. Give the meaning, the gender, and the genitive plural of the following words :—*civis, domus, iecur, laurus, vis, mos, nauta, crux, cervix, mus, vitis.*

4. Write down the first person singular future indicative active, and the second person singular pluperfect subjunctive passage, of the following verbs :— *augeo, cupio, spargo, veto, haurio, solvo, tundo, vincio.*

5. Translate the following sentences into Latin :—
   - (1.) She is envied by me (*invidere*, to envy).
   - (2.) Having gained his cause, he came to Rome (*potiri*, to gain).
   - (3.) I think that his daughter will be killed (*interficere*, to kill).
   - (4.) This road is ten feet longer than that one.

   And give the Latin for *each one, whosoever, as many as, twice, the twelfth, one million.*

6. Translate into Latin :—

   He stood for (*petere*) the praetorship in the year when Cicero was consul. Being asked what he thought of Catiline and his associates, he said that, in his opinion, they were traitors, and that they ought to be put to death. Thereupon Cicero praised him much for his courage, and having sent a messenger to inform his colleague (*collega*) that the Senate was deliberating on that most important affair, he awaited his return with anxiety. But Antonius never came ; and, in the end, the fatal decision was taken in his absence.

LATIN.

HIGHER GRADE.

Thursday, 19th June. 10 A.M. to 1 P.M.

Candidates will not receive a certificate unless they reach the necessary standard in Grammar, in Translation, and in Latin Prose (Question 1).

1. Translate into Latin :—
   After the death of his companion, Montigny became most anxious to effect his retreat from Spain. He had been separated for a whole year from his few months' bride. He was not actually in prison ; but he felt himself under the most rigid although secret inspection, and it was impossible for him to take

his departure without permission. On one occasion, having left the city for a ride on horseback to a neighbouring village, he found himself surrounded by forty troopers. The King, however, still retained a smiling mien. He requested Montigny to remain in order to accompany his sovereign upon that journey to the Low Countries which could not much longer be delayed. Montigny eagerly offered, if he were accused of crime, to surrender himself to imprisonment, if only he could be brought to trial. But no charge was brought against him: and he remained imprisoned for nine months in a high tower, with only one young page for a companion.

2. Translate into English :—

> (a.) Inde ego pauca canam ; frondes ut si quis in Ida,
> aut summam Libyco de mare carpat aquam.
> Nam neque, quot flores Sicula nascantur in Hybla,
> quotve ferat, dicam, terra Cilissa croceos :
> nec quum tristis hiems Aquilonis inhorruit alis,
> quam multa fiat grandine canus Athos :
> nec mala voce mea poterunt tua cuncta referri,
> ora licet tribuas multiplicata mihi.
> Tot tibi vae misero venient talesque ruinae,
> ut cogi in lacrimas me quoque posse putem.

> (b.) Senatus iussu Chalcidensibus Q. Maenius praetor respondit : Quae bene meritos sese, et ante, et in eo bello, quod geratur, de populo Romano dicant, ea et scire vera eos referre senatum, et, perinde ac debeant, grata esse. Quae facta a C. Lucretio fierique ab L. Hortensio praetoribus Romanis querantur ; ea neque facta neque fieri voluntate senatus, quem non posse existimare, qui sciat, bellum Persi, et ante Philippo patri eius, intulisse populum Romanum pro libertate Graeciae, non ut ea a magistratibus socii atque amici paterentur ? Literas se ad L. Hortensium praetorem daturos esse ; quae Chalcidenses querantur acta, ea senatui non placere : si qui in servitutem liberi venissent, ut eos conquirendos primo quoque tempore, restituendosque in libertatem curaret : sociorum navalium neminem, praeter magistros, in hospitia deduci aequum censere.

3. Give the reason for the subjunctive mood in the following passages :—

> (1.) Inventus es qui haec infanda diceres.
> (2.) An ego Brutos atque Cassium impellerem ?
> (3.) Vivamus, mea Lesbia, atque amemus.
> (4.) Spero omnes in memoria habituros esse qualem se consulem Caesar gesserit.
> (5.) Ingratus esse viderer si te non maxime commendarem.
> (6.) Laudavit Antonium quod Ciceroni pepercisset.

4. Translate into Latin :—

> (1.) Two heads are better than one.
> (2.) He died ten days before his sister.
> (3.) All the best men must be persuaded.
> (4.) This is his interest rather than mine.

And explain what is meant by a *deponent verb ; ablative absolute ; cognate accusative ; hendiadys ; historical infinitive : hexameter ; hiatus.*

LATIN.

HONOURS.

FIRST PAPER.

Thursday, 19th June.   10 A.M. to 1 P.M.

Translate :—

1. Atque haec iam primo depulsus ab ubere matris
   audeat, inque vicem det mollibus ora capistris
   invalidus etiamque tremeus, etiam inscius aevi.
   At tribus exactis ubi quarta accesserit aestas,
   carpere mox gyrum incipiat gradibusque sonare
   compositis, sinuetque alterna volumina crurum,
   sitque laboranti similis ; tum cursibus auras
   provocet, ac per aperta volans ceu liber habenis
   aequora vix summa vestigia ponat arena ;
   qualis Hyperboreis Aquilo cum densus ab oris
   incubuit, Scythiaeque hiemes atque arida differt
   nubila : tum segetes altae campique natantes
   lenibus horrescunt flabris, summaeque sonorem
   dant silvae, longique urgent ad litora fluctus ;
   ille volat simul arva fuga simul aequora verrens.
   Hinc vel ad Elei metas et maxima campi
   sudabit spatia et spumas aget ore cruentas,
   Belgica vel molli melius feret esseda collo.

2. Verum ego, ut haerentes adverso litore naves
   eriperem, prudens placavi sanguine divos.
   Nempe tuo, furiose !   Meo, sed non furiosus.
   Qui species alias veri scelerisque tumultu
   permixtas capiet, commotus habebitur, atque
   stultitiane erret, nihilum distabit, an ira.
   Aiax quum immeritos occidit, desipit, agnos :
   quum prudens scelus ob titulos admittis inanes,
   stas animo ? et purum est vitio tibi, quum tumidum est, cor ?
   Si quis lectica nitidam gestare amet agnam,
   huic vestem ut gnatae paret, ancillas paret, aurum,
   Rufam aut Pusillam appellet, fortique marito
   destinet uxorem : interdicto huic omne adimat ius
   praetor, et ad sanos abeat tutela propinquos.
   Quid, si quis gnatam pro muta devovet agna,
   integer est animi ?   Ne dixeris.   Ergo ubi prava
   stultitia, hic summa est insania ; qui sceleratus,
   et furiosus erit ; quem cepit vitrea fama,
   hunc circumtonuit gaudens Bellona cruentis.

3. Vidit enim hoc prudenter sive Simonides, sive alius quis iuvenit, ea
   maxime animis affigi nostris, quae essent a sensu tradita atque
   impressa ; acerrimum autem ex omnibus nostris sensibus esse
   sensum videndi ; quare facillime animo teneri posse ea, quae
   perciperentur auribus aut cogitatione, si etiam oculorum com-
   mendatione animis traderentur ; ut res caecas et ab aspectus
   iudicio remotas conformatio quaedam et imago et figura ita
   notaret, ut ea, quae cogitando complecti non possemus, intuendo
   quasi teneremus.   His autem formis atque corporibus, sicut
   omnibus, quae sub aspectum veniunt, admonetur memoria nostra

atque excitatur ; sed locis opus est ; etenim corpus intelligi sine
loco non potest. Quare ne in re nota et pervulgata multus et
insolens sim, locis est utendum multis, illustribus, explicatis,
modicis intervallis ; imaginibus autem agentibus, acribus, insig-
nitis, quae occurrere celeriterque percutere animum possint.
Quam facultatem et exercitatio dabit, ex qua consuetudo
gignitur, et similium verborum conversa et immutata casibus aut
traducta ex parte ad genus notatio et unius verbi imagine totius
sententiae informatio, pictoris cuiusdam summi ratione et modo,
formarum varietate locos distinguentis.

4. Quaestorius adhuc a Paeto Thrasea gener delectus, e moribus
soceri nihil acque ac libertatem hausit : civis, senator, maritus,
gener, amicus, cunctis vitae officiis aequabilis, opum contemptor,
recti pervicax, constans adversus metus. Erant, quibus
adpetentior famae videretur, quando etiam sapientibus cupido
gloriae novissima exuitur. Ruina soceri in exsilium pulsus, ut
Galbae principatu rediit, Marcellum Eprium, delatorem Thraseae,
adcusare adgreditur. Ea ultio, incertum maior an iustior,
senatum in studia diduxerat. Nam si caderet Marcellus, agmen
reorum sternebatur. Primo minax certamen, et egregiis utriusque
orationibus testatum. Mox, dubia voluntate Galbae, multis
senatorum deprecantibus, omisit Priscus : variis, ut sunt homi-
num ingenia, sermonibus moderationem laudantium, aut con-
stantiam requirentium.

LATIN PROSE.

Honours.

Second Paper.

Thursday, 19th June. 2 P.M. to 5 P.M.

1. Translate into Latin :—

Egmont is a great historical figure, but he was certainly not a
great man. His execution remains an enduring monument, not
only of Philip's cruelty and perfidy, but of his dullness. The
King had everything to hope from England and nothing to fear,
and to the last Granville could not believe in the possibility of so
unparalleled a blunder as that which was to make a martyr and
a popular idol of a personage, brave indeed, but vain and vacil-
lating, and who, by a little management, might have been
converted into a useful instrument of the royal purposes. Step
by step we have studied Egmont's career : at no single period
have we discovered even a germ of those elements which make
the national champion. His pride of order rendered him furious
at the insults heaped upon him ; his vanity of high rank and
military service made him covet the highest places under the
Crown. He had no sympathy with the people, but he loved to
be looked up to as a grand Seigneur by a gaping crowd, and it
was only his hatred of those by whom he considered himself
defrauded of his claims that converted him into a malcontent.

2. Explain and comment upon the meaning and construction of the words italicised in the following passages :—

    (*a.*) Nihil habui sane, *non modo* multum.

    (*b.*) An ego non *venirem* contra alienum pro amico ?

    (*c.*) Qui omnes condemnati sunt quod patriae immemores *fuissent.*

    (*d.*) Multi ex Catilinae sociis non *solvendo* erant.

    (*e.*) Quid habes quod mihi *opponas ?*

    (*f.*) Non mortem voluit expectare senex, *præsertim quum* illud esset *ætatis.*

    (*g.*) *HS. ducentiens* hereditatibus accepi.

    (*h.*) Iam vero *illud* cujus est *audaciae*, postulare ut absentis *ratio habeatur ?*

3. Translate the following proverbs into the best Latin equivalents you can :—

    (*a.*) Waste not, want not.

    (*b.*) The more hurry, the less speed.

    (*c.*) Where there's a will there's a way.

    (*d.*) Much cry, little wool.

    (*e.*) A bird in the hand is worth two in the bush.

4. Write down and scan any Elegiac couplet you please, and state the main rules for composing a Dactylic Hexameter and Pentameter respectively.

5. Write a short essay on *one* of the following questions :—

    (*a.*) Show, by examples, the different uses that were made of the Roman Tribunate as a political instrument, at different times, giving particulars of date, persons, and circumstances ; *or*

    (*b.*) In what sense is it true that the Romans had a national literature of their own ? in what sense is it true that they had not ? Found your answer, so far as you can, upon the Latin books that you have read.

GREEK.

SECOND GRADE.

Friday, 20th June. 10 A.M. to 12.30 P.M.

