## LEAVING CERTIFICATE EXAMINATION, 1903.

## EXAMINATION PAPERS.

## ENGLISH.

Lower Grade.
Thursday, 18 th June. -10 A.M. to 12.30 P.M.
Every Candidate should answer nine questions (and not more than NINE), 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.

Value
10. 1. Write out, and punctuate, the passage for dictation.
2. Write an essay, of about two pages, on one of the following subjects :-
(a.) Photography.
(b) A Shipwreck.
3. Paraphrase the following, so as to express the meaning of the whole poem as well as the meaning of the parts :-

The Last Voyage of La Perouse.
Sad bourne of all his toils-with all his band-
To sleep, wreck'd, shroudless, on a savage strand!
Yet what is all that fires a hero's scorn
Of death ? the hope to live in hearts unborn : Life to the brave is not its fleeting breath, But worth, foretasting fame, that follows death.
15.

## Section I.

That worth had La Perouse, that meed he won ; He sleeps, his life's long stormy watch is done. In the great deep, whose boundaries and space
He measured, Hate ordain'd his resting-place ;
But bade his fame, like the Ocean rolling o'er
His relics, visit every earthly shore.
Fair Science on that Ocean's azure robe Still writes his name in picturing the globe, And paints (what fairer wreath could glory twine?) His watery course, a worid-encircling line.

Value. 4. Parse the words italicised in the foregoing passage.
Make a general analysis of the following :-
I hope it is no very cynical asperity not to confess obligations
10. where no benefit has been received, or to be unwilling that the public should consider me as owing that to a patron, which Providence has enabled me to do for myself.
5. "The poet, painting pureness, tells of lilies, figures power by Rome, and each thing shows by something else." Give some account, with examples, of the figures of speech which are founded on resemblance.
6. Write ten short sentences, each containing one of the following words correctly used so as to bring out its meaning:awfully, plastic, capacious, transpire, constant, partake, calculate, intermittent, unique, amidst.
7. Point out the faults in the following sentences, and re-write each sentence so as to remove all obscurity, absurdity, or inaccuracy :-
(a.) There were very few passengers, who escaped without serious injury.
(b.) Wanted, a gentleman of good ability and pleasant manners to travel in sacks throughout the North of England.
(c.) A King is the pilot of the State and should therefore be very careful to edify his subjects by his example.
(d.) Montmorency saw the black flag hoisted with a smile of contempt.
(e.) The heroine is as wild, fascinating and romantic as ever trod the stage of theatre or page of romance.
8. Give an account of the following works and of their authors:-
10. Faerie Queene, Essay on Man, Minstrelsy of the Scottish Border, The Seasons, The Vicar of Wakefield.

## Section II.

9. Write short papers (of about a page each) on two of the following subjects:-The origin of trial by jury; the Heptarchy; the Cabinet ; the National Debt; the causes of the Hundred Years' War; the hereditary descent of the English crown ; the Feudal system ; the dissolution of the monasteries; Oliver Cromwell's foreign policy ; the growth of British power in the East.
10. Give some account of four of the following:-Hengist and Horsa; The Venerable Bede; Offa's Dyke; The Peace of Wedmore; The Claim of William of Normandy to the Crown of England ; The Battle of the Standard; The Revolt of Henry II.'s Sons ; The Loss of Normandy ; The Provisions of Oxford; The Rival Claims of Balliol and Bruce; The Black Death ; John Wiclif; The Battle of Otterburn; The Statute "de heretico comburendo"; The Battle of Tewkesbury ; The Star Chamber ; The

Value. Divorce of Katharine of Aragon ; Francis Drake ; The Millenary Petition; The Short Parliament; The Solemn League and Covenant; The Campaigns of Montrose; The Ministry of Clarendon; The first Whigs and Tories; The Capture of Gibraltar ; The Stamp Act; The Middlesex Election; The Uniou of Great Britain and Ireland ; The Battle of the Nile; The Chartists; The Repeal of the Corn Laws; The Treaty of Berlin.
11. Illustrate the following from English and Scottish History-
"Let us sit upon the ground,
10. And tell sad stories of the death of Kings: How some have been depos'd, some slain in war, Some haunted by the ghosts they have depos'd, Some poison'd by their wives, some sleeping killed."

