

LEAVING CERTIFICATE, 1898.

EXAMINATION PAPERS.

ENGLISH

LOWER GRADE.

Tuesday, 14th June. 10 A.M. to 12.30 P.M.

Every Candidate should answer *nine* questions, of which *five* must be in Section I., *two* in Section II., and *two* in Section III. Questions 1, 2, and 3 must be attempted.

SECTION I.

1. Write out, and punctuate, the passage read for dictation.
2. Write a short essay of about two pages on *one* of the following subjects:—
 - (a) Domestic animals.
 - (b) Your school friends.
 - (c) Do you prefer oral or written examinations?
3. Paraphrase the following lines, so as to bring out their full meaning:—

Heaven from all creatures hides the book of fate,
 All *but* the page prescribed, their present state :
 From brutes what *men*, from men what spirits know ;
 Or who could suffer *being* here below ?
 The *lamb* thy riot dooms to bleed to-day,
 Had he thy reason, would he skip and play ?
 Pleas'd to the last, he crops the flow'ry food,
 And licks the hand just rais'd to shed his blood.
 Oh, blindness to the future ! kindly giv'n,
 That each may fill the circle mark'd by Heav'n,
 Who sees with equal eye, as God of all,
 A hero perish, or a sparrow fall.

4. Make a general analysis of the first four lines of the above passage.
 Parse the words italicized in the above passage.
5. (a) Give the past tenses and past participles of *slit*, *sew*, *swell*, *eat*, *bear*.
 (b) "The verbs *get*, *hang*, *melt*, *strike*, have two forms of past participle." Give these, and illustrate the difference in their use.
6. (a) Explain the terms *metaphor*, *antithesis*, *epigram* ; and give an example of each.
 (b) Distinguish between the meanings of *valueless* and *invaluable* ; *practical* and *practicable* ; and illustrate the meaning of each word by a sentence in which it is used.

7. Re-write the following sentences correctly, and give reasons for any alterations you make:—
 - (a) It was unkind of him to have gone without saying farewell.
 - (b) Her eyes are so painful, she cannot sew with them.
 - (c) On her little income she lived in comfort and even in luxuriance.
 - (d) Both of them hated each other, but neither of them were brave enough to openly attack the other.
 - (e) I do not believe in ghosts, as I am not of an imaginary nature.
8. State shortly what you know of any *three* English or Scottish song-writers. Describe one song of *each* poet, and quote a verse from it.
9. In what century, and by whom, was each of the following works written?—*As You Like It*, *Gulliver's Travels*, *Vicar of Wakefield*, *Tom O'Shanter*, *Old Mortality*. Write a short account of the contents of *one* of them.

SECTION II.

- (In the answers under this Section attention must be paid to accuracy and clearness of composition. Mere lists of events and dates will not be regarded as sufficient.)
10. Write a connected account of the character and career of any *two* of the following:—Columba, Dunstan, Anselm, Hubert de Burgh, Wiclif, Joan of Arc, Knox, Sir Thomas More, Sir Philip Sidney, Claverhouse, Clive, Burke, Palmerston, John Bright.
 11. Describe, so as to show their historical importance, any *three* of the following:—The Roman Occupation of Britain, the Danish Invasions, Domesday Book, Assize of Clarendon, Battle of Evesham, Battle of Crecy, Jack Cade's Rebellion, Court of Star Chamber, Fall of Wolsey, Petition of Right, Solemn League and Covenant, the Cabal, Treaty of Utrecht, Stamp Act, Reform Bill, Indian Mutiny.
 12. Write a short paper on *one* of the following subjects:—The Effects of the Norman Conquest, the Conditions of Social Life in the Fourteenth Century, The Struggle between Church and State up till the Reformation, The Ecclesiastical Policy of Elizabeth, The English Colonization of America, The Effects of the English Revolution of 1688, The Origin and Results of the Crimean War.

SECTION III.

13. Write a full account of the river system of England *or* of Scotland.
14. Account for the commercial and industrial importance of Great Britain. Give the position of its six largest ports, and mention their chief imports and exports.
15. Indicate (by map or otherwise) the relative position and size of Cape Colony, Natal, Zululand, Orange Free State, and Transvaal. Give an account of the people, government, and products of each.

16. Name the countries bordering on the Mediterranean. What are the leading ports of each, and in what does their trade consist?
17. State what you know of the physical geography of South America under the heads of (a) mountain ranges and plateaus, (b) rivers, (c) climate, (d) products.
18. Describe the chief ocean-currents.
Explain the relation of time and longitude.

ENGLISH.

LOWER GRADE.

Tuesday, 14th June. 10.45 A.M.

Passage for Dictation.

As I walked through the aisles, I paused to contemplate a tomb on which lay the effigy of a knight in complete armour. It was the tomb of a crusader, one of those military enthusiasts who so strangely mingled religion and romance. There is something extremely picturesque in the tombs of these adventurers, decorated as they are with rude armorial bearings and Gothic sculpture. They harmonize with the antiquated chapels in which they are generally found; and in considering them, the imagination is apt to kindle with the legendary associations, the romantic fiction, the chivalrous pomp and pageantry, which poetry has spread over the wars for the sepulchre of Christ.

ENGLISH.

HIGHER GRADE AND FIRST PAPER FOR HONOURS GRADE.

Tuesday, 14th June. 10 A.M. to 1 P.M.

Every Candidate should answer *nine* questions, and every Candidate must take Questions 1 and 2, and, in addition, *three* other questions in Section I.

Higher Grade Candidates should take, also, *two* questions in Section II., and *two* in Section III.

Honours Grade Candidates are not required to answer questions from Sections II. and III., but may do so. The full number of marks can be obtained in Section I.

SECTION I.

1. Write a short essay of about two pages on *one* of the following subjects :—
 - (a.) Examinations as a test of knowledge and of capacity.
 - (b.) Birds.
 - (c.) Your favourite periodical.

2. Paraphrase the following passage, so as to bring out the full meaning :—

By nature's law, what may be, may be now ;
There's no prerogative in human hours.
In human hearts what bolder thought can rise
Than man's presumption on to-morrow's dawn ?
Where is *to-morrow* ? In another world.
For numbers this is certain ; the reverse
Is sure to none ; and yet on this *perhaps*,
This peradventure, infamous for lies,
As on a rock of adamant, we build
Our *mountain* hopes, spin out eternal schemes
As we the fatal sisters could out-spin.
Be wise *to-day* ; 'tis madness to *defer* ;
Next day the fatal precedent will plead ;
Thus on, till wisdom is push'd out of life.
Procrastination is the thief of time.

3. Parse the words italicized in the above passage.

Explain the terms, *simile*, *metaphor*, *personification*, *ellipse*, *apposition*. Point out an example of each in the above passage.

4. (a.) Make a general analysis of the following sentence, so as to show clearly how the clauses are related to one another :—

"Instead of beginning a boy with a map of the world before he knows what a map really stands for, we ought, it is now admitted, to begin him with a map of his own parish, and show him on it the road he comes along to school."

- (b.) The verbs *get*, *hang*, *melt*, *strike*, have two forms of past participle. Give these, and illustrate the difference in their use.

5. (a.) "In describing an action we sometimes want to signify not "merely whether it is placed in present, past, or future time, "but also to convey a more precise idea of the state or "progress of the action at the time indicated ; whether as a "*momentary*, or a *continuous*, or a *completed* action. There "are thus nine conditions of time." Exemplify this statement by giving the nine tense-forms in the indicative mood of the verb *I write*.

- (b.) "A word ending in *-ing* may be a *participle*, or an *adjective*, or a *noun* or a *verb in the infinitive mood*." Illustrate by sentences each use of the word *fighting*.

6. Distinguish between the meanings of *comprehensive* and *comprehensible*, *exceptional* and *exceptionable*, *constant* and *consistent*, *imaginary* and *imaginative*, *luxury* and *luxuriance* ; and illustrate the meaning of each word by a sentence in which it is used.

7. Improve the following sentences, and give reasons for the alterations you make :—

(a.) It is interesting to observe the various substitutes for paper before its invention,

(b.) I doubt I will not pass my examination.

(c.) He was the nephew of the old King, who died soon after the storming of his capital, and was ultimately successful in repelling the enemies' attacks, who returned the following year.

- (d.) Driving down the street, the horse ran off, and he was thrown out of the machine.
- (e.) There is as much difference between comprehending a thought clothed in Cicero's language and that of an ordinary writer as between seeing an object by the light of a taper and of the sun.
8. Name the author of each of the following works, and give a short account of any *two* of them :—
- The King's Quair, Utopia, Il Penseroso, Hudibras, Essay on Criticism, The Deserted Village, The Ancient Mariner, Quentin Durward, Evangeline, Enoch Arden.*
9. Illustrate *five* of the following traits from characters in English literature, and add a brief descriptive note on each character you name :—inquisitiveness, fidelity, ingratitude, patience, cruelty, self-control, hypocrisy, ambition, fickleness, avarice.

SECTION II.

(In the answers under this section, attention must be paid to accuracy and clearness of composition. Mere lists of events and dates will not be regarded as sufficient.)

10. Write a connected account of the character and career of any *two* of the following :—Columba, Dunstan, Anselm, Hubert de Burgh, Wiclif, Joan of Arc, Knox, Sir Thomas More, Sir Philip Sidney, Claverhouse, Clive, Burke, Palmerston, John Bright.
11. Describe, so as to show their historical importance, any *four* of the following :—The Roman Occupation of Britain, The Danish Invasions, Domesday Book, Assize of Clarendon, Battle of Evesham, Battle of Crecy, Jack Cade's Rebellion, Court of Star Chamber, Fall of Wolsey, Petition of Right, Solemn League and Covenant, The Cabal, Treaty of Utrecht, Stamp Act, Reform Bill, Indian Mutiny.
12. Write a short paper on *one* of the following subjects :—The Effects of the Norman Conquest, The Conditions of Social Life in the Fourteenth Century, The Struggle between Church and State up till the Reformation, The Ecclesiastical Policy of Elizabeth, The English Colonization of America, The Effects of the English Revolution of 1688, The Origin and Results of the Crimean War.

SECTION III.

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15. Indicate (by map or otherwise) the relative position and size of Cape Colony, Natal, Zululand, Orange Free State, and Transvaal. Give an account of the people, government, and products of each.
16. Name the countries bordering on the Mediterranean. What are the leading ports of each, and in what does their trade consist ?

17. State what you know of the physical geography of South America under the heads of (a) mountain ranges and plateaus, (b) rivers, (c) climate, (d) products.
18. Describe the chief ocean-currents.
Explain the relation of time and longitude.

ENGLISH.

HONOURS.—SECOND PAPER.

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

About SIX questions should be answered. At least FOUR of these must be taken from Section I.

SECTION I.

1. Describe, as fully as you can, any two of Chaucer's Canterbury pilgrims, and any two of the characters in *The Faerie Queene*.
2. Point out and illustrate what seem to you the out-standing characteristics of Shakespeare's or Milton's or Wordsworth's genius.
3. "There is hardly a play of Shakespeare's that has not a perfect woman in it, steadfast in grave hope, and errorless purpose: Cordelia, Desdemona, Isabella, Hermione, Imogene, Queen Catherine, Perdita, Sylvia, Viola, Rosalind, Helena, and last, and perhaps loveliest, Virgilia, are all faultless; conceived in the highest heroic type of humanity." Give an analysis of the characters of *three* of the heroines mentioned by Ruskin in the above passage.
4. Write a brief account of the works of two poets and two prose-writers who were contemporaries of Milton.
5. State what you know of our older Ballads, and compare them with any modern imitations with which you are acquainted.
6. Who are the chief representatives of English didactic poetry? Describe shortly one work of each of the poets you name.
7. "Literature first became a profession in the Eighteenth Century." Discuss this statement.
8. "Le style c'est l'homme." Illustrate this by a comparison of any two English essayists or novelists.
9. Give an account of any two poems in blank verse written before 1800, and of any two written since.
10. What are your favourite English songs? Explain, as clearly as possible, the reasons for your preference.

SECTION II.

Optional Questions.

11. Translate into Modern English :—

Ðā ēode heo ut, and hēt feccean hiere hearpan. And sōna swā heo hearpan ongan, heo mid wynsumum sange gemengde ðære hearpan swēg. Ðā ongunnon ealle ðā menn hīe herian on hiere swēgeræfte; and Apollonius āna swīgode. Ðā cwæð se cyning: “Apolloni, nū ðū dēst yfele, for-ðam-ðe ealle mēn heriað mīne dohtor on hiere swēgeræfte, and ðū āna hie, swigende tælst.” Apollonius cwæð: “Ealā, ðū gōða cyning, gif ðū mē geliefst, ic secge ðæt ic ongiete ðæt sōðlice ðīn dohtor gefeoll on swēgcræft, ac heo næfð hine nā wel geleornod; ac hāt mē nū sellan ðā hearpan, ðonne wāst ðū nū ðæt ðū giet nāst.” Arcestrates se cyning cwæð: “Apolloni, ic onenāwe sōðlice ðæt ðū eart on eallum ðingum wel gelæred.”

12. At what periods have classical or romance words been introduced into our vocabulary? Give examples from each period. To what extent did these foreign influences affect our grammar?
13. Mention, and give examples of, the main dialectal differences of grammar and pronunciation in Fourteenth Century English. Which dialect was used by Hampole, Trevisa, and Langland respectively? How and why did the Midland dialect develop into standard English?
14. Give some account of the principles of Anglo-Saxon metre. Write short descriptive notes on the leading Anglo-Saxon poems.

LATIN.

LOWER GRADE.

Thursday, 16th June. 10 A.M. to 12.30 P.M.

Candidates should in all cases attempt Question 1.

1. Translate into Latin :—

He summoned the leaders of the force at Adrumetum to surrender to Cæsar “the emperor.” They replied, “There is no emperor here but Scipio,” and put his herald to death as a deserter. The dictator sailed on to Leptis, and landing there, with the good-will of the inhabitants, awaited further succours. There he was menaced by Scipio: and Labienus, who frequently led the opposing cavalry, flung bitter taunts at the veterans whom he had so often led to victory. But Cæsar maintained himself quietly within his entrenchments till he could move forward with five legions, while, by making an alliance with the Mauretanians, he was enabled to drive away Juba to the defence of his own capital.

2. Translate into English :—

(*Minerva chooses the olive for her tree.*)

- (a) Olim, quas, vellent esse in tutela sua,
divi legerunt arbores. quercus Jovi
et myrtus Veneri placuit, Phœbo laurea,
pinus Cybelæ, populus celsa Herculi.
Minerva admirans, quare steriles sumerent,
interrogavit. causam dixit Juppiter :
“honorem fructu ne videamur vendere.”
“at, mehercules, narrabit quod quis voluerit,
oliva nobis propter fructum est gratior.”
tunc sic deorum genitor atque hominum sator :
“O nata, merito sapiens dicere omnibus !
nisi ntile est quod facimus, stulta est gloria.”

(*Cæsar is urged to fight by his officers.*)

(b) Concurrebant legati, centuriones tribuniq; militum :
“ne dubitaret proelium committere : omnium esse militum
paratissimos animos. Afraninos contra multis rebus sui
timoris signa misisse : quod suis non subvenissent, quod de
colle non decederent, quod vix equitum incursus sustinerent
collatisque in unum locum signis conferti neque ordines neque
signa servarent.”—Cæsar in eam spem venerat, se sine pugna et
sine vulnere suorum rem conficere posse, quod re frumentaria
adversarios interclusisset. cur etiam secundo proelio aliquos ex
suis amitteret ? cur vulnerari pateretur optime de se meritos
milites ? cur denique fortunam periclitaretur ? præsertim cum
non minus esset imperatoris consilio superare quam gladio.

3. (a) Give the (1) meaning, (2) gender, (3) genitive singular of the following nouns :—*seges, tellus, caro, Ceres, pignus, mus, dies, græx, abies, numen*. In giving the genitives, mark the quantity of the last syllable but one.

(b) Give instances of verbal nouns, denoting (1) the doer of a thing, (2) the doing of it, (3) the instrument with which it is done ; and of verbs which express (1) to begin doing a thing, (2) to desire to do it, (3) to do it frequently.

(c) Give the meaning and principal parts of *furo, furor, pergo, perit, cedo, cedo, solvo* ; the 3rd plural future indicative active of *sum, possum, redeo, volo* ; and the future infinitive of *rapio, traho fero, pono, conor, queror, sequor*.

(d) Distinguish between *quisque, quisquam, aliquis, quilibet* ; and between *uter, uterque, utervis, alteruter*.

