## SECONDARY EDUCATION (SCOTLAND).

## I.-CIRCULARS.

## II.-PAPERS

SET AT THE

## EXAMINATION FOR LEAYING CERTIFICATES, 1892,

## SCOTCH EDUCATION DEPARTMENT.

## III.--RESULTS OF THIS EXAMINATION.



LONDON:
PRINTED FOR HER MAJESTY'S STATIONERY OFFICR, BY EYRE AND SPOTPISWOODE,
PRINTERS TO THE QUEEN'S MOST EXCELLENT MAJESTY.
A ad to be purchased, either directly or through any Bookseller, from
EYRE AND SPOTMISWOODE, East Harding Street, Fleet Street, E.C., or
JOHN MENZIES \& Co, 12, Hanover Street, Didinburgry, and 90, West Nile Street, Glasgow; or HODGES, FIGGIS, \& Con 204, GRapton Streiss, DUBLin.
1892.

Price One Shilling.
Cirodlars, \&c.
Memorandum as to Examinatrons me lied of which Leaying Certificates are accepted ..... -

-     - ..... 11
Exarrination Papers ..... 14
Results of Examination for Leaying Certiplcatre, 1892 ..... 63


## INSPECTION OF HIGHER OLASS SCHOOLS, 1892.LEAVING CERTIFICATE.

## Circulars to Correspondents of Schools.

## Circular 134.

## Scotch Education Department, Dover House, Whitehall, London, S.W.,

 Sir, 7th January 1892.1 am directed to inform you that my Lords propose that the next examination for leaving certificates shall begin on Monday, the 13th of June.

They have only to call your attention to the accompanying notes issned last ycar in connexion with the examination in mathematics, Latin and Greek, and modern languages. The principles therein laid down will continue to regulate their practice.

With regard to English, my Lords think that, in view of the large choice of questions in geography and history, the candidates may fairly be expected to satisfy the cxaminers that they possess a competent knowledge of at least one of these subjects, as a necessary condition of the issuo of a certificate.

With regard to mathomatics, my Lords propose next ycar (1893) to limit the geometry of the higher grade certificate to Euclid, Books I., II., III., IV., VI., and XI. (1-21), with deductions, and to recognise, as a necessary additional subject for honours, " modern gcometry and higher algebra."

They think it well to give due waraing as to this, and they trust that it may have the effect of increasing the thoroughness of instruction in the fundamental part of mathematical sundies.

I have, \&ce.
H. Cratik.

Enclosures to Circular 134.

## Note as to Latin and Greek Papers.

My Lords have had under cousideration various remarks submitted to them in regard to the examinations for the leaving certificate in Latin and Greek. Complaints have bcen made that in certain grades the papers set have sometimes been of undue difficulty. Without pronouncing any opinion as to this, my Lords agree that it is undesirable to set any test which is of an involved or confusing character. But while anxious to avoid undue difficulty, my Lords cannot hold out the hope that the test applied in judging the answers to such papers as may be set will be relaxed. One of the objections to undue difficulty in questions is, that this may very probably lead to undue leniency in the test applied. My Lords think it is more desirable to reverse the process; and, while restricting the questions or exercises to a moderate standard, to be severe in exacting a certain amount of correct answering as a minimum.

It is undoubtedly difficult, having regard to the diverse objects which these certificates have to selve, to fix the precise standard which ought to be maintained; but my Lords can only state that it will be their object to study the matter carefully in the light of experience, and in consultation with those best able to form an opinion.

It has been suggested that it might be at once more convenient, and more favourable to candidates, that the honours papers sbould not be altogether distinct from those of the higher grade. My Lords are accordingly prepared to arrange that the higher grade papers in Latin and Greek should be the same as the first honours papers; a second paper being added for the honours candidates. But it must be distinctly understood that before a higher grade certificate is issued the standard of marks required must be attained solely on the first paper, and that marks gained in the special honours paper will not be allowed to compensate for any failure in the paper which is common both to the higher grade and the honours.

## Scotch Education Department, December 1890.

## Note as to Papers in Modern Lanauages.

With respect to the papers in modern foreign languages, my Lords have recceived representations as to the extended scope given to these papers at the last examination by the introduction of questions on philology and literature.

These subjects undoubtedly formed a new element in the examination : and, looking to this fact, my Lords did not feel themselves justified in making the successful answering of questions of this kind an indispensable condition of the issuc of a certificate. As might perhaps have bren expected, the results were not gencrally satisfactory, so far as these subjects were concerned. But it must be distinctly understood that in no case was failure to obtain a certificate to be ascribed to a deficiency in this respect.

An objection, whinh my Lords do not cousider to have any real foundation, has been raised to the wide range of questions in these subjects. It must be evident that this range is greatly in favour of a
candidate. To preseribe special authors would introduce an elernent into the examination which my Lords are anxious to avoid. $\dot{A} s$ an alternative to this, it is cvidently most fair to the eandidates to give a wide range of philological and literary questions, and to require that only a few questions; to the subjeet-matter of whieh any eandidates may have given speeial attention, should be answered.

With regard to the general question of the introduction of sueh subjects, my Lords think that serious injury would be done to the study of modern languages, were their philological and literary uspect to be entirely ignored. The position which this study is to oecupy in seliool edueation is one on which opinions are at present widely divided, aud the questions arising in regard to this aud to the best praetical means of attaining suecessful results have been the subjeet of eareful eonsideration on the continent, and might with great advantage oceupy the attention of those aunongst ourselves whose practieal experienee and edueational authority is of weight. But, if besides giving conversational faeility for practieal purposes it is intended to provide, through the medium of these languages, for certain pupils, the mental training which others obtain from elassieal studies, this eud seems most likely to be attained not by limiting their range to translation and grammar, bu by adding to these the intellectual interest to be dcrived from study ol the strueture of the language, and from an aequaintance with some phase of the literature.

My Lords propose to eontinue to set a certain number of questions of this eharaeter, but those set in the lower certificate examination will be very elementary. Those set for the higher certifieate will be rather more advanced; but in neither of these will the suceessful answering of philologieal or literary questions be eonsidered for the present as a neeessary eundition of the issue of a certifieate. In the case of honours, a wide ehoice of questions will be given, but a candidate will be expeeted to show that he has not negleeted that aspeet of the subjeet by whieh it may best hecome a means of intellectual traiuing.

Scotch Edueation Department, December 1890.

## Note as to Mathematical Papers.

## A. <br> Lower Grade Certificate.

To obtain a lower grade eertifieate iu mathematics, candidates must pass in each of the three following subjects,* hat deficieney in any one paper may, to a eertain extent, be eompensated by excellence iu others.

1. Arithmetic ( $1 \frac{1}{2}$ hours), including practice, proportion, per-eentage, square root, simple interest, vulgar and decimal fractions.
2. Algebra ( $1_{2}^{1}$ hours), ineluding fraetions, factors, square root, cquations of the first degree, simultaneous equations of the first degree, easy quadratic equations, problems leading to the above equations.
3. Geometry ( 2 hours). The subjeet matter of Euelid, Books I., II., and III., with easy deductions. Demonstrations other than Euclid's will be aeeepted if they assume no propositions whieh in Euelid's order are sulsequent to the proposition under consideration.
[^0]Candidates for a lower 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 lower grade certificate.

## B.

## Higher Grade Certificate.

To obtain a higher grade certifieate candidates must pass in each of the 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.

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 $\dagger$ ( $1 \frac{1}{2}$ 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 sccond degrec.
3. Elements of dynamics ( $1 \frac{1}{2}$ hours). Velocity, acceleration, the rectilineal 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.

## C.

## Honours Certificates.

The subjects for the honours certificate in mathematics are the same as those for the higher grade certificate, but the standard of proficiency required is higher.

To obtain an honours certificate the candidate must pass with cxecptional credit in the first four subjects, and must also pass in 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]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 obtain a certificate in mathematics.

## D.

## 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 ( 3 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 bc given for style and accuracy as regards dates and folios.

Proper books will be provided.
2. Commercial arithmetic ( 2 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. An exercise in addition, involving speed and accuracy, will be given.

## E.

## Arithmetic Certificate.

Candidates may be cxamincd in arithmetic alone, either in the lower or higher grade.

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

Scotch Education Department, Jauluary 1892.

Higher Class Schools.
Inspection, 1892.
Sir,
Adverting to their Lordships' circular letter of 15 th 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 onc of each of the enclosed forms should bo filled up and forwarded to the Department in due course.

All schools from which pupils arc presented for the leaving certificate must be inspected under the direction of my Lords, but it is not necessary that the inspection should take the form of a detailed written examination every year. In regard to this, their Lordships would be glad to learu the views of the managers.

> I have, \&c.
> H. Cbayr.

Higher Class Schools.
Circular 136.
Inspection under the Educational Endowments
(Scotland) Act, 1882.

Sir,

> Scotch Education Department,
> 15 th January 1892 .

Witir 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 Dcpartment one of each of the enclosed forms.

Where pupils are presented for the leaving certificate, it. is not necessary that the inspection should take the form of a detailed written examination every year. In regard to this, their Lordships would be glad to learn the views of the governing body.

I have, \&c.
H. Cratk,

Higher Class Schools.
Circular 138.
Leaving Certificate, 1892.
Str, Ist April 1892.
I am directed to remind you that the examination for leaving certificates will begin on Monday the 13th June, and I am to give the following further particulars with respect to it.

About a month beforc 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.

The following subjects will be included in the examination :-English (including questions on Modern History and Geography), Latin, Greek, French, German, Mathematics (including Arithmetic), and Bookkeeping with Commercial Arithmetic.

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

For information as to the arrangement of the papers and the character of the questions in Latin, Greek, modern languages, and mathematics, I am to call your attention to the notes which have already been sent to you.

As on previous occasions, the examination will be general and not in prescribed books. In the English papers, where this might operate unfairly, my Lords will endeavour to meet the difficulty by giving a considerable choice of questions in history, literature, and geography. Such an mount 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, and candidates will be requircd to satisfy
the examiners that they possess a competent knowledge of at least one of these subjeets.

My Lords noticed last year, with regret, that a large number of candidates were presented in a grade higher than thcir attainments warranted, and thus the number of failures was eonsiderably inereased. They are of opinion that candidates should not be presented in a grade higher than that in which they are likely to pass, and they fear that the issuc of certificates, in eertain eases, in a lower grade than that in which candidates are presented, has to some extent encouraged the practiee. They will not at present withdraw this concession; but they desire to give notice that this year a eertifieate of a lower grade will not be issued except under more stringent conditions than in previous years, and only in those cases where the circumstances appear fully to justify such a course. Their Lordships will be unable to issue a lower grade certifieate in English, or in any language, to eandidates who take papers in the honours grade and fail to qualify for a eertifieate in the higher or honours grade.

In Latin, Greek, Freneh, German, and English two papers will be required in the honours grade. In book-keeping and commereial arithmetie, separate papers will be set, but a certificatc will be granted to those eandidates only who pass in both branehes.

As you have already been informed, my Lords propose that the examination should take place simultaneously in each school, beginning on Monday, June 13. The subjeets will be taken in the following order :-

| Monday, Juue 13th - | 10 a.m. | Arithmetic. |
| :---: | :---: | :---: |
|  | 12 noon | Geometry. |
|  | 3 p.m. | Algebra. |
| Tuesday, June 14th - | 10 a.m. | English. |
|  | 2 p.m. | English (2nd honours paper). |
| Wednesday, Juve 15th | $10 \mathrm{a} . \mathrm{m}$. | French. |
| Thursday June 16 th | ${ }_{10}^{2} \mathrm{p} . \mathrm{m}$. | French (2nd honours paper). |
| Thursday, June 16th | $\begin{aligned} 10 \text { a.m. } \\ 2 \text { p.m. } \end{aligned}$ | Latin (2nd honours paper). |
| Friday, June "17th" | $10 \mathrm{a} . \mathrm{m}$. | Greek or Book-keeping. |
| " | 2 p.m. | Greek (2nd honours paper) or Commercial Arithmetic. |
| Monday, June 20th - | $10 \mathrm{a} . \mathrm{m}$. | Trigonometry and Logirithms.* |
| " " | 12 noon | Analytical Geomerry. |
| " | 2 p.m. | Dynamies. |
|  | $4 \mathrm{p} . \mathrm{m}$. | Gcometrieal Conics. |
| Tuesday, June 21st | $10 \mathrm{a} . \mathrm{m}$. | German. |
| " " " | 2 p.m. | German (2nd honours paper). |

On eaeh occasion, the papers for the lower grade, the higher grade, and the honours grade certifieate, in caeh subject, will be set simultaneously. The time allowcd, except where otherwise stated, for each

[^2]paper in languages and English will be two hours and a half in the lower grade, and three hours in the higher and honours grades. For the time allowed for the various subjects in mathematics, you are refcrred 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 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, or detected in copying, will be instantly dismissed, and the case reported to the Department.

My Lords will appoint an officer to represent the Department at the examination. He will distribute the papers and supervise the examination. If, in any subject, all the candidates cannot be accommodated in one ronm, information must be sent to the Department at least one month before the examination, so that a second supervising officer may be appointed. Such supervision cannot be entrusted to anyone who does not represent 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, 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 eonfined only to a few selected pupils. But, having indicated this view, my Lords do not desirc to lay down any strict rule which might interfere with the discretion of the managers.

In the case of candidates who desire to qualify by this examination for exemption from examinations of the University of Oxford, or the University of Cambridge, it is essential that notice should previously be given to this Department, and $\Omega$ list of the names of such candidates must be furnished on a form for this purpose, which may be obtained on application to the Dcpartment. If, subsequently, candidates should determine not to proceed to either University, notice must be given before the 25 th July. In the absence of such notice, the papers will be sent to the Schools' Examination Board, and the ordinary fee will fall to be paid to that Board.

I have, \&c.
H. Craik.

* Oircular 140.

Scotch Education Department, 20th April 1892.
You are doubtless aware that under the Education and Local Taxation Relief (Scotland) Bill, now before Parliament, it is proposed to allot a certain sum for the cncouragement of secondary education, and my Lords would hope that, as indicated by the Lord Advocate, a share in any such grant would fall to higher departments established with due approval in connexion with the ordinary schools.

Their Lordships are anxious that such higher departments should be in a position to make use of any adrantages which Parliament may place within their reach ; and, with this view, they are prepared this year to admit to the leaving certificate examination, which begins on the 13th of June, candidates from any such departments as may appear, upon duc inquiry, to be of a character to claim a share in any grant which may become available under that Bill.

I am accordingly to ask you to notify forthwith the names of any such candidates, and to state the character and organisation of the department witl which they arc connected, so that my Lords may be in a position to satisfy themselves that the department is of the kind indicated.

I have, \&c.
H. Cratk.

## MEMORANDUM.

A large number of university and professional authorities have announced their readiness to accept the leaving certificate in lieu of such preliminary examinations as are held under their directions.

Amongst these we may name :-
The Lords of Council and Session (for the purposes of the Law Agents Act);
The War Office and the Civil Service Commissioners, for the Army Preliminary Examination;
The University of Oxford;
The University of Cambridge;
The Universitics of Edinburgh, Glasgow, and St. Andrews, for the preliminary examination for the three years' course ;
The General Medical Council ;
The Royal College of Surgeons of Edinburgh ;
The Pharmaceutical Society of Great Britain ;
The Society of Solicitors before the Supreme Courts;
The Institute of Accountants and Actuaries in Glasyow;
The Society of Accountants in Edinburgh ; and
Girton College, Cambridge.

My Lords arc informed that the leaving certifieate of the Seotch Edueation Department is accepted by the University of Oxford under the following conditions :-

## I.-In Lieu of Responsions.

No certificatc is accepted unlcss the eandidatc lias passed in at least four subjects at one examination, three of whieh subjects slall be Greek, Latin, and Elementary Mathematies.

By passing is to be understood-
(a) In elementary mathematics-passing in the lower grade.
(b) In Latin and Greek-passing in the higher grade.
(c) In Freneh and German--passing in the higher grade.
(d) In English-passing in the higher grade.
(e) A caudidatc passing in higher mathematies (including analytieal geometry, geometrical conies and dynamies), might count this as equivalent to passing in elementary mathematies, and the required fourth subjeet (see first paragraph).