## Section III.

12. Describe the principal harbours of the South and East Coasts of Great Britain.
13. 
14. Show by examples how the character of its rivers may affect the history and civilisation of a country.
15. Say where ten of the following places are situated, and mention anything for which each of the ten is remarkable:-Lake
16. Chad, Aleppo, Medina, Socotra, Hayti, Hyderabad, Bizerta, Upsala, Para, Avignon, Gettysburg, Ravenna, Teheran, Graaf Reinet, Woodstock, Sokoto, Ballarat, Yorktown, Bangkok, Irkutsk, Prestonpans.

ENGLISH.
Lower Grade.
Thursday, 18th June.- 10.45 A.m.

## Passage for Dictation.

Of the lives of poets, collected from posthumous record and oral tradition, as little is known with certainty, much must be left to conjecture. He therefore, who presents his own memoirs to the public, may surely merit the reasonable applause of all whose minds are emancipated from the petulance of envy, the fastidiousness of hypercriticism, and the exacerbation of party.
My parents were reputable tobacconists, and kept me behind the
counter to negociate the fragrant dust and the tranquillizing quid. The first scintillation of my genius was elicited by reading a ballad in the shop, while the woman who sold it to me was stealing a canister of snuff. This specimen of mental (e)
abstraction showed that I would never make a good tradesman, but that I might make an excellent scholar. A tutor was accordingly appointed for me, and I soon passed from the insipidity of the accidence and syntax, to the music of a Virgil and the resonant thunder of a Demosthenes.

## Higher Grade and First Paper for Honours.

Thursday, 18 th June. -10 A.M. to 1 P.M
F.very Candidate should answer nine questions (and not more than Nine). Every Candidate must take Questions 1 and 2, and three other questions in Section I. Higher Grade Candidates should take, also, two questions from Section II., and two from section III.

Honours 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 an essay, of about two pages, on one of the following subjects :-
(n.) Solitude.
(b.) The advantages and disadvantages of Party Government.
2. Paraphrase the following so as to express the meaning of the whole poem as well as the meaning of the parts :-

When, in disgrace with fortune and men's eyes,
I all alone beweep my outcast state,
And trouble deaf heaven with my bootless cries,
And look upon myself, and curse my fate,
Wishing me like to one more rich in hope,
Featur'd like him, like him with friends possess' $d$,
15.

Desiring this man's art, and that man's scope, With what I most enjoy contented least ;
Yet in these thoughts myself almost despising, Haply I think on thee,-- and then my state, Like to the lark at break of day arising
From sullen earth, sings hymns at heaven's gate ;
For thy sweet love remember'd such wealth brings
That then I scorn to change my state with kings.
10. 3. Write short grammatical notes on the words italicised in the above passage.

Make a general analysis of the following sentence :-
If by a more noble and more adequate conception that be considered as wit which is at once natural and new, that which, though not obvious, is upon its first production acknowledged to be just; if it be that, which he that never found it wonders how he missed; to wit of this kind the metaphysical poets have seldom risen.
4. Explain fully with illustrations the meaning of four of the following terms :-

Metaphor ; Antithesis; Bathos; Climax ; Hyperbole ; Euphemism; Tautology ; Solecism.
value. 5. Point out the faults in the following sentences, and re-write each sentence so as to remove all obscurity, absurdity, or inaccuracy :-
(a.) There were very few passengers, who escaped without serious injury.
(b.) Wanted, a gentleman of good ability and pleasant manners to travel in sacks throughout the North of England.
(c.) A King is the pilot of the State and should therefore bc very careful to edify his subjects by his example.
(d.) Montmorency saw the black flag hoisted with a smile of contempt.
(e.) The heroine is as wild, fascinating and romantic as ever trod the stage of theatre or page of romance.
6. Give some account of the derivation and history of five of the following words:-Naughty, fellow, apron, villain, conjuror, mob, fee, mint, cathedral, electrocute, shamefaced, pencil.
7. Give a brief account of four of the following poems, describing in each case the metre in which the poem is written:-Hudibras, Ulysses, Elegy in a Country Churchyard, The Medal, Il Penseroso, Thyrsis, Isabella, The Dance of the Seven Deadly Sins, The Cloud, Cadyow Castle, Ode to Duty, Kubla Khan.
10. 8. Compare any one of Shakespeare's comic characters with any one of Scott's.
9. Give an account of any famous biography written in English, and discuss its merits.