Give the Latin for *whence, whither, where : however small, however large : three years later, three years ago : forty times, four hundred times*.

4. Translate into Latin :—

1. How many times have you seen this happen ?
2. He asked what answer he was to make to the demand of the enemy.
3. He could not prevent Cæsar from crossing the river.
4. Each man returned in safety to his own country.

5. To the men who were in the two camps he gave three sesterces apiece.
5. Draw a plan of ancient Rome, showing the hills, the Tiber, and the more important buildings and localities.

LATIN.

HIGHER GRADE AND FIRST PAPER FOR HONOURS GRADE.

Thursday, 16th June. 10 A.M. to 1 P.M.

Candidates will not receive a Certificate unless they reach the necessary standard both in Prose Composition and in Translation.

1 Translate into Latin:—

As to gold and silver, there is more of them in Lacedaemon than in all the rest of Hellas, for during many generations gold has been always flowing in to them from the whole Hellenic world, and often from the barbarian also, and never going out as in the fable of Aesop the fox said to the lion, "The prints of the feet of those going in are distinct enough"; but who ever saw the trace of money going out of Lacedaemon? and therefore you may safely infer that the inhabitants are the richest of the Hellenes in gold and silver, and that their kings are the richest of them, for they have a larger share of these things, and they have also a tribute paid to them which is very considerable. Yet the Spartan wealth, though great in comparison of the wealth of the other Hellenes, is as nothing in comparison of that of the Persians and their kings.

2. Translate into English:—

- (a) Jamque propinquabant hostes tumuloque subibant, cum secum Poenus: "caelum licet omne soluta in caput hoc compage ruat terraeque dehiscant, non ullo Cannas abolebis, Iuppiter, aevo, decedesque prius regnis, quam nomina gentes aut facta Hannibalis sileant: nec deinde relinquo securam te, Roma, mei, patriaeque superstes ad spes armorum vivam tibi: nam modo pugna praecellis, resident hostes: mihi satque superque, ut me Lardaniae matres atque Itala tellus, dum vivam, expectent nec pacem pectore norint." sic rapitur, paucis fugientum mixtus, et altos inde petit retro montes tutasque latebras.
- Hic finis bello: reserantur protinus arces
Ausonio iam sponte duci: iura improba adempta
armaque, et incisae leges opibusque superbis
vis fracta, et posuit gestatas belua turres.

(b) Quod si apud Athenienses, homines Graecos, longe a nostrorum hominum gravitate diunctos non deerant qui rem publicam contra populi temeritatem defenderent, cum omnes qui ita fecerant e civitate eicerentur: si Themistoclem illum, conservatorem patriae, non deterruit a re publica defendenda nec Miltiadi calamitas, qui illam civitatem paulo ante servarat,

neque Aristidi fuga, qui unus omnium iustissimus fuisse traditur: si postea summi eiusdem civitatis viri, quos nominatim appellari non est necesse, propositis tot exemplis iracundiae levitatisque popularis tamen suam rem publicam illam defenderunt: quid nos tandem facere debemus, primum in ea civitate nati unde orta mihi gravitas et magnitudo animi videtur, tum in tanta gloria insistentes, ut omnia humana leviora videri debeant, deinde ad eam rem publicam tuendam aggressi, quae tanta dignitate est, ut eam defendentem occidere honestius sit quam oppugnantem rerum potiri?

3. Translate into Latin:—

- (a) He enquired how many legions they had: could a more foolish plan than this, he asked, be imagined?
- (b) However many the ships you have, there is no doubt that the enemy will build a larger fleet.
- (c) Whether we stay or go back, the half of our forces will be destroyed.
- (d) After waiting three days at Narnia, he marched to Volsinii in Etruria, but he found the forces of the enemy too large to be safely attacked.

4. (a) Give the principal parts of the verbs *ēdo*, *neglego*, *pario*, *gaudeo*: and parse the following, marking the quantity of every syllable; *constiterit*, *odissetis*, *sustuleritis*, *sedem*, *sidam*, *noras*.

(b) Explain the constructions of *dum* with the Indicative (past, present, and future) and with the Subjunctive.

(c) Distinguish, in meaning and usage, between the genitives *nostrum* and *nostri*: the future participle and the supine in *-um*; the imperatives *ne facias* and *ne feceris*; *veni* and *venito*; the ablative and genitive of price or value.

5. Describe very shortly the procedure at Rome by which a law was passed, a Magistrate appointed, and a criminal brought to trial. Give, if you can, the more important Latin words or phrases,

Or,

What were the qualities which made up the Old Roman notion of heroism? Illustrate from Virgil and Horace.

LATIN.

HONOURS. SECOND PAPER.

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

1. Translate into Latin:—

I have said enough in my defence against the first class of my accusers: I turn to the second class. They are headed by Meletus, that good man and true lover of his country, as he calls himself. Against these too I must try to make a defence:—Let their affidavit be read: it contains something of this kind: it says that Socrates is a doer of evil, who corrupts the youth; and who does not believe in the gods of the State, but has other new divinities of his own. Such is the charge; and now let us examine the particular counts. He says that I am a doer of evil and corrupt the youth: but I say, O men of Athens, that Meletus

is a doer of evil, in that he pretends to be in earnest when he is only in jest, and is so eager to bring men to trial from a pretended zeal and interest about matters in which he really never had the smallest interest. And the truth of this I will endeavour to prove to you.

2. Translate into English :—

- (a) *Arma secuturum socieri, quacunq̃ue fugasset, temptavere suo comites devertere Magnum hortatu : patrias sedes atq̃ue hoste carentem Ausoniam peteret. "numquam me Caesaris," inquit, "exemplo reddam patriae, numquamq̃ue videbit me nisi dimisso redeuntē milite Roma. Hesperiam potui, motu surgente, tenere, si vellem patriis aciem committere templis ac medio pugnare foro. dum bella relegem, extremum Scythici transcendam frigoris orbem ardentēque plagas. victor tibi, Roma, quietem eripiam, qui, ne premerent te proelia, fugi ? a potius, bello ne quid patiaris in isto, te Caesar putet esse suam." sic fatus in ortus Phoebeos convertit iter, terraeque secutus devia, qua vastos aperit Candavia scutus, contigit Emathiam, bello quam fata parabant.*
- (b) *Campis dives, Apollo, sic marinis, sic semper senibus fruare cygnis, doctae sic tibi serviant sorores, nec Delphis tua mentiatur ulli, sic Palatia te colant amentque : bis senos cito me rogante fasces det Stellae bonus annuatque Caesar. felix tunc ego debitorque voti casurum tibi rusticas ad aras ducam cornibus aureis iuvenum. nata est hostia, Phoebe ; quid moraris ?*

C. PLINIUS TACITO SUO SALUTEM.

- (c) *Librum tuum legi et quam diligentissime potui adnotavi quae commutanda, quae eximenda arbitrarer. neque enim ulli patientius reprehenduntur quam qui maxime laudari merentur. nunc a te librum meum cum adnotationibus tuis exspecto. o iucundas, o pulchras vices ! quam me delectat quod, si qua posteris cura nostri, usquequaque narrabitur qua concordia simplicitate fide vixerimus ! erit rarum et insigne duos homines aetate, dignitate propemodum aequales, non nullius in litteris nominis (cogor enim de te quoque parcius dicere, quia de me simul dico), alterum alterius studia fovisse. equidem adolescentulus, cum iam tu fama gloriaque florerēs, te sequi, tibi longo sed proximus intervallo et esse et haberi concupiscebam. et erant multa clarissima ingenia ; sed tu mihi (ita similitudo naturae ferebat) maxime imitabilis, maxime imitandus videbaris. quo magis gaudeo quod si quis de studiis sermo, una nominamur, quod de te loquētibz statim occurro, nec desunt qui utrique nostrum praeferantur. sed nos, nihil interest mea quo loco, iungimur : iam mihi primus qui a te proximus.*

3. Translate the following passages, explaining and illustrating by example all peculiarities of expression or construction :—

- (a) sive opus est remo, remige carpit iter.
- (b) aetate patres appellabantur.
- (c) strata iacent passim sua quaeque sub arbore poma.
- (d) tu quoque magnam partem opere in tanto, sinefret dolor, Icare, haberes.
- (e) quod ille si repudiasset, dubitatis quin illi vis esset adlata?
- (f) publicum imperium servitiumque obversabatur animo futuraque ea deinde patriae fortuna quam ipsi fecissent.
- (g) non novam potestatem nactus sed quam habebat usus iniuste.
- (h) lyricorum fere solus Horatius legi dignus.

4. (a.) Write a short Latin essay—or a letter from a visitor to the country—describing the character and customs of any nation of modern Europe.

Or

- (b) Translate into Latin Hexameters :—

Then, in a vision, did I seem to view
a golden-feather'd eagle in the sky,
with open wings, and hovering for descent ;
and I was in that place, methought, from whence
young Ganymede, from his associates 'reft,
was snatched aloft to the high consistory.
"Perhaps," thought I within me, "here alone
'he strikes his quarry, and elsewhere disdains
'to pounce upon his prey." Therewith, it seem'd
a little wheeling in his aëry tour,
terrible as the lightning rush'd he down,
and snatch'd me upward even to the fire.

Or

- (c) Translate the last six lines of the preceding passage into Hexameters, and the following passage into Elegiacs :—

Was life on land not short enough for thee,
but, Cleonicus, thou must tempt the sea ?
To Thasus, bringing wealth of Syrian wares,
sailing thou camest with the wintry stars ;
and when the Pleiads merged their sevenfold gem,
thou sankest to the grey abyss with them.

5. Give some account of the religion of the Romans, referring especially to its bearing upon politics.

Or

- In what ways was Roman literature fostered by patronage, under the Republic and under the Empire ?

GREEK.

LOWER GRADE.

Wednesday, 15th June. 2 to 4.30 P.M.

I. Translate :—

"Εως δὲ Ἀλέξανδρος ἐκεῖ μένων τὸ τραῦμα ἐθεραπεύετο, ἐς τὸ στρατόπεδον ἐνθενπερ ὠρμήθη ὁ πρῶτος λόγος ἦκεν ὅτι τεθνηκὼς εἶη ἐκ τοῦ τραύματος. καὶ τὰ μὲν πρῶτα οἰμωγὴ ἦν τῆς στρατιάς ξυμπάσης, πανσάμενοι δὲ τῆς οἰμωγῆς ἄθυμοί τε καὶ ἄποροι ἦσαν ὅστις μὲν ἡγήσεται τῆς στρατίας, ὅπως δὲ ἀποσωθῇσονται εἰς τὴν πατρίδα. ὥς δὲ ἦκέ ποτε λόγος ὅτι ζῇ Ἀλέξανδρος, οὕτω ἐπιστεύετο· ὥς δὲ καὶ γράμματα παρ' αὐτοῦ ἦκεν ὅτι ἤδη κατελεύσεται ἐπὶ τὸ στρατόπεδον, οὐδὲ ταῦτα τοῖς πολλοῖς ὑπὸ τοῦ ἄγαν δέους πιστὰ ἐφαίνετο. καὶ ταῦτα ἐννοήσας Ἀλέξανδρος, πλέων κατὰ τὸν ποταμόν, ὥς ἐπέλαζεν ἡ ναὺς ἥδη τὸν βασιλεῖα φέρουσα, κελεύει δὴ ἀφελεῖν τὴν σκηνὴν ἀπὸ τῆς πρύμνης, ὥστε καταφανὴς εἶναι πᾶσιν. οἱ δὲ γε ἔτι ἠπίστουν, πρὶν γε δὴ ὁ μὲν τὴν χεῖρα ἀνέτεινεν ἐς τὸ πλῆθος, οἱ δὲ ἀνεβόησαν· πολλοῖς δὲ καὶ δάκρυα προεχύθη ἀκούσια.

II. Translate into Greek :—

- (1) I do not know whether what you say is true or false.
- (2) The son of Philip happened to be present here for many days.
- (3) After the capture (*participle*) of the town the general put all the citizens to death.
- (4) I fear I am not so clever as to teach you all you want.
- (5) Tell your brother that I shall see him when he arrives at Athens.

III. (a) Give the dat. sing. and acc. plur. of ἱππεύς, θυγατήρ, ναῦς, λείως, κανοῦν, πῆχυς, ὄρος, ἦπαρ, ἄστν, γραῦς, γέρας, Ἐρμῆς.

Give the degrees of comparison of πένης, φίλος, καλός, εὐδαίμων, ἄνω, μάλα.

Decline γλυκύς (all genders) in plural, ὅστις (all genders) in sing., εἷς (all genders).

(b) Give 1st pers. sing. indic. mood of the future, aor., perf. act. and perf. pass. of αἰνῶ, πλέω, τρέπω, στέλλω, ἀναλίσκω.

Augment (giving in each case one example) αἰτῶ, αὐξάνω, ἔπομαι, ἰορτάζω, προλέγω, καθέδω, ἀλίσκομαι, ἐνοχλῶ, ἔρπω, εὐεργετῶ.

Parse πιθοῦ, ἐλεῖν, πέσσει, παύσει, ἔσταμεν, χαριούνται, ἐργηγορώς, ἐγνωσαν, ἀφίχθε, ὑπέσχοντο.

(c) Translate, with a short note in each case on the syntax :—

- (1) ἀπιόντων ὅποι ἂν βούλωνται.
- (2) βασιλεὺς ὑμᾶς τὰ ὅπλα ἀπαιτεῖ.
- (3) ἠπορούμεν τί λέγοιμεν.
- (4) ὁ μηδὲν ἀδικῶν οὐδενὸς δέεται νόμου.

What cases are governed by the verbs ἔπομαι, κρατῶ, χρώμαι, πείθω, κελεύω, βοηθῶ, μνησκώ, γέομαι?

GREEK.

HIGHER GRADE AND FIRST PAPER FOR HONOURS GRADE.

Wednesday, 15th June, 2 to 5 P.M.

(Candidates will not receive a Certificate unless they reach the necessary Standard both in Grammar and Translation.)

I. Translate :—

- (1) [*Themistocles outwits the Lacedaemonians in the building of the walls of Athens.*]

οἱ δὲ ἀκούοντες τῷ μὲν Θεμιστοκλεῖ ἐπέιθοντο διὰ φιλίαν αὐτοῦ· τῶν δὲ ἄλλων ἀφικνουμένων καὶ σαφῶς κατηγορούντων ὅτι τευχίζεται τε καὶ ἤδη ὕψος λαμβάνει, οὐκ εἶχον ὅπως χρηρῆσθαι. γνοὺς δὲ ἐκείνος κελεύει αὐτοὺς μὴ λόγοις μᾶλλον παραγέσθαι ἢ πέμψαι σφῶν αὐτῶν ἄνδρας οἵτινες πιστῶς ἀπαγγελοῦσι σκεψάμενοι. ἀποστέλλουσιν οὖν, καὶ περὶ αὐτῶν ὁ Θεμιστοκλῆς τοῖς Ἀθηναίοις κρύφα πέμπει κελεύων ὥς ἥκιστα ἐπιφανῶς κατασχεῖν, καὶ μὴ ἀφείναι πρὶν ἂν αὐτοὶ πάλιν κομισθῶσιν. οἱ τε οὖν Ἀθηναῖοι τοὺς πρέσβεις ὥσπερ ἐπεστάλη κατέχον, καὶ Θεμιστοκλῆς ἐπελθὼν τοῖς Λακεδαιμονίοις ἐνταῦθα δὴ φανερώς εἶπεν ὅτι ἡ μὲν πόλις σφῶν τετείχισται ἤδη ὥστε ἱκανῇ εἶναι σώζειν τοὺς ἐνοικοῦντας· πρότερόν τε γάρ, ὅτε τὴν πόλιν ἐδόκει ἐκλιπεῖν ἄμεινον εἶναι καὶ ἐς τὰς ναῦς ἐσβῆναι, ἄνευ ἐκείνων ἔφασαν γνόντες τολμήσαι, καὶ νῦν δοκεῖν σφίσι ἄμεινον εἶναι τὴν ἐαυτῶν πόλιν τεῖχος ἔχειν, καὶ ἰδίᾳ τοῖς πολίταις καὶ ἐς τοὺς πάντας ζυμμάχους ὠφελιμώτερον εἶσεσθαι. ἡ γὰρ πάντας ἀτειχίστους ἔφη χρῆναι ζυμμαχεῖν, ἢ καὶ τὰδε νομίζειν ὀρθῶς ἔχειν. οἱ δὲ Λακεδαιμόνιοι ἀκούσαντες ὀργὴν μὲν φανεράν οὐκ ἐποιούντο τοῖς Ἀθηναίοις, τῆς μέντοι βουλήσεως ἀμαρτάνοντες ἀδήλως ἤχθοντο.