I. Translate :—

Ἐξ ὧν δὴ καὶ οἱ Μαντινεῖς, ὡς ἤδη αὐτόνομοι παντάπασιν ὄντες, συνῆλθόν τε πάντες καὶ ἐψηφίσαντο μίαν πόλιν τὴν Μαντίνειαν ποιεῖν, καὶ τειχίζειν[1] τὴν πόλιν. Οἱ δ' αὖ Λακεδαιμόνιοι ἡγοῦντο, εἰ τοῦτο ἄνευ τῆς σφετέρας γνώμης ἔσοιτο, χαλεπὸν ἔσεσθαι. πέμπουσιν οὖν ᾿Αγησίλαον πρεσβευτὴν πρὸς τοὺς Μαντινέας, ὅτι ἐδόκει πατρικὸς φίλος αὐτοῖς εἶναι. ἐπεὶ δὲ ἀφίκετο πρὸς αὐτούς, τὸν μὲν δῆμον τῶν Μαντινέων οἱ ἄρχοντες οὐκ ἤθελον συλλέξαι αὐτῷ, πρὸς δὲ σφᾶς ἐκέλευον λέγειν, ὅτου δέοιτο. ὁ δὲ ὑπισχνεῖτο αὐτοῖς, ἐὰν νῦν ἐπίσχωσι τῆς τειχίσεως, ποιήσειν ὥστε μετὰ τῆς Λακεδαίμονος γνώμης καὶ μὴ δαπανηρῶς[2] τειχισθῆναι τὸ τεῖχος. ἐπεὶ δὲ ἀπεκρίναντο ὅτι ἀδύνατον εἴη ἐπισχεῖν, ἐκ τούτου ὁ μὲν ᾿Αγησίλαος ἀπῄει ὀργιζόμενος· στρατεύειν γε μέντοι ἐπ' αὐτοὺς οὐ δυνατὸν ἐδόκει εἶναι, ἐπ' αὐτονομίᾳ τῆς εἰρήνης γεγενημένης.

[1] τειχίζειν, " to fortify."   [2] δαπανηρῶς, " in a costly manner."

Parse Μαντινεῖς, and decline the word in full.

Parse fully : συνῆλθον, συλλέξαι, ὑπίσχνεῖτο, ἐπίσχωσι, ἀπεκρίναντο.

Explain the moods ἔσοιτο, δέοιτο, and state what the form in each case would have been in *oratio recta*.

What might have been written instead of ἐὰν ἐπίσχωσι ?   Account for the genitive τῆς τειχίσεως.

II. Decline in full : ἐγώ, σύ, ὅστις, πᾶς ἀνήρ, μήτηρ, πλοῦς, πλέως.

Give the stem, accusative and dative singular, and genitive plural of : ῥήτωρ, λέων, φυγάς, δεσπότης, σάλπιγξ, ὁδούς, τεῖχος.

Parse : ἄστεσι, ὠσί, ὑγιᾶ, αἰδοῖ, δῷς, ἔζη, ὤφθησαν, κιχῆναι, πύθοιντο.

Give the future indic. and aorist subj. 2nd singular of : ἐπαινέω, τέμνω, λείπω, γαμέω, πνέω, πίνω, τυγχάνω.

III. Express, by the aid of prepositions, (1) in the time of our fathers, (2) contrary to the laws, (3) by land and sea, (4) on horseback, (5) on these conditions.

Translate into Greek :—

(a) They will hear from you that the king had designs (ἐπιβουλένω) against them.

(b) They asked who the man was and what he wanted (βούλεσθαι).

(c) He cannot prevent us from escaping.

(d) I am aware that I know nothing.

(e) They all declared that they were not to blame (αἴτιος) for what had happened.

(f) I do not know whether he is alive or dead.

GREEK.

Higher Grade.

Friday, 20th June.   10 a.m. to 1 p.m.

Candidates will not receive a certificate unless they reach the necessary standard both in Grammar and in Translation.

I. Translate :—

[*On the Composition of a Funeral Speech.*]

MEN. Καὶ τί ἂν ἔχοις εἰπεῖν, εἰ δέοι σε λέγειν; ΣΩ. Αὐτὸς μὲν παρ' ἐμαυτοῦ ἴσως οὐδέν, Ἀσπασίας δὲ καὶ χθὲς ἠκροώμην περαινούσης ἐπιτάφιον λόγον περὶ αὐτῶν τούτων. ἤκουσε γὰρ ἅπερ σὺ λέγεις, ὅτι μέλλοιεν Ἀθηναῖοι αἱρεῖσθαι τὸν ἐροῦντα· ἔπειτα τὰ μὲν ἐκ τοῦ παραχρῆμά μοι διήει, οἷα δέοι. λέγειν, τὰ δὲ πρότερον ἐσκεμμένη (ὅτε συνετίθει τὸν ἐπιτάφιον λόγον, ὃν Περικλῆς εἶπε), περιλείμματ' [1] ἄττ' ἐξ ἐκείνου συγκολλῶσα.[2] MEN. Ἦ καὶ μνημονεύσαις ἂν ἃ ἔλεγεν ἡ Ἀσπασία; ΣΩ. Εἰ μὴ ἀδικῶ γε· ἐμάνθανον γέ τοι παρ' αὐτῆς, καὶ ὀλίγου πληγὰς ἔλαβον, ὅτι ἐπελανθανόμην. MEN. Τί οὖν οὐ διῆλθες; ΣΩ. Ἀλλ' ὅπως μή μοι

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[1] περιλείμματα, " scraps left over."   [2] συγκολλῶσα, lit. " glueing together," " putting together."

χαλεπανεῖ ἡ διδάσκαλος, ἂν ἐξενέγκω αὐτῆς τὸν λόγον. *MEN.* Μηδαμῶς,
ὦ Σώκρατες, ἀλλ᾽ εἰπέ; καὶ πάνυ μοι χαριεῖ, εἴτε ᾿Ασπασίας βούλει λέγειν
εἴτε ὁτουοῦν· ἀλλὰ μόνον εἰπέ. ΣΩ. ᾿Αλλ᾽ ἴσως μου καταγελάσει, ἄν
σοι δόξω πρεσβύτης ὢν ἔτι παίζειν. *MEN.* Οὐδαμῶς, ὦ Σώκρατες,
ἀλλ᾽ εἰπὲ παντὶ τρόπῳ. ΣΩ. ᾿Αλλὰ μέντοι σοί γε δεῖ χαρίζεσθαι, ὥστε
κἂν ὀλίγου, εἴ με κελεύοις ἀποδύντα ὀρχήσασθαι, χαρισαίμην ἄν, ἐπειδή
γε μόνω ἐσμέν. ἀλλ᾽ ἄκουε. ἔλεγε γάρ, ὡς ἐγῶμαι, ἀρξαμένη λέγειν
ἀπ᾽ αὐτῶν τῶν τεθνεώτων οὑτωσί.

Write a note on ὅπως μὴ χαλεπανεῖ and on μηδαμῶς, ὦ Σώκρατες.

II. Translate *one* of the following passages :—

(*a.*) Τὸν δ᾽ αὖ Τηλέμαχος πεπνυμένος ἀντίον ηὔδα·
ὦ γέρον, οὔπω τοῦτο ἔπος τελέεσθαι ὀΐω·
λίην γὰρ μέγα εἶπες· ἄγη μ᾽ ἔχει· οὐκ ἂν ἔμοιγε
ἐλπομένῳ τὰ γένοιτ᾽ οὐδ᾽ εἰ θεοὶ ὡς ἐθέλοιεν.

Τὸν δ᾽ αὖτε προσέειπε θεὰ γλαυκῶπις ᾿Αθήνη·
Τηλέμαχε, ποῖόν σε ἔπος φύγεν ἕρκος ὀδόντων.
ῥεῖα θεός γ᾽ ἐθέλων καὶ τηλόθεν ἄνδρα σαώσαι.
βουλοίμην δ᾽ ἂν ἔγωγε καὶ ἄλγεα πολλὰ μογήσας
οἴκαδέ τ᾽ ἐλθέμεναι, καὶ νόστιμον ἦμαρ ἰδέσθαι,
ἢ ἐλθὼν ἀπολέσθαι ἐφέστιος, ὡς ᾿Αγαμέμνων
ὤλεθ᾽ ὑπ᾽ Αἰγίσθοιο δόλῳ καὶ ἧς ἀλόχοιο.
ἀλλ᾽ ἤτοι θάνατον μὲν ὁμοίιον οὐδὲ θεοί περ
καὶ φίλῳ ἀνδρὶ δύνανται ἀλαλκέμεν, ὁππότε κεν δὴ
μοῖρ᾽ ὀλοὴ καθέλῃσι τανηλεγέος θανάτοιο.

(*b.*) Πεπυσμένη μέν, ὡς σάφ᾽ εἰκάσαι, πάρει
πάθημα τοὐμόν· ὡς δ᾽ ἐγὼ θυμοφθορῶ
μήτ᾽ ἐκμάθοις παθοῦσα, νῦν δ᾽ ἄπειρος εἶ.
τὸ γὰρ νεάζον ἐν τοιοῖσδε βόσκεται
χώροισιν αὐτοῦ, καί νιν οὐ θάλπος θεοῦ,
οὐδ᾽ ὄμβρος, οὐδὲ πνευμάτων οὐδὲν κλονεῖ,
ἀλλ᾽ ἡδοναῖς ἄμοχθον ἐξαίρει βίον
ἐς τοῦθ᾽, ἕως τις ἀντὶ παρθένου γυνὴ
κληθῇ, λάβῃ τ᾽ ἐν νυκτὶ φροντίδων μέρος,
ἤτοι πρὸς ἀνδρὸς ἢ τέκνων φοβουμένη.
τότ᾽ ἄν τις εἰσίδοιτο, τὴν αὐτοῦ σκοπῶν
πρᾶξιν, κακοῖσιν οἷς ἐγὼ βαρύνομαι.
πάθη μὲν οὖν δὴ πόλλ᾽ ἔγωγ᾽ ἐκλαυσάμην·
ἓν δ᾽, οἷον οὔπω πρόσθεν, αὐτίκ᾽ ἐξερῶ.

III. Translate into Greek :—

(1.) He announced (δηλόω) that he had been sent to liberate
Greece.

(2.) We intend to march against the Plataeans when the right
time comes.

(3.) Whatever he was asked he answered at once, and he
proved to be accurate in all his statements.

(4.) I perceive that no one even of the other Greeks will face
so great a danger.

(5.) They had great trouble in considering how to make their
preparations as quickly and as efficiently as possible.

IV. Correct the Greek of the following sentences :—

    (1.) ἥκομεν εἰς ὑμέας πρὶν ἂν ἀπέλθετε.

    (2.) ἔλεγεν ὅτι οὐκ ἀποδοίη μοι τὰς ἐπιστολὰς ἃς λέλαβε, ἵνα οὐδὲν ἂν εἰδείην, ἂν ἐγγεγραμμένα εἰσί.

    (3.) ἐάν μοι δώσετε τὸν τέξον, πειράσω καὶ αὐτὸς τὴν ῥώμην.

    (4.) μὴ τοῦτο κρύψον ἀπ' ἐμοῦ καίπερ ξένος εἰμί.

    (5.) τὸ ἐμὸν σῶμα, ἐπειδὴ θάνοιμι, ἐν τῇδε χθονὶ θήσεται.

    (6.) ἔφη οὐκ ἂν ἑαυτὸν ταῦτα λέξειν, οὐ γὰρ ἐθέλοι ψεύσεσθαι ὡς ἄλλοι πάντοι.

V. Give the stem, vocative and accusative singular, and dative plural of : κύων, λάγως, ὄρνις, πῦρ, γέρας, πολίτης.

    Give the comparative and superlative of : πολύς, κακός, χαρίεις, παλαιός, ταχύς, and the corresponding adverbs.

VI. Parse : παρές, εἴξασι, ἔστατε, μείναιεν, ἄραρε, ἴστω.

    Give the chief tenses of : ἥδομαι, ἀκόυω, ἔπομαι, ὀνίνημι, κλέπτω, σφάλλω, αἴρω, κεράννυμι ; and the perfect passive 1st person plural of : ὠθέω, πίμπλημι, σπένδω.

GREEK.

HONOURS.

FIRST PAPER.

Friday, 20th June.   10 A.M. to 1 P.M.

I. Translate, with short notes on the spaced words :—

[The Indians in quest of Gold.]