## SECTION II.

10. Write short papers (of about a page each) on two of the following subjects :-The Origin of Trial by Jury; The Heptarchy ; The Cabinet; The National Debt; The Causes of the Hundred Years' War; The Hereditary Descent of the English Crown ; The Feudal System ; The Dissolution of the Monasteries ; Oliver Cromwell's Foreign Policy; The Growth of British Power in the East.
11. Give some account of four of the following:-Hengist and Horsa ; The Venerable Bede; Offa's Dyke ; The Peace of Wedmore; The Claim of William of Normandy to the Crown of England; The Battle of the Standard; The Revolt of Henry II.'s Sons; The Loss of Normandy ; The Provisions of Oxford; The Rival
12. Claims of Balliol and Bruce; The Black Death; John Wiclif ; The Battle of Otterburn; The Statute "de heretico comburendo;" The Battle of Tewkesbury; The Star Chamber; The Divorce of Katharine of Arragon; Francis Drake; The Millenary Petition; The Short Parliament ; The Solemn League and Covenant ; The Campaigns of Montrose ; The Ministry of

Val,ce. Clarendon; The First Whigs and Tories; The Capture of Gibraltar; The Stamp Act; The Middlesex Election; The Union of Great Britain and Ireland; the Battle of the Nile; The Chartists ; The Repeal of the Corn Laws ; The Treaty of Berlin.
12. Illustrate the following from English and Scottish history :-
" Let us sit upon the ground,
10. And tell sad stories of the death of Kings,

How some have been depos'd ; some slain in war ;
Some haunted by the ghosts they have depos'd;
Some poison'd by their wives ; some sleeping kill'd."

## SECTION III.

10. 13. Describe the principal harbours of the South and East Coasts of Great Britain.
1. 14. Show by examples how the character of its rivers may affect the history and civilisation of a country.
1. Say where ten of the following places are situated, and mention anything for which each of the ten is remarkable :-Lake Chad, Aleppo, Medina, Socotra, Hayti, Hyderabad, Bizerta, Upsala, Para, Avignon, Gettysburg, Ravenna, Teheran, Graaf Reinet, Woodstock, Sokoto, Ballarat, Yorktown, Bangkok, Irkutsk, Prestonpans.

## ENGLISH.

Honours.-Segond Paper.
Wedncsday, 24 th 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.

16. 17. What can you gather from Chaucer's Prologue concerning the religious life of his age?
1. 2. Give some account of any three translations of the Bible into English.
1. 3. Describe the work of the Scottish Chaucerians of the 15th and 16th centuries, and explain why they are so called.
1. How does the work of Surrey and Wyatt mark the beginning of a new period in English poetry?
2. 5. Sketch the rise of the English drama before Shakespeare.

Value. 6. Illustrate from any one of Shakespeare's plays the skill with which
$\overline{16} \quad$ he blends two or more stories in a single play.
16. 7. Give some account of the work of any two writers of English essays before the time of Addison.
8. Name a poem by each of the following, and give a fuller account of one of the poems you name :-Herrick, George Herbert, Campbell, Matthew Arnold, Rossetti, Swinburne.
16. 9. Describe any notable work in English Literature that is set forth in the form of a dream.
16. 10. Sketch the framework and the main ideas of the Idylls of the King.
16. 11. Compare Dickens with Thackeray as a portrayer of the life of his own time.
16. 12. Estimate the influence of any one of the following on English Literature :-Caxton, Dr. Johnson, Charles Lamb.
16. 13. Discuss Scott's representation of the middle ages or Shakespeare's representation of Roman History.
16. 14. Contrast Shelley and Wordsworth.

## Section II.

Optional Questions.
15. Translate :-

Đa wæs pa sume hwile Godes ege on mancynne æfter pam flode, and wæs án gereord on him eallum. Đa cwædon hi betwux him pæt hi woldon wyrcan ane burh, and renne stypel binnon bære byrig, swa heahne pæt his hrof astige up to heofenum: and begunnon pa to wyrcenne. Đa com God pærto, pa'da hí swiઠ'ost worhton, and sealde ælcum men be ð̌ær wæs
16. synderlice spræce. pa wæron pær swa fela gereord swa ð̌ær manna wæron; and heora nán nyste hwæt o‘er cwoe $\delta$. And hy $\delta_{a}$ geswicon pære getimbrunge, and toferdon geond ealne middangeard. Ða sið' an wexr'ઠ mancynn purh deofol beswicen, and gebiged fram Godes geleafan, swa bæet hí worhton him anlicnyssa, sume of golde, sume of seolfre, sume eac of stanum, sume of treowe, and sceopon him naman; bæra manna naman pe wæron entas and yfel-dæde.
16. 16. Parse the words italicised in the above passage.
16. 17. Compare the structure of the sentence in Old English and in Modern English.
16. 18. What are the chief foreign influences on the English Language before the Norman Conquest?