- (2) ἐγὼ δὲ δώσω τὴν ἐμὴν παῖδα κτανεῖν.
 λογίζομαι δὲ πολλὰ· πρῶτα μὲν πόλιν
 οὐκ ἂν τιν' ἑλλήν τῆσδε βελτίω λαβεῖν·
 ἔπειτα τέκνα τοῦδ' ἕκαστι τίκτομεν,
 ὥς θεῶν τε βιωμὸς πατρίδα τε ρύνομεθα.
 εἰ δ' ἦν ἐν οἴκοις ἀντὶ θηλειῶν στάχυν
 ἄρσην, πόλιν δὲ πολεμῖα κατεῖχε φλόξ,
 οὐκ ἂν νιν ἐξέπεμπον εἰς μάχην δορός,
 θάνατον προταρβούσ'· ἀλλ' ἐμοιγ' ἔστω τέκνα
 ἃ καὶ μάχοιτο καὶ μετ' ἀνδράσιν πρόποι,
 μὴ σχήματ' ἄλλως ἐν πόλει πεφυκότα.
 τὰ μητέρων δὲ δάκρυ' ὅταν πέμπῃ τέκνα,
 πολλοὺς ἐθλήν' ἐς μάχην ὀρμωμένους,
 τῇμυ δὲ παιδί στέφανος εἰς μίαν μόνην
 πόλειω θανούσῃ τῆσδ' ὑπερδοθήσεται.

II. Translate into Greek :—

- (1) We would gladly hear from you how long you intend to remain at Athens.

- (2) He asked whether they ought to have helped Philip to become ruler of the Greeks.
- (3) He was already advanced in years, so that he would have died, if not then, not long afterwards.
- (4) We should take care to do nothing unworthy of our ancestors who fought and died at Salamis.
- (5) They blamed Pericles because, though he was general, he did not lead them out against the enemy.
- (6) I knew that I was not mistaken, but that the others were basely betraying our country.

III (1) Give (a) the fut. inf. of μάχομαι, τίκτω.

(b) pres. imperat. midd. 2nd sing. of προίημι and ἵστημι.

(c) perf. partic. nom. plur. masc. of ἀραρίσκω and ὀφλισκάνω.

(d) aor. subj. pass. 3rd sing. of θάπτω and κεράννυμι.

(2) Distinguish :

(a) οὐδεὶς οὐκ εἶδεν and οὐκ εἶδεν οὐδεὶς.

(b) τοῦτο γένοιτο and τοῦτο γένοιτ' ἄν.

(c) πρὸς τοῦ φεύγοντος λέγειν and πρὸς τὸν φεύγοντα λέγειν.

(d) τοῦ ἐπιγιγνομένου ἥρος and ἐπιγιγνομένου τοῦ ἥρος.

(e) πᾶσα νῆσος and ἡ πᾶσα νῆσος.

(3) Give English idiom for :

(a) αὐτὸς τρίτος ἐστρατήγει.

(b) μείζω ἢ κατὰ δάκρυα.

(c) ἀνύσας τι δρᾶσον.

(d) ἐπὶ τεττάρων ταχθῆναι.

(e) ἐν σοὶ γὰρ ἔσμεν.

(4) Translate with short notes on the syntax :

(a) ἀφίμεν σε ἐφ' ᾧ τε μηκέτι φιλοσοφεῖν.

(b) ὅτε ἔλθοι τοῦτ' ἐποίει.

(c) τὰλλα σιωπῶ πόλλ' ἂν ἔχων εἰπεῖν.

(d) ὁ δοῦλος πέντε μνῶν τιμᾶται.

(e) ἀπαρνέεται μὴ αὐτὸς δρᾶσαι.

(5) What is the force of the preposition in the compounds ἀποδιδόναι, διαλέγεσθαι, ἐπιорκεῖν, καταφεύγειν, μετατιθέναι, ὑπακούειν. Give in each case the meaning of the word.

GREEK.

[HONOURS—SECOND PAPER.]

Thursday, 16th June. 2 to 5 P.M.

I. Translate :

[*The best natures are most liable to corruption.*]

(1) Ἐχει δὴ, οἶμαι λόγον τὴν ἀρίστην φύσιν ἐν ἀλλοτριωτέρεσσιν οὖσαν τροφὴν κακίαν ἀπαλλάττειν τῆς φαύλης. Ἐχει. Οὐκοῦν, ἦν δ' ἐγώ, ὦ Ἀδείμαντε, καὶ τὰς ψυχὰς οὕτω φῶμεν τὰς εὐφροσύναν κακῆς παιδαγωγίας τυχεύσας διαφερόντως κακὰς γίνεσθαι; ἢ οἶε τὰ μεγάλα ἀδικήματα καὶ τὴν ἄκρατον πονηρίαν ἐκ φαύλης, ἀλλ' οὐκ ἐκ νεανικῆς φύσεως τροφῇ διολομένης γίνεσθαι, ἀσθενῇ δὲ φύσιν μεγάλων οὔτε ἀγαθῶν οὔτε κακῶν αἰτίαν ποτὲ εἶσθαι; Οὐκ, ἀλλά, ἢ δ' ὅς. οὕτως. Ἐν τοίνυν ἔθεμεν τοῦ φιλοσόφου φύσιν, ἂν μὲν, οἶμαι, μαθήσεως προσηκούσης τύχῃ, εἰς πᾶσαν ἀρετὴν ἀνάγκη αὐξανομένην ἀφικνεῖσθαι, εἰ δὲ μὴ ἐν προσηκούσῃ σπαρείσῃ τε καὶ φυτευθεῖσα τρέφεται, εἰς πάντα τὰναντία αὐτῇ, εἰ δὲ μὴ τις αὐτῇ βοηθήσας θεῶν τύχῃ. ἢ καὶ σὺ ἰγεί, ὥσπερ οἱ πολλοί, διαφθειρομένους τινὰς εἶναι ὑπὸ σοφιστῶν νέους, διαφθεύοντας δὲ τινὰς σοφιστὰς ἰδωτοκούς, οὗ τι καὶ ἄξιον λόγου, ἀλλ' οὐκ αὐτοὺς τοὺς ταῦτα λέγοντας μεγίστους μὲν εἶναι σοφιστὰς, παιδεύειν δὲ τελευτάτα καὶ ἀπεργάζεσθαι οἷους βούλονται εἶναι καὶ νέους καὶ πρεσβυτέρους καὶ ἀνδρας καὶ γυναῖκας.

(2) Ὡς οἱ γε μεμαῶτε νέκυν φέρων ἐκ πολέμοιο νῆας ἐπὶ γλαφυράς· ἐπὶ δὲ πόλεμος τέτατό σφιν ἄγριος, ἥντε πῦρ, τό τ' ἐπεσοῦμενον πόλιν ἀνδρῶν ὄρμενον ἐξαίφνης φλεγέθει, μινύθουσι δὲ οἶκοι ἐν σελαι μεγάλῃ· τὸ δ' ἐπιβρέμει ἵς ἀνέμοιο. ὥς μὲν τοῖς ἵππων τε καὶ ἀνδρῶν αἰχμητῶν ἀζηχὴς ὀρυμαγδὸς ἐπήϊεν ἐρχομένοιισιν. οἱ δ' ὥς θ' ἡμίονοι κρατερὸν μένος ἀμφιβαλόντες ἔλκωσ' ἐξ ὄρεος κατὰ παιπαλόεσσαν ἀταρπὸν ἢ δοκὸν ἢ δόρυ μέγα νήϊον· ἐν δὲ τε θυμὸς τέρεθ' ὁμοῦ καμάτῳ τε καὶ ἰδρῶ σπευδόντες· ὥς οἱ γε μεμαῶτε νέκυν φέρων· αὐτὰρ ὅπισθεν Αἴαντ' ἰσχανέτην, ὥς τε πρῶν ἰσχανεῖ ὕδωρ ὑλῆεις, πεδίοιο διαπρύϊον τετυχηκώς· ὥς τε καὶ ἰφθίμων ποταμῶν ἀλεγείνῃ ῥέεθρα ἴσχει.

Comment on the mood of ἔλκωσι.

II. For Greek Prose :

Worldly Wiseman : How camest thou by thy burden at first ?*Christian* : By reading this book in my hand.*Worldly Wiseman* : I thought so ; and it has happened unto thee as to other weak men, who, meddling with things too high for them, do suddenly fall into thy distractions ; which distractions do not only unman men, as thine I perceive have done thee, but they run them upon desperate ventures, to obtain they know not what.

Christian : I know what I would obtain ; it is ease from my heavy burden.

Worldly Wiseman : But why wilt thou seek for ease this way, seeing so many dangers attend it ? especially since (hadst thou but patience to hear me) I would direct thee to the obtaining of what thou desirest, without the dangers that thou in this way wilt run thyself into.

BUNYAN.

III. (a) Translate the following passages, explaining the case usages, and noting those which are distinctively Homeric or admissible only in verse :

(1) οὐλήν, τήν ποτί μιν σῦς ἤλασε.

(2) ἄλλοι δὲ θύρσους ἔσαν δι' αἰθήρος
Πενθέως, στόχον δούτηνον.

(3) ἴζεν τοίχου τοῦ ἐτέρου.

(4) ἐμὲ δὲ λισσέσκετο γούνων.

(5) μετὰ δὲ τριτάτοισιν ἄνασσειν.

(b) Translate, with short notes where the syntax needs explanation :

(1) οὗτ' ὄντα οὗτ' ἂν γινόμενα λογοποιούσιν.

(2) εἰ δὲ γενησόμεθα ἐπὶ βασιλεῖ, τί ἐμποδὼν μὴ οὐχὶ ὑβρίζομένους ἰσθάνειν ;

(3) οὐκ ἂν διὰ τοῦτό γ' εἶεν οὐκ εὐθύς δεδωκότες.

(4) τοῦτον ἔχει τὸν τρόπον ὁ νόμος . . . ἵνα μὴδὲ πεισθῇναι μὴδ' ἐξαπατηθῇναι γένοιτ' ἐπὶ τῷ δήμῳ.

(5) δυστάλαινα τᾶρ' ἐγὼ
εἰ σοῦ στερηθῶ.

IV. With reference to any *two* of the following battles, (a) give briefly the events which led up to it, (b) draw a rough plan of the action, (c) notice any difficulties connected with the narrative :—*Marathon, Thermopylae, Plataea, Mycale.*

Or

Sketch briefly the course of Greek history under the supremacy of Sparta, after the battle of Aegospotami.

Or

Narrate the events which led to the delivery of any *two* of the following speeches, and the general purport of each speech :—*The First Philippic, The First Olynthiac, On the Peace, On the Embassy, On the Crown.*

FRENCH.

LOWER GRADE.

Wednesday, 15th June.—10 A.M. to 12.30 P.M.

Candidates must in all cases, answer all Questions in Section I., and should attempt four Questions from among the other Sections.

SECTION I.

1. Translate into English :—

(a.) Un soir, ils causaient comme à l'ordinaire. La conversation, longtemps vagabonde, tomba enfin et s'arrêta sur les projets de Charles pour son règne futur. "Voyons, que ferez-vous quand vous serez roi ?" dit gaîment le prisonnier, qui, plus vieux d'années et surtout de malheurs, avait dans la conversation une supériorité marquée sur son jeune ami. "Belle demande ! Je ferai la guerre." Nemours sourit tristement. "Oui," poursuivit le dauphin en se frappant le front de l'index, "depuis longtemps j'ai mon projet là. D'abord j'irai conquérir l'Italie : l'Italie, vois-tu, Nemours, c'est un pays merveilleux, où les rues sont pleines de musique, les buissons couverts d'oranges, et où il y a autant d'églises que de maisons."

(H. MOREAU.)

(b.) La brebis et le chien, de tous les temps amis,
Se racontaient un jour leur vie infortunée.

"Ah !" disait la brebis, "je pleure et je frémis,
Quand je songe aux malheurs de notre destinée.

Toi, toujours soumis, tendre et fidèle,

Tu reçois, pour prix de ton zèle,

Des coups et souvent le trépas.*

Moi, qui tous les ans les habille,

Je vois chaque matin quelqu'un de ma famille,

Assassiné par ces méchants."

"Il est vrai," dit le chien ; "mais, crois-tu plus heureux

Les auteurs de notre misère ?

Va, ma sœur, il vaut encoir mieux

Souffrir le mal que de le faire."

* Death.

(FLORIAN.)

2. Give in full the present indicative of *dire, faire, courir* ; the future of *espérer, aller, venir* ; the preterite (*passé défini*) of *mettre, lire, écrire* ; and the two participles of *valoir, souffrir, mourir*.

3. Translate into French :—These books are better than yours, but my brother's are the best. Give it to him ; do not give it to me. How long have you been here ?

4. How do nouns in *al*, in *ou*, and in *ail* form their plural ? Give one example and one exception in each case.

Give the feminine of :—Celui, frais, malin, cheval, flatteur.

5. How do you generally form adverbs from French adjectives ? Form adverbs from :—Vrai, savant, doux, gentil, confus.

6. Translate into French :—

(a.) Now he led a merry life, went to the theatre, drove about in the King's garden, and gave a great deal of money to the poor, which was very good of him; he well knew from old times how sad it is not to own a penny. He was now rich, had fine clothes, and many friends, who all said that he was a real gentleman, which the soldier liked to hear. But as he spent money every day and never got any back again, it happened after a while that he only had two-pence left; so he had to give up his splendid rooms where he had lived, and go into a small garret under the roof, and clean and mend his own boots; and no more of his friends came to see him, for there were so many stairs to go up.

(ANDERSEN.)

(b.) The lamb said to the wolf: The water was troubled before I arrived and therefore I cannot have done it.

(c.) Talking little and thinking much is at all times better than talking much and thinking little.

SECTION II.

7. When is the subjunctive mood used in French (a) instead of the English Infinitive; (b) instead of the English Indicative; (c) instead of the English Conditional?

Translate into French :

(a.) He wishes you to do that for him.

(b.) If you write to her and she does not answer you, what will you do?

(c.) She spared no pains for her friends, so she deserved that they should show her some attentions.

8. Account for the agreement or non-agreement of the past participles in the following sentences :—

(a.) La montre, que j'avais *oublié* de remonter, s'est *arrêtée* à minuit.

(b.) Je vous ai *donné* une montre.

(c.) Voilà la montre que je vous ai *donnée*.

Translate into French :—

(a.) My sisters have not come.

(b.) have you seen the pen I have lost?

(c.) They have washed their hands.

(d.) They have washed themselves.

9. Translate into English :—

(a.) La Bièvre, que l'on juge trop souvent par ce qu'elle est devenue industriellement dans le faubourg Saint-Marcel, et non par ce qu'elle était naturellement à Verrières ou à Rungis, coule là, ou tout au moins coulait là, au temps dont je parle, sous un épais couvert de saules et de peupliers, et sur ses bords s'étendent de vertes prairies.

(MALOT.)

(b.) Ils n'aspirent enfin qu'à des biens passagers,
Que troublent les soucis, que suivent les dangers,
La mort nous les ravit, la fortune s'en joue;
Aujourd'hui dans le trône, et demain dans la boue.

(CORNEILLE.)

SECTION III.

10. Translate into French :

(a.) It is common to distinguish men by the names of animals which they are supposed to resemble. Thus a hero is frequently termed a lion, and a statesman a fox ; an extortioner gains the appellation of vulture, and a fop the title of monkey. There is also a species of beings in human form which may be called the screech-owls of mankind, apparently born for no other purpose than to disturb the happiness of others.

(Dr. JOHNSON.)

(b.) My eldest sister is only thirty years old, and it is twelve years since she has spoken a word to us or seemed to hear our voices. We do not know whether she is deaf or not ; she is not dumb, for when she believes herself alone, she sometimes speaks. Do not be afraid of her ; if you appear not to see her, she will not even look at you.

SECTION IV.

11. State what you know of *one* of the works in division (a), or of *one* of the writers in division (b), or of any work of any living French author.

(a.) *Les animaux malades de la peste.*

Le paysan du Danube.

Polyeucte.

Athalie.

Le menteur.

Les plaideurs.

Le Médecin malgré lui.

Les Femmes savantes.

(b.) *Saint-Simon.*

Fontenelle.

André Chénier.

Mme. de Staël.

Michelet.

Balzac.

Labiche.

Alph. Daudet.