## II.-In Life of Responsions, together with an Additional Subject.

Those eaudidates who, having satisfied the above conditions, obtain an houours certificate in Greek and Latin, or, in addition to four other subjects, obtain a higher grade certifieate in French or German, are eonsidered to have passed an examination equivalent to responsions, together with an additional subject.

## General.

The written work of those candidates who apply to lave their certifieates aceepted will have to be submitted to the awarding cxaminers of the sehools examination board.

A speeial fec of $5 s$. will be charged for each caudidate whose papers are thus submitted.

Also, that the following reeommendations have been approved by the Senate of the University of Cambridge :-

1. That the highest grade sehools examination syndicate be authorised to examine the papers of candidates to whom certificates have been awarded by the Scoteh Education Department, and to report to the Viee-Chancellor upon their sufficieney.
2. That in the ease of candidates whose certificates, granted by the Seoteh Edueation Department, are cndorsed by the Viee-Chaneellor on the reeommendation of the highest grade schools examination syndicate, the higher grade elassical papers of the Seotch Edueation Department be aecepted as equivalent to the papers other than the paper on the Greek Gospel or its sabstitute, in Part I. of the previous examination.
3. That in the ease of eandidates whose certifieates, granted by the Seotch Edueation Department, are endorsed by the Viec-Claneellor on the recommendation of the highest grade sehools examinatiou syudicate, the higher grade mathematieal papers of the Seoteh Edueation Department be aeeepted as equivalent to the papers, other than the
paper on Paley's Evidences or its substitute, in Part II. of the previous examination.
4. That candidates who hold a higher grade certificate in Latin and Greek, endorsed as abore, be required to pass in the paper on the Greek Gospel or its substitutc, in order to be excused from Part I. of the previous examination, and shall pay a fee of five shillings on admission to examination in such paper.
5. That candidates who hold a higher grade certificate in mathematics, endorsed as above, be required to pass in the paper on Paley's Evidences or its substitute, in order to be excused from Part II. of the previous examination, and shall pay a fee of five shillings on admission to examination in such paper.
6. That in the case of candidates whose certificates, granted by the Scotch Education Department, are endorsed by the Vice-Chanecllor on the recommendation of the highest grade schools examination syndicate, the higher grade papers of the Scotch Edueation Department in French, or in German, or in trigonometry and dynamics, be accepted as cquivalent to the papers in the additional subjects in the previous examination.
7. That the certificates of any undergraduates who clain exemption from either part of the previous examination, or from the examination in the additional subjects, by virtue of the above regulations, be presented to the registrary in their first term of residence, and that a fee of $1 /$. for the registration of each certificate of exemption from examination in Part I. or in Part II., or in the additional subjects of the previous examination, be paid at the same time to the registrary. No certificate, not presented in a student's first term of residence, shall be valid without the express permission of the council.
8. (a.) -That the papers of candidates desiring to proceed to this university, to whom certificates have been awarded by the Scotch Education Department, be submitted to the highest grade schools cxamination syndicatc.
(b.)-That a special fee of $5 s$, be charged for each candidate whose papers are thus submitted.

## LEAVING CERTIFICATE, 1892

## Examination Papers.

## ENGLISH.

## Lower Grade.

Tuesday, 14th 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., at least one in Section II., and at least one in Section III.

## Section I.

1. Write out and punctuate the passage read for dictation.
2. Paraphrase the following lines:-
"Ye powers who rule the tongue, if such there are, And make colloquial happiness your care, Preserve me from the thing I dread and hate, A duel in the form of a debate. The clash of arguments and jar of words, Worse than the mortal brunt of rival swords, Decide no question with their tedious leagth (For opposition gives opinion strength), Divert the champions prodigal of breath, And put the peaceably disposed to death."
3. Analyse the first four lines of the above quotation.
4. Which of the words in the passage quoted in Question 2 are of classical origin? Give the derivations of five of these words. Point out native suffixes in any words in the passage.
5. Parse the italicised words in the following sentences :-
(a) The labourer was promised his dinner.
(b) Woe is me!
(c) Accordingly I refused his offer.
(d) There were a great many spectators.
(e) It is foolish to boast.
(f) I have plenty to say.
( $g$ ) The holidays being near, he talks of going to the sea-side.
6. Distinguish, with a few illustrations, the principal ways of marking gender in English nouns.
7. Explain the mcaning of the terms strong verb, impersonal verb, mood, tense. How does the clause If I were guilty differ in meaning from the clause If $I$ was guilty? How does the
senteuce FFis influence increased year by year differ in meaning from the sentenee His influence has increased year by year?
8. Give some account of the state of English literature during one of the following periods:-(a) the reign of Riehard II.; (b) the reigns of the first two Tudors; (c) the reign of James I. (of England) ; (d) the reigns of Charles II. and James II.; (e) the reigns of the first two Georges; $(f)$ the last quarter of the eighteenth eentury; $(g)$ the first quarter of the nineteenth eentury.
9. Deseribe two famous English works from the following groups :(a) dramas; (b) narrative poems; (c) novels; (d) historical works; (e) speeehes. The two works must be talken from two groups, and must not be works produeed within the last twenty years.
10. Point out, and eorreet, any faults in the following sentenees :-
(a) Neither his father or his mother are aware of his absence.
(b) I never have and never will believe it.
(c) Farmers find it more profitable to sell their milk wholesale to some London dealer rather than retail it in their own locality.
(d) The fops of that day used the abominable art of painting their faees as well as the women.
(c) I must differ from you there: your second statement eannot be reeonciled to your first.

## Section II.

11. Write a short life of Alfred the Great, or of Ethelred the Unready, showing the effeets upon the history of England of the poliey pursued by either.
12. Give an aeeount of the various risings that William the Conqueror had to suppress, with speeial reference to the part played by Maleolm Canmore. When did the Norman Baronage eease to be troublesome to the English Kings?
13. Sketeh the course of events that led to the granting of the Great Charter, and enumerate some of its most important provisions.
14. Sketeh the history of Seotland from the death of Alexauder III. down to the defeat of Wallaee.
15. Give a brief aeeount of each of the following:-The Black Death; the Statute of Labourers, the Statute of Præmunire, the Peasants' Revolt, the Merciless Parliament.
16. Explain the various eireumstanees that brought about the Wars of the Roses, and trace the history of the wars down to the death of Henry VI.
17. "The Tudors were all popular when they obtained the crown, and unpopular before they died." How far is this true?
18. Give some aecount (a) of the reign of James VI. of Seotland before his aeeession to the English throne, and (b) of the various subjeets on whieh he quarrelled with the English Parliament.
19. What were the causes of the War of the Spanish Succession? Narrate the history of the campaign of Blenheim, or of the capture of Gibraltar, and give some account of the terms on which peace was made.
20. Write a short life of the younger Pitt, explaining the eircumstances under which he became Prime Minister, his domestic policy, his vicws of the French Revolution, his Irish policy, and the causes of his resignation.

## Section III.

21. A vessel sails from Aberdeen to Hull, calling at all the chief ports. What kind of cargo might she hope to pick up at each, and what headlands or capes might she sight?
22. Name the principal centres of deep-sca fishery in Scotland, and the places in Scotland to which you would send for cotton goorls, iron, whisky, coal, steamers, tweed, wheat.
23. Drav a map of England south of the Severn and west of Wiltshire, or a map of the four northern counties of England.
24. Draw a map of Spain, showing the chief physical features, or a map of the Balkan Peninsula, showing the political divisions.
25. Give some acconnt of the discovery of Australia, of the difficulties encountered in exploring the interior of it, of any animals or plants peculiar to it, and of its political divisions and government.

## ENGLISH.

## Lower Grade.

Tuesday, 14th June. 10.45 A.m.

## Passage for Dictatron.

I am just returned from Westminster Abbcy, the plaee of scpulture for the philosophers, heroes and kings of England. What a gloom do monumental inscriptions and all the venerable remains of deccased merit inspire ! Imagine a temple marked with the hand of antiquity, solemn as religious awe, adorned with all the magnificence of barbarous profusion, dim windows, fretted pillars, long colonnades and dark eeilings. Think, then, what were my sensations at being introduced to such a scene. I stood in the midst of the temple, and threw my eyes round on the walls, filled with the statues, the inscriptions and the monuments of the dead.

## ENGLISH.

## Hrgher Grade and First Paper for Honours Grade.

Tuesday, 14th June. 10 A.M. to 1 P.m.
Not more than twelve questions to be attempted, of whieh at least rrve mist be in Seetion I., at least rwo in Seetion II., and at least two in Seetion III. Question I must be taken.

## Section I.

1. Write an essay of two or three pages on one of the following subjeets :-
(a) The plaee in which you ilive.
(b) The uses of novel-rending.
(c) Patriotism, true and false.
2. State, and exemplify, the correct usage of shall and will. Are the following usages goor English, and, if so, why ? - (a) I will give you a holiday if you deserve it: (b) Shall you go to the eoncert to-night? (e) He said he shonld go to the eoneert.
3. Illustrate the statements that, in the English Alphabet, (a) one letter represents different sounds, (b) one sound is represented by different letters.
4. State (a) the origin of any three of the following :-an, none, what, she, the preterite suffix-ed; (b) the derivation of any five of the following :--thirteen, disastrous, omnibus, lunatie, chapter, twilight, sample, quinsy, provost, outrage.
5. What faets in the histol'y of the Euglish language ean you illustrate from the existenee of the doublets ward and guard, evil and ill, poor and paupcr, chureh and kirk?
6. When, and by whom, were the following works written:-Utopia, The Vicar of Wakcticld, Gulliver's Travels, The Spectator, Samson Agonistcs, Hyperion, The Rapc of the Lock, Childe Harold, The Vision of Piers the Plowman? Give a short aecount of any two of these works.
7. What was the general eharacter of English Literature at the time when The Pilgrim's Progress was written? Why is it ealled an allegory? Can you eompare it with the Fairy Queen?
8. Describe in full one of Chaucer's Canterbury Pilgrims, or one of Shakespeare's heroines, or one of Scott's humorous eharaeters.
9. Point out, and eorreet, any faults iu the following sentenees:-
(a) Neither his father or his mother are aware of his absenee.
(b) I never have and never will believe it.
(c) Farmers find it more profitable to sell their milk wholesale to some London dealer rather than retail it in their own locality.
(d) The fops of that day used the abominable art of painting their faees as well as the women.
(e) I must differ from you there : your seeond statement eannot be reeoneiled to your first.
10. Paraphrase the following passage so as to cxhibit the full meaning, and analyse the four lines beginning " For what are men":

> I bave lived my life, and that which I lave done
> May He within Himself make pure! But thou, If thou should'st never see my face again, Pray for my soul. More things are wrought by prayer Than this world dreams of. Wherefore, let thy voice
> Rise like a fountain for me night and day.
> For what are men better than sheep or goats
> That nourish a blind life within the brain,
> If, knowing God, they lift not hands of prayer
> Both for themselves and those who call them friend?
> For so the whole round earth is every way
> Bound by gold chains about the feet of God.

## Section II.

11. Give an account of the reign of Edward the Confessor, with special reference to the position and policy of Earl Godwin and his sons.
12. Name any instances, between 1066 and 1400 , in which the English crown did not pass from father to eldest son, and explain the reasons in each case.
13. Give an account of the parentage, relationships, and education of David I. Describe his policy, and its results to Scotland.
14. Write a short life of Simon de Montfort.
15. What werc the causes that led to the outbreak of the Hundred Years' War between England and France? Account for its long duration, and estimate its effect upou each of the two countries. In what position did they stand at the close of the reign of Edward III. ?
16. Sketch the history of the Reformation in Scotland down to the death of Mary of Guise, and contrast its origin and final settlement with the corresponding movement in England.
17. What were the most important measures of the Long Parliament down to the beginning of the Civil War? How did the Long Parliament come to an end ?
18. Write short notes on the Five Mile Act, Test Act, Habeas Corpus Act, Toleration Act, Mutiny Act, Claim of Right and Act of Settlement, explaining the circumstances ander which they were severally passed.
19. Sketch the political life of Sir Robert Walpole, describing his character and policy as shown both in opposition and during his ministry.
20. Describe the political and social condition of Great Britain in the pcriod immediately after Waterloo. What do you know of Brougham, Huskisson, Canning, Grcy, O'Connell?

## Section III.

21. From what ports in Great Britain would you start for Hamburg, Riga, Boulogne, Mar'seilles, Bergen, Madeira, Malta, Valparaiso, New York, Melbourne, Montreal, Triuidad? About how long would the royage by steamer take in each case?
22. Draw a map of Treland, and show the position of the chicf mountain rauges, rivers, and lakes. Name the various routes to Englaud and Scotland, and the chief articles exported.
23. Draw a map of the Basin of the Forth or the Trent, showing the towns and indicating their historical or commercial importanee.
24. Describe the main physical divisions of India, aud the principal produets of each ; add short notes on the Monsoons, the NorthWcst Frontier, and Caste.
25. What are the physical and geographical conditions that determine the temperature, rainfall, general climate, and produetiveness of any place? Give examples.

## ENGLISH.

## Honours.-Second Paper.

Tuesday, 14th June. 2 to 5 P.M.

## Setrion I.

1. Illustrate the statement that poetry flourished in Scotland at the close of the fifteenth eentury and the opening of the sixteenth. Can you suggest any reasons for the fact?
2. What kinds of literature flomrished most in England between 1580 and 1620? Write an account of any Book of the Fairy Queen, or of any tragedy by Shakespeare, or of any work by Bacon.
3. Contrast the poetry of Milton with that of Pope, or the spirit of Addison's writings with the spirit of Swift's, or the poetry of Wordsworth with that of Scott, or the style of Macaulay with that of Carlyle.
4. Describe any two of the following characters:-Macbeth, Shylock, Brutus in Juilius Ccesar, Satan in Paradise Lost, Sir Roger de Coverley, Mr. Great-heart, Diana Vernon, Mr. Pickwick, Colonel Newenme, Enoch Arden.
5. How does Robinson Crusoe seem to you to differ most from the tales of adventure written at the present time?
6. Take any period of fifty years siuce the Norman Conquest, and discuss with reference to it the statement that the litcrature of an age refleets the political and social condition of the ago.

## Section II.

## Optional Questions.

7. Translate into English :-
 twā and hundseofontig suna, pa begumion tō wireenne jū wundorlican burh and jone hērgan stipel pe secolde ästïgan ūpp tō
heofenum, be heora unrede; ae God silf cōm paer tō, and scēawode heora weorc, and sealle heora æleum synderlice sprcece, pæt heora ælcum wæs uncüð hwæt öper sæde, ánd hī swä geswicon sōna pære getimbrunge, and hī đā tōfērdon tō fyilenum lande on swā manegum gereordum swā jæera manna wæs.
8. Decline threc of the uouns italicised in the above passage; and give the infinitive, 3rd person singular present indicative, plural preterite indicative, and past participle of each of the italicised verbs.
9. In what dialects arc the following passages written? State, in detail, the reasons for your answer. From what dialect was modern English developed ?
(a.) Ich y-ze3 nyxt icsu cr:st pe ilke blisfolle uayde and moder myd alle worpssipe and renerenee $y$-nemned marie, ine pe wonderuolle trone zittynde, aboue alle je holy ordres of angles and of men an-lie\}ed, hire zone iesus uor ous byddinde, and to huam hi is nol of merci. Ac pe iike wunderuolle magesté and pe briztnesse of pe moder and of pe zone ich ne my $\hat{3}$ te na 3 t longe polye: ich wente myne zi 3 pe nol to yzi pe ilke holy ordres of je gostes pet stonile], beuore god.
(b) Schipmen soue war efter sent, 'To here pe kinges cumandment ; And pe galaies men also, pat wist both of wele aud wo. He cumand pan pat meu suld fare Till Ingland and for no thing spare, Bot brin and sla both man and wife, And childe, pat none suld pas with life. pe galay men held vp paire handes, And thanlied God of pir tipandes.
10. Sketcl the history of the influx of F'rench words into English from the Norman Conquest to the time of Chaucer. What truth is there in the statement that Chaucer "corrupted" the English language by a free introduction of French words?
11. Discuss the question whether English has, on the whole, gained or lost by becoming, as compared with Anglo-Saxon, an un-inflected language.