## LATIN.

## Lower Grade.

Monday, 22 nd June.-10 A.m. to 12.30 P.M.
Candidates should in all cases attempt Question 1.

1. For Prose Composition :-

Lupus and Marius meanwhile had marched against the Marsi. Marius advised Lupus not to hazard a battle. But Lupus thought that Marius wanted to get the consulship next year, and to reserve for himself the honours of the war. So he hastened to fight, and, throwing two bridges over the Tolenus, crossed by one himself, leaving Marius to cross by the other. As soon as the consul had reached the opposite bank, an ambuscade set by Vettius Scato attacked him, and slew him and eight thousand of his men. Their bodies, floating down the river, told Marius what had happened. Like the good soldier that he was, he promptly crossed and seized the enemy's camp.
2. Translate:-
(a) Sed Catilina, postquam videt montibus atque copiis hostium sese clausum, in urbe res adversas, neque fugae neque praesidii ullam spem, optimum factu ratus in tali re fortunam belli temptare, statuit cum Antonio quam primum confligere. itaque contione advocata huiusmodi orationem habuit: 'Compertum ego habeo, milites, verba virtutem non addere, neque ex ignavo strenuum neque fortem ex timido exercitum oratione imperatoris fieri. quanta cuiusque animo audacia, natura aut moribus, inest, tanta in bello patere solet. quo loco res nostrae sint, iuxta mecum omnes intellegitis. quocunque ire placet, ferro iter aperiendum est. quapropter vos moneo, uti forti atque parato animo sitis et, cum proelium inibitis memineritis vos divitias, decus, gloriam, praeterea libertatem atque patriam in dextris vestris portare. si vincimus, omnia nobis tuta erunt; si metu cesserimus, eadem illa adversa fient neque locus neque amicus quisquam teget quem arma non texerint.'

## [Narrative of a Visit to Rome.]

(b) 'Duc age! namque sequar, quamvis terraque marique longinquo referam lassus ab orbe pedem.'.
paruit, et ducens 'haec sunt fora Caesaris,' inquit,
' haec est a sacris quae via nomen habet,
hic locus est Vestae, qui Pallada servat et ignem, haec fuit antiqui regia parva Numae.'
inde petens dextram 'Porta est' ait 'ista Palati, hic Stator, hoc primum condita Roma loco est.' singula dum miror, video fulgentibus armis conspicuos postes tectaque digna deo.
et 'Iovis haec,' dixi, 'domus est ?'
3. (a) In what metre is the preceding passage written ? Give the scansion of the first four lines, marking the quantity of each syllable and dividing the feet.
(b) Give (1) the meaning, (2) the gender, (3) the ablative singular, (4) the ablative plural, of the following words:gradus, vis, frigus, munus, leo, nepos, iter, nix, paries, mus.
(c) Write down the comparative and the superlative of bene, vetus, acer, idoneus, diu; and distinguish between quidam and quisquam ; bis and bini ; ultra and ultro; alias and aliter.
22.
(d) Give the principal parts of augeo, seco, promo, vincio, tango, sterno, spargo, reperio, pertimesco, orior.
(e) Write short Latin sentences, translating them, to illustrate the constructions usual with each of the following verbs :indulgeo, paenitet, rêfert, gratulor; memini.
4. Translate into Latin :-
(a) He promised me to return from the country before midnight.
(b) I think that you ought to write the letter as soon as possible.
12.
(c) The king ordered his son to lead the army across the river and to pitch his camp on the left bank.
(d) I asked him where he was going now, and how many months he had been in Syracuse.
5. Choosing any two of the following battles, state (a) when the battle was fought, (b) who were the commanders on each side, (c) what was the issue decided by the battle : Metaurus, Aquae Sextiae, Pharsalus, Thapsus, Philippi, Actium.

## LATIN.

## Higher Grade.

Monday, 22nd June.-10 A.M. to 1 P.M.
Candidates will not be allowed to pass unless they reach the necessary standard both in Prose Composition and in Translation.