12. (a.) Translate into French :—

(1.) The General Manager of the Great Northern Railway Company employs a numerous staff.

(2.) In England the office of a limited liability company must be registered.

(3.) The rate of exchange between France and England varies daily both for gold and bills.

(b.) Translated into English :—

(1.) Les actions de nos grandes compagnies de chemins de fer sont toujours d'une fermeté remarquable, et plusieurs d'entre elles ont même accentué leur mouvement de hausse.

(2.) Le marché minier reste lourd et la faiblesse des rendements et des bénéfices du mois ne permet guère d'espérer un relèvement des cours avant la seconde quinzaine du mois prochain.

FRENCH.

HIGHER GRADE AND FIRST PAPER FOR HONOURS GRADE

Wednesday, 15th June.—10 A.M. to 1 P.M.

Candidates must, in all cases, answer Questions 1 and 2, Section I.; and should attempt SIX questions from the other sections.

1. Translate—

- (a.) Moi-même, dont la gloire ici moins répandue
Des pâles envieux ne blesse point la vue,
Mais qu'une humeur trop libre, un esprit peu soumis
De bonne heure a pourvu d'utiles ennemis,
Je dois plus à leur haine, il faut que je l'avoue,
Qu'au faible et vain talent dont la France me loue.
Leur venin, qui sur moi brûle de s'épancher,
Tous les jours en marchant m'empêche de broncher,
Je songe, à chaque trait que ma plume hasarde
Que d'un œil dangereux leur troupe me regarde.

(BOILEAU.)

- (b.) Un homme à l'abandon, hélas ! comme on en voit,
Souffrant, vieux, sans parents, sans amis et sans toit,
N'ayant pour reposer sa tête qu'une pierre,
Passait tout le jour en prière.
Quelqu'un lui dit : " Mon pauvre homme,
" Dieu ne fait rien pour vous en somme."
Le vieillard répondit : " Ses dons sont infinis !
" Je ne demande rien à Dieu, je le bénis,
" Je jouis des splendeurs de la nature entière,
" Je pourrais être aveugle, et je vois la lumière !
" J'ai des rêves dorés qui chantent en moi-même.
" Enfin, et pour n'oublier rien,
" Dieu me laisse un ami qui m'aime :
" J'ai mon chien ! "

(RATISBONNE.)

- (c.) Madame était revenue d'Angleterre, avec toute la gloire et le plaisir que peut donner un voyage causé par l'amitié, et suivi d'un bon succès dans les affaires. Le Roi son frère, qu'elle aimait chèrement, lui avait témoigné une tendresse et une considération extraordinaires. On savait, quoique très-confusément, que la négociation dont elle se mêlait était sur le point de se conclure. Elle se voyait, à vingt-six ans, le lien des deux plus grands rois de ce siècle. Elle avait entre les mains un traité d'où dépendait le sort d'une partie de l'Europe. Le plaisir et la considération que donnent les affaires se joignant en elle aux agréments que donnent la jeunesse et la beauté, il y avait une grâce et une douceur répandues dans toute sa personne qui lui attirait une sorte d'hommage qui lui devait être d'autant plus agréable qu'on le rendait plus à la personne qu'au rang.

(Mme. DE LA FAYETTE : Vie d'Henriette d'Angleterre.)

2. Translate into French—

- (a.) Good nature—or what is often considered as such—is the most selfish of all the virtues ; it is, nine times out of ten, mere indolence of disposition. A good-natured man is, generally speaking, one who does not like to be put out of his way ; and, as long as he can help it, —that is, till the provocation comes home to himself—he will not. He does not create fictitious uneasiness out of the distresses of others ; he does not fret and fume, and make himself uncomfortable about things he cannot mend, and that no way concern him even if he could ; but then there is no one who is more apt to be disconcerted by what puts him to any personal inconvenience, however trifling ; who is more tenacious of his selfish indulgences, however unreasonable ; or who resents more violently any interruption of his ease and comforts—the very trouble he is put to in resenting it being felt as an aggravation of the injury.

(HAZLITT.)

- (b.) What has become of your brother, the one with whom I used to be so intimate ?—A man does what he can ! He has a small business of his own.—And what about yourself, what are you doing ? I know you have something to live on.—Oh ! nothing very great. Well ! I am a barrister, but a briefless one. I must do something to make myself known. Don't lose heart ! I have confidence in your future success.—Thanks, your words do me good, and I am very glad to have met you.

SECTION II.

3. Distinguish (a) between the verbs *exaucer* and *exhausser* ; (b) the two masculine nouns *martyr* and *martyre* ; (c) the two adjectives *venimeux* and *venéneux* ; (d) the two phrases *un homme lettré* and *un homme de lettres* ; (e) the two words *le greffe* and *la greffe*.
4. Translate into English, and add a note on the agreement or non-agreement of each past participle :—
- (a.) Ils se sont *plu* à lui faire de nombreux cadeaux.
- (b.) Elle s'était *attendue* à mieux que cela.
- (c.) Avant que la nuit fût *arrivée*, nous étions *parvenus* au sommet de la colline.
- (d.) Leur frère les ayant *perdues* de vue, elles ont *couru* le plus grand danger.
5. Frame sentences to illustrate the different methods of translating an English present participle into French.
6. Give :
- (a.) The 2nd person singular and plural of the present and imperfect indicative of *avouer*, *songer*, *dire*, *voir*.
- (b.) The 3rd person singular and plural of the future and imperfect subjunctive of *savoir*, *mettre*, *faire*, *oublier*.
- (c.) The whole imperative of *revenir*, *se mêler*, *devoir*, and *ne pas se nuire*.

7. Translate into *idiomatic* French :—

- (a.) One day follows another and no two are alike.
- (b.) It is quite dark, you cannot see.
- (c.) He knew more about it than you do.
- (d.) They called on us and we returned their call.

8. Translate into *idiomatic* English :—

- (a.) Il a encore fait des siennes, je n'y suis pour rien,
- (b.) Si le cœur vous en dit, ne vous gênez pas, prenez cela.
- (c.) Il y en a beaucoup de plus à plaindre que ce criard.
- (d.) Vous vous faites du bon sang.—Oui, je vis au jour le jour.

SECTION III.

- 9. Give and explain the etymology of: *l'Hôtel-Dieu*; *une eau-forte*; *jumeau, jumelle*; *jalous, jalouse*.
- 10. Give the origin of the endings of the preterite in *-us* and *-is* in all but the first conjugation of French verbs, and exemplify your answer by verbs derived from the Latin.
- 11. Explain the origin and formation of the following words and phrases: *portrait-carte*; *sans-gêne*; *à contre-jour*; *plafonner*; *ferblantier*; and give other instances of similar formations proving the accuracy of your answer.
- 12. Write according to the rules of modern syntax :
 - (a.) La santé que j'ai jouie jusqu'à présent. (MONTAIGNE.)
 - (b.) Autant qu'il vous plaira vous pouvez arrêter, Madame, et là-dessus rien ne vous doit hâter. (MOLIÈRE.)
 - (c.) Vous ne vous étonniez pas que la diversité de tant de lieux ne vous aurait de rien servi. (MALHERBE.)

SECTION IV.

- 13. Analyse either :
 - (a) One of *Pascal's Provincial Letters*, or one of Boileau's *Epistles*;
 - or (b) One act from one of either Corneille's or Racine's Tragedies, or from one of Molière's Comedies;
 - or (c) A work in prose or poetry written in the XIXth century.
- 14. State what you know either :
 - (a) Of some important Comedy produced in the first half of the XIXth century;
 - or (b) Of some important Historical or Critical work produced during the latter half of the XIXth century,
- 15. State (a) what you know, *from reading some of his works*, of either a living French poet, or a living French prose writer of established merit;
 - or (b) *what you know from your own reading* of either La Fontaine's Fables or Madame de Sévigné's letters.

SECTION V.

16. Translate into French, and *answer in French*, the following letter :

London, 30th May, 1897.

Messieurs. E. MIALHE and Cie., Wine Merchants, Bordeaux.

GENTLEMEN,

Your knowledge of the wine business makes us desirous of taking advantage of the kind offer you made us, to apply to you for information as to the results likely to accrue from the last vintage in the Bordeaux district, and respecting the general aspect of the wine trade in France.

We shall be guided by the advices which your experience in business will suggest to you in dealing with several offers proposed to us, and in the purchases we intend to make. Please to quote the lowest prices for wines of 1896, and accept beforehand our sincere and hearty thanks.

We remain, Gentlemen,

Your obedient servants,

W. TURNER & Co.

17. Translate into English, and answer in French, the following letter :—

Paris, 7 Mars 1898.

Messieurs. S. GLOVER & Co., Ingénieurs, 20 Moorgate St., London.

MESSIEURS,

Plusieurs de nos commettants nous ont demandé diverses machines anglaises nouvelles propres aux travaux de l'agriculture, lesquelles, par les améliorations qui y sont apportées, seraient supérieures à celles qu'on fabrique en France, soit pour le prix, soit pour le rendement. Mais ils voudraient, par un examen personnel, juger de la valeur de ces machines ; nous venons donc vous demander, comme vous êtes les agents de plusieurs grands fabricants d'instruments aratoires et de machines, de leur proposer de vous autoriser à nous laisser en dépôt, dans nos magasins, quelques-unes de leurs machines.

Nous laissons au fabricant de faire le choix spécial des machines, bien certains qu'il n'en enverra pas qui puissent ne pas convenir aux agronomes français.

En attendant votre réponse, agréez, Messieurs, l'assurance de notre sincère considération.

D. CARTIER et CIE.

8. Write in French a brief account of one of the following subjects :—

(a.) The wool trade, from an exporter's point of view.

(b.) The cotton trade. ditto.

(c.) The timber trade between England and the Continent.

(d.) The sugar trade, ditto.

FRENCH.

HONOURS—SECOND PAPER.

Tuesday, 21st June. 10 A.M. to 1 P.M.

Candidates must, in all cases, answer Questions 1 and 2, and should attempt at least four (AND NOT MORE THAN SIX) of the remaining Questions.

SECTION I.

1. Translate :

(a) "Whoever in a State," said Milton, "knows how wisely to form the manners of men and to rule them at home and in war with excellent institutes, him in the first place, above others, I should esteem worthy of all honour. But next to him the man who tries to establish in maxims and rules the method and habit of speaking and writing received from a good age of the nation . . . The one, as I believe, supplies noble courage and intrepid counsels against an enemy invading the territory. The other takes to himself the task of extirpating and defeating, by means of a learned detective police of ears, and a light band of good authors, that barbarism which makes large inroads upon the minds of men, and is a destructive intestine enemy of genius." (LETTER, 1638.)

(b) The Highlands of Scotland are a picturesque, but in general a melancholy, country. Long tracts of mountainous desert, covered with dark heath, and often obscured by misty weather; narrow valleys, thinly inhabited, and bounded by precipices resounding with the fall of torrents; a soil so rugged and a climate so dreary as in many parts to admit neither the amusements of pasturage nor the labours of agriculture; the mournful dashing of waves along the firths and lakes that intersect the country, the portentous noises which every change of the wind and every increase and diminution of the waters is apt to raise in a lonely region, full of echoes, and rocks, and caverns; the grotesque and ghastly appearance of such a landscape by the light of the moon.

(BEATTIE.)

SECTION II.

2. Translate into English :—

(a) Il avait un corps fluët, de jambes grêles, le dos voûté, de longs bras. Des cheveux blonds et bouclés tombaient sur ses épaules et encadraient agréablement sa figure expressive. Sa langue s'embarrassait entre ses dents et lui donnait un parler de femme, sifflant et quelque peu bredouillé. Quand il récitait, il traînait sa voix d'un ton monotone; quand il improvisait, il s'appuyait des deux mains sur le marbre de la tribune et il précipitait le flux de ses paroles. La nature lui avait refusé tous les avantages extérieurs du port, du geste et de l'organe, mais il y suppléait à force d'esprit et de travail. . . . Jamais orateur ne mania avec plus d'habileté la langue politique.

(CORMENIN ON BENJAMIN CONSTANT.)

(b) Il faut chercher tous les moyens de rendre agréables à l'enfant les choses que vous exigez de lui. En avez-vous quelque une de fâcheuse à proposer; faites-lui entendre que la peine

sera bientôt suivie du plaisir; montrez-lui toujours l'utilité des choses que vous lui enseignez; faites-lui en voir l'usage par rapport au commerce du monde et aux devoirs des conditions. Sans cela l'étude lui paraît un travail abstrait, stérile et épineux. A quoi sert, disent-ils en eux-mêmes, d'apprendre toutes ces choses dont on ne parle point dans les conversations, et qui n'ont aucun rapport à tout ce qu'on est obligé de faire? Il faut donc leur rendre raison de tout ce qu'on leur enseigne: "C'est," leur direz-vous, "pour vous mettre en état de bien faire ce que vous ferez un jour; c'est pour vous former le jugement; c'est pour vous accoutumer à bien raisonner sur toutes les affaires de la vie."

(FÉNELON: DE L'ÉDUCATION DES FILLES.)

- (c) Un petit enfant blond, dont la mine éveillée
 A la fraîcheur d'un fruit, quoic'u'un peu barbouillée,
 Conduit le pauvre aveugle et marche à petits pas.
 A l'angle du chemin, ils vont s'asseoir là-bas,
 Muets, l'un contre l'autre, et jamais ne demandent.
 Ils ne poursuivent pas notre aumône, ils l'attendent.
 Il faut les plaindre, enfants; ils sont si malheureux!
 Et c'est touchant de voir comme ils s'aiment entre eux
 Et de voir ce garçon de huit ans, dont l'enfance
 Aurait encor besoin de guide et de défense,
 Si petit! attentif aux pierres du chemin,
 Surveiller un vieil homme et lui donner la main.

(J. AICARD: *Colin Maillard*.)

SECTION III.

3. The following conjunctive phrases may govern the subjunctive, or indicative, according to the sense:—Jusqu'à ce que; tellement que; à condition que; si non que; si ce n'est que; de façon que; en sorte que; and tout . . . que. Illustrate this by examples and explain the modification of sense implied by the mood.

Translate and comment on the following sentences *with reference to the above question*:—

- (1) Quelque jour ce jeune lion
 Choquera la rébellion
 Et, en sorte qu'il en sera maître. (MALHERBE.)
 - (2) Quand nous voulons donner quelque chose de cette qualité,
 voyons de le faire en sorte que l'opportunité la rende
 agréable. (MALHERBE.)
 - (3) A voir le climat affreux de la Moscovie, on ne croirait
 jamais que ce fût une peine d'en être exilé.
 (MONTESQUIEU.)
 - (4) Il semble qu'une passion vive et tendre *est* morne et silencieuse.
 (LA BRUYÈRE.)
4. After Latin verbs expressing surprise, joy, sadness, shame, fear, e.g. *lætor, doleo, queror, angor, indignor*, &c., the indicative mood was sometimes used, and more frequently the subjunctive, e.g., *Quod spiritus, quod vocem mittitis, quod formas hominum habetis, indignantur*. (LIVY, IV., 3.)

(a) How far did French syntax formerly follow Latin usage? and (b) What is now the general rule in such cases? Translate and comment on the following sentences *with reference to the above question* :—

- (1) Je crains que *c'est* un traître. (AMYOT.)
 - (2) J'ai grand peur que toute cette entreprise *sera* semblable à la farce du pot au lait. (RABELAIS.)
 - (3) Je suis très-marri qu'en m'écrivant que vous me désiriez employer vous ne *m'avez* pas écrit en quoi. (MALHERBE.)
 - (4) Les maîtres se plaignent que le feu de l'âge *rend* la jeunesse indisciplinable. (J. J. ROUSSEAU.)
5. Give (a) the nouns formed, *without a suffix*, from the following verbs: *garer, pousser, réclamer, soutenir, relever*; (b) the adjectives formed, *also without a suffix*, from *quitter, troubler, tremper*; and translate both the verbs and their derivatives.
 6. Give the derivation of the following words and explain in translating them the value of the suffixes used in their formation:—*épiscopat, évêché, pauvrete, pàlot, grisàtre, dameret, ruelle, risette, louteteau*.
 7. Give the derivation of the following words and translate them, with a brief note on their various component parts—*un chassis, une sacoche, une laiterie, une fournée, une pépinière*.

SECTION IV.