## LATIN.

## Lower Grade.

Thursday, 16 th June. 10 A.m. to 12.30 r.m.
Candidates should in all cases attempt Question 5.

1. Translate into English:-~

Sub vesperum Caesar portas claudi, militesque ex oppido exire iussit, ne quam noctu oppidani ab unilitibus iniuriam acciperent. Illi, ante iuito, ut intellectum est, consilio, quod deditionc facta nostros praesidia deducturos, aut denique indiligentius servaturos
erediderant, partim eum his, quae retinuerant et celaverant, armis, partim seutis ex cortiee factis, aut viminibus intextis, quae subito, ut temporis exiguitas postulabat, pellibus induxerant, tertia vigitia, qua minime arduus ad nostras munitiones adscensus videbatur, omnibus eopiis repente ex oppido eruptionem feeerunt. Celeriter, ut ante Cuesar imperarat, ignibus significatione faeta, ex proximis eastellis eo concursum est pugnatumque ab hostibus ita aeriter, ut a viris fortibus, in extrema spe salutis, iniquo loco, eontra cos, qui ex vallo turribusque tela iacerent, pugnari debuit.
2. Parse the words printed in italies; give, in each ease, the exaet reason for the ease or mood employed, with the prineipal parts of the verbs.
3. (a) Give the gender, the deelension, the ablative singular and the genitive plural, of the following nouns, marking in each ease the quantities of the syllables:-laurus, pecus, iter, vis, palus (a marsh), crus, ales, clavis, gener, triumvir, respublica, dies.
(b) Give the comparative and superlative of-audax, providus, prope, aeger, gracilis, dives.
(c) Write down, in tabular form, the
(1) 2nd plural perf. indic. act.;
(2) 3rd sing. innperf. subj. pass.:
(3) 3rd plur. perf. subj. pass. ;
(4) future participle, and
(5) the meaning, of
vincio, fodio, sterno, spondeo, veto, censeo, tango, experio?.
(d) Give the exact meaning of-alius, alter, uterque, quicumque, nonne, quisque, quisquam, at enim; and give the Latin forsix, six a-piece, sixth, sixty, sixty times, six hundred, six hundredth, six thousand six hundred and sixty-six.
4. Translate into Latin :-
(1) Did any one forgive me my fault?
(2) The enemy, having been defeated by Cæsar, retreated to Gaul.
(3) Having gained many vietories, he returned home to die.
(4) I think that these fields will be cultivated.

## 5. Translate into Latin :-

Now I saw that just on the other side of this plain, the travellers came to a place where stood an old monument, hard by the highway side, at the sight of whiel they were both dismayed, beeause of the strangeness of the form thereof; for it seemed to them as if it had been a woman trausformed into the shape of a pillar. Here, therefore, they stood, looking and looking upon it, but eould not for a time tell what they should make thereof. At last one of the two travellers espied, written above the head thereof, a writing in an unusual hand; but he being no scholar, ealled to the other (for he was learned) to see if he could pick out the meaning. So he came, and after a little laying of the letters together, he found the writing to be "Remember Lot's wife."

## LATIN.

Higher Grade and First Paper for Honours Gradi.
Thursday, 16 th June. 10 A.s. to 1 P.m.
Candidates will not receive a certificate unless they reach the necessary standard both in Latin Prose Composition anal in Translation.

## 1. Trauslate into Latin :-

I find it recorded that Pericles went in person to conquer the faithless Euboea, and that before sailing to attack the island he warned the Athenians against an inconsiderate parsimony, which ends too often in fruitless expenditure. He told them plainly that Euboea was capable of a protracted and obstinate resistance ; and admonished them that, whatever reverses the arms of Athens might expericnce, they should continue the war, and that whoever should counsel the separation of Euboea should be declared guilty of treason, and capitally punished. "For if Thebes," said he, "in a future war should take possession of this productive eountry, and block up the passage of the Euripus, she would gain an advantage over us from which we would never recover. Losses, defeats, inadequate supplies, may tempt her; she would always have Sparta for au ally. But give me now fifty galleys and five thousand men, and Enboea shall fall bcfore Sparta can come to her assistance."
2. 'Translate into English:-
(1) Cur igitur festum Veneris Vinalia dicant quaeritis, et quare sit Iovis ista dies?
Turnus, an Aeneas, Latiae gener esset Amatae, bellum erat. Etruscas Turnas adorant opes.
Clarus erat, sumptisque ferox Mezentius armis: et vel equo magnus, vel pede maior erat.
Quem Rutuli Turnusque suis adsciscere tentant partibus. Haec contra dux ita Tuscus ait:

- Stat mihi non parvo virtus mea. Vulnera testor, armaquc, quae sparsi sanguinc saepe meo.
Qui petis auxilium, non grandia divide mecum praemia, de lacubus proxima musta tuis.
Nulla mora est operi : vestrum dare, vincere nostrum est; Quam velit Acneas ista negata mihi!'
(2) Romae haud minus terroris ac tumultus erat quam fuerat biennio antc, cum castra Punica obiecta Romanis moenibus portisque fuerant : neque satis constabat animis, tam audax iter consulis laudarent vituperarentne: apparebat-quo nihil iniquius est-ex eventu fanam habiturum. Castra prope Hannibalem hostem relicta sine duce, cum exercitu cui detractum forct onne quod roboris, qu d floris fucrit; et consulem in Lucanos ostendissc iter, quum Picerum et Galliam peteret, castra relinquentem nulla alia re tutiora quam errore hostis, qui ducem inde atque exercitus partem abesse ignoraret. Quid futurum, si id palam fiat, et aut insequi Neronem cum sex millibus armatorum profectum Hamibal toto exercitu velit, ant castra invadere pracdac relicta sine viribus, sine imperio, sine auspicio? veteres eius belli clades, duo consules proximo anno interfecti terrebant:
et ea omnia aceidisse, cum unus imperator, unus exereitus hostium in Italia esset: nune duo bella Punica faeta, duos ingentes exercitus, duos prope Hannibales in Italia esse.


## 3. Translate into Latin :-

(1) I am so far from admiring him that I shall try to injure him as much as possible.
(2) He said that if he had done this earlier the eity would easily have been saved.
(3) The more I see of him the less I like him.

And construet sentences exhibiting the following words with their proper meanings and construetions :-
quominus, quippe qui, quotus, invideo, quamquam, simulatque, quisquam, consulo.
4. Answer one of the following questions, not both:-
(1) Give a very short account of the causes of the First and Second Punic Wars respectively, with the names and dates of the principal battles fought in each.
(2) Enumerate the different comitia known to the Roman constitutiou, explain very shortly the constitution of eaeh, the mode of voting employed, and state the main functions exercised by each during the days of the Republic.

## LATIN.

Honours. Second Paper.
Thursday, 16th June. 2 to 5 p.m.

1. Translate into Latin:-

He who has once stood beside the grave to look back upon the eompanionship for ever closed, feeling how impotent thero are the wild love and the keen sorrow to give one instant's peace to the pulseless heart, or in atone in the lowest measure to the departed spirit for the hour of unkindness, will searcely, for the future, incur the debt to the heart which can ouly be discharged to the dust.
2. Trauslnte into English :-

Dum trahitur pendetque iugis, hunc lata reteetum
lancea consequitur rumpitque infixa bilicem
loricam et summum degustat vulnere corpus.
Ille tamen clipeo obiecto conversus in hostem
ibat, et auxilium ducto mucrone petevat:
cum rota praecipitem et proeursu concitus axis
impulit effunditque solo, Turnusque seeutus
imam inter galeam summi thoracis et oras
abstulit ense caput, truncumque reliquit arena.

## 3. Translate:-

Quid refcrt, vivas numerato nuper an olim?
Emptor Aricini quondam Veientis et arvi cmptum cocnat olus, quamvis aliter putat; emptis
sub noctem gelidam lignis calefactat aënum ; sed vocat usque sum, qua populus arlsita certis limitibus vicina refugit iurgia: tamquam sit proprium quidquam, puncto quod mobilis horae nunc prece, nuac pretio, nunc vi, nunc morte suprema permutet dominos et cedat in altera iura.
Sic, quia perpetuus nulli datur usus, ct heres heredem alterius velut unda supervenit undam, quid vici prosunt aut horrea ? quidvc Calabris saltibus adiecti Lucani, si metit Orcus grandia cum parvis, non exorabilis auro ?
4. Translate:-

Quid autem agebatur, nisi nc deleri et everti rempublicam funditus velles, quum te neque principcs ciritatis rogando, neque maiorcs natu monendo, neque frequens senalus agendo, de vendita atque addicta sententia demovere potuit? Tum illud, multis rebus ante tentatis, necessario tibi vulnus inflictum, quod paucis ante te: quorum incolumis fuit nemo. Tum contra te dedit arma hic ordo consulibus reliquisque imperiis et potestatibus: quae nom effugisses, nisi te ad arma Caesaris contulisses.

## 5. Translate:-

Pulso Tarquinio, adversum patrum factiones multa populus paravit tuendae libertatis, ct firmandae concordiae: creatique dccemviri, et accitis quae usquam egregia compositae duodecim tabulae, finis aequi iuris. Nam secntae leges, etsi aliquando in maleficos ex delicto, saepius tamen dissensione ordinum et apiscendi inlicitos honores, aut pellendi clarns viros, aliaque ob prava, per vim latae sunt. Hinc Gracchi et Saturaini, turbatores plcbis; nec minor largitor nomine senatus Drusus ; corrupti spe, aut inlusi por intercessionem socii. Ac ne bello quidem Italico, mox civili, omissum, quin multa et diversa sciscerentur : donec I. Sulla dictator, abolitis vel conversis prioribus, cum plura addidissct, otium ei rei haud in longum paravit.
6. Explain and illustrate the meaning and construction of the words italicised in the following passages :-
(1) Quoque minus drbites, sic has deus aequoris artcs

Adiuvet, ut nemo iamdudum litore in isto,
Me tamen excepto, nec femina constitit ulla.
(2) Sunt qui non habeant, est qui non curat haberc.

Alii thoracas aenos
Aut levis ocreas lento ducunt argento.
(4) Ipsae iuter sc legioncs octava et quiatodecima ferrum parabant, ni miles nonanus preces et minas interiecisset.
(5) Blandum et auritas. fidibus canoris Ducere qucreus.
(6) Macte esto virtute, puer.
(7) Ingemescunt pugiles non quod doleant, sed quia, profundender voce omne corpus intenditur, venitque plaga vehementior.
(8) Nec vox homirem sonat.
7. Scan the following lines:-
(1) Effugc, ait, ripas ; dicta refertque Iovis.
(2) Quique vos bobus veneratur albis.
(3) Nympha decus fluviorum animo gratissima nostro.
(4) Vel occidentis usque ad ultimum sinurn.
8. Answer one (not both) of the following questions:-
(1) Give a very short account of any four Roman authors (two poets and two prose writers) ; giving, in each casc, the full name, the birthplace, date of birth and death, list and subjects of principal works, with their approximate dates if you can.
(2) Give, very shortly, an estimate of the causes which were at work from the time of Caius Gracchus onwards tending to the destruction of the old Roman Commonwcalth, and leading towards Monarchy.

## GREEK.

## Lower G'rade.

Friday, 17 th June. 10 A.m. to 12.30 P.m.

## 1. 'Translate:-















* ímorpépectau " to cherish secretly."


2. Translate into Greek :-
(1.) Who are these strangers who stand before me?
(2.) Acquire ( $\left.\kappa \in \kappa \tau \tilde{\eta} \sigma \theta x_{b}\right)$ all these things, and do what you please with them. (xpino $\theta$ as, " to do with ").
(3.) Herodotus tells about small men, who were black in colour ( $\chi$ раँн $\kappa$ ), whom we call Pygmies (Пиүнаи̃ct).
(4.) What is your object in going to school?
(5.) His father fell ill ( $\nu \sigma \sigma \hat{\nu} \nu$ ), and died in a few days.
(6.) So long as we live we must work ( $\pi 0 v \in \tilde{\nu} \nu)$.
3. Give the gender, the genit. and dat. sing., and the accusat. plur. of:



 ${ }_{\epsilon}^{\prime} \sigma \tau \alpha \tau \epsilon$, $\pi \alpha p^{\prime} \epsilon \tau \tau \alpha, \lambda \eta \eta^{\prime} \sigma \epsilon \tau \epsilon$ and give the first pors. sing. fut. indic. act. and midd. (where both forms are in use), and perf. indic. act. of the verbs from which they come.



Give the comparat. and superl. of: ai $\sigma \times \rho^{\circ} \rho^{\prime} \varsigma$, $\pi \lambda \eta \sigma i o \varsigma$, , $\alpha \kappa \rho \rho \rho^{\prime} \varsigma$,


## GREEK.

## Higher Grade and First Paper for Honours Grade.

Friday, 17th 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.

## 1. Translate:-

















* троंоф'́ $\rho \in \sigma \theta \alpha$, " to behave onesclf."
$\dagger$ 'ivro

2. Translate one of the following passages :-

> * $\alpha^{2} \nu \tau \alpha \lambda \alpha \lambda \alpha \prime \zeta \varepsilon L \nu$, " to return a cry."
> † a" $\lambda \mu \mu_{\eta} \beta_{p} u^{\prime} \chi^{\prime} \varsigma_{,}$, the salt-water in its depths."
3. Trinslate into Greek :-
(1) Do not say few things in many words but many things in few words.
 better to suffer wrong than to do wrong ( (adiкeiv).
(3) Each time when dinner ( $\delta \in \tilde{\pi} \pi \nu 0 \nu$ ) was served ( $\pi р о к \epsilon і ̈ \sigma \theta \Delta$ ) to Darius, a servant thrice said, "Master, remember the Atheniaus."
(4) The Lacedæmonians did not cease fighting with my country till they had made themselves supreme by land and sea.
(5) He burnt down (катакаísע) the villages ( $\kappa \omega_{\mu} \mu \eta$ ) in order to let the others know what they should suffer if they di:l not obcy.
4. Correct the Greek of:-







5. (a) Give the stem, genit. sing. and aeeus. plur. of $\lambda \alpha \alpha^{\prime} \gamma \omega \varsigma, \pi \in \epsilon^{i}{ }^{\prime} \omega, \lambda \in \epsilon^{\prime} \omega \nu$,

Form the nominat. sing. and plur. from the following stems:-

(b.) Write out in full the imperf. indic. of eijut and cipi.




## GREEK.

## Honours.-Second Paper.

Friday, 17 th June. 2 p.м. to 5 р.м.

1. Translate:-



























2. For Greek prose :-

Pizarro had recourse to arts which he had formerly practised with success; and Almagro was again weak enough to suffer himself to be amused with a prospect of terminating their differenecs by some amicable accommodation. By varying his overtures and shifting his ground as often as it suited his purpose, sometimes seeming to yield cverything which his rival could desire, and then retracting all that he had granted, Pizarro dexterously protracted the negotiation to sueh a length, that, thongh every day was precious to Almagro, several months elapsed without coming to any final agreement.
3. Express in Greek :-
(1) Utinam adsit: utinam adesset.
(2) Quid faciam? quid faccrem ?
(3) Non habeo quid dicam : non habeban quid dicerem.
(4) Miserunt qui nuntiaret.
(5) Nemo erat qui non putaret.
(6) Ne alitcr feceris.
(7) 'Timeo ne peccaverim.
(8) Patria est ubicunque est bene.
(9) Studium ridicula dicendi.
(10) Si quaercs bene, invenies.
4. Narrate, briefly, the part taken by Thebes (1) in the Persian wars; (2) under the guidance of Epaminondas; (3) in the struggle against Philip of Macedon.