    (1.) Οἱ δὲ δὴ Ἰνδοὶ τρόπῳ τοιούτῳ καὶ ζεύξι τοιαύτῃ χρεώμενοι ἐλαύνουσι ἐπὶ τὸν χρυσὸν λελογισμένως ὅκως καυμάτων τῶν θερμοτάτων ἐόντων ἔσονται ἐν τῇ ἁρπαγῇ· ὑπὸ γὰρ τοῦ καύματος οἱ μύρμηκες ἀφανέες γίνονται ὑπὸ γῆν. θερμότατος δέ ἐστι ὁ ἥλιος τούτοισι τοῖσι ἀνθρώποισι τὸ ἐωθινόν, οὐ κατάπερ τοῖσι ἄλλοισι μεσαμβρίης, ἀλλ᾽ ὑπερτείλας μέχρι οὗ ἀγορῆς διαλύσιος. τοῦτον δὲ τὸν χρόνον καίει πολλῷ μᾶλλον ἢ τῇ μεσαμβρίῃ τὴν Ἑλλάδα, οὕτως ὥστε ἐν ὕδατι λόγος αὐτούς ἐστι βρέχεσθαι τηνικαῦτα. μεσοῦσα δὲ ἡ ἡμέρη σχεδὸν παραπλησίως καιει τούς τε ἄλλους ἀνθρώπους καὶ τοὺς Ἰνδούς. ἐπεὰν δὲ ἔλθωσι ἐς τὸν χῶρον οἱ Ἰνδοὶ ἔχοντες θυλάκια, ἐμπλήσαντες ταῦτα τῆς ψάμμου τὴν ταχίστην ἐλαύνουσι ὀπίσω· αὐτίκα γὰρ οἱ μύρμηκες ὀδμῇ, ὡς δὴ λέγεται ὑπὸ Περσέων, μαθόντες διώκουσι. εἶναι δὲ ταχυτῆτα οὐδενὶ ἑτέρῳ ὁμοῖον, οὕτω ὥστε, ε ἰ μ ὴ π ρ ο λ α μ β ά ν ε ι ν τ ο ὺ ς Ἰ ν δ ο ὺ ς τ ῆ ς ὁ δ ο ῦ ἐν ᾧ τοὺς μύρμηκας συλλέγεσθαι, οὐδένα ἂν σφεων ἀποσῴζεσθαι. τοὺς μέν νυν ἔρσενας τῶν καμήλων, εἶναι γὰρ ἥσσονας θεῖν τῶν θηλέων, καὶ παραλύεσθαι ἐπελκομένους, οὐκ ὁμοῦ ἀμφοτέρους, τὰς δὲ θηλέας ἀναμιμνησκομένα

τῶν ἔλιπον τέκνων ἐνδιδόναι μαλακὸν οὐδέν. τὸν μὲν δὴ πλέω τοῦ χρυσοῦ οὕτω οἱ Ἰνδοὶ κτῶνται, ὡς Πέρσαι φασί· ἄλλος δὲ σπανιώτερός ἐστι ἐν τῇ χώρῃ ὀρυσσόμενος.

(2.) καὶ μὴν περὶ τοῦ γε μηδὲ Θηβαίους μηδένα τιμᾶν, ἐκεῖν᾽ ἂν ἔχειν εἰπεῖν ἀληθὲς οἶμαι. μεῖζον, ὦ ἄνδρες Ἀθηναῖοι, Θηβαῖοι φρονοῦσιν ἐπ᾽ ὠμότητι καὶ πονηρίᾳ, ἢ ὑμεῖς ἐπὶ φιλανθρωπίᾳ καὶ τῷ τὰ δίκαια βούλεσθαι. μήτ᾽ οὖν ἐκεῖνοί ποτε παύσαιντο, εἰ ἄρ᾽ εὔξασθαι δεῖ, τοὺς μὲν ἑαυτοὺς ἀγαθόν τι ποιοῦντας μήτε τιμῶντες μήτε θαυμάζοντες, τοὺς δὲ συγγενεῖς οὕτω μεταχειριζόμενοι, μήθ᾽ ὑμεῖς τἀναντία τούτοις. ὅλως δ᾽ οἶμαι τότε δεῖν τοὺς ἑτέρων ἐπαινεῖν νόμους καὶ ἔθη, τοῖς ὑμετέροις ἐπιτιμῶντας, ὅταν ᾖ δεῖξαι βέλτιον ἐκείνους πράττοντας ὑμῶν. ὅτε δ᾽ ὑμεῖς, κ α λ ῶ ς π ο ι ο ῦ ν τ ε ς, καὶ κατὰ τὰς κοινὰς πράξεις καὶ κατὰ τὴν ὁμόνοιαν καὶ κατὰ τἆλλα πάντα ἄμεινον ἐκείνων πράττετε, τοῦ χάριν ἂν τῶν ὑμετέρων αὐτῶν ἐθῶν ὀλιγωροῦντες ἐκεῖνα διώκοιτε; εἰ γὰρ καὶ κατὰ τὸν λογισμόν ἐκεῖνα φανείη βελτίω, τῆς γε τύχης ἕνεκα, ᾗ π α ρ ὰ τ α ῦ τ᾽ ἀ γ α θ ῇ κ έ χ ρ η σ θ ε, ἐπὶ τούτων ἄξιον μεῖναι. εἰ δὲ δεῖ παρὰ πάντα ταῦτ᾽ εἰπεῖν, ὃ δίκαιον ἡγοῦμαι, ἐκεῖν᾽ ἂν ἔγωγ᾽ εἴποιμι. οὐκ ἔστι δίκαιον, ὦ ἄνδρες Ἀθηναῖοι, τοὺς Λακεδαιμονίων νόμους οὐδὲ τοὺς Θηβαίων λέγειν ἐπὶ τῷ τοὺς ἐνθάδε λυμαίνεσθαι, οὐδὲ δι᾽ ὧν μὲν ἐκεῖνοι μεγάλοι εἰσί, κ ἂ ν ἀ π ο κ τ ε ῖ ν α ι β ο ύ λ ε σ θ α ι τὸν παρ᾽ ἡμῖν τούτων τι κατασκευάσαντα, διὰ δ᾽ ὧν ὁ παρ᾽ ἡμῖν δῆμος εὐδαίμων, ταῦθ᾽ ὡς ἀνελεῖν δεῖ λεγόντων τινῶν ἐθέλειν ἀκούειν.

(3.) [*Orestes, raving, imagines that the Furies have him in their grasp.*]

ΟΡ. μέθες· μί᾽ οὖσα τῶν ἐμῶν Ἐρινύων,
μέσον μ᾽ ὀχμάζεις, ὡς βάλῃς ἐς Τάρταρον.

ΗΛ. οἲ ᾽γὼ τάλαινα, τίν᾽ ἐπικουρίαν λάβω,
ἐπεὶ τὸ θεῖον δυσμενὲς κεκτήμεθα;

ΟΡ. δὸς τόξα μοι κερουλκά, δῶρα Λοξίου,
οἷς μ᾽ εἶπ᾽ Ἀπόλλων ἐξαμύνασθαι θεάς,
εἴ μ᾽ ἐκφοβοῖεν μανιάσιν λυσσήμασιν.
βεβλήσεταί τις θεῶν βροτησίᾳ χερί,
εἰ μὴ ᾽ξαμείψει χωρὶς ὀμμάτων ἐμῶν.
οὐκ εἰσακούετ᾽; οὐχ ὁρᾶθ᾽ ἑκηβόλων
τόξων πτερωτὰς γλυφίδας ἐξορμωμένας;
ἆ ἆ·

τί δῆτα μέλλετ᾽; ἐξακρίζετ᾽ αἰθέρα
πτεροῖς· τὰ Φοίβου δ᾽ αἰτιᾶσθε θέσφατα.
ἔα·

τί χρῆμ᾽ ἀλύω, πνεῦμ᾽ ἀνεὶς ἐκ πνευμόνων;
ποῖ ποῖ ποθ᾽ ἡλάμεσθα δεμνίων ἄπο;
ἐκ κυμάτων γὰρ αὖθις αὖ γαλήν᾽ ὁρῶ.
ξύγγονε, τί κλαίεις κρᾶτα θεῖσ᾽ ἔσω πέπλων;
αἰσχύνομαί σε μεταδιδοὺς πόνων ἐμῶν,
ὄχλον τε παρέχων παρθένῳ νόσοις ἐμαῖς.

II. Write historical notes on the words: Ἀχαιοί, Ἕλληνες, Γραικοί, Ἀμφικτύονες.

Give the Greek words from which the following are derivatives, and note any differences between the meaning in Greek and in English :—prologue, epilogue, episode, scene, orchestra, monody.

III. Give a brief account of the Four Hundred at Athens.

IV. Indicate (with dates) the successive steps by which Philip of Macedon subdued Greece.

GREEK.

HONOURS.

SECOND PAPER.

Friday, 20th June.   2 P.M. to 5 P.M.

I. For Greek prose :—

The power which Sparta exerted over her allies was much more narrowly limited than that which Athens had assumed over her subjects.   So far was she from enriching herself at the expense of the confederacy, that at the beginning of the war there was, as we have seen, no common treasure belonging to it, and no regular tribute for common purposes.   But, to compensate for these defects, her power stood on a more durable basis of goodwill than that of Athens; and while Athens was forced to keep a jealous eye on all her subjects, and was in continual fear of losing them, Sparta, secure of the loyalty of her own allies, could calmly watch for opportunities of profiting by the disaffection of those of her rival.   At home, indeed, her state was far from sound, and the Athenians were all well aware of her vulnerable side : but abroad, and as chief of the Peloponnesian confederacy, she presented the majestic and winning aspect of the champion of liberty against Athenian tyranny and ambition.

II. Translate, with grammatical notes where the mood, or tense, or case needs explanation :—

(1.) πῶς γὰρ ἄν τις, ἃ γε μὴ ἐπίσταιτο, ταῦτα σοφὸς εἴη ;

(2.) (a) τούτοις ἔλεγον πλεῖν.

(b) τούτους ἔλεγον πλεῖν.

(3.) Κλέαρχος ἐβουλεύετο εἰ πέμποιέν τινας ἢ πάντες ἴοιεν.

(4.) καὶ τῶνδ᾽ ἀκούσας οὔ τι μὴ ληφθῶ δόλῳ.

(5.) δέδοικα μὴ λελήθαμεν τὴν εἰρήνην ἐπὶ πολλῷ ἄγοντες.

(6.) μὴ γὰρ τοῦτο μέν, τὸ ζῆν ὁποσονδὴ χρόνον, τόν γε ὡς ἀληθῶς ἄνδρα ἐατέον ἐστὶ καὶ οὐ φιλοψυχητέον.

(7.) ἐέλπετο κῦδος ἀρέσθαι.

Explain the following uses of the cases, tracing each case, where you can, to an original meaning :—(a) δείλαιε τοῦ νοῦ, (b) τῆς κεφαλῆς ὄζω μύρου, (c) ἔσχοντο μάχης, (d) ἀποδόσθαι πολλοῦ, (e) πεδίῳ πέσε, (f) αὐτοῖς ἀνδράσιν ἡ ναῦς ἑάλω, (g) εἴκοσιν ἔτη γεγονώς.

FRENCH.

SECOND GRADE.

Wednesday, 18th June. 10 A.M. to 12.30 P.M.

Candidates must in all cases attempt Questions 1, 2, 3. *Only four other questions to be attempted, of which two should be in Section II. and two in Section III.*

SECTION I.

1. Translate into English :—

Quand je dis[1] leur attention, je parle des chiens seulement, car pour Joli-Cœur (*the name of a performing monkey*), il lui était impossible de tenir[2] son esprit longtemps fixé sur un même sujet.

Pendant la première partie de mon discours, il m'avait écouté avec les marques du plus vif intérêt ; mais au bout d'une vingtaine de mots il s'était élancé sur l'arbre qui nous couvrait de son feuillage, et il s'amusait maintenant à se balancer en sautant de branche en branche. Si Capi (*the name of a performing dog*) m'avait fait[3] une pareille injure, j'en aurais certes été blessé, mais de Joli-Cœur, rien ne m'étonnait ; ce n'était qu'un étourdi, une cervelle[4] creuse ; et puis après tout, il était bien naturel qu'il eût envie de s'amuser un peu.

J'avoue que j'en aurais fait volontiers autant et que comme lui je me serais[5] balancé avec plaisir, mais l'importance et la dignité de mes fonctions ne me permettaient pas de[6] semblables distractions.

MALOT.

2. Grammatical questions on this passage :—

(1.) Give the present, past definite, and imperative (throughout).
(2.) Give the past definite and present subjunctive (throughout).
(3.) Give the infinitive, present indicative, and present subjunctive (throughout).
(4.) Give the synonym of this substantive, and explain how it differs in meaning from *cervelle.*
(5.) Give the infinitive, present and imperfect subjunctive (throughout).
(6.) Why not "*des* semblables distractions"? What part of speech is *de* in general, and in this particular instance ?