8. State, in French, what you know of the literary influence of "*Les Salons*" in the XVIIth century, naming some of the authors and some of the works clearly under that influence.
9. State, in French, what you know of the history of *Port Royal*, the works and influence of its members, and the judgment passed upon them by *Sainte-Beuve*.
10. State what you know of one of the following celebrated French orators and his works:—*Lc Chancelier Michel de l'Hospital, Calvin, Pellisson, Bourdaloue, Massillon, Thomas, Mirabeau, Thiers, Gambetta, Jules Simon*.
11. State what you know of *one* great French Historical work produced in the XIXth century, and its author.
12. State what you know, *from your own reading*, of either a great French Tragedy or Comedy, and its author (date XVIIth XVIIIth, or XIXth century).

SECTION V.

13. Write an essay in French (not exceeding 40 lines) on *one* of the following subjects:—
 - (a) "Wisdom for a man's self is, in many branches thereof, a depraved thing." (BACON.)
 - (b) "What custom wills, in all things should we do it." (SHAKESPEARE.)
 - (c) Les belles actions cachées sont les plus estimables. (PASCAL.)

(d) La plus expresse marque de la sagesse, c'est une esjouissance constante : son état est comme des choses au-dessus de la lune, toujours serein. (MONTAIGNE.)

(e) "Give us, oh! give us the man who sings at his work!
Be his occupation what it may." (TH. CARLYLE.)

GERMAN.

LOWER GRADE.

Tuesday, 14th June. 2 to 4.30 P.M.

To secure full marks, the whole of this Paper should be answered.
Additional marks will be given for fair writing in the German character.

SECTION I.

1. Translate into English:—

Mitterweile hatte sich ein frischer Wind erheben, und der Schiffsherr befahl, man solle an Bord gehen. Als er sah, daß Peter nicht zurückgekehrt war, ließ er ihn am Strande suchen. Die Leute fanden ihn nicht; sie riefen laut ins Gebüsch hinein, aber er hörte es nicht, denn er schlief zu fest. Der Schiffsherr jedoch mochte den günstigen Wind nicht versäumen, ließ die Segel aufziehen und fuhr davon. Peter hatte auf der grünen Insel eine geraume Zeit geschlafen; als er erwachte, war es Nacht. Erschrocken eilte er nach dem Meere und an die Stelle, wo er seine Gefährten verlassen hatte. Anfangs glaubte er, in der Dunkelheit das Schiff nicht zu erkennen, und sang an laut zu rufen; aber kein Mensch antwortete ihm. Unter seinen Klagen wurde es Tag und wieder Nacht. Er lief hin und her und blickte auf allen Seiten nach dem Meere hinans, ob er nicht irgendwo ein Fahrzeug gewahren könnte; aber alle seine Mühe war vergebens. Endlich fiel er vor Müdigkeit und Hunger ohnmächtig auf den Boden nieder. Da fügte es Gott, daß ein Fischerfahn an der Insel landete, um frisches Wasser einzunehmen. Als einige der Fischer Peter angestreckt auf der Erde liegen sahen, hatten sie Mitleid mit ihm, erquickten ihn mit Speise und Trank und brachten ihn mit Mühe wieder zu sich. Dann nahmen sie ihn mit sich und fuhren nach einer Stadt namens Gragona, wo sie ihn zur Pflege zurückließen. Hier blieb er neun Monate lang; aber er konnte nicht genesen, denn der Kummer nagte an seinem Herzen. Als er endlich wieder so viel Kraft gewonnen hatte, daß er langsam am Meere auf und ab zu wandeln vermochte, erblickte er ein Schiff im Hafen, und als er näher herankam, hörte er die Schiffleute die Sprache seines Vaterlandes reden. Peter zitterte vor Freude bei diesen Tönen und fragte die Männer, wann sie wieder nach Frankreich zurückführen. „Spätestens in zwei Tagen“, erwiderten sie. Da ging er zum Schiffsherrn und bat ihn flehentlich, er möge ihn doch mitfahren lassen, denn er habe lange hier in der Fremde krank gelegen und rechne sich nach der Heimat zurück; und derselbe erklärte sich gern bereit, seinem unglücklichen Landsmann den Dienst zu erweisen.

Gustav Schwab, „Deutsche Volks- und Heldensagen.“

2. Translate into German :—

A poor woman lived in a village with her son, who was ten years old. One day she was very weak and could not get up from her bed. An old neighbour whom Johnny called wrote something on a piece of paper, and said, "My wife was ill last summer; she took this (say, took this in), and got (say, became) soon better." He gave the boy some money, and sent him to the near town. The little fellow ran as fast as he could. But on his way he came through a wood; and a man with a wild beard saw him and called out, "Where art thou going?" The boy told him what he ~~was~~ to (use *jollen*) fetch; and the wicked thief took away from him (say, to him, *dat.*) the money which the good friend had given him, and let him go. The boy walked crying through the streets. A kind gentleman asked him why he was weeping. It was a doctor. He took the poor boy with him (say, with himself), and drove out (*omit*) to his mother; and he did this every day till she was quite well. I can tell you that she was very glad when she could go to (an) her work again. But all the people in the village heard with pleasure that the cruel robber was caught and heavily punished for his bad deeds.

SECTION II.

3. Give the nominative and genitive singular and the nominative plural, with the definite article, of the German, for *any ten* of the words :—brook, tail, hen, cock, pupil, pot, donkey, wolf, lion, basket, horn, war, nail, place, storm.
4. Decline, singular and plural, the German for *which man, red flower, their great king*; and the interrogative pronoun (*who? what?*).
5. Give the meaning, and the comparative and superlative, of the adjectives *alt, brav, jung, bunt, gejunb, edel, viel, rasch*; and of the adverbs *balb* and *gern*; and give the German for—I am as tall as he; our house is not so high as this one, but it is much higher than yours.
6. Write out (giving, in the 2nd person singular, the *familiar* form; and in the 2nd plural, both the *familiar* and the *polite* forms):—
 - (a.) The present and imperfect indicative of *geben, sich waschen*.
 - (b.) The perfect indicative active and the conditional of *gehen*.
 - (c.) The present indicative passive, and future perfect passive of *hören*.
7. Give—
 - (a.) The 3rd person singular present, imperfect, and perfect indicative active of *fennen, fennen, bringen, denken, mögen, treffen*.
 - (b.) The 2nd person singular present indicative, imperfect subjunctive and imperative of *helfen, treten, laufen, kommen, befehen, vergessen*.

SECTION III.

8. Show in what four different ways neuter nouns may form their plural, giving two examples for each way.

9. Show, by examples, under what conditions the German adjective remains unchanged; and in what cases the past participle of verbs is made without the prefix *ge*.
10. Form a complete sentence for each case that may be governed by the prepositions *bei*, *wegen*, *auf*, *durch*, *nach*, *hinter*.
11. Name three writers of ballads (not including Goethe and Schiller), and mention the titles of two of each writer, and giving, if possible, the first verse of two of the six ballads.
12. Mention four works by Goethe, and as many by Schiller, and state in a word of what nature they are.

GERMAN.

HIGHER GRADE AND FIRST PAPER FOR HONOURS GRADE.

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

Candidates must, in all cases, answer Questions 1 and 2, Section I.; and should attempt EIGHT questions from the other Sections.

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

SECTION I.—TRANSLATION AND COMPOSITION.

1. Translate into English —

(a.) Immer weiter fuhren sie in die Nacht hinein, Dorf nach Dorf blieb hinter ihnen, und die Pferde schienen unermüdblich. Borromäus hatte die Augen geschlossen, aber er dachte nicht an Schlaf, und seine Bewegung seiner Begleiterin entging ihm. Erst gegen Mitternacht hielt der Wagen vor der Thür eines Gasthofs, der am Eingang eines großen Dorfes stand. Der Kutscher stieg ab, um die Leute aus dem Schlaf zu trommeln, und der Lärm des Hofhundes unterstützte ihn. Dennoch dauerte es lange, bis ein schläfriger Knecht das ungefüge Hofthor öffnete und mit der Laterne sich die Reisenden ansah. Auf die Frage des Kutschers nach frischen Pferden zuckte der Bursche träge die Achseln und bemerkte, das ganze Dorf schlafe, ob die Herrschaften sich nicht bis morgen gedulden könnten. Borromäus' gebieterischer Ton schnitt ihm jede weitere Einwendung ab, und eilends lief er davon, bei einem Nachbarn Rat zu schaffen, da der Wirt seine eigenen Pferde mit dem Pfarrer über Land geschickt habe. So blieben sie im Wagen sitzen, durch den die laue Nachtluft strich, und hörten, wie der Kutscher pfeifend seine Tiere abschrirrte, während es auch im Hause lebendig wurde und ein Licht hinter den Fenstern vorüberglitt. Jetzt trat der Gastwirt selbst mit dem flackernden Nachtlämpchen aus der Thür und kam an den Wagenchlag. Als er das wunderliche Gefährt musterte, das ohne alles Gepäck eine so eilige Reise machen sollte, und drinnen die schöne blonde Frau neben dem nachlässig gekleideten Mann erblickte, wußte er nicht, in welchem Ton er die Fremden anzureden habe. Er wechselte vorsichtig erst einige Worte mit dem Kutscher, der ihn alsbald aufklärte. Höflich kehrte er zu den Reisenden

zurück und lud sie ein auszustiegen und, bis die Pferde kämen, es sich in seinem Hause gefallen zu lassen. Eine kleine Erfrischung werde auf der Stelle bereit sein, und in seinem Keller liege ein sehr empfehlenswerter Wein.

Paul Hense.

(b.) O schöner Tag, wenn endlich der Soldat
Ins Leben heimkehrt, in die Menschlichkeit,
Zum frohen Zug die Fahnen sich entfalten,
Und heimwärts schlägt der sanfte Friedensmarsch;
Wenn alle Hüte sich und Helme schmücken
Mit grünen Maien, dem letzten Raub der Felder
Der Städte Thore gehen auf von selbst,
Nicht die Petarde braucht sie mehr zu sprengen;
Von Menschen sind die Wälle rings erfüllt,
Von friedlichen, die in die Lüfte grüßen;
Hell klingt von allen Thürmen das Geläut,
Des blut'gen Tages frohe Vesper schlagend.
Aus Dörfern und aus Städten wimmelnd strömt
Ein jauchzend Volk, mit liebend emsiger
Zudringlichkeit d.s. Hecrs Fortzug hindernd,—
Da schüttelt, froh des noch erlebten Tags,
Dem heimgekehrten Sohn der Greis die Hände.
Ein Fremdling tritt er in sein Eigenthum,
Das längst verlass'ne, ein; mit breiten Ästen
Deckt ihn der Baum bei seiner Wiederkehr,
Der sich zur Gerte bog, als er gegangen;
Und schamhaft tritt als Jungfrau ihm entgegen,
Die er einst an der Amme Brust verließ.

Schiller, Wallenstein.

2. Translate into German :—

Whilst travelling through the desert, a poor Arab met with a spring of clear, sweet, sparkling water. Used as he was only to brackish wells, such water as this appeared to his simple mind worthy of the ruler of a mighty empire; and filling his leather bottle from the spring, he determined to go and present it to the caliph himself. The poor man had to journey a long way before he reached the palace of his sovereign, and laid his humble offering at his feet. The Commander of the Faithful did not despise the little gift brought to him with so much trouble. He ordered some of the water to be poured into a cup, drank it, and thanking the Arab with a smile, presented him with a suitable reward. The courtiers around pressed forward, eager to taste of the wonderful water; but, to the surprise of all, their master forbade them to touch a single drop. After the poor traveller had quitted the royal presence with a joyful heart, the caliph turned to his attendants, and thus explained his conduct: "During the travels of the Arab," said he, "the water in his leather bottle has become impure and distasteful; but it was an offering of love, and as such I have received it with pleasure. But I well knew that, had I suffered another to partake of it, he would not have concealed his disgust; and therefore I forbade you to touch the draught, lest the heart of the poor man should have been wounded."

SECTION II.—GRAMMAR.

- 3 Give the nominative and genitive singular, and nominative plural, with the definite article, of the German words for *any ten* of these:—curse, floor, report, spark, contemporary, jaw, success, complaint, storey, partridge, campaign, barn, damage, proverb, impression.
4. Distinguish between—der Rachen, der Rachen; die Vorstellung, die Vorstellung; die Bürgschaft, die Bürgerchaft; der Flur, die Flur; mündlich, mündig; kostbar, köstlich; gräulich, greulich; er nähert sich, er nähert sich; er hat angegriffen, er ist angegriffen; er versteht sich nicht darauf, er versteht sich nicht dazu.
5. Decline the German of:—(*sing.*) one of my sons; (*plur.*) two of his friends; (*sing. and plur.*) all my paper; all this bad wine; many an honest man.
6. Enumerate five nouns that have different plurals, according to a difference of gender and meaning.
7. Give the second person singular of present indicative, imperfect subjunctive and imperative; and the past participle and infinitive with zu, of:—zerbrechen, abnehmen, verderben, aufessen, erlöschen, vollbringen, missverstehen, missfallen, wohlthun, umgehen.
8. Illustrate, by complete sentences, the meaning and government of the following prepositions (or postpositions):—rauf, halber, unbeschadet, laut, zufolge.

SECTION III.—PHILOLOGY AND WORD-FORMATION.

9. Give five nouns (with the definite article and meaning) that have double forms in the nominative singular, without difference of gender and meaning; and three others that have throughout double forms of the same meaning, but of different gender.
10. State the rule as to the gender of compound nouns, and mention six exceptions (formed with *mit, auf, &c.*).
11. Form abstract nouns (with the definite article and meaning) from *any ten* of these:—roh, heiss, dreist, stark, eitel, dunkel, edel, übel, geschwind, kalt, feucht, standhaft, genug, lieblos.
12. Form adjectives (with their meanings) from *any ten* of these:—Tier, Greis, Müssal, Rätsel, Sommer, Wis, Dichter, Eifer, Jugend,ummer, Stolz, Furcht, Gottesfurcht, Schwester, Frost, Trost.
13. Give the German, or English, words corresponding *etymologically* to *any ten* of each of the following two sets of words; adding, in each case, the actual meaning of the German word:—
 - (a) axe, wave, crutch, thicket, token, crane, pilgrim, post, ferry, brook, watch, bare, to stretch, to burst.
 - (b) auch, Neue, Ziegel, Bürste, Rüste, Eid, schadlos, nach, bleich, Weiss, Malve, Harfe, Zunder; zeigen, rascheln.

SECTION IV.—LITERATURE AND COMMERCIAL CORRESPONDENCE.

(Not more than TWO questions to be answered from this Section.)

14. State what you know of the *Minnejänger*.
15. What do you understand by the *Hainbund*, and the *Sturm und Drang*; and what principal names do you associate with them?
16. Give some account of two of these writers:—Paul Fleming, Hans Sachs, J. H. Voß, W. Hauff.
17. Assign *any twelve* of the following works to their respective authors, characterising them in a single word (drama, epic, &c.):—*Hans Kunge*, *Lieder des Mirza Schaffy*, *Der 24. Februar*, *Hildebrandslied*, *Titirel*, *Rolandslid*, *Der Zaubrer von Rom*, *Die Schulz*, *Die Altigens*, *Fiesfo*, *Geron der Adelige*, *Hesperus*, *Westöstlicher Divan*, *Clavigo*, *Der Oberhof*, *Hartha*, *Palmblätter*, *Luise*.
18. Write, in German, to a young German whom you knew whilst he was staying in Scotland, and who now is in a Hamburg office; requesting him to assist you in finding some place there in whatever line of business you might wish, and giving such particulars regarding yourself as may not already be known to him.
19. Acknowledge, in German, a similar request addressed to you by a young German whom you used to know whilst at school in Germany.
20. Translate into German:—

GENTLEMEN,

Glasgow, June 13, 1898.

HAVING learnt from a friend that one of your clerks was about to leave you, and that you would probably require some one in his place who has had some experience in your branch of business, I take the liberty of offering you my services, in case there is really to be a vacancy in your office. Messrs. Smith, Brown, & Co., with whom I have just completed a four years' term of apprenticeship, will be good enough to give you any information regarding my qualifications which you may desire; and I venture to assure you, gentlemen, that, if you were to honour me with your confidence, I would do all that is in my power to justify it by constant zeal, punctuality, and application. Looking forward to a favourable reply from you,

I have the honour to be, Gentlemen,

Your most respectful servant

GEORGE WHITE.

GERMAN.

HONOURS.—SECOND PAPER.

Tuesday, 21st June. 2 to 5 P.M.

Candidates must, in all cases, answer Questions 1 and 2; Section I.; and should attempt EIGHT questions (not more) from the other Sections.

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

SECTION I.—TRANSLATION AND COMPOSITION.