## FRENCH.

## Lower Grade.

Wednesday, 15 th June. 10 A.N. to 12.30 P.M.
Candidates must, in all cases, answer Questions 1, 2, 3, 4 (Section I.), and should try one question from each of the other sections.

## Segtion I.

1. Translate into English:-
(a) Le vieux matelot ${ }^{1}$ ressemble an vieux laboureur. ${ }^{2}$ Leurs moissons ${ }^{3}$ sont différentes, il est vrai: le matelot a mené une vic errante, le laboureur n'a jammais quitté son champ; mais ils connaissent également les étoiles et prédisent l'zvenir en creusant leur's sillons. ${ }^{4}$ Ils se retirent
le soir, celui-ci dans sa cabine, celui-là dans sa chaumière; frêles demeures, où l'ouragan ${ }^{5}$ qui les ébranle n'agite point des consciences tranquilles.

## Châteaubriand.

${ }^{1}$ Seaman; ${ }^{2}$ husbandman; ${ }^{3}$ harvests; ${ }^{4}$ furrows; ${ }^{5}$ hurricane.
(b) The last letter and end of Roucher.
"Vous voulez savoir, ma bonne amie, quelle est la situation de mon âme après neuf mois de captivité. Eh bien ! toujours à peu près la même, sans cspérance et suus désespoir. 'La patience,' dit un proverbe anglais, 'est une plante qui ne croît pas dans le jardin de tout le monde.' Pour moi, je l'ai transplantée dans le mien, et c'est à force de soins et de culture que je parviens à l'y conserver, si non dans une forte et abondante végétation, du moins dans un état qui la laisse dans son entier." L'heure suprême approchait. Il fit faire par un de ses compagnons son portrait destiné à sa femme, à scs enfants et à ses amis, puis il y traça les veis suivants :-

Ne vous étonnez pas, objets saccrés et doux, Si quelque air de tristesse obscurcit mon visage.
Quand un savant crayon dessinait cette image,
On dressait l'échafaud et je pensais à vous.

## De Broc.

2. Distinguish between-(a) un vieux matelot and un ancien matelot; (b) mener, amener, and emimener; (c) quitter and laisser; (d) connaître and savoir; and give the femininc and plural of celui.
3. Give the Imperative, in full, and two participles oif savoiv, croît, mener, se retirent, fit.
4. Translate into French :-

A traveller, on his way to Italy, found himself in a village, at the foot of the Alps; where the inhabitants had cach a large excrescence depending from the chin,* which they looked upon as the greatest ornament of the human visage. It was Sunday. A country church was at hand, and our traveller was willing to perform the duties of the clay. Upou his first appearance at the church door, the eyes of all wére naturally fixed upon the stranger ; but what was their amazement, when they saw that he actually wanted that emblem of bcauty, a parsed chin! $\dagger$ There was a general, though suppressed laughter; cven the pastor, cqually remarkable for his gravity and chin, could hardly refrain joining in the good humour. Our traveller could no longer patiently continue to remain silent. "Good folks," said he, "I perceive that I. an the unfortunate cause of all this good " humour. It is true, I may have faults in abundance; but I " shall never be induced to reckon my want of a swelled face " among the number."
O. Goldsmith.

* Une loupe au menton.
$\dagger$ Or menton loupeux.


## Section II.

5. With what classes of verbs are the auxilinies aroir and être, respectivcly, used in French? Give an example illustrating cach case, and distinguish between the different meanings of the nenter verb convenir, according as its 凤uxiliary is avoir or être.
6. How do you distinguish in French (a) I write, from $I$ am writing? (b) I had finished, from I had just finished? (c) it is clone, from it is being done?
7. State the rules for the agreement ( $a$ ) of French compound adjectives, such as light-grey, dark-brown; (b) of substantives used adjectively, e.g. orange, cherry (colour).
8. Translate into French :-
(a) The twenty-first of February, eighteen hundred and sixtynine.
(b) He will give it to her to-day.
(c) Why did she not give it him ?
(d) Have you any sisters? Yes, I have one.
(e) I have seen your friends, have you seen mine?
9. State the rule as to the possessive adjeetive or pronoun which follows chacun, and translate into French :-
(a) They gave money to the poor, each according to his means.
(b) They had eaeh tneir dog.

## Section III.

10. Translate :-
(a) The day before yesterday, this day week, this day fortnight, a week ago, Christmas Day, Easter Sunday, New Year's Day; (b) Mer Most Graeious Majesty the Queen of the United Kingdom of Great Britain and Ireland, Empress of India ; (c) somewhere, eisewhere, no matter where, everywhere, nowhere, wherever you like.
11. Translate :-
(a) My godmother is a near relative of ours; (b) the year one thousand eight hundred and ninety-two being a leap year, has three liundred and sixty-six days, February having twenty-nine days. There will be only two other leap years in the nineteenth eentury, in one thousand eight hundred and ninety six, and in one thousand nine liundred; (c) Wednesday, June the fifteenth, from 10 A.m. to 12.30 P.m. (No figures or abbreviations allowed in this phrase in French.)

## Section IV.

12. Give the name of a great Freneh writer for the 16 th, 17 th, 18 th, and 19th centurjes, respeetivcly, with the title and a short description of one of the principal works of each.
13. Name the author of each of the following works, and give their approximate dates and a short deseription of their nature :-Les Provinciales, Télémaque, La Henriade, Hernani.

Or, 14. Translate the following "commercial terms" :-The wool trade, the eorn market, the stock exchange, a sleeping partner, a eommission agent, to wind up an account, a cash payment, a hill of lading, an invoice, the day-book, the ledger, the eash-book, the head of the firm.
15. Write a short business letter, in French, ordering some goods, giving directiuus for their despateh and stating mode of paymeut.

## FRENCH.

Higher Grade and First Paper for Honours Grade.
Weduesday, 15 th Juue. 10 A.m. to 1 p.m.
Candidates must, in all cases, answer the whole of Questions 1 and 2 Section I.; and should try two questions from each of Sections II., III., and IV. Candidates answering questions from Section V. need not attempt Sections III. and IV.

## Section I.

[The Misanthrope blames Célimène's flatterers for applauding her satire on their friends.]

1. Translate:-
(a) Alceste.-Allons, ferme, poussez, mes bons amis de cour; Vous n'en épargnez point et chacun a son tour : Cependant aucun d'cux à vos yeux ne se montre, Qu'on ne vous voie en hâte aller' à sa rencontre, Lui présenter la main, et d'un baiser flatteur Appuyer les serments d'être son serviteur.
Clitandre,-Pourquoi s'en prendre à nous? Si ce qu'on dit vous blesse, Il faut que le reproche ì Madame s'adresse.
Alceste.-Non, morbleu! c'est à vous; et vos ris eomplaisants Tirent de son esprit tous ees traits médisants. Son humeur satirique est sans cesse nourrie Par le coupable encens de votre flatterie; Et son cour à railler trouverait moins d'appas, S'il avait observé qu'on ne l'applaudit pas. Moeière:-Le Misanthrope.
(b) La baie des Trépassés (Bretagne).

Ce lieu abaudonné des humains, où la solitude de la terre se reneontre avee la solitude de l'Océan, est, selon d'antiques légendes, le rendez-vous des âmes en peine. "Le peuple de ces eôtes" dit le poète Claudien, entend les gémissements des ombres volant avec un léger bruit. "Il voit passer les pâles fantômes des morts." Selon Procope, les pêcheurs entendent heurter à leur porte à minuit. Ils se lèvent, et trouvent sur la plage des barques vides qui se chargent d'hôtes invisibles. Poussés par une force inconnue, les pêcheurs prennent place au gouvernail. Le vent les emporte avec une rapidité étourdissante. Lorsqu'ils touehent à l'̂̂le de Bretague, ils ne voient toujours personne. Mais ils entendent des voix qui appellent les passagers par leurs noms. Les barques s'allègent tout-à-coup; les âmes sont parties. Selon la tradition chrétienne, encore vivante dans le peuple, la baie des Trépassés est le rendez-vous des âmes des naufragés. Le jour des Morls, on les voit courir sur la lame comme une écume blanchâtrc et fugitive, et toute la baie se remplit de voix,
d'appels, de chuehotements. Une touehante imagination populaire fait se rencontrer iei les âmes de ceux qui se sont suicidés par amour et perdus dans la mort. Une fois par an, ils ont le droit de se revcir. Le flux les rěunit, le reflux les séparc, et ils s'arraehent l'un à l'autre avee de longs gémissements.

> Schuré:-Les Zégendes de la Bretagne.
2. Translate into Freneh:-
[Meeting of King Louis XI. with the Duke of Burgundy.]
One hardly knows whether to term it ${ }^{1}$ a privilege or a penalty annexed to the quality of princes, that, in their intereourse ${ }^{2}$ with each other, they are required, by the respect which is due to their own rank and dignity, to regulate their feelings and expressions by a severe etiquette, which preeludes all violent and avowed display of passion, ${ }^{3}$ and which, but that, the whole world are aware that this assumed eomplaisance is a matter of ecremony, might justly pass for profound dissimulation. The greeting between the two potentates, was, of course, as full of affeeted kindness and compliment as it was totally devoid of sineerity. Perhaps the most accurate illustration, ${ }^{4}$ wero it not unworthy two such high potentates, would be, to suppose the king in the situation of a stranger, perfeetly aequainted with the habits and dispositions of the eanine race, who, ior some purpose of his own, is desirous to make friends with a large and surly mastiff, ${ }^{5}$ who holds him in suspieion, and is disposed to fly upon him on the first symptoms either of diffidenee or of umbrage. The mastiff growls internally, erects his bristles, ${ }^{6}$ shows his teeth, yet takes shame to fly upon ${ }^{7}$ the intruder, who secms, at the same time, so kind and so confiding, and therefore the animal endures advances whieh are far from pacifying him, watching at the same time the slightest opportunity which may justify him in his own eyes for seizing his friend by the throat.

Sir W. Scott.

${ }^{1}$ To term it=regarder comme; ${ }^{2}$ intercourse =rapports; ${ }^{3}$ avowed display of passion = marque 'a'émotion ou de colère; ${ }^{4}$ illustration $=$ comparaison; ${ }^{5}$ mastiff $=$ ${ }^{m}$ matin; ${ }^{6}$ erects his bristles=herisse les poils; ${ }^{7}$ takes shane to fly upon=aurait honte de sauter sur.

## Section I.I.

3. State in what parieulars the use of the passive voice in French verbs differs from English uságe, and translate:-(a) We have been told that this chair must not be removed.-(b) What eannot be eured must be endured. (Give the proverbial equivalent of the latter phrase if you ean.)
4. State in what particulars the use of the reflexive voice in French verbs differs from English usage, and translate:-(a) They fought bravely, but in the darkness they did not perceive the danger of their position. (b) Did yon notremember the order. to keep in small groups, and never to erowd all together when walking in the garden?
5. State in what partieulars the use of the aetive voice in French verbs differs from Einglish usage, and translate :-(a) You will please your mother if you listen to your father and obey him, whom you will suceed one dily. (b) Never trust a man who slanders another.
6. Give the Indicative present in full, and the third person singular of the imperfect Subjunctive of: prédire, convaincre, faillir, surseoir, épousseter, s'ennuyer.
7. When are $\grave{\alpha} l e$, de le, à les, de les, used in French? When arc au, $d u$, aux, lcs, used? Form short French sentences, illustrating your answers.
8. When are the objective pronouns me, te, lui (masculine and feminine), used in Freneh ? When are moi, toi, lui (masculine and feminine), used ? When are à moi, à toi, à lui, à elle, used? Form short sentences, illustrating your answers.

## Section III.

## Philology.

9. What is meant by Low Latin (otherwise called lingua Latina rustica): Give proofs that the French language, like the other Romance languages, is developed from Low Latin and not from classical Latin, and state when the classical Latin element was added to the old French language:
10. Distinguish between (a) nouns derived from verbs, (b) verbs derived from nouns, in the following words, and account for this double formation :-achat, acheter; accueil, accueillir; manœuvre, mancuvrer ; voiture, voiturer.
11. Writc, in modern French :-Quelz homs qu'il soit nc a estć, il est chi venas sus mon sauf conduit.-Froissard. Si preict Deu que pareis li dunget.-Chanson de Roland.
12. How do you account for the fact that Latin abstract nouns in or have become fcminine in French? Are there any cxceptions?

## Section IV.

## Literature.

13. State what you know of the Frenel Pléiade, and what traces of their influence remaiu in modern French literature.
14. Comparc one of the principal plays of Molière with a modern French comedy, and mark their principal typical differences.
15. What are the distinguishing features of Voltaire's and J. J. Roussean's prose writings, and what influence have those works respectively exercised on modern French writers?
16. Give the origin of the following quotations, and translate them into English:-
(a) A vaincre sans péril on triomphe sans gloire.
(b) Je me hâte de rirc de tout de penr d'être obligé d'en plcurer.
(c) L'ami du genre humain n'est point du tout mon fait.
(d) Qui vit sans folie n'cst pas si sage qu'il croit,
(c) Rieiu n'est si daugereux qu'un ignorant ami, Mieux vaudrait un sage eunemi.

## Section V. Comarerciar Frencif.

Candidates having answered Questions from Seetions III. and IV., need not answer this Section. Satisfactory answers to the following three Questions will be aceepted as equivalent to Sections III. and IV.
17. Explain the meaning of the following expressions:-"ehange on Paris, $25 \cdot 22$; on Lyons, $99 \frac{3}{4}$;" " 3 per cent. closed yesterday at $83 \cdot 32 \frac{1}{2}$, and opened to-day at $83 \cdot 45$. "The home markets; " " foreign markets;" "free trade;" " eusloms union;" "proteetionist tariffs; " " the most favoured nation elause in commercial treaties."
18. Translate the following letter, and convert the French amounts into English noney at par :-
"Gentlemen,-We beg to acknowledge receipt of your favours of the 2 nd and 5 th inst., eovering :-
cs. 1253.20 dight.
" $\quad 1233 \cdot 20$ due 20 th inst.
" $\quad 1658 \cdot 40$ for collection.
3550

Together with $250 l$, on London at eight days' sight, the sale of which will suffer no delay.
'" You will find herewith your remittance of Fes. 4,760 at fifteen days' sight on Paris, which we have been unable to get aecepted on aecount of its not being endersed. Be good enough to return it in ecursc of post, that its maturity may not be delayed.-Yours faithfully,
B. B."
19. Translate into English the following letter, and answer it in Freneh, giving an order, stating mode of despatel and payment, \&cc. :-
"Nous avons l'honneur de vous informer qu'une grande vente de hois de teinture aura lieu aux enchères aux docks le 2 du mois prochain. Ce sera la dernière vente publique de eette nature, eette année. Vous savez que le marché étant encombré les prix inctuels des bois de Campèehe et de fustet sont bien au dessous de la moyenne, ce qui pourrait vous déeider à augmenter votre stoek pour la saison, ear il est très probable qu'une hausse ne tarderá pas à se produire. Nous serons heureux d'exécuter soigneusement les ordres dont il vous plaira de nous favoriser, en uous fixant vos limites de prix et de qualité.
"Agréez, Monsieur,
"Nos sincères salutations."

## FRENCH.

## Honours.-Slicond Paper.

Wednesday, 15 th June. 2 P.M. to 5 P.M.
Candidates must, in all cases, answer Question 1, and part of Question 2.

## Section I.

1. Translate:-
(a) The young Marius represented an ancient family whose estate had come down to him much curtailed throagh the extravagance of a certain Mareellus, two generations before, a favourite in his day of the fashionable world at Rome, where he had at least spent his substance with a correctness of taste, which Marius might seem to bave inherited from him: as he was believed also to resemble him in a singularly pleasant smile, consistent, however, in the younger face, witl some degree of sombre expression when the mind within was but slightly moved.

As the means of life decreased, the farm had crept nearer and nearer to the dwelling-house, about which there was therefore a trace of work-day uegligence or homeliness, not, without its picturesque charm for some, for the young master himself among them. But it was something more than an elegant diversion, something more of a serious business, with the household of Marius, and his actual interest in the cultivation of the earth and the care of flocks had brought him, at least, intimately near to those elementary conditions of life, a reverence for which the great Roman poet, as he has shown by his own half-nystie preoccupation with them, held to be the ground of primitive Roman religion, as of primitive morals.