3. Translate into French. (Render by the French past definite the words which in English occur in the preterite) :—

Little Charles had never heard an echo. One morning he was playing in the fields ; he cried out "Halloo !" (*Holà*). Immediately the same word, "Halloo," was repeated from the forest. He was much surprised, and cried out, "Who are you ?" The mysterious voice answered, "Who are you ?" Charles then said, "You are a silly boy" (*petit sot*) ! "A silly boy !" answered the voice. He became very angry, and used insulting expressions. At last he ran to the forest to punish the boy who, as he thought, had been mocking him. His search proved in vain.

In our intercourse with others, their conduct is generally the echo of ours. If we behave (*se conduire*) well towards them, they will treat us in the same manner, but if we are insolent to others, we have no reason to expect better treatment from them.

SECTION II.

4. French grammar and composition :—
   - (*a.*) Give the feminine of the following nouns :—*chien, traître, lecteur, chanteur, pêcheur.*
   - (*b.*) Give the two plurals of *aïeul, ciel, œil.* Give also their meaning in each case.
   - (*c.*) How do you form the French ordinal numbers ? Give the French ordinals up to and inclusive of the eleventh.

5. (*a.*) Give a list of French possessive pronouns.
   - (*b.*) Write down (throughout) the present indicative of the following verbs :—*écrire, juger, s'endormir, appeler, s'asseoir.* Give their meaning in each case, and notice what appear to you irregularities in their formation.

6. Translate :—(1) What o'clock is it ? (2) How is the weather ? (3) You brother came to-day ; I saw him yesterday also. He will be at his brother's to-morrow. (4) He was in Paris a week ago, and will come back in a week's time. (5) I saw your cousin a fortnight ago.

7. (*a.*) Give the French for the following expressions :—twenty-three, sixty-one, seventy-three, eighty-seven, ninety-eight, a thousand horses.
   - (*b.*) Translate :—(1) I have given your brother the apple you gave me. (2) How many trees are there in your father's garden ? (3) There are no fruit trees in our country, but there are many flowers. (4) How long have you been here ? I hope not long.

SECTION III.

8. Account for the different French prepositions used in translating (*a*) the house is filled with guests ; (*b*) we were received with open arms ; (*c*) the ground is covered with snow ; and explain the absence of a French preposition in translating : He did it with his eyes open.

9. Give the rule for the agreement of the past participle when preceding an infinitive, and translate (*a*) We have seen her coming. (*b*) They have ceased listening to us. (*c*) We have made them confess their fault. (*d*) She has succeeded in passing her examination.

10. Give the rule for the use of *ne* in : *Je crains qu'il ne vienne ; Je ne doute pas que cela ne soit vrai ;* and for the absence of *ne* in *Je ne crains pas qu'il vienne ; Je doute qu'il le sache.* Illustrate your rule by adducing other instances.

11. Give the principal rules for the formation of French compound nouns, and write in French (*in the singular and plural*) :—the letter-box ; the class-room ; the railway-station ; the writing-table ; the dining-room ; some cod-liver oil.

FRENCH.

HIGHER GRADE AND FIRST PAPER FOR HONOURS GRADE.

Weduesday, 18th June. 10 A.M. to 1 P.M.

Candidates must in all cases attempt Questions 1, 2, *and* 3. *Only eight other questions to be attempted, of which at least three should be in Section* II., *and two in Section* III.

SECTION I.

1. Translate into English :—

Je me dis : "Voilà Chauvin !" C'était Chauvin en effet, et Chauvin dans son beau, déclamant, gesticulant, souffletant la Prusse avec son journal, entrant à Berlin, la canne haute, ivre, sourd, aveugle, fou furieux. Pas d'atermoiement, pas de conciliation possible. La guerre ! il lui fallait la guerre à tout prix !

" Et si nous ne sommes pas prêts, Chauvin ? . . .

— " Monsieur, les Français sont toujours prêts ! . . . " répondait Chauvin en se redressant, et sous sa moustache hérissée, les *rr* se précipitaient à faire trembler les vitres . . . Irritant et sot personnage ! comme je compris toutes les moqueries, toutes les chansons qui vieillissent autour de son nom et lui ont fait une célébrité ridicule !

Après cette première rencontre je m'étais juré de le fuir; mais une fatalité singulière le mit presque constamment sur mon chemin. D'abord au sénat, le jour où M. de Grammont vint annoncer solennellement à nos pères conscrits que la guerre était déclarée. Au milieu de toutes ces acclamations chevrotantes, un formidable cri de " Vive la France ! " partit des tribunes, et j'aperçus là haut, dans les frises, les grands bras de Chauvin qui s'agitaient. Quelque temps après, je le retrouvai à l'opéra, debout dans la loge de Girardin, demandant le Rhin allemand, et criant aux chanteurs qui ne le savaient pas encore, " Il faudra " donc plus de temps pour l'apprendre que pour le prendre ! "

2. Translate into French :—

It was now near midnight that I came to knock at my door; all was still and silent ; my heart dilated with unutterable happiness; when to my amazement, I saw the house bursting out in a blaze of fire, and every aperture red with conflagration ! I gave a loud convulsive cry and fell upon the pavement insensible. This alarmed my son, who had till then been asleep, and he perceiving the flames, instantly waked my wife and daughter, and all running out, wild with apprehension, recalled me to life with their anguish. But it was only to objects of new terror ; I gazed upon them, and then looked round me for my two little ones ; but they were not to be seen. O misery ! "Where," cried I, "Where are my little ones ? " "They are burnt to " death in the flames," said my wife calmly, " and I will die " with them." That moment I heard the cry of the babes within, who were just awakened by the fire, and nothing could have stopped me, "Where, where, are my little ones ? " cried I, rushing through the flames, and bursting the door of the room in

which they were confined : " Here, dear papa; here we are,"
cried they together, while the flames were just catching hold of
the bed where they lay.   I caught them both in my arms, and
snatched them through the fire as fast as possible, while, just as
I had got out, the roof sunk in.   " Now," cried I, holding up
my children, " now let the flames burn on, and all my possessions
" perish ; here they are, I have saved my treasures.   Here, my
" dearest, here are our treasures, and we shall yet be happy."

<div align="right">GOLDSMITH (*Vicar of Wakefield*).</div>

3. Translate the following phrases into French :—

    (*a.*) How unlucky you are ! you never succeed in anything
        that you undertake.

    (*b.*) Since you do not like this book, here is another; which
        will, I think, please you better.

    (*c.*) Whether we like it or not we must all go to-morrow.

    (*d.*) Do not stand upon ceremony : make yourself at home.

    (*e.*) Better late than never; but the sooner the better.

SECTION II.

4. Give the two participles and the first person plural of the sub-
junctive present of the following verbs : venir, conduire, faire,
survivre, suivre, humilier, voir, savoir.   Wherever you can, give
the Latin word whence these words proceeded.

5. Distinguish between the verb, *garder*, used transitively and
reflexively ; and translate :—

    (1.) Il nous le faut garder jour et nuit et de près.   (Racine.)

    (2.) Au-delà de ces lieux gardez-vous d'avancer.

6. Give six French neuter verbs conjugated with the auxiliary *être*.   In
such cases, what is the rule for the agreement of the past participle ?
Give short phrases illustrating your answer.   Also name any
other French neuter verbs conjugated sometimes with *avoir*, and
sometimes with *être*, and state any distinction conveyed according
as one or the other of these auxiliaries is employed.

7. When is *what* translated by *que ?* when by *quoi ?* when by *ce que?*
when by *ce qui ?*   Give short phrases illustrating your answer.

8. According to what principle of grammar do French adjectives
change their meaning according as they precede or follow the
noun ?   Translate :—*une fausse clef ; une clef fausse ; un
pauvre auteur ; un auteur pauvre ;* add other instances illus-
trating your rule.

9. Account for the different French prepositions used in translating :—
He permits me to ask a service from his father and he refuses
to help me with him.   Do you remember that ?   I was not
thinking of that.

SECTION III.

10. By what suffixes are adjectives formed from verbs ?   What is the
Latin original?   What part of the verb is employed to take the
suffix ?   Give illustrations.

11. Trace philologically the irregularities of the verb *voir*, with
especial reference to the preterite, future and past participle.

Explain also the process of derivation of *sois* and *fusse* (in the subjunctive of *être*) from Latin into French; adduce other instances.

12. Name some French dramatic writers anterior to Corneille, and state briefly the character of their principal works, naming at least one of each.

13. Analyse the criticism of *Le Cid* by the French Academy, and Corneille's answer to it; also give the main argument of either *Horace* or *Cinna*.

14. In what is Racine regarded as superior to Corneille, and in what is he inferior to him? Illustrate your answer by reference to *Andromaque, Phèdre* and *Athalie*.

15. Trace the various influences under which Victor Hugo wrote *Les Feuilles d'Automne, La Légende de Siècles, Les Châtiments,* and illustrate by reference to some of his poems (*a*) the royalist and catholic influence; (*b*) political and religious radicalism (*c*) dramatic and lyric inspiration.

FRENCH.

HONOURS.—SECOND PAPER.

Tuesday, 24th June.   12 to 2 P.M.

Candidates must in all cases attempt Question 1.   Only nine other questions to be attempted, of which at least three should be in Section II., two in Section III., and two in Section IV.

In this paper more credit will be given to few questions answered thoroughly than to more answered imperfectly and superficially.

SECTION I.

1. Translate into French :—

Canning was a man to dazzle popular audiences and persons who only saw him at a distance; but his colleagues took the measure of him, and we are certainly not blind to his extraordinary abilities when we express our opinion that they had not a little ground for acting as they did.

A restless manœuvrer, an able but self-sufficient minister, a lover of claptrap, and one who jests too freely, must expect to meet with opposition. The baffled career of a man at once so strong and so weak, so ambitious and so balked, is a great lesson, the effect of which ought not to be lessened by the attempt to lay the blame on other people. At this distance of time, one cannot help having a kindness for Canning, and wishing he had been successful; but if he was disappointed in his aims, we are compelled, in all justice, to admit that the fault lay with himself.

" *The Times,*" 1859.

Section II.

2. Give, *with examples*, the difference between the following pairs:—
envers, vers; entre, parmi; durant, pendant; avant, devant;
par terre, à terre; renommé par, renommé pour; au travers, à
travers; car, parce que.

3. Write, *in French*, a short letter to a friend, describing a week's
holiday in the Highlands of Scotland.

4. What is the derivation of the following adverbs, and what is their
meaning:—Comment, vivement, à reculons, aussi, autant, assez,
trop, guère, presque, environ, très, tantôt, derechef, oncques,
devant, loin? How are new adverbs formed in French?
Mention any important Latin adverbs which have disappeared
in modern French and have been replaced by new formations.

5. What do you understand by "la Renaissance"? How and where
did it manifest itself in France? What were the special causes
which introduced the movement into France? What writers
came immediately under its influence?

    (The answer to this question may be given either in English
or French.)

6. In what respects did the French language of the 13th century
differ from modern French? Give illustrations for each part of
your answer.

Section III.

7. What do you know of the following writers and their works:—
*Marot, Scudéry, Scarron, J. B. Rousseau, J. J. Rousseau, Gilbert,
A. Chénier, Lamartine?*

8. State who wrote:—*La Princesse de Clèves; Polyeucte; Esther;
Le Joueur; Mérope; Le génie du Christianisme; Hernani;
L'esprit des lois;* and state what you know of each of these
works.

9. State what you know of the "*Parallèles des Anciens et des
Modernes*" in the 17th century, and of the difference between
the Classical and Romantic Schools in modern French Literature.
Sketch the part taken by Boileau in the first and by Victor Hugo
in the second question.

10. In what consists Molière's unrivalled superiority as a comic
dramatist?

    Illustrate your answer by reference to not less than four of the
following works:—*L'Ecole des Femmes; Les Femmes Savantes;
Le Bourgeois Gentilhomme; L'Avare; Le Tartuffe; Le
Misanthrope; Le Malade Imaginaire.*

Section IV.

11. What do you mean by the continuance of the Latin accent in
French words? Adduce various instances illustrating your
answer.

12. How do you account for the existence of the following duplicate
French words having a common Latin origin:—*Cherté, charité;
nager, naviguer; chantre, chanteur; champ, camp; chapitrer,
capituler?* Adduce other instances.