1. Translate into English:—

a. Gleich nachdem er das Zimmer verlassen hatte, kam Franziska durch die Außenthür herein. Als sie den offenen, frisch geschriebenen Brief auf dem Tische liegen sah, trat sie auf leisen Sohlen näher; vorsichtig reckte sie den Kopf, und ihre Augen flogen darüber hin, als wollten sie die Schrift einsaugen. Ein paar Sekunden stand sie noch, ihre Finger fuhren an die Zähne, ein heftiges Erschrecken lag auf ihrem Antlitz. Dann, als nebenan in der Bibliothek sich Schritte rührten, eufloß sie aus dem Zimmer, aus dem Hause und draußen über den Hof; an die Mauer gedrückt, lief sie in die Haide hinaus, die an der Rückseite des Gebäudes lag. Eine Weile saß sie hier zwischen dem Eichengebüsch auf dem Boden, die Hände um die Kniee gefaltet, ihre Blicke flogen von den Wetterfahnen des Hauses, welche goldschimmernd in der Morgenfonne aus dem Laub hervorragten, nach dem Wald hinüber und vom Walde zurück zu dem alten Gemäuer, das dort so friedlich in dem Grün der Bäume stand.

Theodor Storm, „Waldwinkel.“

b. Fast jeden Menschen, dessen Gemüt noch nicht verhärtet ist, kann eine stille Nacht wunderbar bewegen. Wenn alles, was auf Erden lebt und webt, von dem Menschen in seiner Kammer bis zum Vögelein in seinem Nest, schläft und schweigt, so meint man den Odem dessen zu hören, der über allen Hüt und Nacht hält. Die Erde kommt einem vor wie ein Land, in dem der Aufruhr gedämpft ist und alle Stimmen schweigen, und man dünkt sich einen Vorschmack der Zeit zu haben, in der „die Erde des Herrn ist und seines Gesalbten.“ Etwas der Art mochte auch der Graf fühlen; denn die grimmigen Geister in seinem Herzen waren verstummt, und das wilde Feuer erloschen, das noch gestern abend darin tobte. Dunkel und schweigend lag die Nacht über dem Städtchen und seinen Bewohnern; nur hier und da glänzte ein Stern am Himmel, und das Licht des Thürmers schimmerte hernieder; deutlich hörte man von ferne das Rauschen des Mainstroms, und als auch noch das Glöckchen des nahen Klosters zum Frühgebet rief, wurde dem Grafen ganz weich zu Mute.

K. H. Gaspari, „Luther und der Graf von Erbach.“

- c. Der Frühling ist zu Berg' und Thal gekommen,
 Sein Freudenruf ist durch die Luft erklingen;
 Kaum hat die Erd' im Schlafe ihn vernommen,
 Hat sie vom Traum sich emporgerungen,
 Der ihren Bujen deckte bang und kalt.
 In alle Fernen ist der Ruf gedrungen
 Mit freumblicher, süßlockender Gewalt,
 Daß ihres Nest's die Schwalbe nun gedenket,
 Weit übers Meer zur trauten Hütte wallt,
 Daß seinen Flug der Storch nun heimwärts lenket,
 Verlassend schnell das Schilf im fernern Süden.
 Die Blume blüht, der bunte Falter senket
 Auf sie die Flügel hin, die wohnenüber;
 Mit Blüten haben sich geschmückt die Bäume,
 Daß sie zu Lieb' und Sang die Sängler lüden.

Nicolaus Lenau.

2. Translate into German :—

a. When the ordinary emigrant female bids farewell to Europe to make her home in a new land, whether she leaves a mud cabin in Ireland, a vine-grower's cottage in Germany, or a mansion in England, the moment in which she catches a last glimpse of the land of her youth is one of the most emotionally intense of her existence. The life she leaves may have been one of hardship, even of bitterness, and the life she goes to may be one of ease, but, binding her to the land behind her, are ties of blood and childish remembrance of home—ties which shape themselves as mightily in the mud cabin or the back slum of the city as in the palace. She is leaving the one spot on earth where she is an object of interest and importance to her fellows. When she arrives in the new world it is to that home that she sends the record of her marriage, there that she knows the story of her sorrows and her gains will be waited for. And as her children grow up, the first stories they hear are not of Colonial things and people, but European—of fields in which little children gather buttercups and daisies, of ice and snow, and the roaring life of cities; and as they play in the hot sun, they think how beautiful those fields must be, and wonder how the daisy chains are made, and how primroses smell; and at night in their little hot beds they dream of ice and snow, and fancy they hear the roar of cities.

OLIVE SCHREINER, *Stray Thoughts on South Africa.*

- b. (1) I know the man quite well, but I don't know where he comes from.
 (2) I always thought him to be honest, but I was mistaken.
 (3) My sister called the other day on your cousin, but she was not in.
 (4) If you follow my advice you will not have to repent your action.
 (5) Why in the world did you not answer his letter sooner?
 (6) We must insist on your doing your duty.
 (7) Every man is the carver of his own fortune.
 (8) In doing so you will kill two birds with one stone.

SECTION II.—PHILOLOGY AND SYNTAX.

3. Form sentences to show the meaning and construction of five of the *conjunctions* allein, gleichwohl, mithin, wiewohl, je nachdem, folglich, wefern.
4. Exemplify the use of five of the following *adverbs*:—weitaus, lebhaft, züchtend, ausnehmend, beiläufig, kurzum, einigermaßen.
5. German adjectives of material (wooden, golden, &c.) are formed with two distinct affixes: give four such adjectives of each kind, and show in what way one of these affixes grew out of the other.
6. Form derivative verbs, by means of prefixes (not prepositions), from *any ten* of these:—fest, lustig, Gabe, warm, falt, fein, bleich, Mantel, Volf, Urtache, dreist, Blatt, Haupt, friid. Add the meaning of each verb.
7. Point out the anomalous features in the formation of Redner, Zauberin, Büchse; and give two other words of each kind showing a similar irregularity.
8. Give the German for *five* of the following sets of words (each set to be formed from the same radical word):—to hunt, the hunt, hunter, huntsmanship;—to laugh, a laugh, laughter, laughable, ridicule;—to flatter, flatterer, flattery, flattering (complimentary), flattering (adulatory);—to dissemble, hypocrite, hypocritical, hypocrisy;—to deceive, deceit, deceitful, deception, deceptive;—child, childish, childishness (childish trick or matter), childlike, childhood.
9. State and exemplify, as fully as you can, the rules as to the sequence of tenses in subordinate clauses of "reported speech" (or "indirect statement").
10. Give two distinct German words, with the definite article, for *any ten* of the following English homonyms (words with more than one distinct meaning):—end, brow, countryman, charge, moor, suit, dish, bond, cause, measure, stop, judgment, custom, herd, temple.
11. Show, by examples, to what English sounds the German labials p, b, f (v, pf) usually correspond when occurring as initial, as medial, and as final letters.

SECTION III.—LITERATURE.

(Not more than THREE questions to be answered from this Section.)

12. Specify the principal circles of legend on which the epics of chivalry are based; and mention some of the works of this kind connected with them.
13. Give some account of the literary groups or schools of the 17th century; and show in what way they prepared the ground for the "classical" period of the 18th century.
14. Write a brief account of Jean Paul and his literary activity, and indicate the main points of his influence on German thought and literature.
15. What do you understand by the "war lyrists," and „das junge Deutschland“?
16. State what you know of the novelists of the present day.

ARITHMETIC.

LOWER GRADE.

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

All the work must be shown, and such explanation added as is required to indicate the methods adopted.

Additional marks will be given for neatness, arrangement, and style.

1. Divide thirty-nine million one hundred and sixty-nine thousand five hundred and seven by nine thousand seven hundred and eighty.
 2. Resolve into prime factors 3234000 and 151200, and find their least common multiple as a product of prime factors.
 3. If a bicyclist ride a mile in 2 minutes 12 seconds, how long will he take to ride a kilometre, assuming that a metre is $3\frac{29}{5}$ feet?
 4. A room 27 feet long requires 52 square yards of carpet to cover the floor, find the breadth of the room.
 5. If 3 per cent. be gained by selling an article for £1 14s. 4d., at what price must it be sold to gain $5\frac{3}{4}$ per cent.?
 6. Extract the square root of $37\frac{36}{49}$.
 7. Simplify
 - (i) $\left(\frac{1}{12} + \frac{1}{16}\right)$ of $\frac{5}{14} \div \frac{3}{8} + \left(\frac{3}{8} \text{ of } \frac{1}{4}\right)$
 $\left(\frac{1}{12} - \frac{1}{16}\right)$ of $\frac{4}{21} \div \frac{3}{8} - \left(\frac{5}{8} \text{ of } \frac{1}{4}\right)$
 - (ii) $\frac{4}{7}$ of $\frac{5}{8}$ of $\frac{3}{4}$ of $\frac{5}{8}$ — $\frac{1}{1 + \frac{1}{4 - \frac{3}{14}}}$
 8. Express as vulgar fractions in their lowest terms
 - (i) $(.36 \times .25) \div 4.05$
 $4.2 \times .024 \div .02$
 - (ii) $.375 \times .8 \times .36 \times .772$.
 9. A takes 10 days to do a piece of work, which B can do in 8 days. If A work at it for $3\frac{1}{2}$ days, and is then joined by B, how long will they take to finish it?
 10. A bankrupt's debts amount to £9,089 1s. 4d., and his estate realises £5,254 12s. 4d., what can he pay in the pound?
 11. A gallon of water weighs 10 lb. avoirdupois, and a cubic foot of water 997 ounces; find how many gallons are contained in a cistern 12 feet long, 10 feet broad, and 6 feet deep.
 12. What sum will amount to £411 17s. 9d. in 7 years at $3\frac{1}{2}$ per cent. simple interest?
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ALGEBRA.

LOWER GRADE.

Monday, 13th June. 3 P.M. to 4.30 P.M.

All the work must be shown, and such explanation added as is required to indicate the methods adopted.

Additional marks will be given for neatness, arrangement, and style.

1. Find the value of

$$\frac{a}{(b-c)(c-a)} - \frac{b}{(c-a)(a-b)} + \frac{c}{(a-b)(b-c)},$$

when $a = 3$, $b = 5$, $c = 7$.

2. Simplify

(i) $2x - 3[y - \{3x + 2x - (3y - z) + y\} - x] - z$;

(ii) $(a + b - c)(a - b + c) - (a + b + c)(a - b - c)$.

3. (i) Divide
- $x^5 - x^3 + 3x^2 - 6x - 9$
- by
- $x^2 - 3$
- .

- (ii) What must be the numerical value of c in order that $x^2 + x + 1$ may be a factor of $x^4 + 2x^2 + x + c$?

4. State and explain the rule for finding the lowest common multiple of two algebraical expressions by resolving them into factors.

5. Find the lowest common multiples of

(i) $4x^3 - 8x^2 + 3x - 6$, $12x^3 + 4x^2 + 9x + 3$;

(ii) $a^4(b-c)$, $a^3(b^2-c^2)$, $a^2(b^3-c^3)$.

6. In five years from now a man will be three times as old as his son, and in 17 years from now he will be twice as old; find their present ages.

7. Simplify

(i) $\frac{x+1}{x^2-5x+6} - \frac{8}{x^2-4x+3} + \frac{3}{x^2-3x+2}$;

(ii) $\frac{\frac{a^3}{b} - \frac{b^3}{a^3}}{\frac{a^2}{b^2} + 1 + \frac{b^2}{a^2}} \div \frac{\frac{a}{b} - \frac{b}{a}}{\frac{1}{b} + \frac{1}{a}}$.

8. Solve the equations

(i) $(2x+3)(x-5) + (x-3)(2x+5) = (2x-3)(2x-5)$;

(ii) $\frac{x+a}{a} - \frac{x-b}{b} = \frac{a}{b} + \frac{b}{a}$.

9. Solve the equations

(i) $\begin{cases} \frac{x}{2} + \frac{y}{3} = 20, \\ \frac{x}{4} + \frac{y}{5} = 11; \end{cases}$

(ii) $\sqrt{x+6} + \sqrt{x-1} = 7$;

(iii) $3x^2 + 4x = 5$.

10. A dealer sells bicycles so as to make 25 per cent. profit. A rival dealer, who obtains the same bicycles one pound cheaper, and sells them one pound cheaper, makes $27\frac{1}{2}$ per cent. profit. Find what price the first dealer pays for the bicycles.

GEOMETRY.

LOWER GRADE.

Monday, 13th June. 12 noon to 2 P.M.

All ordinary symbols and contractions are allowed.

All the steps of the proofs must be given, and the previous propositions, &c., on which they depend, should be indicated.

It is not necessary to write out the general enunciations of propositions, but the particular enunciations should be given.

Additional marks will be given for neatness, good style, and accurately drawn figures.

1. Define an angle, a right angle, parallel straight lines.

Show from the definition that in a given plane only one straight line can be drawn at right angles to another straight line from a given point in that line.

2. If two triangles have two angles of the one equal to two angles of the other, and have also the sides equal which are opposite one pair of the equal angles, they shall be equal in all respects.

Prove that the point of intersection of the bisectors of two of the exterior angles of a triangle is equidistant from the three sides of the triangle.

3. If a straight line fall on two parallel straight lines, it shall make the alternate angles equal.

If the straight line, which bisects the exterior vertical angle of a triangle, be parallel to the base, the triangle shall be isosceles.

4. In any right-angled triangle, the square on the hypotenuse is equal to the sum of the squares on the other sides.

By means of this theorem, show how to construct a square containing 17 square inches.

5. In every triangle the square on the side subtending an acute angle is less than the sum of the squares on the other sides, by twice the rectangle contained by one of those sides and the straight line intercepted between the perpendicular let fall upon it from the opposite angle and the acute angle.

In the triangle ABC , AN is drawn from A perpendicular to BC ; if $BC = 8$ inches, $CA = 13$ inches, $AB = 15$ inches, find BN , and hence show that the angle at B is 60° .

6. Draw a straight line from an external point to touch a given circle.

A quadrilateral is such that a circle can be inscribed in it. Prove that the sum of one pair of its opposite sides is equal to the sum of the other pair.

7. In equal circles equal angles stand upon equal arcs.

AB and CD are two chords of a circle which are at right angles to each other. Prove that the sum of the arcs AC , BD is equal to the sum of the arcs AD , BC .

8. Construct a circle which shall pass through two given points on the same side of a given straight line, and also touch the given straight line.

How many circles can be constructed to satisfy these conditions?

ARITHMETIC.

HIGHER GRADE.

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

All the work must be shown, and such explanation added as is required to indicate the methods adopted.

Additional marks will be given for neatness, arrangement, and style.

1. If I can buy 8 apples and 21 oranges for 9d., or 4 apples and 12 oranges for 5d., what are the prices of apples and oranges?
2. A grocer buys sugar at 14s. per cwt. and sells it at 2d. per lb.; if he lose $2\frac{1}{2}$ lb. out of each cwt., find his gain per cent. on his outlay.
3. The sides of a rectangle are, correct to three decimal places, 8.127 and 13.463 inches; find the area, correct to two decimal places, and explain why the result cannot be trusted as correct to more than two decimal places.
4. A closed packing case measures externally 32, $25\frac{1}{2}$, and $15\frac{1}{2}$ inches, the wood being three-quarters of an inch thick, and the weight is 75 lb.; find the weight of a cubic foot of the same wood.
5. A man holding £4850 Four per cent. Stock, sells it at 133, and invests the proceeds in $2\frac{3}{4}$ per cent. Stock at $104\frac{1}{2}$. Find the change in his income, assuming that there is no charge for brokerage.
6. Simplify
 - (i) $\frac{3}{5} (1 - \frac{1}{2} \text{ of } \frac{1}{3}) \div \frac{1}{6} \text{ of } .0015 \div .009$
 $\frac{3}{4} \text{ of } 3\frac{1}{2} + \frac{1}{10}$ $\frac{1}{2} \text{ of } 10 - .025 \text{ of } 5\frac{5}{9}$
 - (ii) $.857142 \text{ of } 1 \text{ cwt.} + 3.4583 \text{ of } 1 \text{ lb.} + 8.6 \text{ of } 1 \text{ oz.}$
7. What is meant by the present worth of a sum of money?
 £9645 1s. 6d. is due three months hence, how much should be paid now in its place, assuming that interest is obtainable at 5 per cent. per annum?
8. If a metre be 3.29 feet, how many miles will a man walk in 9 hours 46 minutes 40 seconds at the rate of 6 kilometres an hour?
9. In what cases can a vulgar fraction be expressed as a terminating decimal fraction?
 Express $\frac{1}{15}$ as a circulating decimal without performing more division than is necessary.
10. A train 66 yards long overtakes a person walking along the line at the rate of 4 miles an hour, and passes him in $7\frac{1}{2}$ seconds, how long will it take to pass a person walking along the line in the opposite direction at the rate of 3 miles an hour?