## W. Pater.

(b) He had been at death's door in London.
(c) They buth enlisted, and passed five years with the colours.
(d) Birds of a featlier flock tugether.
(e) It is difficult to find time to keep abreasi of all that concerus oue's country.
(f) She longed to make it up with him.
(g) He cannot have earned enough to pay his way.
(hi) Do not steal a march upon him : let him know in time.

## SECCion II.

2. Translate into English:-
(a) Je retumbe volontiers sur ce discours de l'ineptie de notre institution : elle a eupour sa fin de nous faire, non bous et sages mais sȩavants; elle $y$ est arrivée: elie ne nous a pas appris de suyvre et embrasser la vertn et la prudence, mais elle nous en a imprimé la derivation et l'etynologie; nous sçarons decliner vertu, si nous ne sçavons l'aymer; si uous ne sçavons que c'est que prudence par effeet et par experience, nous le sçayous par jargon et par cœur.

## Montalgne.

(b) D'où vient qu'un boiteux ue nous irrite pas, et un esprit boiteux nous irrite? A canse qu'un boiteux reconnait que nolls allons droit, et qu'un esprit boiteux dit que c'est nous qui boitons, sans cela nous en aurions pitié et non colère.

## Pascal.

(c) Je puis cloisir, dit-on, ou beaucoup d'ans sans gloire, Ou pen de jours suivis d'une longue mémoire. Mais puisqu'il faut enfin que j'arive au tombeau; Voudrais-je de la terre inutile fardeau,

Trop avare d'un sang reçu d'une déesse,
Attendre chez mon père une obscure vieillcsse?
Et tonjours de la gloire évitant le sentier
Ne laisser aucun nom et mourir tont entier?
Ah! we nous formons point ces indignes obstacles;
Lhonneur parie, il suffit : ce sont là nos oracles.
Les dieux sont de nos jours les maîtres souverains:
Mais, Seigneur, notre gloire est dans nos propres mains.
Racine.
(d) Je suis riche des biens dont je sais me passer.

## Section III.

## Philology.

(Not more than three questions to be answered in this section.)
3. Trace historically, and account for (a) the use of the feminine in the phrases: Il vient de l'échappei belie and vous me la baillez bonne; (b) the double form mille, mil; (c) the original mcaning, and the different modern acceptations of the words burean and chapelet.
4. Explain the derivation and meaning of:-glas, budget, légcr, lảbler, parapet, loge, alouette, vermoulu, aujourd'hui.
5. Name and describe any of the most ancient French records in existence. If you can, quote from any of them; or, express in modern French :-
"Niule cose non la pouret omque pleier
La polle sempre non amast lo Deo menestier."
Cantique de $\mathbf{S}^{t e}$ Eulalie.
6. "La langue française au XIIe siècle, entièrement dégagée du latin, a son existence propre, ses règles et son génie." Prove this statement, and state what remains in modern French of the characteristics of the language in the XIIth century.
7. State in what particulars the scheme of declension and inflection of nouns in use in old French differed (1) from tlat in use in Latin (2) from that in modern Fiench. Illustrate by the words murs, pédre, home, terres, main.
8. How did the tonic accent influence the formation of French words compounded from two Latin words? Illastrate your answer by reference to trètle (noun), enuds (verb), maussade (adjective).

## Stiction IV.

## Literature.

(Not more than three questions to be answered in this scetion.)
9. "Malherbe cst de tous les écrivains français celui qui a excreć sur notre langue l'action la plus profonde, A partir de lui et sous son influence le français entre dans une période nouvelle qui n'est pas encore terminéc." Prove this statement.
State what you know of any two of the following authors, and name their principal works:-V. Cousin, H. de Lamenuais, Clâteaubriand, Mérinée, A. Dandet, F: Coppée, La Bruyère, Fénelon.
11. Describe, briefly, the chicf characteristics of one of the following works, and give its approximate date and its author's name :Les feuilles d'Automine, Jocelyn, Lies Moines d'Occident, Voyage autour de ma Chambre, Paul et Virginie, Le Mariage de Figaro. L'Esprit des Tois, Discour's sur lHistoire Universelle.
12. Quote, in Frencl, and comment upoll any passage from either one of La Fontaine's fables, and one of Molière's plays; $n$, from one of Racine's tragedies, and one of La Rochefoucauld's Maximes.
13. State what you know of the principal metres used in French poetry, and add examples of cach.
14. Sketch briefly the history and functions of the French Academy.

## Section V.

## Composition.

15. Develop, in French, one of the following thoughts. (The Essay is not to contain less than 20 nor more than 40 lines) :-
"Best men are moulded out of faults."-Sirakespeare.
"I am a part of all that I have met."-Tennyson.
"Peace hath her victories, no less renowned than war." Milton.
"The world agrecs that he writes well who writes with ease." -Prior,

## ITALIAN:

## Higher Grade.

Monday, 20th June, 2 to 5 p.m.

1. Translate into Itálian :-

Few generals have ever becn more loved by their soldiers than the grcat Viscount de Turcnne. Troops are always proud of a leader who wins victories, but Turcnne was far more loved for his generous kindness than for his successes. If he gained a battle he always wrote in his despatches, "we succeeded," so as to give the credit to the rest of the army ; but if he were defeated, he wrote, "I lost," so as to take all blame upon himself. He always shared as much as possible in every hardship suffered by his men, and they trusted him entirely. Once in the depth of winter, when some of the younger soldiers complained of the difficulties of the march, the eldcr ones answered, "Depend upon it, Turenne is more concerned than we are. At this moment he is thinking how to deliver us. He watches for us while we sleep. He is our father: It is plain that you are but young."
2. Trauslate into Erglish:-
(A.)

Figliuol mio, dentro da cotesti sassi, Cominciò poi a dir, son tre cerchictti
Di grado in grado, come quei che lassi.
Tutti son pien di spirti maledetti :
Ma perchè poi ti basti pur la vista,
Intendi come e perchè son costretti.

D' ogni malizia ch' odio in eielo aequista, Ingiuria è il fine, ed ogni fin eotale O eon forza o con frode altrui eontrista. Ma perehè frode è dell' uom proprio male, Più spiace a Dio ; e però stan di suttọ Gli frodolenti, e più dolor gli assale.
(B.)

Mitridanes, levatosi, n' andò al bosehetto, e di lontano vide Natan tutto soletto andar passeggiando: e diliberato, avanti ehe l' assalisse, di volerlo vedere e d' udivlo parlare, corse verso lui e disse: Vegliardo, tu sei morto ; al quale niuna altra cosa rispose Natan, se non: Dunque 1' ho io meritato. Mitridanes, udita la voee, e nel viso guardatolo, riconobbe lui esser colui che benignamente l'aver ricevuto, e fedeimente consigliato; per ehe di presente gli eadde il furore, e la sua ira si convertì in vergogna. Laonde egli, gittata via la spacia, la qual già per ferirlo avea tiratal fuori, lat eaval dismontato, piagnendo eorse a' piè di Natan e disse : Manifestamente couoseo la vostre liberalità, riguardando con quanta eautela venuto siáte per darmi il vostro spirito: ma Iddio, più al̀ mio dorer sollecito ehe io stesso, a quel punto che maggior bisogno è stato gli occhi m ' ha aperto dello 'ntelletto, li quali misera invidia $\mathrm{m}^{3}$ avea serrati. E per eiò quanto voi più pronto stato siete a compiacermi, tanto più mi cognosco debito alla penitenzia del mio errore : prendete adunque di me quella vendetta ehe eonvenevole estimate al mio peccato.
3. Parse (if verbs, eonjugate) aud aceount for the eonstruction of the words printed in italics, in passages (A) and (B).
4. Give the etymology of the following words and aceount for the changes they have undergone :- esempio, porre, giuoco, ridurre, chiudere, giorno, sdegno, giuso, Iaglio, Iddlio.
5. Translate into Italian :
(1) The one said yes, the other said no.
(2) Do not speak to him of it.
(3) He would not know what to do with it.
(4) My eldest brother is richer than you think.
(5) He is said to be the richest man iu our eity.
6. Write a short essay on "The influence of Italy on English literature,"

## GERMAN.

## Lower Grade.

Tuesday, 21st June. 10 A.m. to 12.30 г.m.
To secure full marks, answer the whole of Sections I. and IT. and four questions of Section ITI.
Additional marks will be given for fair writing in the German character:

## Section I.

1. Trauslate into English:-
 afer er liebte ancly Gianz mo fradyt uit mimidyte, onf er nitht Gajonere gäbe ala feit ©aflof und feine (biraten in Corbova. Dartut
 fo biel ala er verfargte. Shur eine arme Whitwe molle ify Sentatyent
 Gerwalt wegnelymen. Dis zran lief reimend zun findi-jo neutuen
 berugigte fie mo fagte: "Bleibe cine nibeile fier; id) rifl fefen, of idi) bir beffen faun." Wina that null ber fluge Ritgter? Er mabin
 Der SWitwe. Sier fanb er bell תalif mit feinen Rentent bie fiforn babei maren, bie Jyüte nieberzureipen. Der תalif, ber ben תinbi ata einet guten Minnt famte and efyte, fagte, mas er bier mofle. Diejer
 biepen ©aff mit Grbe füffe!" Bemwumert gemaifite ber Furft bie Bitte.





 genonnturn haft : wie willit su fene fotwere ? ifit tragen, weun ber grofe Fidter ber SWelt fe bir cinft nuf bie Sifultern legt?" Da erfifrnf Der Ralif, lobte bet nutiger Ridyter nub lief ber 23itwe auf berfelfen

2. Translate into German (using " thou" for " you") :-

John was playing with his friend William. He looked at (nadi) lis watch, and said, "It is just twelve o'elceck, I must go (omit) away. I am to dine (say, eat) at my uncle's; but I shall be here again at two." H. He ran as fast as he could. They were already waiting, and the dinuer was on the tahle. When they had dined, the aunt said, "You must stay, John. Our carriage will soon be here. We drive to Woodham to see the fair ( 5 nhrmarft, $m$.). I believe you have never seen it. The chilaren will be glad, if you come with us."-"But my friend William expects me this afternoon: we wanted to go for a walk together," replied the boy.-"I will send my maid to hin ; here
is paper and ink : tell him that you cannot eome." When he had written the letter, the carriage was before the door. It was a ieautiful day. They saw many pretty things at (say, on) the fair, and bad great fun. But poor (say, the poor) William waited for (aut) his friend till the evening; for the maid was reading a book, and forgot the letter. Her mistress was very angry when sle heard this. But John was not sorry that he had gone with them.

## Section II.

3. Give the German words-in the nominative and genitive singular, and nominative plural, with the definite artiele-for any ten of the following:-way, glass, sister, lady, fruit, hill, battle, pain, nut, basket, room, hole, war, ox, donkey.
4. Decline, singular and plural, the German for-my child, that dog, a good man.
5. Compare, and give the meanings of, the adjectives-alt, jung, ftot $z_{8}$, grob furz, body, matyr, mate, Gunt, wiel.
6. Give the German words for $6,7,16,17,65,78,112,334,1892$; the $3 \mathrm{rd}, 8 \mathrm{th}, 46 \mathrm{th}$, 101st.
7. Write out the present and imperfeet of rethen and thut ; and the present indieative passive of Güren.
8. Give the 3 rd singular and 2 nd plural present, imperfeet, and perfeet indieativo and imperfcet subjunetive of-fein, werben, gefur,


## Srotion III.

9. Aecount for the gender of Mrabrhen, תntablein, Bfitmden, Woglein; and give the simple nouns (with the detinite artiele) from which they arc derived.
10. Write out the prepositions which govern the clative ease.
11. Give the German of the conjuetions-if, when, though, in order that, after, before, while.
12. Give the 2nd person singular imperative of three verbs which do not take $=$.
13. Give the titles of four German plays, and the names of their autliors.
14. Mention two poens by each of the following writers:-(5vetbe, Sđilfer, કeine, Mglatte.

## GERMAN．

Higher Grade and First Paper for Honours Grade．

$$
\text { Tuesday, 21st June. } 10 \text { A.m. to } 1 \text { P.M. }
$$

To secure full marks，translate the passages from，and into，German； and answer eight of the remaining questions，not less than four of which must be chosen from Section II．
Additional marks will be given for fair writing in the German character．

## Section I．

1．Translate into English ：－
（a）Ein fremblidjer ©utang unt eine gut befetgte Tafel ermar－ telen ben ઈerzog won 2lfon auf beru Saloffe．Nody gatte man fidy frum niebergefegt，als ein Bote bie bitaifu aus bent San rief．©B rurbe iffr genelod，ban in cinigen Doufern bie fanifijen Solenten



 Befatmimigfeit umb Stiffe zu berwafinen；fie felfot begnk fith mieder
 Fie ifneu it ergreifenben Worten，was ify efen getuelbet norbent，unb mie faflecft man bas gegebene finifermort gefigten，以ian erviberte ift mit Radien，bies fei mun eimmal Siriegafebranta，mot fei einem Durchurafid yon Solbaten fomten bergleifen fleine llnañle nidyt berfütet merben．＂Das molfen mir boch felfen，＂antwortete fie erregt； „uteinen aruen Untertfamen mup bab Sbrige mieber nerben，veer，bei
 Ddfenflut！＂以it biefer Erffarung vertien fie bas Biunaer，ona in wenigen Ahtgenbliffen bon Bemaffineten gefult war，bie fitt，bas Edpwert
 Gebienten．Bein Eintritt biefer fautflufigen Scina veränberte §erzog 2tfor bie Farbe；fumm und berlegen faty uan cinanber an．おeintia

 bemt Syerzog gerebet babe；und kald barnuf erliés berjelbe eineu Befegt at bie $2 \mathfrak{l r m e e}$ ，bas̉ gernubte $\mathfrak{B i e f}$ ben Eigentümern nuf ber Geffle wieber ๙uszuliefern．

## After Schiller．

（b）Mitter in bes Wgeltmeere milben Wellen Siffeiterte bas Scfiff．Die（sbler rettent

 „סabret mofy，ify：Jreunbe meines sebens， Bruber，Dfeim！＂fpradf ex you bem Borbe， ＂Mleine Sflidyt begimet，bie eare enbet，＂

## Uno er eilt gimmer it bes Siliffes

finmmern, feine Sterbenben zu trojten, Söret tifue Sünben, thye Buぼe, Fir ©ebet, unt mefiret ber Berzmeiftitus, Sabet fee und geyt mit ifuen unter.

## 2. Translate into German :-

A dissipated young nobleman found, at his father's death, that he was not so rich as he had thought, and accused John, the faithful servaut of the family, of having robbed him. Though the old man protested his innocence, he was turned off, and went to live with his son, a poor labourer, in the village close by. Before five years had passed away, the young man was deeply in debt. One day, as he was feasting with some friends, John's grandson came to the castle, and asked him to come to his grandfather' who was very ill and wished to see him. "Tell the old fool, if he wants to beg, he must send to somebody else," was the reply. The boy went away, but returned soon after, and said, "Please, Sir, my grandfather knows where your father has hid his moncy; but he was not to tell yon before your twenty-fifth birthday." The young lord rushed off as fast as he could, but when he came to the dying man, he had already lost his speech, and could only make signs which nobody understood. Though the whole castle was afterwards ransacked (ourchfu'den), the money was never found during the lifetime of the foolish man.