13. Give instances of French words of (*a*) English origin; (*b*) German origin; (*c*) Italian origin; (*d*) Spanish origin; and give the approximate date of their introduction into French.

14. Illustrate by other examples the value of the following suffixes in French words :—*ard* in *brancard, billard, vieillard, fuyard; asire* in *folâtre, rougeâtre; son* in *liaison, venaison, guérison.*

15. What do you mean by French words of learned origin? Illustrate your answer by several words and give the etymology of each.

15. State what remains of the Celtic language of the Gauls in modern French, and explain the derivation of *lieue, arpent, brasseur, béquille.*

GERMAN.

Second Grade.

Wednesday, 18th June.   2 p.m. to 4.30 p.m.

Candidates must in all cases attempt both passages in Section I.

Section I.

1. Translate into English :—

Ein Bauer saß mit seinem kleinen Sohne auf einem Stein am Wege, um von der Arbeit auszuruhen und sein Mittagbrot zu essen. Der Weg aber war eng und auf beiden Seiten mit Dornbüschen bewachsen. Da trieb ein Schäfer seine Herde vorbei, und die spitzen Dornen rissen manchen von den Schafen große Stücke Wolle aus. Da wurde der Knabe zornig und rief: „Sieh nur die bösen Dornen, Vater, wie sie den armen Tieren wehe thun!" „Warte, mein Junge," antwortete der Landmann, „wir wollen morgen die Axt mitbringen und die ganzen Büsche abhauen." Damit war der Knabe zufrieden. Während sie aber noch so redeten, kamen Vögel geflogen, Finken, Lerchen und Drosseln; die sammelten die weißen Wollflocken von den Sträuchern und flogen lustig davon. „Was wollen die Vögel mit der Wolle machen?" fragte der Bube. „Sie bauen sich schöne weiche Nester damit," belehrte ihn der Vater. Da blieb der Knabe eine ganze Weile still; endlich sagte er kleinlaut (meekly): „Weißt du, Vater, laß nur lieber die Dornen stehen, sonst haben die hübschen jungen Vögel kein warmes Bett." Da klopfte ihm der Vater auf den Rücken und sagte: „So ist es recht, mein Sohn! da siehst du, wie alles weise eingerichtet ist, und jedes Ding seinen Zweck erfüllt."

2. Translate into German :—

Where are you going, Charles? I am going home. I will go with you. We live (say, dwell) now at Granton. My father has bought a new house. It is much larger than the old one, and has a fine garden. We see the sea from our windows. Do you know my brother William? No, I have never seen him. We shall find him at home. He was two years in Germany.

Has he learnt German ? Oh yes, he speaks it very well. Was he in Berlin ? No, at (say, in) a small town on the Rhine. How long will he remain (present tense) with you ? Five or six weeks ; then he goes to England where my sister lives. There is our house ; and here is my brother William ; I bring my friend, John Black. I am glad to see you, Mr. Black.

SECTION II.

1. Give the German words—in the nominative and genitive singular, and nominative plural, with the definite article—for any ten of the following :—table, knife, work, goose, lion, leg, head, river, field, wall, wood, hill, nose, leaf, place.
2. Decline, singular and plural, the German for *my book ; the great man ;* and the interrogative pronoun (who, what ?).
3. Give the German for :—8, 17, 21, 33, 47, 79, 111 ; the 2nd, 3rd, 41st.
4. Write out the German names of the days of the week, and the four seasons.
5. Write out the perfect indicative active of fein, and of fich freuen.
6. Give the 3rd singular, and 3rd plural present, imperfect, and perfect indicative active of : fingen, schneiden, machen, thun, wollen, bringen, denken, gehen, schlafen, laufen.
7. State the differences between the weak and strong conjugations.
8. Give two prepositions that govern the genitive, two that govern the dative, and two that govern the accusative.

GERMAN.

HIGHER GRADE AND FIRST PAPER FOR HONOURS GRADE.

Wednesday, 18th June. 2 P.M. to 5 P.M.

Candidates must in all cases attempt the passages for translation from and into German in Section I. They must also answer at least four questions in each of the two other Sections.

Additional marks will be given for fair writing in the German character.

SECTION I.

1. Translate into English :—

     a. Wir hatten jetzt die weit in das Meer sich erstreckende Landzunge, die wir umfahren mußten, erreicht. Auf der äußersten flachen Spitze, vom Meere rings umflutet, stand, von einer alten halbverdorrten Eiche überragt, noch eine Hütte, an die sich für mich viel köstliche Erinnerungen knüpften. Der alte Schmied Pinnow wohnte da, meines Freundes Klaus Pinnow Vater. Schmied Pinnow war für meine Knabenjahre unzweifelhaft die merkwürdigste Persönlichkeit gewesen. Er besaß vier alte doppelläufige Flinten, die er an jagdliebende Badegäste verlieh, und gelegentlich an uns Knaben, wenn wir gut bei Kasse waren ; denn Schmied Pinnow that nicht leicht etwas um Gottes willen. Außerdem hatte er ein großes Segelboot, ebenfalls nur zur

Benutzung der Badegäste, wenigstens in den letzten Jahren, wo er halb
blind geworden war und größere Bootfahrten nicht wohl unternehmen
konnte. Ehemals sollte er freilich ganz andere Fahrten von weniger
harmloser Natur gemacht haben; und die Steuerbeamten, meines
Vaters Kollegen, schüttelten die Köpfe, wenn sie auf Schmied Pinnow's
Vergangenheit zu sprechen kamen. Indessen, was ging uns Jungen das
an! Was ging es mich vor allen an, der ich den vier rostigen Jagdge-
wehren und des alten Pinnow's altem Boot die schönsten Stunden
meines Lebens verdankte und an Klaus Pinnow den besten Kameraden
von der Welt gehabt hatte! Gehabt, — denn seit den letzten vier
Jahren, wo Klaus beim Schlosser Wangerow in der Lehre und später
in der Arbeit war, hatte ich ihn nur noch selten gesehen, und seit einem
halben Jahre gar nicht wieder.

<div align="right">F. Spielhagen.</div>

b. Als noch, verkannt und sehr gering,
Unser Herr auf der Erde ging,
Und viele Jünger sich zu ihm fanden,
Die sehr selten sein Wort verstanden,
Liebt' er es gar über die Maßen,
Seinen Hof zu halten auf der Straßen,
Weil unter des Himmels Angesicht
Man immer besser und freier spricht.
Er ließ sie da die höchsten Lehren
Aus seinem heiligen Munde hören;
Besonders durch Gleichnis und Exempel
Macht' er einen jeden Markt zum Tempel.

<div align="right">Goethe.</div>

2. Translate into German :—

Soon after, Tell came with his little son, Walter, to the village
to visit his father-in-law. When he passed the pole with the
hat, he turned his head away, and did not salute it. At once he
was seized by the guard. While the people were crowding
round them, Gessler came riding along, and learnt what had
happened. As he hated Tell, he rejoiced to have him in his
power, and said to him with a wicked smile, "I hear that you
are the best shot in the country. Well then, show your skill
by shooting this apple from the head of your child. If you hit
the mark, you shall be set free." But Tell declined to trifle
(play) with the life of his child, and only yielded at last when
the boy placed himself at a distance, laid the apple on his head,
and called aloud to his father to shoot. Then Tell raised the
bow, and let fly the arrow; and with joyous shouts the boy
came running with the apple hit right through the centre. The
crowd applauded the skilful bowman; but Gessler said to him,
"I saw you put another arrow into your girdle, what was that
for?" Tell replied, "Had I hit my child's head, this second
arrow would have pierced your heart!"

Section II.

1. Distinguish between :—

     Der Kunde — die Kunde.
     Das Steuer — die Steuer.
     Die Bande — die Bände — die Bänder.
     Die Laster — die Lasten.
     Das Kapitel — das Kapital.
     Gebetet — gebeten — geboten.
     Verständig — verständlich.
     Heimlich — heimisch.

2. Mention (a.) three feminine, and three neuter, nouns in =nis; (b.) three masculine, and three feminine, compounds with =mut.

3. Point out the irregularities in the declension of Auge, Herz, Bauer ; and give the plural (or plurals, with meanings) of Licht, Mond, Rat.

4. Show how *adjectives*, formed from names of persons, places, and nations, are declined, *e.g.*, " in the Scotch Highlands," " some of the Berlin hotels," " one of Goethe's (*adj.*) poems ";—also translate " of the Emperor William," both with and without the article.

5. Express in German words : $1\frac{1}{2}$, $2\frac{1}{2}$, $3\frac{2}{3}$, $4\frac{3}{4}$; $7 \times 15 = 105$.

6. Give the 2nd singular and 2nd plural, present, imperfect, perfect indicative, and the (same persons) imperative of: vergessen, heiraten, studieren, mißbilligen, entnehmen, angreifen, du'rchlaufen, durchlau'fen, sich ü'berlegen, sich (etwas) überle'gen.

7. State the cases in which the past participle is made without the prefix ge=.

Section III.

1. Add the definite article and meaning to *any ten* of the following nouns, and mention the verbs from which they are derived:— That, Rätsel, Kunst, Frost, Verlust, Trieb, Geruch, Macht, Vernunft, Verstand, Witz, Pflicht, Schrift, Gewicht, Gewalt.

2. Show, by examples, what you understand by the " ethical dative."

3. Show how the English *possessive adjective* is turned idiomatically into German in phrases such as :—this watch is *mine ;* I tread on *his* foot ; *my* head aches ; I have hurt (knocked, stoßen) *my* head.

4. Translate, with due regard to the sequence of tenses, both *with* and *without* the conjunction (*that, if*) expressed :—
     (a.) He told me that he had not done it.
     (b.) They told us that they had not done it.
     (c.) If he could come to-morrow, I would go with him.
     (d.) I know that I ought not to have done it.

5. Exemplify the idiomatic use of prepositions by giving the German for *any ten* of the following expressions:—on foot, on horse-back, aside, in the street, at the ball, in German, in spite of the

weather, with all my heart, on the way, not in one's senses, along the road, for this reason, in a loud voice, at my expense, in the morning.

6. Mention three German poets of the last, and two of the present, century.

7. Give the titles of five German plays, with the names of their authors.

GERMAN.

HONOURS.—SECOND PAPER.

Tuesday, 24th June. 3 P.M. to 5 P.M.

Candidates must in all cases attempt Section I. Not more than eight other questions to be attempted, of which at least three should be in Section II., and three in Section III.

In this paper more credit will be given to few questions answered thoroughly than to more answered imperfectly and superficially.

Additional marks will be given for fair writing in the German character.

SECTION I.

Translate into German :—

Thus the first months of his life in the capital fled rapidly away ; and it was well for him that he took so much interest in his studies, for Fink's words proved right in one respect. In spite of the daily meal in the stately dining-room, Anthony remained as great a stranger as ever to the principal and his family. He was too rational, indeed, to complain of this, but he could not help feeling depressed by it; for, with the enthusiasm of youth, he was ready to revere his chief, as the ideal of mercantile greatness. He admired his sagacity, decision, energy, and inflexible uprightness, and would have been devoted to him heart and soul, but that he so seldom saw him. Of an evening, when the merchant was not at some meeting or at his club, he lived only for his sister whom he loved most tenderly.

SECTION II.

1. Give the meanings, and explain the anomalous features of the following expressions:—auf Erben, gutes Muts, des Nachts, schlechterdings, meinetwegen, allenthalben, er frug.

2. Explain the radical differences in the following forms of the same verb :—bin, ist, war, sei, gewesen.

3. State some of the characteristic phonetic differences between High and Low German speech, and say what languages you include under the latter distinction. [For illustration use the words *tongue, thank, deed, wake, wife, sleep, daughter, plough.*]

4. What do you understand by Old High German, and Middle High German?

c 2

5. Give the German, or English, *etymological* equivalents of *any ten*
words of *each* of the two following sets (adding, in each case,
the exact meaning of the German word):—

    (*a.*) Harvest, bridegroom, yawn, the tear, whole, leap, horse,
next, to ply, to starve, ivy, maid, dove, nail, behind,
to blow (bloom), to ask;

    (*b.*) Bereit, Lenz, Wein, Dach, sehr, doch, Fürst, selig, Baum, Vogel,
tapfer, Wald, tüchtig, Kerl, würgen, zähe, Kleid.