ALGEBRA.

HIGHER GRADE.

Monday, 13th June. 3 P.M. to 4.30 P.M.

All the work must be shown, and such explanation added as is required to indicate the methods adopted.

Additional marks will be given for neatness, arrangement, and style.

1. Define the highest common factor of two algebraical expressions, and prove the rule for finding it.

Find the highest common factor of

$$2x^4 - 3x^3 + 2x^2 - x - 3 \text{ and } 2x^4 - x^3 - 3x^2 + 2x - 3.$$

2. Prove the identities

$$(i) (a + b + c)(bc + ca + ab) = (b + c)(c + a)(a + b) + abc,$$

$$(ii) \frac{a-b+c}{a-b} \cdot \frac{c-a-b}{c-a} + \frac{b-c+a}{b-c} \cdot \frac{a-b-c}{a-b} + \frac{c-a+b}{c-a} \cdot \frac{b-c-a}{b-c} = 4.$$

3. Solve the equations

$$(i) 1 - \sqrt{x} = \sqrt{\{x - \sqrt{(1-x)}\}};$$

$$(ii) \frac{x(x+4)}{x+1} + \frac{2x(x-1)}{x-4} = 2;$$

$$(iii) \begin{cases} x^2 + x + y^2 + y = 18, \\ x^3 + x^2y + xy^2 + y^3 = 65. \end{cases}$$

4. Prove that a fraction of the form $\frac{1}{a + \sqrt{b} + \sqrt{c}}$ can be reduced to a fraction with a rational denominator.

Reduce the fraction $\frac{1}{2 + \sqrt{2} + \sqrt{3} + \sqrt{6}}$ to one with a rational denominator.

5. A man has to catch a train and knows that if he walks the whole way he will be p minutes too late, but that if he runs the whole way he will be q minutes too soon; find what fraction of the distance he must run, and what fraction he must walk, so as to be just in time for his train.

6. If $a + b + c = 0$, show that

$$a^4 + b^4 + c^4 + (a^2 + b^2 + c^2)(bc + ca + ab) = 0.$$

7. Explain what is meant by an interchange in cyclical order.

Given the equation $x(y+z) = 2a(b+c-a)$, write down the two cyclically corresponding equations, and find the values of x , y , and z which satisfy all three equations.

8. Define proportion and continued proportion.

Prove that if a sum of money be lent at compound interest, the amounts accrued at the ends of successive years will be in continued proportion.

9. When are three quantities in harmonic progression ?

If a, b, c are in harmonic progression, show that

$a(b+c), b(c+a), c(a+b)$ are in arithmetic progression.

Insert two harmonic means between $3\frac{1}{2}$ and $6\frac{3}{4}$.

GEOMETRY.

HIGHER GRADE.

Monday, 13th June. 12 noon to 2 P.M.

All ordinary symbols and contractions are allowed.

All the steps of the proofs must be given, and the previous propositions &c., on which they depend, should be indicated.

It is not necessary to write out the general enunciations of propositions, but the particular enunciations should be given.

Additional marks will be given for neatness, good style, and accurately drawn figures.

1. Define parallel straight lines and a parallelogram.

If a parallelogram and a triangle be on the same base and between the same parallels, the parallelogram shall be double the triangle.

$ABCD$ is a parallelogram and P is any point in AB ; through Q , a point in AD , QRS is drawn parallel to AB , meeting PD in R and BC in S ; show that the parallelogram $ABSQ$ is twice the triangle CPR .

2. If a straight line be divided into any two parts, the squares on the straight line and on one of the parts are equal to twice the rectangle contained by the whole and that part together with the square on the other part.

$ABCD$ is a quadrilateral right-angled at B and C , show that the squares on AB, BC, CD exceed the square on AD by twice the rectangle contained by AB and CD .

3. Find the locus of a point, the sum of the squares of whose distances from the sides of a given square is constant.

4. The tangents drawn to a circle from an external point are equal.

If the sum of two opposite sides of a quadrilateral is equal to the sum of the other two opposite sides, show that a circle can be inscribed in the quadrilateral.

5. Describe a circle about a given triangle.

In two given straight lines, meeting in O , points A and B are taken so that AB is of constant length; perpendiculars to OA and OB at A and B meet in P . Find the locus of P .

6. If two triangles have an angle of the one equal to an angle of the other and the sides about the equal angles proportional, the triangles shall be similar.

A jointed frame in the form of a parallelogram $ABCD$ has one side CD produced to E , and BE meets AD in F ; prove that, if the angles of the parallelogram be altered in any way, the points B, F, E , will remain collinear, and the ratio of BF to FE will remain the same.

7. $ABCD$ is a trapezium having AB parallel to DC , P is a point in AD , and from A , AQ is drawn parallel to PC , meeting BC in Q ; prove that QD is parallel to BP .

8. Draw a straight line perpendicular to two given straight lines which are not in the same plane.

Show that the common perpendicular to two straight lines not in one plane is less than any other straight line which can be drawn from a point in one of the lines to a point in the other.

ELEMENTARY TRIGONOMETRY AND LOGARITHMS.

HIGHER GRADE.

Friday, 17th June. 10 A.M. to 11.30 A.M.

All ordinary symbols and contractions are allowed.

Additional marks will be given for neatness, good style, and accurately drawn figures.

1. Explain the sexagesimal method of measuring angles.

The highest latitude reached by Nansen in his sledge journey was $86^{\circ} 15'$; the highest reached by the "Fram" was $85^{\circ} 55\frac{1}{2}'$; find, correct to two decimal places, how many miles nearer to the Pole Nansen attained, assuming the earth to be a sphere 25,000 miles in circumference.

2. Prove that, when A is positive and less than 90° ,

$$(i) \sin^2 A + \cos^2 A = 1,$$

$$(ii) \sin(90^{\circ} + A) = \cos A.$$

3. Prove, geometrically, that

$$\cos(A + B) = \cos A \cos B - \sin A \sin B,$$

where $A > 90^{\circ}$, $B < 90^{\circ}$, and $A + B < 180^{\circ}$.

The distance of a point from a straight line is 15 inches, while its distances from the extremities of the line are 25 and 39 inches; assuming that the perpendicular falls between the extremities of the line, find the cosine of the angle which the line subtends at the point.

4. Trace the changes in the sine of an angle as the angle increases from 0° to 360° .

Find the complete solution of the equation $\sin 3x = 2 \sin x$.

5. Prove that in any triangle

$$\cos A = \frac{b^2 + c^2 - a^2}{2bc}.$$

The sides of a triangle are in arithmetical progression, its perimeter is 60 feet, and its greatest angle 120° ; find the sides.

6. If, in a triangle, $3a = b + c$, show that

$$\sin \frac{A}{2} = \sin \frac{B}{2} \sin \frac{C}{2}$$

7. Define the logarithm of a number n to a base a . What is the base of the ordinary system of logarithms?

Employ a table of logarithms to find the value of

(i) $\sqrt[3]{4913}$,

(ii) $(1.025)^{25}$.

8. Prove that in any triangle

$$\tan \frac{A}{2} = \sqrt{\frac{(s-b)(s-c)}{s(s-a)}}.$$

Employ logarithms to find all the angles in the triangle whose sides are 34, 40, 54.

ALGEBRA.

HONOURS GRADE.

Monday, 13th June. 3 P.M. to 4.30 P.M.

All the work must be shown, and such explanation added as is required to indicate the methods adopted.

Additional marks will be given for neatness, arrangement, and style.

Candidates may try six questions, namely, Nos. 1, 2, 3, and one of the alternatives in each of Nos. 4, 5, 6.

1. Solve the equations

(i) $4(x+y) = 7(1-xy)$,

$8(x-y) = 1+xy$;

(ii) $\frac{x}{y} + \frac{y}{z} + \frac{z}{x} = \frac{y}{x} + \frac{z}{y} + \frac{x}{z} = 3\frac{1}{2}$,

$x+y+z = 10$.

2. Prove the formula giving the number of arrangements (permutations) of n things taken altogether, (1) when they are different, (2) when p are a 's, q are b 's, r are c 's, and the rest are different.

A solid cube is built up of 64 small cubes, each of whose sides is one inch long. Show that the total number of ways of passing from one corner to the opposite along the edges of the cubes so as always to approach the second corner is 34650.

3. Assuming the binomial theorem for a positive index, prove it for a negative index; and expand $(1-x)^{-2}$, stating when the expansion is legitimate.

If $(1-x)^{n+1} = 1 + a_1x + a_2x^2 + a_3x^3 + \dots$

and $(1-x)^{n-1} = 1 + b_1x + b_2x^2 + b_3x^3 + \dots$

prove that

$$a_r + 2a_{r-1} + 3a_{r-2} + \dots + ra_1 + (r+1) = b_r.$$

Alternative Questions.

- 4a. If $a + b + c + d = 0 = a^2 + b^2 + c^2 + d^2$,
prove that

$$a^5 + b^5 + c^5 + d^5 = 0.$$

Or

- 4b. The sum of three numbers in harmonic progression is 37, the sum of their products two and two is 450. Find them.

- 5a. Prove that a quantity e exists such that

$$e^x = 1 + x + \frac{x^2}{1 \cdot 2} + \frac{x^3}{1 \cdot 2 \cdot 3} + \dots$$

and deduce a formula for $\log_e (1 + y)$.

Or

- 5b. If the sum of three positive quantities be given, prove that their product is a maximum when they are equal.

A flat-bottomed square dish with vertical sides is to be made from a square foot of flexible metal by bending up an equal margin all round and pinching the corners together. Prove that its greatest capacity will be 128 cubic inches.

- 6a. What is meant by the graphic representation of a function?

Represent the function $y = x(x^2 - 1)$ in this way, taking the unit to be about one inch, and add any description you may think desirable.

Or

- 6b. Explain how a complex quantity $a + bi$ can be graphically represented, and explain, giving a diagram, what the effect of multiplying it by itself is, if $a^2 + b^2 = 1$.

GEOMETRY.

HONOURS GRADE.

Monday, 13th June. 12 noon to 2 P.M.

All ordinary symbols and contractions are allowed.

All the steps of the proofs must be given, and the previous propositions, &c., on which they depend, should be indicated.

Additional marks will be given for neatness, good style, and accurately drawn figures.

Candidates may attempt seven questions, namely, Nos. 1, 2, 3, 4, and one of the alternatives in each of Nos. 5, 6, 7.

1. Construct a triangle each of whose equal base angles shall be double of the vertical angle.

If ABC be such a triangle, and the line CQ drawn from one extremity of the base perpendicular to the opposite side, cut the circumscribing circle in Q , then the rectangle $BQ \cdot AQ$ is equal to the square on the radius.

2. What is meant by the cross ratio of the range $(ABCD)$?

Show that the 24 cross ratios, obtainable from four collinear points A, B, C, D , reduce four and four, in general, to only six different ratios; and show that, if $(ABCD) = \frac{1}{2}$, they reduce to only three.

3. If a transversal cut the sides BC, CA, AB of a triangle in P, Q, R , respectively, prove that

$$BP \cdot CQ \cdot AR = CP \cdot AQ \cdot BR.$$

In the sides BA, AC of a triangle points P, Q are taken so that $2 BP = 2 CQ = AB + AC$, prove that PQ bisects the base.

4. Prove that lines intersected by parallel planes are cut proportionally.

$ABCD$ is a non-planar quadrilateral; AB and CD are divided in P, Q , so that $AP:PB = DQ:QC$; and BC, AD in R, S , so that $BR:RC = AS:SD$; prove that PQ, RS intersect and divide each other respectively in the same ratios as those in which AD, AB are divided.

Alternative Questions.

- 5a. Prove that the inverse of a straight line is, in general, a circle.

Describe, and prove the principle of, the "Peaucellier cell," or "inverting linkage."

Or

- 5b. If A, B be fixed points on a circle and P, Q any diameter, prove that PA, BQ intersect on a circle cutting the given circle orthogonally.

- 6a. Define the centres of similitude of two circles: and examine their position when one of the circles becomes a straight line.

From O , a centre of similitude of two given circles, a straight line OPQ is drawn to cut them in the non-corresponding points, P, Q ; any circle through P, Q cuts them again in R, S ; prove that ORS are collinear.

Or

- 6b. $ABCD$ are four collinear points; prove that a single collinear point O can in general be found so that $OA \cdot OB = OC \cdot OD$.

Find the locus of points at which AC, BD subtend equal angles.

- 7a. Prove that the centroid of a triangle trisects the distance between the orthocentre and the circumcentre.

Or

- 7b. What is meant by a system of coaxial circles?

Having given a circle, and, as axis, a straight line which does not cut it, show how to construct two coaxial circles of given radius.

TRIGONOMETRY AND LOGARITHMS

HONOURS GRADE.

Friday, 17th June. 10 A.M. to 11.30 A.M.

All ordinary symbols and contractions are allowed.

Additional marks will be given for neatness, good style, and accurately drawn figures.

Candidates may try six questions, namely, Nos. 1, 2, 3, and one of the alternatives in each of Nos. 4, 5, 6.

1. Define generally the secant of an angle and trace the graph of $\sec \theta$, θ being expressed in radians, from $\theta=0$ to $\theta=5\pi/2$.

Show that the equation, $\sec \theta = \theta$, has two roots between $\theta = 3\pi/2$ and $\theta = 5\pi/2$.

2. Explain fully what is meant by "the ambiguous case" in the solution of triangles.

Solve completely the case when $a = 1250$, $b = 4330$, $A = 14^\circ 28' 40''$.

3. On the circular top of a tower is a hemispherical dome of equal radius. From a point at a distance c from the base in a horizontal direction the elevation of the summit of the tower is α , while the elevation of the highest visible point of the dome is $\alpha + \beta$. Show that the radius of the tower and dome is

$$\frac{c \sec \alpha \sin \beta}{1 - \sin(\alpha + \beta)}$$

Alternative Questions.

- 4*a*. Assuming the usual formula for $\tan(\alpha + \beta)$, prove that

$$\tan 3\theta = \frac{3 \tan \theta - \tan^3 \theta}{1 - 3 \tan^2 \theta}$$

Hence or otherwise show that if the equation, $\tan 3\theta = \tan \alpha$, have roots $\theta_1, \theta_2, \theta_3$, then

$$\tan \theta_1 + \tan \theta_2 + \tan \theta_3 = 3 \tan \alpha.$$

Or

- 4*b*. Prove the formulæ

$$\frac{r}{2 \sin \frac{1}{2}A \sin \frac{1}{2}B \sin \frac{1}{2}C} = \frac{c}{\sin C} = 2R.$$

If D, E, F be the feet of the perpendiculars of the triangle ABC , prove that the radius of the circle inscribed in DEF will be

$$2R \cos A \cos B \cos C.$$

- 5*a*. If b, c, d be the lengths of the lines joining any point P to the vertices of an equilateral triangle whose side is a , then

$$a^4 + b^4 + c^4 + d^4 = a^2(b^2 + c^2 + d^2) + c^2d^2 + d^2b^2 + b^2c^2.$$

Or

5b. Sum the series

$$\log \cos \frac{\theta}{2} + \log \cos \frac{\theta}{4} + \log \cos \frac{\theta}{8} + \dots$$

to infinity, and prove that

$$\tan^{-1} 2 + \tan^{-1} \frac{2}{2^2} + \tan^{-1} \frac{2}{3^2} + \dots + \tan^{-1} \frac{2}{n^2}$$

is equal to

$$\tan^{-1} \frac{n(3+n)}{(1+n)(2-n)}.$$

6a. Prove that $\cos \frac{\theta}{n} + i \sin \frac{\theta}{n}$ is one of the values of $(\cos \theta + i \sin \theta)^n$, and find an expression for the other values, showing that they are all different.

Hence show how to solve the equation $x^n - 1 = 0$, and prove that its roots may be expressed in the form $a, a^2, a^3, \dots, a^n$.

Or

6b. Prove that

$$\sin \theta = \theta - \frac{\theta^3}{3!} + \frac{\theta^5}{5!} - \dots,$$

$$\cos \theta = 1 - \frac{\theta^2}{2!} + \frac{\theta^4}{4!} - \dots;$$

and deduce an expression for $\tan \theta$ as far as θ^3 inclusive.