## Section II.

3. Give the German words-in the nominative and genitive singular, and nominative plural, with the definite artiele-for any ten of these:-physician, merchant, statesman, misfortune, victory, language, vice, quality, government, earl, gun, request, prayer, quarrel, law.
4. Disinguish between-ber $\mathfrak{B u n d}$, DaB Rumb; bie Thore, Sie Thoren; Die
 Gei Seiten, zu Beiteu ; wnterfezt, untergepetzt.
5. When does the German adjective remain unchangeable? Give examples.
6. Give the nominative and dative singular of a masculine, feminine, and nenter noun with an adjective--(a) without article ; (b) with the definite artiele; (c) with the indefinite artiele.
7. Form sentences with five different adjectives which govern the genitive.
8. Give the 2 nd singular and plural picsent, imperfect, and perfect indicative, and (the same persons of) imperative of-atticlyct,
 fithen, fid) perfelyen, Dutrdifaufut burdilau'fen.
9. Give examples of five prepositions gorerning the genitive.
10. Trauslate idiomatically :-
(a) Mary's hair is darker than her sistcr's.
(b) He insists on doing it.
(c) He insists on my doing it.
(d) You ought to have said it sooner.
(c) They are said to be poor.

## Section III.-Philology (and Word-Formation).

11. Form abstract nouns from-iumg, alt, Yodt, fifnell, follz, meu, Geip, Grint, feft, frei, gejaituitio, reidy.
12. Explain the force of the prefix $5 \mathrm{se}=$ in (5efirge and in (5erebe, and give four other words of each kind.
13. Give the derivation and meaning of any ten of thesc:-(3ift, (5ebot,
 Dratg, (5)riff, fundig, fefounct.
14. Give three German adjectives in Yidul with etymologically corresponding English words; and three others in lidt, where the corresponding English word shows a different affix.
15. Form adjectives from any ten of these :-Siutb, S3ind, शfemb, Tugend,
 graten, effer.
16. Give the German, or English, etymological equivalents of any ten of each of the following two sets (adding, in cach case, the exact meaning of the German word) :-
(a) watch, even, deed, to fight, seat, loose, reek, to lead, hollow, rod, sly, ear (of corn), on, up, beam.
(b) weidy, Finefif, Sobly, gemein, Sinn, Feijer, Flimuten, Effe, of,


## Section IV.-Lateraturis and Commerchal Correspondence.

17. Give some aceount of one of lefing's plays.
18. Give the titles, and some account, of three of Sditleres ballads.
19. Specify three epics, or larger narrative poems, of the present century.
20. What were the principal departments of (5bethe's literary activity? Give an example of each class.
21. Give short accounts of two pocts born subsequently to Sdifler.
22. Assign any eight of the following titles to the respective authors, characterizing them in a single word (drama, epic, etc.) :- Braut yon 3)lefina, Der Erlfünig, ber Taucher, ₹orquato Taffo, ber fiebzigfte


23. Write a short letter, introdueing a young friend, or clerk, to the head of a house with which the writer maintains commercial relations.
24. Give the German (with the definite article in carse of nouns) forhundredweight, guarantee, partner, signature, insurance company, commercial house, endorsement, price-enrrent, balance in favour, to forward.
25. Give the English for-Tintte, Conuoffement, Rimeffe, Siert, Jacturn, Sugoft, Spebitionsgefurift, ser Bezugene, gegen Saloo, einen Sectifel girieren. Add the definite article to the German nouns.

## GERMAN.

Honours.-Second Paper.
Tuesday, 21 st June. 2 P.M. to $\begin{gathered}\text { a } \\ \text { P.m. }\end{gathered}$
To secure full marks, translate the passages from, and into German; and answer eight of the remaining questions, not less than five of whieh must be taken from Section II.

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

## Section I.

1. Translate into English:-

 Mintur einem werfänbigen Wiflen zu miterwerfen meip! 2ffes, was
 gemorben. Seint Refen ift cin manfyorlityer Sampf, cin endolo Sieg. Shm tatift bie reine (bottegluft bie 9 husfeln bes seifes, ifm zwingt bie aralte Dromurig ber פiatur aud bie Bebanfent gu geormetem. Ranf. (Er ift ber Briffer, melder Beftumbigfeit, Zutft und Sitte, bie erften Tugenten eince Nolfes, za Gutten gat.

> (5.) Freytag.
(b) Bjernoe int ber (begent, hadt) ser idy reifte, follten bie üfelfter Raufnefter liegen, an ber Theif, wo bie Gumpe mut Winten igre




 mob Gatte eigentlify cinen Siber, dife Mäuter zu Sferbe, in grojen Fergen, mit Duppelfinten in ber Sand mis Piftulen lat (3)ut, beren 2hfinturer fatuaze Singfen tiagen uno zubeilen bem fleinen danbabel angefuren follew, näfer femmen zu lerner.

(c) Sin turgemady berzage nifat, ben Tag zu fefur, Der Oreube bir fiur. Gorgen bringt, unt Ruft für © 5 raum. W3ie bit begaun ein gift'ger winb, und ramell tarauf Erfüffete ber lieftidyfite (beructig bie Ruft.
Dit brofite bir cin fotworis sferuilf amb warb wermelft,


Sei alfo fetes, iut linfaff auds, boff guten Miuts!
Die Beit 6ringt Wunber an bell æang; unzäfitary fub
Die © Süter, bie on figffen fannit wom großen (5ott.
ફerber.
2. Translate into German:-
(a) I may have foilowed this narrow valley for about an hour, when it suddenly occurred to me as strainge that the road should be so neglected and overgrown; it was evident that no sort of carriage could possibiy have passed this way for years. The foliage of past autumns lay mouldcring in deep crevices; here and there a fragment of rock, or a rotten branch, had heen luurled from the edge by the winter storms ; only in the firmest parts of the ground were occasional tracks of human passage. I silenced my doults with the supposition that, long beforc this, some other and more level road must have been made between the castle and the plain. And yet, on entering the glen, I had certainly ascertained that no nearer way was possible from the little manufacturing town I had left behind. At the summit of the pass, where half-a-dozen neglected paths diverged, I stopped in real perplexity. I climbed up a wide-armed beech-trce, and lonked all around me. A dcep circular hollow lay before me, almost like a lake filled witli lovely dark-green waves of densest foliage. Just in the centre rose the turrets of the castle, over which the wilderness seemed to close.
(b) Translate idiomatically:-

1. Birds of a feather flock together.
2. Necessity knows no law.
3. He did not know what to do.
4. I don't know whom to apply to.
5. Hare you broken your leg? No, I have only sprained my foot.

Section II.-Puilology (and Word-Formation),
3. Exemplify the principal ways of forming compound nouns in German.
4. Explain the principal uses of the verbal prefixes-ber=, zer=, ent=
5. Give synonyms (words of the same meaning) for any twelve of the following:-(belugnis, Berlofniz, (baumer, Boru, Serze, Bricio=
 traulidy, beraujdt, bergetiden, tradten, podien.
6. Give examples of different case-forms (such as arc still in use, as well as such as are antiquated) used adverbially.
7. Explain, by examples, the principle of correspondence between dental consonants in English and German.
8. Give some German adjectives in \{an, with etymologically corresponding English adjectives; and some others in fant, where the corresponding English words show different affixcs.
9. Give the German, or English, etymological equivalents of any ten of cach of the following two scts (adding, in each case, the exact meaning of the Germail word:-
(a) timber, sheath, marrow, bleak, knuckle, , ridge, neck, slight, to sucezc, cheap, deaf, bark (of tree), eyelid, haruess, show.
 waibuen, aud, braucten, Æecijen, arg, erflefen.

## Section IIl.-Liteerature.

10. What do you know of any two of these:-Waltgarinetied, ふilbe= Granbslied, Rolandztied, jeeltino.
11. Can you specify any German poems relating to the 5eilige Gral and the $9 \mathfrak{I r t u r f a g e}$ ?
12. State what you know of the beginning of dramatic literature in Germany.
13. Characterize $\Re$ Ilpytote literary activity.
14. Give brief accounts of two of thesc - ๖anz Sadjs, Dpik, ફ. v. Siteif, Tierf, Mintfert.
15. Give the names of five distinguished writers of ballads, with the titles of as many of their poems as you remember.
16. What do you understand by ©chicfacteragöbien? Mention any you know.
17. Specify the chief works of two writers of the Gdymäbiathe Didyter= founte, and of two of the Romantifer.
18. Assign any twelve of the following titles to the respective authors characterizing them in a single word (drama, epic, etc.) :Der arme פeinrich, ©imuliciffmuß, Jreionnf, Teuerbanf, ber ferbenbe Eato, Mgathon, die Sdylt, des Rinaben Winmerthort, Rtomifaje Glegieen, Scaifflieber, Ridtemtein, Effefarb, Bjalter uno Sarfe, PaIm= blitter, ber Æattenfäger bon Sameln, bie Suitgomz, ber grüne Seimid, Der zerbrocfene ภrug, ภuintuz fixlein.

## ARITHMETIC.

Lower Grade.
Mondlay, 13 th 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. Multiply 537,869 by 800,790 , and write the answer in words.
2. Reduce 571,536 farthings to guincas ; and 3 weeks 2 days 14 hours 25 minutes 41 seconds to scconds.
3. Find the greatest common measure of 29256 and 21413 ; and the least common multiple of $294,315,350$ and 360 .
4. Simplify-

$$
\begin{aligned}
& \text { (1) } 4 \frac{3}{4}+\frac{5}{2} \frac{1}{20}+3 \frac{1}{9}-11 \frac{5}{5} \text {; } \\
& \text { (2) } \frac{3}{\frac{1}{2} \text { of } 3 \frac{1}{2} \text { of } 2 \frac{1}{7} \frac{1}{4}} \text {. }
\end{aligned}
$$

5. Find the value of $\frac{25}{45}$ of 2 年7 of お15 $7 s .2 d$; and reduce $£ 315 s$. $7 \frac{1}{2} d$. to a decinal of $2 s$.
6. A room is 17 fect long, and 13 feet 6 inches broad; find (1) how many yards of carpet, 2 ft .3 ins . wide, will be required to cover the floor; (2) the price of the carpet at 5s. $4 d$. a yard.
7. The gold reserve of a bank weighs 27 toas 10 cwt .3 qr .3 lb . If there be 7,000 graius in 1 lb . avoirdupois, and a sovereign weigh 123.374 grains, find the valuc of the reserve.
8. The Post Office manufactures post cards at the cost of $£ 2836 \mathrm{~s} .8 \mathrm{~d}$. per million, and sells them at 10 for $6 d$. What profit will be made on 144,750 post cards if the cost of carryidg them to their destination be estimated at 30 s. per 1,000 ?
9. $£ 135$ accumulating at simple intcrest bceomes $£ 189$ in 12 years; find the rate per cent. per aunum.
10. An egg merchant buys eggs att $9 d$. per dozen, and sells them at 15 for $1 s$. ; liow much per cent. on his outlay does he gain or lose?
11. A runs a mile race with $B$, and receives 75 yards start, but loses one foot every seren yards he runs. By how much will $A$ gain or lose the race ?
12. Turf is takeu from a ficld 2 furlongs 35 poles 3 yds. 2 ft . Ining and 2 furlongs 14 poles 2 yds. 2 ft .3 in . broat, aud is found to be exactly sufficient to cover a square garden. Find the length of one side of the garden.

## ALGEBRA.

## Lower Grade.

Monday, 1sth 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 reasoniny, explanation, or calculation, will be treated as errors. Additional marks will be given for neatness and good style.

1. Find the numerical value of-

$$
\begin{aligned}
& \text { (1.) } a-2[b-3\{a-4(b-c)\}]-\sqrt{a^{2}+2 b^{2}+3 c^{2}} \\
& \text { (2.) }(a-2 b)^{2}+(b-2 c)^{2}+(c-2 a)^{2}
\end{aligned}
$$

when $a=1, b=-2, c=3$.
2. One of the factors of $a^{7}+x^{6}+x+1$ is $x^{3}+x^{2}+x+1$, find the other factor.
3. Solve the equations-

$$
\begin{aligned}
& \text { (1.) } \frac{5 x}{12}+\frac{2 x}{15}=\frac{2 x+1}{4} ; \\
& \text { (2.) } \frac{(x+3)(x+4)}{(x-3)(x-4)}=\frac{x+8}{x-6} \text {; } \\
& \text { (3.) } \frac{a}{x-b}-\frac{b}{x-a}=0 .
\end{aligned}
$$

## 4. Simplify-

(1.) $\frac{1}{(1+x)^{2}}-\frac{2}{1-x^{2}}+\frac{1}{(1-x)^{2}}$;
(2.) $\frac{a^{2}}{(a-b)(a-c)}+\frac{b^{2}}{(b-c)(b-a)}+\frac{c^{2}}{(c-a)(c-b)}$;
(3.) $\frac{\frac{x^{3}-y^{3}}{x-y}-\frac{x^{3}+y^{3}}{x+y}}{\frac{x+y}{x-y}-\frac{x-y}{x+y}}$
5. Solve the equations-

$$
\left.\begin{array}{l}
\text { (1.) } 3 x+4 y=5 x+y=17 \text {; } \\
\text { (2.) } 4 x-3 y=1 \\
4 y-3 z=\frac{7}{12} \\
4 z-3 x=-\frac{1}{2}
\end{array}\right\}
$$

6. Prove that $x^{m} \times x^{n}=x^{m+n}$, when $m$ and $n$ are positive whole numbers.

$$
\text { Simplify } \frac{a^{\frac{1}{2}} b^{\frac{1}{1}} c^{\frac{1}{x} \times a^{\frac{1}{2}} b^{\frac{1}{2}} c^{-1}}}{a^{-1} b^{-1}}
$$

7. Extract the square root of -

$$
a^{6}-a^{5}+\frac{11}{12} a^{4}-2 \frac{1}{3} a^{3}+1 \frac{1}{9} a^{2}-\frac{2}{3} a+1 .
$$

8. A has a certain number of shillings, and $B$ has the same number of pence. A gives $B$ three shillings in exchange for their value in pence, and it is now found that A has twice as many coins as $\mathbf{B}$. How many had each at first ?
9. Prove that a quadratic equation cannot have more than two roots.
10. Solve the equations-

$$
\text { (1.) } 441 x^{2}+1=42 x \text {; }
$$

(2.) $x^{2}+2 a(x-b)=b^{2}$;
(3). $\frac{15}{x+2}-\frac{8}{x-1}=\frac{3}{x-4}$.
11. If A live other 28 years, his age will then be the square of what it was 28 years ago. Find his present age.

## GEOMETRY.

## Lower Grade.

Monday, 13th 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 line, a straight line, and a parallelogram.

Give Euclid's definition of a square. What is meant by saying that this definition is redundant? How might a square be defincd so as to avoid rellundancy?
2. Describe an equilateral triangle on a given finite straight line.

Write out the definitions, postulates, and axioms which you have made use of in the above proof.
3. If one side of a triangle be produced, the exterior angle is equal to the sum of the two interior opposite angles, and the sum of the three interior angles is equal to two right angles.
$A B C$ is an isosceles triangle, in which $A B=A C$. Through $C$, CD is drawn perpendicular to BC , mceting BA produced in D ; show that $A$ is the mid-point of $B D$.
4. The complements of the parallelograms whieh are about the diagonal of any parallelogram are equal.

ABC is a triangle, right-angled at A ; from $P$, a point in BC perpendicular's PM, PN are drawn to $A B, A C$; show that the rectangle AMPN equals the rectangle contained by BM, CN.
5. Divide a straight line, so that the rectangle contained by the whole line and one of its parts may be equal to the square on the other part.

AB is divided in P , so that the rectangle $\mathrm{AB} . \mathrm{PB}$ is equal to the square on AP , and from $\mathrm{AP}, \mathrm{AQ}$ is cut off equal to PB ; show that the rectangle $A P . Q P$ is equal to the square on $A Q$.
6. If from a point within a circle which is not the centre, straight lines be drawn to the circumference, the greatest is that which passes through the centre, and, of the others, that which is nearer to the centre is greater than that which is more remote.

Construct the locus of a point within a circle whose greatest distance from the circumference is equal to a given chord of the circle,
7. AB is a diametcr of a given circle, and C is a point on AB produced. Describe a circle which shall touch $A B$ at the point $C$, and shall also touch the given circle.
8. The opposite angles of a quadrilateral inscribed in a circle, are together equal to two right angles.

In the quadrilateral $\mathrm{ABCD}, \mathrm{AB}=\mathrm{BC}$, and the angles at A and $C$ are supplementary; show that BD bisects the angle at D .
9. Two circles intersect in $A, B$, and $P$ is a point in $A B$ produced. Prove that the tangents drawn from $P$ to the two circles are equal.