6. (*a.*) What advantages, in point of style, has German poetry over
German prose? (*b*) What are the advantages and disadvantages
of German, as compared with English, in translating foreign
poetry?

7. Give the meaning of *any ten* of the following reflexive verbs, and
state what case or preposition is required with them:—sich
erinnern, sich rächen, sich empfehlen, sich schämen, sich beklagen, sich
befassen, sich sehnen, sich widersetzen, sich entledigen, sich verstehen, sich
ärgern, sich irren, sich bedienen, sich überzeugen, sich enthalten.

8. Give the German of five of the following idiomatic phrases:—

    (*a.*) Such men as we require.
    (*b.*) The tree at the foot of which we are sitting.
    (*c.*) Much as I regret it.
    (*d.*) The day after to-morrow at the latest.
    (*e.*) Send for the doctor!
    (*f.*) It is all very well for you to laugh.
    (*g.*) He had him hanged.

SECTION III.

1. State briefly what you know about *two* of these three:—Hilde-
brandslied, Nibelungenlied, Gudrun.

2. What do you understand by Minnesänger and Meistersänger? and
name some of each.

3. What constitutes the great importance of Luther's writings from a
purely literary point of view?

4. What were the principles involved in the literary feud between
Gottsched and Bodmer?

5. Characterise briefly what is implied in the following terms:—
Sturm und Drang, Romantiker, Göttinger Dichterbund, Schwäbische
Dichterschule.

6. Name some of the principal German Humourists, and give some
account of their chief works.

7. Characterise Lessing's literary activity.

8. Mention three distinguished dramatic writers, three novelists, and
three lyric poets, whose literary activity falls partly or wholly
within the present century.

9. Assign any *twelve* of the following works to their respective
authors, and characterise them in a single word (drama, epic,
&c.): Parzival, Tristan und Isolde, Reineke Fuchs, Messias, Oberon,
Nathan der Weise, Stimmen der Völker, Luise, Werther's Leiden,
Peter Schlemihl, Die Glocke, Götz von Berlichingen, Don Carlos,
Emilia Galotti, Buch der Lieder, Siebenkäs, Geharnischte Sonette,
Zriny, Julius von Tarent, Herzog Ernst von Schwaben, Soll und
Haben.

ITALIAN.

HIGHER GRADE.

Monday, 23rd June. 2 P.M. to 5 P.M.

1. Translate into Italian :—

Just a line to tell you of our safe arrival in Rome. We had a very pleasant journey, and got all the luggage safely through the custom house without almost any trouble. We have got charming rooms at Miss Smith's, in Piazza di Spagna, in the very heart of old Rome. Our windows look on the busy Piazza, full of flower-sellers and vendors of lace and coral, who torment us to buy every time we go out or in. It is all very Roman, and we are luxuriating in glorious sunshine and blue sky. No time for more just now, as we are off to St. Peter's, and I do not want to miss the post.

2. Translate into English :—

(A.)   Io comincia; Poeta, volentieri
Parlerei a que' duo, che insieme vanno,
E *paion* sì al vento esser leggieri.
    Ed egli a me; Vedrai, quando saranno
Più presso a noi; e tu allor li prega
Per quel amor ch'i mena; e quei *verranno*.
    Sì tosto come il vento a noi li piega,
Mossi la voce; O anime affannate,
Venite a noi parlar, s'altri nol niega.
    Quali colombe dal disio chiamate,
Con l'ali aperte e ferme, al dolce nido
Vengon per aer dal voler portate;
    Cotali uscir della schiera ov' è Dido,
A noi venendo per l'aer maligno;
Sì forte fu l'affetuoso grido.

(B.) "La signora," rispose *quegli*, "è una monaca; ma non è una monaca come le altre. Non mica ch'ella sia la badessa, nè la priora; che anzi a quel che dicono, è una delle più giovani; ma è della costola d'Adamo, e i suoi del tempo antico erano gente grande, venuta di Spagna, dove son quelli che comandano; e però la chiamano la signora, per dire che ella è una gran signora e tutto il paese la chiama per quel nome, perchè dicono che in quel monastero non hanno avuto mai una persona simile; e i suoi d'adesso, laggiù a Milano contano assai, e son di quelli che hanno sempre ragione; e in Monza ancor più, perchè suo padre, quantunque non *ci stia*, è il primo del paese, onde anch' essa può fare alto e basso nel monastero; e anche la gente di fuori *le* portano un gran rispetto; e s'ella piglia un impegno, *riesce* poi anche a spuntarlo; però se quel buon religioso ch' è lì *ottiene* di *mettervi* nelle sue mani, e ch'ella vi accetti, vi *so dire* che sarete sicure come sull' altare."

3. Parse (if verbs, conjugate) and account for the construction of the words printed in *italics* in passages (A) and (B).

4. Give the etymology of the following words, and compare them, in respect of the normal changes they have undergone, with the corresponding words in French :—*fuoco, fiore, freddo, notte, mano, scritto.*

5. Translate and comment on the following :—
       (1.) Egli è più riceo ch'io non pensava.
       (2.) Non ne eonosco il nome.
       (3.) Temo cen privi.
       (4.) Voglio dârgliene.
       (5.) Le mani per dolor mi morsi.

6. Translate into Italian :—
       (1.) I would do it if I could.
       (2.) Here is the letter I received yesterday.
       (3.) They speak turn about.
       (4.) As soon as I saw him, I spoke to him.
       (5.) This doetor does not know how to treat his patients.

7. Give a brief account of the life of Dante, with dates. Mention his principal works, and state, shortly, the subjeet of each.

ARITHMETIC.

Second (or Lower) Grade.

Monday, 16th June. 10 A.M. to 11.30 A.M.

Candidates need not attempt more than three-fourths of this paper. But any omissions, whether of reasoning, explanation, or calculation, will be treated as errors. Additional marks will be given for neatness and good style.

1. Find the cost of 3 cwt. 2 qrs. 11 lbs. at £6 3s. 8d. per ewt.

2. In a division sum the divisor is 8,274, the quotient is 94,907, and the remainder 65 ; what is the dividend ?

3. Find the greatest common measure of 18,369 and 27,632.
Find the least number which, when divided by 143, 165, and 60, leaves a remainder of 9 in each ease.

4. Among how many people must a sum of £420 11s. 10½d. be divided so that each may receive £3 5s. 2½d. ?

5. Multiply $3\cdot4 \times \cdot34 \times \cdot034 \times 3400$, and divide $362\cdot6$ by $\cdot00259$.

6. Simplify :—
       (1.) $9\frac{1}{2} - 5\frac{1}{10} + 6\frac{8}{25}$;
       (2.) $\dfrac{3\frac{3}{4} \text{ of } 4\frac{1}{5}}{2\frac{1}{4} - 1\frac{4}{5}} \div \dfrac{2 - \frac{2}{3}}{2\frac{2}{3}}$.

7. If 6 men ean reap 24 aeres in 3 days, working 12 hours a day, in what time eould 9 men, working 10 hours a day, reap a square field, the length of each side being 2 furlongs ?

8. Find tho interest on £500 for 84 days at $6\frac{1}{12}$ per eent. per annum.

9. How many meshes are there in a square foot of wire gauze, each mesh being ·3 of au ineh long aud ·1 of an inch wide ?

10. Add together ·2625 of £1, ·0625 of 13s. 4d., and 8·25 of 9d.

11. Show that $\sqrt{7}$ is intermediate in value between $\frac{66}{25}$ and $\frac{53}{20}$.

12. (1) Add together ·05 and ·6 as deeimal fraetions.
    (2) Reduce the two given fraetions to vulgar fraetions, add them together in that form, and show that the result is equal to tho deeimal fraction already obtaiued.

ARITHMETIC.

HIGHER GRADE AND HONOURS.

Monday, 16th June.   10 A.M. to 11.30 A.M.

Candidates need not attempt more than three-fourths of this paper. But any omissions, whether of reasoning, explanation, or calculation, will be treated as errors. Additional marks will be given for neatness and good style.

1. If 18 tons of coal are carried 250 miles by rail for £7 10s., how much will it cost to send 280 tons a distance of 360 miles by a ship whose charges are $\frac{3}{10}$ of the charges by rail.

2. Simplify the expressions:—

   (1.) $\dfrac{45}{308}$ of $\dfrac{176}{1017}$ of $\dfrac{63}{220}$.

   (2.) $\dfrac{\frac{2}{3} + \frac{4}{5}}{\frac{3}{5} - \frac{1}{3}} \div \dfrac{\frac{3}{4} - \frac{2}{5}}{\frac{2}{5} + \frac{1}{4}}$.

   (3.) $\dfrac{7\cdot3 - 4\cdot26}{\cdot0017}$.

3. (1) Reduce $\frac{1}{7} - \frac{3}{11} + \frac{2}{9}$ to a single vulgar fraction.

   (2) Bring each of the given fractions to a decimal fraction, obtain the result required in that form, and show that it is equal to the vulgar fraction already obtained.

4. Explain the terms Principal, Interest, Discount.
   The interest on £110 for a certain time is £11.   Find the discount for that time.

5. A bookseller buys books to the nominal value of £182, but he gets $3\frac{1}{2}d.$ in the shilling discount.   How much does he expend?

   If, in addition to the discount named, the publisher send him 13 copies at the price charged for one dozen, and the bookseller sells the books at a discount of $3d.$ in the shilling, what is the amount of his profit on the transaction?

6. State and prove the rule for the division of one decimal fraction by another.
   Divide $5178\cdot24$ by $\cdot0192$, and $5\cdot17824$ by 19200.

7. Find the thickness and solid content of an armour plate 22 ft. by 15 ft., weighing 25 tons, having given that $5\frac{1}{2}$ cubic feet of iron weigh a ton.

8. If a dishonest dealer uses a weight of $15\cdot03$ oz. for 1 lb. avoirdupois, and professes to sell his goods at cost price, what does he gain per cent.?

9. Find the compound interest on £7,250 for $2\frac{1}{2}$ years at 6 per cent.

10. Which would yield the better return, Great Western Stock at $136\frac{1}{2}$ or Caledonian Stock at 125, the former paying $5\frac{1}{2}$ per cent. dividend and the latter 5 per cent.? If a man sold £1,000 of the less profitable stock and invested the proceeds in the other, what additional income would he receive, assuming that he paid $\frac{1}{8}$ per cent. brokerage on the stock sold?

11. Find the cube root of $381\cdot078125$.

ALGEBRA.

SECOND (OR LOWER) GRADE.

Monday, 16th June.   3 P.M. to 4.30 P.M.

*Candidates need not attempt more than three-fourths of this paper.
But any omissions, whether of reasoning, explanation, or calculation,
will be treated as errors.   Additional marks will be given for neatness
and good style.*

1. If $a=16$, $b=10$, $c=5$, $d=-1$,
    find the values of
    - (1.) $(a-b+c)^2-(b-c+d)^2-a(b-3c)$.
    - (2.) $\sqrt{(a-b)\ (c-d)}-3[a-\{b+(c-d)\}]$.

2. Prove that
    $$(x^2+3x+1)^2-1=x(x+1)\ (x+2)\ (x+3),$$
    and divide
    $$a^4-a^3b-ab^3+b^4 \text{ by } a^2+ab+b^2.$$

3. If $x=a+d$, $y=b+d$, $z=c+d$,
    show that $x^2+y^2+z^2-yz-zx-xy=a^2+b^2+c^2-bc-ca-ab$.

4. Resolve into factors :—
    - (1.) $a^4-16b^2\ c^2$.
    - (2.) $3x^2-5x+2$.
    - (3.) $x^2-11x+10$.
    - (4.) x^7-x^{10}.
    - (5.) $(a-2b)^2-(a-4b)^2$.

5. Simplify :—
    - (1.) $\dfrac{\dfrac{x+y}{x-y}-\dfrac{x-y}{x+y}}{\dfrac{x+y}{x-y}+\dfrac{x-y}{x+y}} \times \left(\dfrac{x}{y}+\dfrac{y}{x}\right)$.

    - (2.) $\dfrac{x-2+\dfrac{1}{x}}{x+2+\dfrac{1}{x}} \div \left(\dfrac{x-\dfrac{1}{x}}{x+\dfrac{1}{x}}\right)^2$.