Show that if AB is an arc of a circle with centre O , bisected in C , and if the tangent at A meets OB, OC in V, W , respectively, and the angle AOB is small, then $3 \text{ Arc } AB = 8AV - AV$, nearly.

ELEMENTS OF DYNAMICS.

ADDITIONAL MATHEMATICAL SUBJECT.

Friday, 17th June. 2 P.M. to 3.30 P.M.

All the steps of the proofs must be given, and the work of the calculations should be shown in full. Additional marks will be given for neatness, good style, and accurately drawn figures.

1. Define velocity.

Explain the difference between absolute and relative velocity.

Two railway trains, A and B , move on parallel rails in opposite directions at rates of 40 and 60 miles an hour respectively. Find the velocity of each train relatively to the other.

2. Give examples of uniform and variable acceleration.

A railway train moving with uniform acceleration has a velocity of 50 miles an hour; ten minutes later its velocity is 35 miles an hour: find the acceleration and express it (1) in miles per hour per hour, (2) in feet per second per second.

3. Enunciate and prove the parallelogram of forces.

ABC is a triangle, show that the resultant of forces acting at a point, which are represented by AB and $2AC$, is $3AD$ when D is a point in BC such that $BD = 2DC$.

4. Give Newton's third Law of Motion.

A railway truck, weighing 12 tons, and moving with a velocity of 5 miles an hour, overtakes a truck weighing 8 tons, which is moving in the same direction with a velocity of 4 miles an hour, and the trucks move on together at the moment of contact; find their common velocity and the amount of momentum which is transferred from each truck to the other.

What unit of momentum is employed in your answer?

5. Define work and horse-power.

What is the horse-power of a pumping engine which raises 400 gallons of water through 220 feet per hour (a gallon of water weighing 10 lb.)?

6. Find the centre of gravity of a uniform triangular lamina, and prove that it will always coincide with that of three equal weights placed at its vertices.

Show that the centre of gravity of a uniform wire bent into the form of a triangle cannot coincide with the centre of gravity of the triangle unless the triangle is equilateral.

7. A solid floats in water with a fraction, one n^{th} part, of its bulk above the surface; find its specific gravity.

If the specific gravity of ice be .93, and that of sea water 1.026, find the thickness of a uniform floe of ice whose surface is 6 feet above the surface of the sea.

8. Describe the common barometer.

If the pressure of the atmosphere be 15 pounds on the square inch, find the height of the mercurial barometer, assuming that a cubic inch of mercury weighs .49 pounds.

HIGHER DYNAMICS.

ADDITIONAL MATHEMATICAL SUBJECT.

(Higher Grade and Honours.)

Friday, 17th June. 2 P.M. to 3.30 P.M.

All the steps of the proofs must be given, and the work of the calculations should be shown in full.

Additional marks will be given for neatness, good style, and accurately drawn figures.

The acceleration due to gravity may be taken as 32 feet per second per second.

Candidates may try six questions, namely, Nos. 1, 2, 3, and one of the alternatives in each of Nos. 4, 5, 6.

1. Prove that the sum of the moments of two parallel forces about any point is equal to the moment of their resultant about the same point: and show that the same is true for any number of parallel forces.

Forces of 1, 2, 3, 4, . . . n units act in the same parallel direction at equal intervals a along a straight line; find the magnitude and line of action of their resultant.

2. Enunciate the second law of motion, and explain its application to Atwood's machine

If the suspended weights be $P + Q$, $P - Q$, find the acceleration of the system when left to itself, and the tension of the string. Supposing that a portion, $2Q$, of the heavier weight is hung below the other portion by a string, find the tension of this string.

3. Enunciate Boyle's Law.

A cylindrical tumbler of height h , the thickness of whose base may be neglected, full of air, is lowered mouth downward until it is just immersed, when the water is observed to have risen through a height x inside the tumbler. Show that the height of the water barometer will be $(h - x)^2/x$, and prove that in order to halve the present volume of air in the tumbler it must be lowered till its mouth is at a depth

$$\frac{(2h - x)(h + x)}{2x}$$

below the surface of the water.

Alternative Questions.

- 4a. Interpret and prove the formula $F = mv^2/r$.

A cyclist is riding on a level road between which and his wheels the coefficient of friction is $\frac{1}{4}$. He turns a corner with a radius of 30 feet 3 inches. Prove that he will slip, if his speed exceeds $7\frac{1}{2}$ miles an hour.

Or

- 4b. State the laws of friction, and define the coefficient of friction.

It is stated that a train travelling at 60 miles per hour can be pulled up within a distance of 220 yards. What must be the coefficient of friction between the brake-block and the wheels if this is possible?

- 5a. State and prove the two conditions that are necessary in order that a body may float in equilibrium.

A uniform right triangular prism floats with its three parallel edges horizontal, and a rectangular face vertical. Prove that the opposite edge of the prism must lie in the surface of the liquid.

Or

- 5b. Distinguish between stable, unstable, and neutral equilibrium.

A hemisphere and a right cone made of the same thin uniform material have their equal flat bases soldered together. It is found that the combination will rest on a horizontal plane, with any point of its spherical surface in contact with that plane. Prove that the semi-vertical angle of the cone is given by the equation

$$3 = \cot \alpha \operatorname{cosec} \alpha.$$

- 6a. Explain carefully what happens when two inelastic masses m and m' moving in the same direction with velocities v , v' , impinge.
Prove that after impact the kinetic energy is always reduced.

Or

- 6b. A book-shelf, uniformly loaded with books, is supported by two equal brackets, each fastened to a wall by one screw. Assuming that only the lower end of the bracket actually bears against the wall, show that the screws should be as far as possible above these ends: and explain why it is advisable to point them slightly downwards in the wall.

GEOMETRICAL CONICS.

ADDITIONAL MATHEMATICAL SUBJECT.

(Higher Grade and Honours.)

Friday, 17th June. 4 P.M. to 5.30 P.M.

All ordinary symbols and contractions are allowed.

All the steps of the proofs must be given, and the previous propositions, &c., on which they depend, should be indicated.

Additional marks will be given for neatness, good style, and accurately drawn figures.

1. Define a tangent to a conic.

If in any conic the tangent at P cut the directrix at Z , and S is the focus, PSZ shall be a right angle.

2. Prove that the locus of the mid-points of a series of parallel chords of a parabola is a straight line parallel to the axis.

Prove that the locus of points which divide a series of parallel chords of a parabola in the ratio of 3 to 1 is a parabola, and find its focus.

3. The rectangles contained by the segments of any two intersecting chords of a parabola are proportional to the parameters of the diameters which bisect them.

Hence show that if two chords of a parabola are equally inclined to the axis their extremities are concyclic.

4. If the ordinate NP of an ellipse be produced to meet the auxiliary circle in Q , prove that $NP : NQ = CB : CA$.

Hence find the locus of a fixed point on a straight line of given length sliding between two straight lines at right angles.

5. Define a hyperbola from its focal property, and from your definition deduce the directions in which its infinitely distant points lie.

6. If a pair of tangents be drawn to an ellipse from an external point, they shall subtend equal angles at either focus.

A circle is described through S and H , the foci of an ellipse, meeting the curve in P and Q and the axis minor in T ; show that TP and TQ are tangents to the ellipse.

7. A sphere rests on a table and is lighted by a bright point whose distance above the table is greater than the diameter of the sphere. Show that the shadow of the sphere is an ellipse, and find its foci.

ANALYTICAL GEOMETRY.

ADDITIONAL MATHEMATICAL SUBJECT.

(Higher Grade and Honours.)

Friday, 17th June. 12 Noon to 1.30 P.M.

All the steps of the proofs must be given. Additional marks will be given for neatness, good style, and accurately drawn figures,

The co-ordinate axes may be assumed to be rectangular, except the first two questions.

1. Prove that the equation, $Ax + By + C = 0$, represents a straight line; and find the lengths of the intercepts which this straight line makes on the axes of reference.
2. Find the equation to the straight line joining two given points.
The lengths of the sides CA, CB in the triangle ABC are 9 and 12. Find the co-ordinates of the point of intersection of the medians of the triangle referred to CA and CB as axes.
3. Find the angles between the lines $y = mx, y = m'x$; and deduce the angle between the lines represented by the equation,
 $ax^2 + 2hxy + by^2 = 0$.

4. Prove that the equation, $x^2 + y^2 = a^2$, represents a circle; and show that the chord, joining the points x_1y_1, x_2y_2 on it, has for equation

$$x(x_1 + x_2) + y(y_1 + y_2) = a^2 + x_1x_2 + y_1y_2$$

Deduce the equation to the tangent at x_1y_1 .

5. Show that the equation to the lines through the origin and the points in which the circle, $5(x^2 + y^2) = 6(x + y)$, is cut by the line, $3x + 2y = 6$, is $5(x^2 + y^2) = (x + y)(3x + 2y)$; and hence find the co-ordinates of those points.

6. Define the radical axis of two circles and show how to find its equation.

Find the co-ordinates of the point of concurrence of the 3 radical axes of the 3 pairs of circles which can be formed from the 3 circles

$$\begin{aligned} x^2 + y^2 + 2x + 3y - 13 &= 0, \\ x^2 + y^2 + x - 2y - 4 &= 0, \\ x^2 + y^2 + 3x + 2y - 12 &= 0. \end{aligned}$$

7. Transform the equation $x^2 - 2xy \cot 2\alpha - y^2 = a^2$, by turning the axes through an angle α , and thence trace the curve.

BOOK-KEEPING.

Wednesday, 15th June. 2 P.M. to 4.30 P.M.

John Allan and William Blake purchased the metal merchants business of Bigwood & Co. for 3,000*l.*, and commence business on 1st January 1898 under the name of Allan & Blake.

The values of the assets they take over are:—

	£	s.	d.
Copper	1,600	0	0
Tin	800	0	0
Plant and Furniture	600	0	0

1201

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They make the following transactions:—

1896.			£	s.	d.
January	2.	John Allan contributes	2,000	0	0
"	"	William Blake "	600	0	0
"	"	Sums received this day lodged in Royal Bank of Scotland	2,600	0	0
"	"	Paid Bigwood & Co. (by cheque)	2,000	0	0
"	"	" Do, by bill at 1 month	1,000	0	0
"	"	" after date	50	0	0
"	3.	Cash drawn from bank	765	7	6
"	10.	Sold to Brassy & Brigg, Copper invoiced at			
"	12.	Purchased of Rio Tinto Co., Copper invoiced at	1,050	0	0
"	"	Purchased of Ellis & Co., Tin invoiced at	432	10	0
"	15.	Sold to Mellor Bros., Tin invoiced at	60	0	0
"	30.	Received from Brassy & Brigg	728	12	6
"	"	Discount allowed them	36	15	0
"	"	Amount received lodged in bank	728	12	6
February	1.	An opportunity having occurred, Allan and Blake purchase their premises from the Western Heritages Company, Ltd., for	1,500	0	0
"	"	And pay them proportion of rent to date (These payments being made by cheque.)	8	6	8
"	"	Paid law expenses connected with purchase (by cheque)	17	10	0
"	"	Not having funds enough on hand—			
"	"	William Blake contributes additional capital	400	0	0
"	"	The firm borrows from R. J. Priestley	1,000	0	0
"	"	Sums received this day lodged in bank	1,400	0	0
"	2.	Purchased of Rio Tinto Co., Copper invoiced at	625	10	0
"	"	Purchased of Ellis & Co., Tin invoiced at	865	0	0
"	4.	Paid Ellis & Co. (by cheque)	410	17	6
"	"	Discount allowed by them	21	12	6
"	5.	Not having sufficient funds in bank to meet the bill due to-day, the Firm arranges with Bigwood & Co. to renew it for three months	1,000	0	0
"	"	Bigwood & Co., however, ask for interest in advance, which Allan & Blake pay in cash	12	10	0
"	20.	Sold to Brassy & Brigg, Copper invoiced at	345	15	0
"	"	Received from Brassy & Brigg to account	250	0	0
"	"	This sum lodged in bank	250	0	0
"	25.	Paid Rio Tinto Co. (by cheque)	997	10	0
"	"	Discount allowed by them	52	10	0
"	"	Cash lodged in bank	35	0	0
March	10.	Sold to Mellor Bros., Tin invoiced at	30	0	0

Allow John Allan £25, and William Blake £10 16s. 8d. for interest on capital. The stocks on hand at 31st March were valued as follow: Copper, £2,210; tin, £2,020.

Record the opening entries, the transactions, and the closing entries, including the entries for framing a Profit and Loss Account, in Journal, Cash Book, Invoice Book, and Day Book. Only enter in Journal the entries not suitable for the other books.

Post all entries to Ledger Accounts. A separate Account should be opened for each class of income and expenditure.

Frame a Profit and Loss Account, and divide the profit or loss equally between the partners. Then frame a Balance Sheet.

The Accounts should all be closed off.

COMMERCIAL ARITHMETIC.—FIRST PAPER.

Thursday, 16th June. 2 P.M. to 2.30 P.M.

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, and all the calculations required are to be performed mentally.

Complete the left hand column, and add both columns, placing the answers in the spaces provided. More importance will be attached to accuracy than to quickness.

Fill this in first (Name of School _____)
(Name of Pupil _____)

	£	s.	d.	
6 articles at $3\frac{1}{2}d.$ each				3,217,346
8 " " $1s. 3d.$ "				798,521
5 " " $10d.$ "				1,548,594
14 " " $1\frac{1}{2}d.$ "				85,826
11 " " $5s.$ "				297,087
15 " " $6s.$ "				6,043,365
4 " " $8\frac{1}{2}d.$ "				812,943
7 " " $9d.$ "				57,089
9 " " $1s. 6d.$ "				13,914
32 " " $2s. 6d.$ "				238,265
17 " " $10s.$ "				40,976
10 " " $6\frac{1}{2}d.$ "				587,439
3 " " $6s. 8d.$ "				95,065
A dozen " " $2d.$ "				2,215,646
" " " $5\frac{1}{2}d.$ "				642,851
" " " $9\frac{3}{4}d.$ "				48,059
" " " $1s. 2d.$ "				194,833
" " " $5s.$ "				46,408
" " " $2s. 6d.$ "				4,025,664
A score " " $1d.$ "				137,299
" " " $4\frac{1}{2}d.$ "				363,827
" " " $10s. 3d.$ "				6,540,089
" " " $4s. 6d.$ "				1,938,756
Total -				863,473
				509,930
				88,709
				2,463,211
				177,691

COMMERCIAL ARITHMETIC.—SECOND PAPER.

Thursday, 16th June. 2.30 P.M. to 4 P.M.

All the work must be shown, and such explanation added as is required to indicate the methods adopted.

Additional marks will be given for neatness, arrangement, and style.

1. An estate of 612 acres is to be divided among four tenants in proportion to their rentals. If the rents be £189, £207, £297, and £225, how many acres will each tenant receive?
 2. A path 4 feet wide is to be made within a rectangular lawn measuring 45 yards by 40 yards so as to leave 5 feet between the walk and each side of the lawn; how many square yards will the walk contain?
 3. A merchant receives a consignment of 140 bags of coffee, the gross weight being 10 tons 4 cwt., and the tare $2\frac{3}{4}$ lb. on each bag; find the cost of the coffee at £4 7s. 6d. per cwt.
 4. A man sold £1750 of 4 per cent. Stock at £125, and invested the proceeds in 6 per cent. Stock at £168: find the change in his income, assuming that there is no charge for brokerage.
 5. Persons whose incomes are under £400 deduct £160 from their income in calculating income tax, those whose incomes are between £400 and £500 deduct £100; if my last year's income was £401, but this year's income is only £399, show that my net income is greater this year, income tax being payable both years at 8d. in the pound.
 6. A rectangular box is made of wood $\frac{3}{4}$ of an inch thick, which weighs 50 lb. per cubic foot. If the external dimensions of the box are 2 feet, 1 foot 4 inches, and 1 foot, and its contents weigh 60 lb. per cubic foot, find the weight of box and contents.
 7. Find correct to the nearest penny the compound interest on £7486 10s. for 5 years at 3 per cent.
 8. 20,000 tons of water per minute flow out of a reservoir through an opening 14 yards broad and 4 yards high; find correct to 2 decimal places at how many miles per hour the water flows, assuming that a cubic foot of water weighs $62\frac{1}{2}$ lb.
 9. The par of exchange between England and France is 25·2 francs for £1; a money-changer gives 25 francs for £1 and 15s. 9d. for a twenty-franc piece. A traveller changes £50 into French money, and on his return 12 twenty-franc pieces into English money; find in shillings and pence the whole profit made by the money-changer on both transactions.
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