1. For Latin Prose :-

This Plautus was the son of Julia, and great-grandson of Tiberius. Becoming an object of suspicion to Nero, he retired-not from the Roman world, for that was impossible, but from the court-to Asia, where he lived in the pursuit of Stoic philosophy. Tigellinus, to stir up Nero's hatred against him, declared, 'That man, though of immense
25. wealth, does not even pretend a wish for enjoyment, but is always bringing forward the examples of the ancient Romans. And he has now joined to these ideas the arrogance of the Stoics-a philosophy which makes men turbulent and restless.' It is easy to see that this accusation was a panegyric. It was followed by an order sent from Nero that Plautus should be put to death. His friends counselled resistance, but Caeranus and Musonius Rufus, two philosophers who were with him, preached the doctrine of resignation and fortitude ; and, armed with their suggestions, he met his death unmoved.
3. (a.) Write short Latin sentences to illustrate the exact force of quin, quominus, quippe qui, quotus and sive. Translate your illustrations.
(b.) Translate the following sentences, and discuss the use of the subjunctive in each :
(i) peccasse mihi videor qui a te discesserim.
(ii) quam vellem nescire litteras !
(iii) vivanus, mea Lesbia, atque amemus.
16. (iv) impetrare non potui quod religione se impediri dicerent.
(c.) Translate the following expressions so as to bring out the exact force of cum in each case:-cum videbat, cum vidit, cum viderat; cum viderit (Perf. Subj.), cum videret, cum vidisset.

Value. (d.) Explain the use of the genitives and datives in the following:-
(i) non multi cibi hospitem accipies, sed multi ioci.
(ii) eo miseriarum venturus eram.
(iii) exitio est avidis mare nautis.
(iv) tresviri agris assignandis.
4. Scan the following lines, marking the quantity of every syllable and dividing the feet. Mention the name of the metre in each case:-
4. iamque hic germanum iamque hic ostentat ovantem

Romanae spatium est urbis et orbis idem.
quis post vina gravem militiam aut pauperiem crepat ?
5. Translate into Latin :-
(a.) On the 13 th of March, when I learned that my colleague was hard pressed by the enemy, I sent a strong force to his assistance.
(b.) He was not the man to submit to an injury without seeking revenge.
12. (c.) If you ask him why he does not repent of his crime, he will answer that he has done nothing wrong.
(d.) The more talkative a man is, the more reason you will have for doubting his wisdom.
6. Answer any one of the following :-
(a.) Give a short account of the chief events in Roman History from the time when Hannibal crossed the Alps to the date of the battle of the Metaurus.
7.
(b.) Describe briefly the changes introduced into the Roman military system by C. Marius, and indicate the results of those changes. State briefly the political aims of Marius.
(c.) Explain the following expressions :-lex curiata de imperio ; decemviri legibus scribendis; tribuni militares consulari potestate ; quaestio perpetua; ordo equester.

## LATIN.

## Honours.-First Paper.

 Monday, 22nd June.-10 A.M to 1 P.M.1. For Latin Prose :-

When a State is threatened by serious dangers, the people frequently succeeds in selecting the citizens who are the most able to serve it. It has been observed that man rarely retains his customary level in presence of very critical circumstances; he rises above, or he sinks below, his usual condition, and the same thing occurs in nations at large. Extreme perils sometimes quench the energy of a people instead of stimulating it; they excite, without directing its passions ; and instead of clearing,

Valur, they confuse its powers of perception. The Jews deluged the smoking ruins of their Temple with the carnage of the remnant of their host. But it is more common, both in the case of nations and in that of individuals, to find extraordinary virtues arising from the very imminence of the danger. Great characters are then thrown into relief, as the edifices which are concealed by the gloom of night are illuminated by the glare of a conflagration. At those dangerous times genius no longer abstains from presenting itself in the arena; and the people, alarmed by the perils of its situation, buries its envious passions in a short oblivion. Great names may then be drawn from the urn of election.
2. For Latin Verse Composition :-
(a.) Translate into Hexameters :-

So on the bridge that damsel block'd the way, And questioned Hermod as he came, and said:' Who are thou on thy black and fiery horse Under whose hoofs the bridge o'er Giall's stream Rumbles and shakes? Tell me thy race and home. But yestermorn five troops of dead passed by, Bound on their way below to Hela's realm,
Nor shook the bridge so much as thou alone. And thou has flesh and colour on thy cheeks,
30.

Like men who live and draw the vital air;
Nor lookst thou pale and wan, like men deceased,
Souls bound below, my daily passers here.'
And the fleet footed Hermod answer'd her :-
' $O$ damsel, Hermod am I called, the son
Of Odin ; and my high-roof'd house is built
Far hence, in Asgard, in the city of gods.'
(b.) Translate into Elegiacs:-

Crushed by the waves upon the crag was I,
Who still must hear these waves among the dead,
Breaking and brawling on the promontory,
Sleepless ; and sleepless is my weary head!
For me did strangers bury on the coast
Within the hateful hearing of the deep,
Nor death, that lulleth all, can lull my ghost,
One sleepless soul among the souls that sleep !
OR, as an alternative to verse composition,
Write a Latin dialogue, in which two statesmen discuss the relative importance to the British Empire of a strong army and of a strong fleet.