6. Divide 59 into two parts, such that if one be divided by 4 and the
    other by 13, the sum of the result is 8.

7. Solve the equations :—
    - (1.) $\dfrac{4x-3}{5}-\dfrac{3x-8}{7}=\dfrac{4x+7}{11}$.
    - (2.) $2x\ (x-7)+3\ (3x-4)=0$.
    - (3.) $2x-3y=7y-4x=1$.

8. A and B began to trade, A with 3 times as much capital as B.
    A gained £250 and B lost £70; and then 4 times A's capital
    was exactly 15 times B's.   Finds their original capitals.

9. Express the square root of :—
    - (1.) $169a^4\ b^6\ c^{10}$.
    - (2.) $(2a-b)^2-2(2a-b)\ (a-2b)+(a-2b)^2$.
    - (3.) $a^2+4b^2+9c^2-12bc+6ca-4ab$.

10. Solve the equations :—

$$(1.)\ \frac{x+a}{x-b} + \frac{x+b}{x-a} = 2.$$
$$\frac{x}{a} = \frac{y+b}{c} = \frac{x+y}{b}.$$
$$(3.)\ \frac{2x+3}{x} - \frac{3x-7}{x-1} = 2.$$

11. What number is that which, together with its square root, amounts to 42 ? Show that there are two algebraical solutions to this problem, and explain the reason of this.

ALGEBRA.

HIGHER GRADE AND HONOURS.

Monday, 16th June. 3 P.M. to 4.30 P.M.

Candidates need not attempt more than three-fourths of this paper. But any omissions, whether of reasoning, explanation, or calculation, will be treated as errors. Additional marks will be given for neatness and good style.

1. Prove that $a^m \times a^n = a^{m+n}$, when m and n are positive integers.
   Assuming the above law to hold true for all values of m and n, obtain interpretations of a^o, a^{-m}, $a^{\frac{1}{m}}$.

2. Simplify the expressions :—

   $$(1.)\ \frac{1}{3x+2y} - \frac{2}{3x-2y} + \frac{7(x+y)}{9x^2-4y^2}.$$
   $$(2.)\ \frac{x^2+3x+2}{x^2+2x-3} \div \frac{x^2+2x+1}{x^2+x-6}.$$
   $$(3.)\ \left\{ \sqrt{1-x} - \frac{1}{\sqrt{1+x}} \right\} \times \frac{1}{1 - \dfrac{1}{\sqrt{1-x^2}}}.$$

3. Prove the identity :—
   $$a^4+b^4+c^4+2abc\,(a+b+c) = (a^2+b^2+c^2)\,(bc+ca+ab) + a^2\,(a-b)\,(a-c) + b^2\,(b-c)\,(b-a) + c^2\,(c-a)\,c-b).$$

4. Show that a quadratic equation cannot have more than two roots.
   If p, q are the roots of the equation $ax^2+2bx+c=0$, prove that $p^3+q^3 = \frac{2b}{a^3}\,(3ac-4b^2)$.

5. Solve the equations :—

   $$(1.)\ \frac{x+1}{x-1} = \frac{x+5}{x-5} - \frac{6}{7}.$$
   $$(2.)\ \left. \begin{array}{l} x^2+xy=28 \\ xy-y^2=3 \end{array} \right\}.$$

6. (1.) Simplify $\dfrac{49}{3-\sqrt{2}} + \dfrac{94}{2-7\sqrt{2}}.$

   (2.) Find the square root of $14-6\sqrt{5}$.

7. Solve the equation :—
$$2\sqrt{3x+7} = 7 + \sqrt{2x-3}.$$
Will both the values of x obtained satisfy the equation? If not, explain the reason.

8. Obtain an expression for the sum of n terms of (1) an arithmetic, (2) a geometric series.

Find the 10th term and the sum of 10 terms of the series :—
$$\frac{1}{8} + \frac{1}{4} + \frac{1}{2} + \cdots$$

9. When a certain number is divided into two parts in the ratio of x to y, the former part is 120. When it is divided into two parts in the ratio of x to z, the former part is 140. When it is divided into two parts in the ratio of y to z, the former part is 126. Find the number.

10. Prove the binomial theorem for a positive integral index.

Find the coefficient of x^{-6} in $\left(\dfrac{x}{a} - \dfrac{a}{x}\right)^{10}$.

GEOMETRY.

Second (or Lower) Grade.

Monday, 16th June. 12 noon to 2 p.m.

Candidates need not attempt more than three-fourths of this paper. But any omissions, whether of reasoning, explanation, or calculation, will be treated as errors. All ordinary contractions may be used. Additional marks will be given for neatness and good style.

1. Define a point, a plane surface, an acute-angled triangle, parallel straight lines, a rhombus, and a circle.

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

   If the angles at the base of an isosceles triangle be bisected, and the bisectors be produced to meet in a point, show that the line joining this point to the vertex bisects the vertical angle.

3. To describe a square on a given finite straight line.

   ABCD is a square whose sides AB, BC, CD, DA, are produced to E, F, G, H, so that AE=BF=CG=DH. Prove that EFGH is a square, and assuming that AE=4 AB, find the length of EF compared with AB.

4. If a straight line be divided into two equal and also into two unequal segments, the sum of the squares on the two unequal segments is double the sum of the squares on half the line and on the line between the points of section.

5. Show that if the square on one side of a triangle be less than the sum of the squares on the other two sides, the angle between these sides is an acute angle.

6. If a straight line drawn through the centre of a circle bisect a chord which does not pass through the centre, it shall cut it at right angles.

Show that the straight line which joins the mid-points of two parallel chords passes through the centre of the circle.

7. The straight line drawn from the point of contact of a tangent to a circle perpendicular to the tangent, passes through the centre of the circle.

A number of circles touch a given straight line at a given point. Find the locus of their centres.

8. If a straight line touch a circle, and from the point of contact a straight line be drawn cutting the circle, the angles which this line makes with the line touching the circle shall be equal to the angles in the alternate segments of the circle.

A and B are fixed points and CD is parallel to AB. A circle is described touching CD at C, and AC, BC meet this circle in E and F, show that a circle may be described through the points A, B, E, F.

9. If two chords of a circle intersect at right angles within the circle, prove that the sum of the first and third of the four arcs into which the circumference is divided, is equal to the sum of the second and fourth.

If two chords of a circle when produced intersect at right angles outside the circle, prove that the largest of the four arcs exceeds the one opposite to it by a semi-circumference.

GEOMETRY.

HIGHER GRADE AND HONOURS.

Monday, 16th June. 12 noon to 2 P.M.

Candidates need not attempt more than three-fourths of this paper. But any omissions, whether of reasoning, explanation, or calculation, will be treated as errors. All ordinary contractions may be used. Additional marks will be given for neatness and good style.

1. The straight lines which join the extremities of two equal and parallel straight lines towards the same parts are themselves equal and parallel.

In the parallelogram ABCD, equal distances AE, BF, CG, DH are cut off from the sides AB, BC, CD, DA; show that the figure enclosed by the lines AF, BG, CH, DE is a parallelogram.

2. Describe a square equal to a given rectangle.

Show that the perimeter of a rectangle is always greater than that of the square which is equal to it in area.

3. If CD be a chord in a circle parallel to the diameter AB, and P be any point in AB, show that

$$CP^2 + PD^2 = AP^2 + PB^2.$$

4. Prove that triangles which are equiangular are also similar.

Through D, the mid-point of the base BC of the triangle ABC, a straight line is drawn cutting AC in E and AB in F, show that $AF : FB = AE : EC$.

5. 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.

6. Define the inclination of a given straight line to a given plane.
   From a given external point draw a straight line making a given angle with a given plane.

7. If a solid angle is formed by three concurrent straight lines, show that any two of the plane angles at the common vertex are greater than the third.

8. Define the centres of similitude of two circles which do not intersect.
   If from O, the external centre, a line is drawn cutting the first circle in A, B, and the second in C, D, show that the rectangle OA · OD is of constant magnitude.

9. Show that the three medians of a triangle meet in a point, and that the straight lines joining the angles to that point divide the triangle into three equal parts.

10. ABC is a given triangle.   Describe a square which shall have one angle on AB, one on AC, and two on BC.

TRIGONOMETRY AND LOGARITHMS.

HIGHER GRADE AND HONOURS.

Monday, 23rd June.   10 A.M. to 11.30 A.M.

Candidates need not attempt more than three-fourths of this paper. But any omissions, whether of reasoning, explanation, or calculation will be treated as errors. Additional marks will be given for neatness and good style.

The use of a book of mathematical tables is allowed, provided that it contain no manuscript notes or printed matter other than such as refers to the use of the tables.

1. How is an angle measured in circular measure ?
   What is the unit of circular measure ?   Give any name which has been proposed for this unit ?
   Express, both in circular measure and in degrees, the angle at the centre of a circle of radius 9 feet which stands on an arc of 44 feet. $\left(\text{Take } \pi = \dfrac{22}{7} . \right)$

2. Define the sine and cotangent of an angle.
   Show that their magnitudes depend only on the size of the angle, and not on the lengths of its arms.

3. Prove the formulæ—
   (1) $\sin^2 A + \cos^2 A = 1$;
   (2) $\sin A = \dfrac{\tan A}{\sqrt{1 + \tan^2 A}}$;
   (3) $(\tan A + 1)(\cot A + 1) = 2 + \sec A \operatorname{cosec} A$.

4. Prove geometrically that
$$\sin (A + B) = \sin A \cos B + \cos A \sin B.$$
Deduce corresponding formulæ for $\sin (A - B)$ and $\cos 2\,A$.

5. Trace the changes in value and sign of the cosine of an angle as the angle varies—
      (1.) From 0° to 360°.
      (2.) From 0° to $-$ 360°.

6. Find an expression for all the angles which have the same sine as a given angle.
    Solve the equation—
$$\sin^2 \theta + \sin \theta = \cos^2 \theta.$$

7. In any triangle, if A, B, C be the angles, a, b. c the opposite sides, and R the radius of the circumscribing circle, prove—
    (1.) $a \cos B + b \cos A = c$.
    (2.) $\dfrac{a}{\sin A} = \dfrac{b}{\sin B} = \dfrac{c}{\sin C} = 2R$.
    (3.) $\cos \dfrac{A}{2} = \sqrt{\dfrac{(a + b + c)\,(b + c - a)}{4\,bc}}$.

8. Define the logarithm of a number to the base 10.
    Prove that $\log ab = \log a + \log b$.
    If $\log 2 = \cdot 30103$, find, without using the table, the logarithms of $\cdot 002$, $20{,}000$, $\dfrac{4}{5}$, $\sqrt[3]{4}$,   and $\cdot 03125$.

9. Employ a table of logarithms to find, as correctly as possible,
    (1.) $\dfrac{3 \cdot 067 \times 4 \cdot 528}{7 \cdot 595}$.
    (2.) $(1 \cdot 04)^{20}$.
    What commercial result will the second answer represent?

10. In the triangle ABC, if $a = 102$, $b = 98$, $C = 60°$, find A, B, c, the last correct to two places of decimals.

GEOMETRICAL CONICS.

HIGHER GRADE AND HONOURS.

Monday, 23rd June.   12.30 P.M. to 2 P.M.

Candidates need not attempt more than three-fourths of this paper. But any omissions, whether of reasoning, explanation, or calculation, will be treated as errors. Additional marks will be given for neatness and good style.

1. Define a parabola.
    A is a fixed point and ASX a fixed straight line, and, from any point N in AX, NP is drawn perpendicular to AX, so that $PN^2 = 4\ AS \cdot AN$. Show that the distance of P from S is always equal to its distance from a certain fixed straight line.

2. If S be the focus of a parabola and the tangent at P meet the axis in T, prove that $ST = SP$.

     ABCD is a rhombus, and a parabola is described with A as focus touching BD in D. Find its axis, vertex, and directrix.

3. In the parabola, if QV be an ordinate to the diameter PV, then $QV^2 = 4\ SP.PV$.

     If QV and the tangent at P cut the axis in L and T, and if from TP TK be cut off equal to $\frac{1}{2}$ QV, show that TP touches the circle described about KSL.

4. If TP, TQ be two tangents to an ellipse of which S, H are the foci, prove that the angles STP, HTQ are equal.

     Two ellipses are drawn, each of which touches two straight lines AB and AC, and having one focus D common to both. If E and F be the other foci, show that the straight line EF passes through the point A.