## ARITHMETIC.

## Higiter Grade and Honours.

Monday, 13th June. 10 A.m. to 11.30 A.m.

Candidates need not attempt more than three-fowrths 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. How many hours have elapsed between 4 p.m. ou 23rd January 1876, and 10 a.m. on 13th June 1892.
2. Simplify-
(1.) $\frac{123123}{161007}-\frac{72171}{27264.6}$
(2.) $\frac{6 \frac{7}{11}-9 \frac{4}{7}+4 \frac{2}{3}-\frac{2}{5} \text { of } 2 \frac{1}{14}}{\frac{1}{11} \text { of } 14 \frac{1}{3}}$,
(3.) $\frac{1}{3}$ of $\frac{4}{5}$ of $14 s .6 d .+\frac{2}{3}$ of $\frac{6}{25}$ of $11 s .9 \frac{1}{4} d .-\frac{3}{17}$ of $16 s .3 \frac{1}{2} d$.
3. Find the simple interest on $£ 3,5915$ s. at $3 \frac{1}{4}$ per cent. from 2nd January 1892, to 3rd May 1892.
4. Reduce $\cdot 481$ of $\cdot \dot{5} 18$ of $\cdot 081^{\circ}$ of $\cdot 06875$ of 405 miles to yards.
5. A metre is 39.37 inches (approximately), and a kilometre is 1,000 metres. Express in miles, yards and inches, a distance of 257.4 kilometres.
6. A mass of auriferous sand, wcighing 12 cwt . (avoirdupois), is known to contain $3 \cdot 8$ per cent. of gold. From this, $\frac{11}{1 \frac{2}{2}}$ of the sand is removed by washing, and the part removed is found to contain only 0.6 per cent. of gold. How many lbs., troy, of gold arc contained in the remaining cwt.?
7. What two numbers, both greater than 24 , have 29 for their greatest common measure, and 4147 for their least common multiple?
8. (1.) Find the length of the side of a square field containing 11 acres 1 rood 10 square poles $3 \frac{1}{2}$ square yards, exprcssing your answer in furlongs, poles and yards.
(2.) If a rectangular field have one side 8 yards longer and another 34 yards shorter, than those of this square field, express its area in acres.
9. A person borrowed a sum of money at $3 \frac{1}{2}$ per cent., and invested it in a stock at 115 paying $4 \frac{1}{2}$ per cent. dividend. If he gained thereby $£ 190$ in $11 \frac{1}{2}$ years, how much money did he borrow ?
10. When A and B run a mile together, A wins by 10 yards; when $B$ and C run together, B wins by 30 yards; when C and D run, D wins by 39 . If, now, A and D run together, which will win and by how much.

## ALGEBRA.

## Higher Grade and Honours.

Monday, 13th 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 marhs will be given for neatness and good style.

1. Prove that $(a b)^{m}=a^{m} b^{m}$, where $m$ is a positive integer.

Simplify the expressions :-
(1.) $\frac{\left(x^{4} y^{5}\right)^{2} \times\left(x^{2} y\right)^{3}}{\left(x^{2} y^{3}\right)^{4} \div\left(x y^{2}\right)^{5}}$
(2.) $\left(\frac{x^{b} y^{c}}{x^{c} y^{b}}\right)^{a} \times\left(\frac{x^{c} y^{a}}{x^{a} y^{c}}\right) \times\left(\frac{x^{a} y^{b}}{x^{b} y^{a}}\right)^{a}$.
2. Define the lowest common multiple of two algebraical expressions, and prove the rule for finding it.
Find the lowest common multiple of-
(1.) $x^{3}+3 x^{2}-4, x^{3}-3 x+2$;
(2.) $a^{3}+2 a^{2} b+2 a b^{2}+b^{3}, a^{3}-2 a^{2} b+2 a b^{2}-b^{3}$.
3. Simplify the expressions :-
(1.) $\sqrt{15-6 \sqrt{6}}+\sqrt{10-4 \sqrt{6}}$,
(2.) $\frac{x+x^{2}}{1+x+x^{2}}-\frac{x-x^{2}}{1-x+x^{2}}+\frac{1-x^{2}-x^{4}}{1+x^{2}+x^{4}}$.
4. Solve completely the equations-
(1.) $5\left(x^{2}-2\right)=2(3-x)$;
(2.) $\left.\begin{array}{l}\frac{b}{x-a}-\frac{a}{y-b}=\frac{b^{2}-a^{2}}{a b} \\ \frac{a}{x-a}+\frac{b}{y-b}=2,\end{array}\right\}$
(3.) $\left.\begin{array}{l}\frac{x^{2}}{y}+\frac{y^{2}}{x}=1 \frac{1}{6} \\ x+y=1\end{array}\right\}$
5. Find the roots of the equation-

$$
x^{2}-p x+q=0,
$$

Form the equation whose roots are $\frac{1}{1+\sqrt{ } p}$ and $\frac{1}{1-\sqrt{ } p}$.
6. When are quantities said to be in (1) arithmetic, (2) geometric, (3) harmonic progrcssion?
If $a$ be the arithmetic mean of $b$ and $c$, and $c$ be the harmonic mean of $a$ and $b$, find the numerical values of the ratios $a: b: c$.
7. Find the 10 th term, and the sum of 10 terms of each of the series.

$$
\begin{aligned}
& \text { (1.) } 25,225,425 \ldots \\
& \text { (2.) } 12,6,3 \ldots
\end{aligned}
$$

8. I have an hour and a half to walk a certain distance at a certain rate. After walking half-an-hour, I find I must make a detour which will add a mile to the distance still to walk, but, by increasing my rate by a third, I arrive in time. Find my original rate.
9. Prove that the number of permutations of $n$ different things taken three together is $n(n-1)(n-2)$.
10. Prove the binomial theorem for a positive integral index.

Find the coefficient of $x^{5}$ in the expansion of $\left(1-a x+b x^{2}\right)^{4}$.

## GEOMETRY.

## Higher Grade and Honours.

Monday, 13th June. 12 noon to 2 p.3.
Candidates need not attempt more than three-fourths of this paper. But any omissions, whether of reasoning, explanation, or ealculation, will be treated as errors. All ordinary eontractions may be used. Additional marks will be given for neatness and good style.

1. Define parallel straight lines, a parallelogram, a rectangle.

Give Euclid's definition of a square and prove that it is redundant. How may a square be defined so as to avoid rcdundancy?
2. Equal triangles on the same side of the samc basc are between the same parallels.

The base BC of a triangle ABC is bisected in D , and through Q , any point on $\mathrm{AD}, \mathrm{PQR}$ is drawn, parallel to BC , meeting AB , $A C$, in $P, R$; prove, by means of Book $I$. only, that $P Q=Q R$.
3. An angle in a segment of a eircle is equal to, less than, or greater than a right angle, according as the segment is equal to, greater than, or less than a semicircle.

A and B are fixed points on the circumference of a given circle, of which $C$ is the centrc, and $P$ is any point on the circumference. If CN drawn perpendicular to PA meet PB in Q , show that the locus of Q is a circle.
4. The base BC of it triangle PBC is fixed, and the vertical angle BPC is of constant size. If $\mathrm{CQ}, \mathrm{BR}$ be drawn perpendieular to PB , $P C$, meeting them in $Q, R$; show that for all positions of $P$, QR is of constant length.
5. If the three angles of one triangle are respectively equal to the three angles of another, their sides shall be proportioual, those sides being homologous whieh are opposite to equal angles.
$O$ is a fixed point on the tangent to a given eirele at $A$. Through $O$ a secant $O P Q$ is drawn, intersecting the cirele in $P$ and $Q$. Prove that the ratio of the ehords $A P, A Q$, is least when they are at right augles to each other.
6. Having given a triangle, eonstruet another triangle such that the sides of the first triangle, shall be equal respeetively to the medians of the seeond triangle.
7. Draw a straight line perpendicular to a given plane, from a given point without it.

When are two non-interseeting straight lines said to be perpendieular to each other?

His the orthocentre of the triangle ABC , and through $\mathrm{H}, \mathrm{HP}$ is drawn perpendieular to the plane $A B C$; show that $A P$ is perpendicular to BC .
8. When are two points inverse to one another relatively to a given cirele?

Show that when a eirele C euts two others A and B orthogonally, it cuts their line of centres in two points whieh are inverse to one another relatively to both eireles.
9. Prove that the straight line joining the ends of any two parallel radii of two cireles meets their line of centres in one or other of two fixed points.

The radii of two cireles are 2.37 and 1.25 inches, and their eentres are 0.64 inehes apart. Caleulate to two decimal places the distance of their centres of similitude from the centre of the larger circle.

## TRIGONOMETRY AND LOGARITHMS.

## Higher Grade and Honours.

$$
\text { Monday, 20th June. } 10 \text { A.M. to } 11.30 \text { A.m. }
$$

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 marths 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. What is denoted by the symbol $\pi$ ?

Express in cireular measure to four deeimal plaees the magnitude of each angle of (I) a square, (2) a regular heptagon, assuming that $\pi=3 \cdot 14157$,
2. Define the secant of an angle, and prove that its value can never lie between -1 and +1 .

Show that $\sec \mathrm{A}= \pm \sqrt{1+\tan ^{2} \mathrm{~A}}$.
3. Prove geometrically that $\sin A-\sin B=2 \sin \frac{A-B}{2} \cos \frac{A+B}{2}$.
4. Obtain the following formulx-
(1) $\sin 2 A=2 \sin A \cos A$,
(2) $\sin 3 A=3 \sin A-4 \sin ^{3} A$,
(3) $\tan ^{2} \frac{A}{2}=\frac{1-\cos A}{1+\cos A}$.
5. Prove that $\log _{a} x^{n}=n \log _{a} x$, when $n$ is a whole number.

Employ a table of logarithms to find the value of-

$$
\text { (1) } \frac{34 \cdot 75 \times \cdot 0163}{2 \cdot 568}, \quad \text { (2) } \frac{1}{(.0876534)^{5^{\circ}}}
$$

6. Prove that $2 \cos A= \pm \sqrt{1+\sin 2 A} \pm \sqrt{1-\sin 2 A}$.

Determine the limits between which $A$ must be if the signs of boch roots are minus, and find which signs must be taken when $A=700^{\circ}$.
7. Show that in any triangle-

$$
b \cos C+c \cos B=a
$$

Hence, deduce the expression for the cosinc of aul angle of a triangle in terms of the sides.
8. Find an expression for $r$, the radius of the inscribed circle of a triangle.

$$
\text { Prove that } r\left(\cot \frac{A}{2}+\cot \frac{B}{2}+\cot \frac{C}{2}\right)=\frac{1}{2}(a+b+c)
$$

9. Solve the triangle in which--

$$
\begin{aligned}
a & =563 \cdot 45 \\
\angle B & =40^{\circ} 31^{\prime} \\
\angle C & =58^{\circ} \cdot 12^{\prime}
\end{aligned}
$$

## GEOMETRICAL CONICS.

## Higher Grade and Honours.

Monday, 20 th June. 4 P.m. to 5.30 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. Adiditional marks will be given for neatness. and good style.

1. If P be a point on a parabola whose focus is S and, PM be drawn perpendicular to the directrix, prove that the tangent at $\mathbf{P}$ bisects the angle SPM.

If the tangent at $P$ meet the tangent at the vertex in $Y$, and the axis in $T$, show that $P Y=Y T$, and that $S Y$ is a mean proportional between SA and SP.

If M be the foot of the pcrpendicular drawn from P to the directrix, prove that TM is parallel to SP.
2. Draw a pair of tangents to a parabola from an external point.
$O P, O Q$ are two tangents to a parabola, and OS, produced if necessary, meets PQ in R , show that-

$$
\mathrm{PR}: \mathrm{QR}=\mathrm{SP}: \mathrm{SQ}
$$

3. If B be the vertex of the diameter which bisects the focal chord PQ , then $P Q=4 \mathrm{SB}$.

A number of parabolas have the same fixed point $S$ for focus, and all pass through a fixed point $B$. Find the locus of the points wherc the diameters through $B$ meet the chords through S , drawn parallel to the tangents at B .
4. If $\mathrm{QQ}^{\prime}$ be any chord of a paraoola, PV the diamcter which bisects it, and RO any other diameter meeting the curve in $R$, and $\mathrm{QQ}^{\prime}$ in O , prove that $\mathrm{QO} \cdot \mathrm{OQ}^{\prime}=4 \mathrm{SP} \cdot \mathrm{RO}$.

Hence show that if a circle intersect a parabola in four points, the corresponding pairs of common chords are equally inclined to the axis.
5. Having given two straight lines and a point, find the directrix of the parabola which may be described so as to have the given point as focus, and the two given lines as tangents. Find also the points of contact of the given tangents.
6. Show that in any conic section the part of the tangent intercepted between the curve and the directrix subtends a right angle at the focus.

Hence, show that the tangents at the extremities of a focal chord intersect in the directrix.
7. Taking any dcfinition of the ellipse, show it is symmetrical with regard to two axes at right angles to each other. If PQ be any chord through the centre, show that the tangents at P and Q will be parallci.
$P Q$ is a diameter, and $S$ is either focus, if PS bc produced to meet the tangent at $Q$ in $F$, show that $P^{\prime}$ is cqual to the major axis.

## ANALYTICAL GEOMETRY.

Higher Grade and Honours.<br>Monday, 20 th June. 12 noon to 1.30 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.

The co-ordinate axes may be assumed to be rectangular throughout.

1. Find the length of the straight line joining the points $(4,3)$ ) $(1,-1)$, and the eosine of its inelination to the axis of $x$.
2. Obtain the equation to a straight line in the form $y=m x+c$, explaining the meaning of $m$ and $c$.

Form the equation to a straight line passing through the point $(2,3)$ and at right angles to the line $y=3 x+4$.
3. Show how to find the angle between the two straight lines represented by the equation $A x^{2}+B x y+C y^{2}=0$.

Show that the equation $2 x^{2}-3 x y-2 y^{2}+5 y-2=0$ represents two straight lines at right angles.
4. If, in the equation $y=m x+5, m$ takes different values, what series of straight lines is produced?

Find analytieally and interpret the loeus of the feet of perpendieulars drawn to these lines from the origin.
5. Show that $x^{2}+y^{2}+2 a x+2 b y=c$ is the equation to a eirele, and find the equation to the straight line whieh touehes it at the point ( $x^{\prime}, y^{\prime}$ ).

Find also the equation to the normal at ( $x^{\prime}, y^{\prime}$ ), and show from its equation that it passes through the eentre of the cirele.
6. Find the equation to the tangent at any point of a parabola $y^{2}=4 \alpha x$.

Find the loeus of the point of intersection of tangents to a parabola which inelude a right angle.
7. Show that the equation $\frac{x^{2}}{a^{2}}-\frac{y^{2}}{b^{2}}=1$ represents a hyperbola, and find the equations to its asymptotes.

## ELEMENTS OF DYNAMICS.

Monday, 20th June. 2 p.m. to 3.30 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 crrors. Additional marks will be given for neatness and good style.

1. What is mcant by speed? Distinguish betweeu uniform and variable speed.

A train leaves Paris at 8.30 p.m., and reaches Marseilles ( 537 miles distant) next day at 12.15 p.m. Find its average specd (1) in miles per hour, (2) in feet per sccond.
2. If two component velocities be rcpresented in magnitude and direction by two adjacent sides of a parallelogram, thcir resultant shall be represented by the diagonal passing through their intcrsection.

A sledge party travel in a northerly direction on an ice floe at the rate of $v$ iniles per day, but the floe is being carried southwest at the rate of $\frac{v}{12 \sqrt{ } 2}$ miles per hour. Find the resultant velocity.
3. What is acceleration? What is meant by saying that $g=32$ ?

Find what distance a body must fall from rest in vacuo in order to acquire a velocity of 48 feet per second.
4. When is a force said to do work ?

Iu a waterfall 20 tons of water pass over in cach minute, and the potential energy lost by the fall amounts to 22,000 footpounds per second. Find the height of the fall.
5. A sphere, whose weight is 10 lbs ., rests on two planes which are at right angles to each other and are inclincd to the horizontal plane at angles of $30^{\circ}$ and $60^{\circ}$ respectively. Find the pressure exerted on each plane.
6. Explain what is meant by the centre of mass of a body.

Find the centre of mass of three equal particles placed at tho vertices of a triangle $A B C$.
7. Distinguish betweon stable, unstable, and neutral eqnilibrium, giving two examples of cach.
8. Prove that the surface of a liquid at rest is a horizontal planc.

Is the above statement truc of large surfaces? If not, why not?
9. What is meant by saying that the specific gravity of sea-water is $1 \cdot 025$ ? A piece of metal wcighs 280 lbs . in air and 240 in fresh water; what will it wcigh in sca-water?

## BOOK-KEEPING.

Friday, 17th June. 10 A.m. to 1 P.M.
Frame the Journal entries necessary to record the following transactions ; post to Ledger Accounts, then frame Balance Sheet and Profit and Loss Account.

Jamcs and Alexander Campbell purchase the Printing Business of Andrew Smith as a going concern for $£ 10,000$, and commence business on 1st January 1891, under the title of Campbell Bros.

The following is the state of affairs when they take over the business :-

## Assets.



## Liabilities.

 1891.

Jan. 1. James Campbell subscribes $£ 6,000$, and Alexander Campbell, $£ 4,000$, which is lodged with the British Linen Company Bank.
", 1. Paid Andrew Smith, per chequc, $£ 5,000$; per bill, at onc month after date, $£ 5,000$.
5. Bill drawn by us on D. Mackenzie for $£ 25614 \mathrm{~s} .3 d_{0}$, at three months after date, accepted by him.
8. Purchased from Alex. Bowman \& Sons, paper for $£ 2363 s .9 d$., on credit.
; 8. Purchased from Brown \& Ritchie, type for $£ 8317 \mathrm{~s} .2 \mathrm{~d}$., on credit.
" 15. Green \& Co. paid their account (£259 5s. 9d.), and are allowed 10 per cent. discount. Sum rcceived is lodged in Bank.
" 31. Cash diawn from Bank, $£ 100$.
" 31. Paid wages, $£ 732 s .6 d$.
" 31. " Sundry charges, £23 1s. 9 d.
„ 31. " Taxes, £ 42 1s. 7 d., per cheque.
1891.

Jan. 31. Printing executed during January :-
Book for Green \& Co., charge, $£ 372$ 10s.
Sundries for D. Mackenzie, charge $£ 6510 \mathrm{~s} .3 \mathrm{~d}$.
" 31. Debt incurred to Alex. Hunt, for bookbinding, £16 7s. 3d.
Feb. 2. The sums due to the following at 1st January, are paid per cheque:-

Brown \& Ritchie, less 5 per cent. discount.
Alex Bowman \& Sons, less 5 per cent. discount.
10. Green \& Co. accept Messrs. Campbell Bros.' bill for $£ 372$ 10s., at three months after date, which is discounted by the Bank at 5 per cent., and the moncy placed to the credit of Messrs. Campbell Bros.' account.
28. Wages paid, £69 2s. 3d.
28. Sundry charges, $£ 19$ 17s. 5d.
28. Cash drawn from Bank, $£ 90$.
28. Printing done during month :-

Catalogue for D. Mackenzie, charge, $£ 145$ 16s. 6 d.
Two books for Green \& Co. " £325 10s.
, 28. Paper returned to Alex. Bowman \& Sons, £25 2s. 6d.
Acceptances due by Campbell Bros. are paid by the Bank, and debited.

At 28th February, Inventories of the Stocks on hand are taken, with the following result:-

Paper, £625 2s. 6d. Sundries, £256 7s. 6d.
Type and Machinery are not valued, but $2 \frac{1}{2}$ per cent. is written off the cost for depreciation; and $£ 100$ is written off goodwill.
Allow interest, at the rate of 5 per cent. per annum on partners' capital, and carry balance of profit (if any) equally to credit of partners.

## Commercial arithmetic-First Paper.

Friday, 17th Junc. 2 f.m. to 2.30 Py.
This paper will be taken up at the end of half-an-hour, when the ${ }_{*}$ other paper will be given out.
The sums are not to be copied out.
Add the columns and rows, and find the grand total, placing the answers in the spaces provided. Great importance will be attached to accuracy.

Fill this in first.
Name of School $\qquad$
Name of Pupil

| $£$ | $s$. | $d$ | $£$ | $s$. | $d$ | $£$ | $s$ | $d$. | $£$ | $s$ | $d$. |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 824 | 9 | 6 | 26 | 13 | 9 | 4,126 | 14 | 7 | 35 | 6 | 1 |
| 139 | 12 | 8 | 5,342 | 14 | 1 | 93 | 16 | 8 | 89 | 14 | 2 |
| 4,240 | 8 | 11 | 27 | 2 | 5 | 317 | 3 | 8 | 65 | 16 | 10 |
| 233 | 12 | 8 | 1,784 | 9 | 1 | 85 | 14 | 4 | 45 | 13 | 7 |
| 15 | 14 | 4 | 417 | 10 | 5 | 1,735 | 12 | 5 | 178 | 12 | 6 |
| 3,173 | 1 | 0 | 183 | 0 | 8 | 71 | 6 | 6 | 56 | 7 | 8 |
| 831 | 0 | 10 | 827 | 15 | 6 | 215 | 10 | 8 | 95 | 14 | 9 |
| 4,213 | 14 | 7 | 85 | 5 | 10 | 34 | 8 | 5 | 124 | 6 | 8 |
| 17 | 16 | 4 | 72 | 13 | 10 | 3,572 | 12 | 9 | 39 | 12 | 11 |
| 5,208 | 9 | 9 | 1,937 | 9 | 0 | 18 | 13 | 2 | 148 | 6 | 10 |
| 3 | 12 | 8 | 316 | 12 | 4 | 825 | 19 | 4 | 24 | 16 | 2 |
| 665 | 15 | 2 | 31 | 3 | 4 | 3 | 17 | 11 | 77 | 13 | 4 |
| 138 | 4 | 7 | 3,145 | 11 | 10 | 173 | 0 | 9 | 29 | 9 | 8 |
| 485 | 12 | 8 | 136 | 4 | 6 | 412 | 3 | 4 | 42 | 16 | 11 |
| 236 | 8 | 3 | 712 | 16 | 4 | 29 | 8 | 7 | 73 | 4 | 7 |

## COMMERCTAL ARITHME'TIC-Second Paper.

Friday, 17th June. 2.30 P.m, to 4 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. A. man's income is $£ 300$ a year. He pays no income-tax on the first $£ 120$, and $6 d$. in the pound on the rest. His house-rent is £43 3s. 3 d., and he spends otherwise at the rate of $10 s .3 \frac{1}{2} d$. a day. How much will he save in the year 1892?
2. A kilogramme weighs $2 \cdot 20462$ lbs., avoirdupois. Express the weight of a gramme in grains and decimals of a grain.
3. A sovereign weighs $123 \frac{1}{3}$ grains, of which $\frac{11}{12}$ are gold. If gold be $17 \frac{1}{2}$ times as valuable as silver, what weight of silver will be equal in value to the gold in 153 sovereigns? Give the answer in pounds and decimals of a pound, aroirdupois.
4. Three teas are mixed, and the first two amount respectively to 34 and 25 per cent. of the whole. If the weight of the whole be 1 cwt .2 qris. 13 lbs .4 ozs ., find the weight of the third tea.
5. A cistern, 10 feet long, 7 feet broad, and 5 feet deep, is filled with water, which runs into it at the rate of 8 feet per second through a pipe whose section is $\frac{3}{4}$ of a square inch. How long will it take to fill?
6. I sell $£ 10,000$ Great Western Railway 4 per cent, Debenture Stock at $£ 133$ (including brokerage), and buy $£ 8,000$ Stock in the $2 \frac{3}{4}$ per cent. Consols at $£ 95 \frac{3}{4}$ (including brokerage). I lend the rest of the money on mortgage at $3 \frac{3}{4}$ per cent. Find the change in my income.
7. The national debt is $£ 684,070,959$, upon which 3 per cent. is annually paid for interest and expenses. If $£ 25,000,000$ be annually set aside for this purpose and to reduce the debt, find, to the nearest pound, the amount of the debt at the end of three years.
8. Prove the following rule for finding any per-centage of a given whole number of pounds sterling :-Multiply the number of pounds by twice the rate per cent., set off one decimal place, and the result represents in shillings the per-centage required.

Exemplify this rule by making use of it to find (1) $3 \frac{1}{2}$ per cent. of $£ 25,(2) 4 \frac{1}{2}$ per cent. of $£ 1,247$.
9. If the exchange in Glasgow on Paris be $25 \cdot 50$, and the rate of banker's discount for three months' bills in Glasgow be $3 \frac{1}{2}$ per cent. per annum, what debt in Paris can be discharged by a person in Glasgow who holds a, three months' bill on Glasgow for £800 ?

## LEAVING CERTIFICATE, 1892.

Resulas of Examination for Livaving Certificatrs held by the Scotch Education Department from the 13 th to the 21 st of June (inclusive).

> 1.-Higher Class Schoots.

| Number of Schools <br> at which <br> Examination <br> was held. | Total Number <br> of <br> Candidates. | Number <br> of <br> Papers takcu. |
| :---: | :---: | :---: |
|  | 32 | 3,420 |

II.-State-aided Schools.

|  | Number of Schools <br> from which Candi- <br> datcs were preseuted <br> for Examinatiou. | Total Number <br> of <br> Candidates. |
| :---: | :---: | :---: |
| $63^{*}$ | Number. <br> of <br> Papers taken. |  |

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

Aberdecn Grammar School (Boys).
Aberdeen, Robcrt Gordon's College.
Austruther Waid Academy.
Arbroath Figh School.
Ayr Academy.
Beith, Spicr's School.
Cricff, Morrison's Academy (Boys and Girls).
Cupar, Bell Baxter School.
Dollar Institution.
Dumfries Academy.
Dundee ITigh School.
Duufermliue High School.
Edinburgh Academy.
Ediuburgh, Daniel Stewart's College.
Edinburgh, Fettes College.

Edinburgh, George Heriot's Hospital School.

Edinburgh, George Watsou's Boys' College.
Edinburgh, George Watson's Ladies' College.
Ediuburgh Institution.
Edinburgh, Ladies' College.
Ediuburgh, Morchiston Castle School.
Ndinburgh, Royal High School.
Edinburgh, St. Georgc's High School for Giris.
Eigin Acadcmy.
Fralkirk High School.
Forfar Academy.
Galashiels Academy.
Galashiels, Gala High School.
Glasgow Academy.

Glasgorv High School.
Glasgow, Hutcheson's Boys' Grammar School.
Glasgow, Hutchcson's Girls' Grammar School.
Glasgow Kelvinside Academy.
Greenock Academy.
Haddington Knox Institute.
Hamilton Academy.
Inverness Royal Academy.
Irvine Royal Academy.
Kirkealdy High School.
Kirkcudbright Academy.
Montrose Academy.

Nairn, Rose's Academical Institution.
Newton Stewart, Fwart High School (Boys).
Newton Stewart, Ewart High School (Girls).
Paisley Grammar School and Academy.
Pcebles, Bonnington Park High School.
Perth Academy.
Perth, Sharp's Institution.
Polmont, Blairlodge School.
St. Andrew's Madras College.
Stirling High School.
Tain Royal Academy.

## II.-List of State-aided Schools from which Candidates were presented for Examination.

Aberdeen Church of Scotland Practising School.
Aberlour Public School. Airdrie Academy Public School.
Alvah Public School.
Banff Burgh Public School.
Beith Academy Public School.
Blairgowrie Public School.
Boyndie Public School.
Broughty Ferry, Grove Academy Public School.

Cambuslang Public School.
Cambuslaug West Coats Public School.
Campbeltown Grammar Public School.
Catheart Qucen's Park Public School.
Closeburn Wallace Hall Academy.
Compar Angus Public School.
Croy and Dalcross, Croy Public School.
Dryfesdale Public School.
Dumbarton Acadcmy Public School.
Dundee, Dudhope Public School.
Dundee, Glebelands Public School.
Dundee, Harris Academy Public School.
Dundee, Morgan Academy Public School,
Dunoon Grammar Public School.
Durness Durine Public School.
Edinburgh (St. Cuthbert's and Dean) Gorgie Public School.

Edinburgh, St. George's Local Gencral Assenbly School.
Fordyce, Portsoy F'emale Industrial School.
Fordyce, Portsoy Public School.
Fordyce Public School.
Forres Anderson's Endowed Institution.
Forres Burgh Public School.
Foveran Public School.
Galston Public School.
Glasgow Garnethill Public School.
Govan, Bellahouston Academy Public School.
Govan, Hillhcad Public School.
Govan, Partick, Hamilton Crescent Public School.
Govan, Pollokshields, Albert Road Public School.
Govan, Rutland Crescent Public School.
Greenock Holmscroft Public School.
Hamilton St. John's Grammar School.
Huntly Gordon Public School.
Invcrness Raining's School.
Keith Public School.
Kelso, Edenside Road Public School.
Killarrow and Kilmeny, Bowmore Public School.
Kilmarnock Academy Public School.
Kilniuian and Kilmore, Tobermory Argyll Street Public School.

Kinellar Public School.
Kingussie Public School.
Kirkwall Burgh Public School.
Lanark Grammar Public School.
Lenzie Academy Public School. Lochalsh Plockton Public School. New Kilpatrick Public School. Old Kilpatrick, Clydebank Public Scbool. Paisley Neilson Educatioual Institution.

Peterhead Academy Public School.
Row, Helensburgh Hermitage Public School.
Rutherglen Stonelaw Public School.
Thurso Miller Institution Public School.
Wemyss, Buckhaven Higber Grade Public School.
Wick, Pulteneytown Academy Public School.

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

| Subject. | Total Number presented. | Passed in different Grades. |  |  | Total Passes. |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Lower. | Higher. | Honours. |  |
| English . - | 3,099 | 1,516 | 458 | 79 | 2,053 |
| Latiu - - | 1,233 | 541 | 264 | 29 | 834 |
| Greek - - - - | 690 | 253 | 110 | 11 | 374 |
| French - - | 1,933 | 924 | 243 | 78 | 1,245 |
| German - | 1,249 | 752 | 161 | 42 | 955 |
| Italian - - - | 4 | - | 4 | - | 4 |
| Mathematics* (including Arithmetic). | 1,925 | 732 | 152 | 40 | 924 |
| Arithmetic only - - | 2,514 | 1,448 | 131 | - | 1,579 |
|  |  | Passed. |  | sed with tiuction. |  |
| Geometrical Conics - - | 97 | 52 |  | 14 | 66 |
| Analytical Geometry - - | 78 | 36 |  | 17 | 53 |
| Dynamies | 295 | 106 |  | 53 | 159 |
| Book-kceping and Commercial Arithmetic. $\dagger$ | 278 |  | - |  | 147 |

[^3] aritbmetic, certificates will be issued in that subject only, as follows :-

110 in the Highcr Grade.
525 Lower,
$\dagger$ Candidates are not passed in grades.


Luondon: Printed by Eyrin and Spottiswoode,
Printers to the Queen's most Excellent Majesty.
For Her Majesty's Stationery Ofice.


[^0]:    * Candidates for any grade must take all the papers belonging to that grade ; i.e., they may not take geometry and algebra of the lower grade and arithmetic of the higher, \&c.

[^1]:    * Candidates for any grade must take all the papers helonging to that grade ; i.e., they may not take geometry and algebra of the lower grade and arithmetic of the higher, \&c.
    $\dagger$ The use of a book of mathematical tables is allowed, frovided it contain no manuscript notes or printed matter other than such as refers to the use of the tables. Fach candidate should be provided with a separate book.

[^2]:    * 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. Fach candidate should be provided with $n$ separate book.

[^3]:    * To 635 candidates who have failed to pass iu mathematics, but hare passed in