5. If P and Q be points in an ellipse, of which C is the centre, and CQ be conjugate to CP, then will CP be conjugate to CQ.

6. The focus, directrix, and one point on an hyperbola being given, show how to find any number of points on the curve.

7. If C be the centre of an hyperbola, and E be the point where an asymptote meets the directrix, show that CE is equal to the semi-axis major.

     Having given the axis, the directrix, and an asymptote, find the focus.

8. Prove that the section of a cone by a plane is a parabola, an ellipse, or a hyperbola.

     A sphere rests on a plane surface. Show that its elliptical shadows, formed on the surface by the light from two luminous points, have a common focus.

ANALYTICAL GEOMETRY.

HIGHER GRADE AND HONOURS.

Monday, 23rd June.   3 P.M. to 4.30 P.M.

Candidates need not attempt more than three-fourths of this paper. But any omissions, whether of reasoning, explanation, or calculation, will be treated as errors. Additional marks will be given for neatness and good style.

In questions 1—7 the axes may be assumed to be rectangular.

1. Explain how the position of a point is determined by Cartesian co-ordinates.

     Find the distance between the points (6, 7) (11, −5).

2. Prove that the equation $Ax + By + C = 0$ represents a straight line, and show how to bring it into the form $x \cos \alpha + y \sin \alpha = p$.

     Find the length of the perpendicular from the origin to the line $x - \sqrt{3}.y + 6 = 0$, and the angle which this perpendicular makes with the axis of x. Illustrate by a figure.

3. Draw the following lines and find the area of the triangle which they enclose :—

$$x-y=1, \ x-2y=1, \ x=3.$$

4. Show that the equation :—

$$(x-a_1)\ (x-a_2) + (y-b_1)\ (y-b_2) =0$$

represents a circle, the extremities of the diameter of which are $(a_1,\ b_1)\ (a_2,\ b_2)$.

Find the equation of the chord common to this circle and to the circle which passes through $(a_2\ b_1)$ and has the origin for its centre.

5. Assuming that $y^2=4ax$ is the equation to a parabola, find the equation to the line touching the parabola at the point $(h,\ k)$.

Show that two tangents can be drawn to a parabola from an external point.

6. Obtain the equation to an ellipse referred to its axes as co-ordinate axes.

If $lx+my=p$ be a tangent to an ellipse, show that
$$a^2l^2+b^2m^2=p^2.$$

7. If $\dfrac{x^2}{a^2}-\dfrac{y^2}{b^2}=1$ be the equation to a hyperbola, prove that the equations $bx=amy$, $ay=bmx$, represent a pair of conjugate diameters.

8. Assuming that the equation to the hyperbola referred to its asymptotes as axes is $xy=c^2$, find the equation to the tangent at the point $(h,\ k)$, and show that the portion of the tangent intercepted between the axes is bisected at the point of contact.

ELEMENTS OF DYNAMICS.

Tuesday, 24th June. 10 A.M. to 11.30 A.M.

Candidates need not attempt more than three-fourths of this paper. But any omissions, whether of reasoning, explanation, or calculation, will be treated as errors. Additional marks will be given for neatness and good style.

1. Explain what is meant by component and resultant velocities. If two component velocities are equal, prove that the resultant bisects the angle between them.

2. A balloon is rising, and just as it reaches the height of 1,000 feet, a stone is dropped from it. If the stone reach the ground in ten seconds, find the velocity with which the ballon was rising, assuming the acceleration due to gravity to be 32 feet per second in a second, and neglecting the resistance of the air.

3. State the third law of motion, and give two illustrations of its action.

A bomb-shell, moving with a velocity of 300 feet per second, bursts into two equal fragments. By the explosion, one part is reduced to rest. Find the initial velocity of the other fragment.

4. Show in what way mechanical advantage is obtained by the use of a lever.

Show that a pair of scales, a toothed wheel, and a pair of shears, may be regarded as levers, and indicate the relation between the power and the weight in each case.

5. Prove the proposition known as the polygon of forces.

Find, in magnitude and direction, the resultant of forces of 16, 11, 4, and 6 units acting at a point in directions parallel to the sides of a square taken in order.

6. Find the centre of gravity of a triangle.

One diagonal of a quadrilateral bisects the other. Show that the former diagonal passes through the centre of gravity of the quadrilateral.

7. Define work and state how it is measured.

What is a horse-power?

How much work is done by a man of 15 stones weight in ascending a mountain 4,400 feet in height?

If he take $3\frac{1}{2}$ hours to reach the top, at what rate in horse-powers does he work?

8. Show that in a fluid not acted on by external forces the pressure is the same at all points and in all directions.

9. How may a common pump be transformed into a force-pump?

It is required to raise water by a force-pump from the bottom of a pit 100 feet deep. Where should the pump be placed in order to raise the water with the least strain on the valves of the pump?

BOOK-KEEPING.

Friday, 20th June.   10 A.M. to 1 P.M.

Record the following transactions in the form of Journal provided; post from thence into the Ledger, inserting dates and folio references; adjust the accounts; and exhibit the final result in a Balance Sheet.

Marks will be given principally for correctness in Ledger Entries.

On the 1st January, 1890, William Thompson finds the state of his affairs to be as follows:—

ASSETS.

	£	s.	d.
Cash at Bank	1,864	2	11
„ Office	25	17	9
Due by T. Jackson	55	2	6
Acceptance of J. Hampton, due 4th January	137	0	6
Stock of Wine	1,100	0	0
Lease, goodwill, fixtures	400	0	0

LIABILITIES.

	£	s.	d.
P. Berry (Loan at 5 %) - - -	210	0	0
Acceptance to G. Baker, due 10th January	308	14	10
F. George, balance of account - -	75	2	9

The following transactions belong to the month of January :—

1890. £ s. d.

Jan. 1. Paid cheque to P. Berry for year's
interest - - - 10 0 0

,, ,, Placed on deposit at 3 % with
bank - - - - 1,000 0 0

,, 2. Sold wine to T. Mason - - 164 3 7

,, ,, Bought wine of G. Stonehouse - 326 4 10

,, 3. Received J. Hampton's accept-
ance (due April 4th) for - 138 16 9

,, ,, In renewal of acceptance due 4th;
charging three months' interest
at 5 %, and stamp - - 1 16 3

,, 5. Sold wine to H. Hobson - - 214 2 11

,, 6. Consigned wine to R. Colliuson,
invoiced at - · - 148 6 9
To be sold on my account at
5 % commission.

,, ,, Packing and carriage of same,
paid out of office cash - - .5 3 8

,, 7. Paid cheque to F. George - 71 7 0

,, ,, And was allowed discount - 3 15 9

,, 8. Bought wine of F. George - 84 2 7

,, 10. Bank paid my acceptance - 308 14 10

,, 11. H. Hobson, returned wine - 26 4 3

,, 19. T. Mason, paid on account - 100 0 0

,, 20. Paid cheque for new fixtures - 25 0 0

,, 23. Received three promissory notes
(3, 6, 9 months from Jan. 1st),
being 12s. in the pound on
amount owing by T. Jackson,
each - ·· - - 11 0 6

,, ,, Wrote off loss - - - 22 1 0

,, 30. Wine sales for ready money during
month (used for office cash) - 76 4 9

,, 31. Received cheque from
R. Collinson, for
proceeds of con· £ s. d.
signment · - 186 2 10

,, ,, Less his commission - 9 6 2
————————
176 16 8

,, 31. Office expenses paid out in cash
during month - - - 22 6 10

On 31st January, 50l. is owing for rent and salaries; the stock of
wine is 1,050l.; and one month's interest has accrued upon the bank
deposit, and P. Berry's loan.

COMMERCIAL ARITHMETIC.

Friday, 20th June.   2 PM. to 3.30 PM.

Candidates need not attempt more than three-fourths of this paper. But any omissions, whether of reasoning, explanation, or calculation, will be treated as errors.   Additional marks will be given for neatness and good style.

I. A bankrupt has assets £600, and liabilities £939; of which latter amount £35 are preferential claims for rent, taxes, &c., and must be paid in full.   Find how much in the pound the creditors ought to receive.

2. Find (to two decimal places) how many centimes per kilomètre correspond to a penny per mile.
  · £1 = 25·28 francs.   1 mètre = 39·38 inches.

3. What per-centage of profit must a trader add to the prime cost of an article in order to show a profit of $15°/_o$ " on the return" (*i.e.*, on the selling price)?

4. Find what amount must be invested in $3°/_o$ stock at $87\frac{5}{8}$ (brokerage $\frac{1}{8}$), so that the yearly income derived therefrom (after deducting income tax at 6*d.* in the pound) may be £300.

5. The sum of £5,000 is deposited with the bank on January 1st, 1890, and withdrawn on May 27th, the same year.   Find the interest gained at $3°/_o$ per annum.

6. A freehold house brings in a clear £50 per annum, and is sold for 23 years' purchase, the vendor allowing £700 of the purchase-money to remain on mortgage at $4°/_o$.   Find what rate per cent. the investment will pay the purchaser.

7. Two equal sums of money are deposited at the same time; the one at $5°/_o$ compound interest, and the other at $6°/_o$ simple interest. At the end of how many years will the accumulated amount of the first exceed that of the second?

Leaving Certificates, 1890.

Results of Examination for Leaving Certificates (Higher Class Schools, Scotland) held by the Scotch Education Department from the 16th to the 24th of June (inclusive).

Number of Schools at which Examination was held.	Total Number of Candidates.	Number of Papers taken.	
43	2,528	11,300	

List of Higher Class Schools at which the Examination was held.

Aberdeen Grammar School (Boys).

Aberdeen, Robert Gordon's College.

Anstruther Waid Academy.

Arbroath High School.

Ayr Academy.

Beith, Spier's School.

Crieff, Morrison's Academy.

Dollar Institution.

Dumfries Academy.

Dundee High School.

Dunfermline High School.

Edinburgh Academy.

Edinburgh, Daniel Stewart's College.

Edinburgh, George Heriot's Hospital School.

Edinburgh, George Watson's Boys' College.

Edinburgh, George Watson's Ladies' College.

Edinburgh Institution.

Edinburgh, Ladies' College.

Edinburgh, Merchiston Castle School.

Edinburgh, Royal High School.

Elgin Academy.

Galashiels Academy.

Glasgow Academy.

Glasgow High School.

Glasgow, Hutcheson's Boys' Grammar School.

Glasgow, Hutcheson's Girls' Grammar School.

Glasgow Kelvinside Academy.

Greenock Academy.

Haddington Knox Institute.

Hamilton Academy.

Inverness Royal Academy.

Irvine Royal Academy.

Kirkcaldy Higher Class School.

Kirkcudbright Academy.

Montrose Academy.

Nairn, Rose's Academical Institution.

Paisley Grammar School and Academy.

Peebles, Bonnington Park High School.

Perth Academy.

Perth, Sharp's Educational Institution.

St. Andrew's Madras College.

Stirling High School.

Tain Royal Academy.

TABLE showing Subjects in which Candidates were presented, and Results of the Examination.

Subject.	Total Number presented.	Passed in different Grades.			Total Passes.
		Second.	First (or Higher).	Honours.	
English - - - -	1,802	977	469	96	1,542
Latin - - - -	755	392	156	25	573
Greek - - - -	487	188	41	8	237
French - - - -	1,302	537	157	59	753
German - - - -	871	477	141	46	664
Italian - - - -	6	—	6	—	6
Mathematics* (including Arithmetic).	1,149	627	121	45	793
Arithmetic only - -	916	636	101	—	737
		Passed.		Passed with Honours.	
Geometrical Conics - -	87	37		11	48
Analytical Geometry - -	57	28		9	37
Dynamics - - -	217	107		22	129
Book-keeping and Commercial Arithmetic.†	192	-	-	-	115

* To 267 candidates who have failed to pass in mathematics, but have passed in arithmetic, certificates will be issued in that subject only, as follows:—

104 in the Higher Grade.
163 ,, Lower ,,

† Candidates are not passed in grades.

——	1888.	1889.	1890.
Number of candidates - -	972	2,066	2,528
,, schools in which examination was held.	29	41	43
,, papers taken - -	4,300	9,200	11,300

H. CRAIK,
Secretary.

Scotch Education Department,
Dover House, Whitehall,
9th July 1890.