OR
Write a Latin letter, as from an eye-witness, describing the volcanic eruptions in the West Indies of last summer.

## LATIN.

Honours.-Second Paper.
Wednesday, 24th June.-2 to 5 P.m.

1. Translate into English :-
(c.) Et hercule per instructa omnia ordinibus virorum mulierumque undique ex agris effusorum inter vota et preces et laudes ibant: illos praesidia reipublicae, vindices urbis Romanae imperiique appellabant; in illorum armis dextrisque suam liberorumque salutem ac libertatem repositam esse. deos omnes deasque precabantur, ut illis faustum iter felixque pugna et matura ex hostibus victoria esset, damnarenturque ipsi votorum quae pro eis suscepissent, ut, quemadmodum nunc solliciti prosequerentur eos, ita paucos post dies laeti ovantibus victoria obviam irent. invitare inde pro se quisque et offerre et fatigare precibus, ut quae ipsis iumentisque usui essent $a b$ se potissimum sumerent: benigne omnia cumulata dare. modestia certare milites, ne quid u'tra usum necessarium sumerent ; nihil morari, nec ab signis absistere nec subsistere cibum capientes; diem ac noctem ire; vix quod satis ad naturale desiderium corporum esset quieti dare. et ad collegam praemissi sunt qui nuntiarent adventum percunctarenturque, clam an palam, interdiu an noctu venire sese vellet, isdem an aliis considere castris. nocte clam intrare melius visum est.

Liceat discedere, Caesar, a rabie scelerum. quaeris terraque marique his ferrum iugulis animasque effundere viles quolibet hoste paras : partem tibi Gallia nostri, eripuit, partem duris Hispania bellis, pars iacet Hesperia; totoque exercitus orbe te vincente perit. terris fudisse cruorem quid iuvat Arctois Rhodano Rhenoque subactis ? tot mihi pro bellis bellum civile dedisti. cepimus expulso patriae cum tecta senatu, quos hominum vel quos licuit spoliare deorum? imus in omne nefas, manibus ferroque nocentes, paupertate pii. finis quis quaeritur armis ? quid satis est, si Roma parum est? iam respice canos, invalidasque manus et inanes carne lacertos. usus abit vitae, bellis consumpsimus aevum. ad mortem dimitte senes.
(c.) Initium in ea parte circi ortum quae Palatino Caelioque montibus contigua est, ubi per tabernas quibus id mercimonium inerat quo flamma alitur simul coeptus ignis et statim validus ac vento citus longitudinem circi corripuit. neque enim domus munimentis saeptae vel templa muris cincta aut quid alind morae interiacebat. impetu pervagatum incendium plana primum, dsinde in edita adsurgens et rursus inferiora populando anteiit remedia velocitate mali et obnoxia urbe artis itineribus hucque et illuc flexis atque enormibus vicis, qualis vetus Roma fuit. ad hoc lamenta paventium feminarum, fessa aetate aut rudis pueritiae quique sibi quique aliis consulebant, dum

Value. trahunt invalidos aut opperiuntur, pars mora, pars festinans, cuncta impediebant et saepe, dum in tergum respectant, lateribus aut fronte circumvenjebantur, vel si in proxima evaserant, illis quoque igni correptis, etiam quae longinqua crediderant in eodum casu reperiebant. postremo, quid vitarent quid peterent ambigui, complere vias, sterni per agros: quidam amissis omnibus fortunis, alii caritate suorum quos eripere nequiverant, quamvis patente effugio interiere.
2. Translate the following, and write short notes on any peculiarities of construction that you observe :-
(a.) Quis enim virtutem amplectitur ipsam.
praemia si tollas ?
(b.) dato bubus bibant omnibus.
(c.) quid mihi scelesto tibi erat auscultatio ?
(d.) desipiebam mentis cum ista scripta mittebam tibi.
(e.) ego utrum
nave ferar magna an parva, feror unus et idem.
( $f$.) nisi ita esset, multi privatim ferebant Volscio iudicem.
(g.) solus est hic qui nunquam rationes ad aerarium referat.
( $h$.)
peream male, si non
optimum erat.
(i.) nominandi istorum tibi erit magis quam edundi copia.
3. Answer any two of the following:-
(a.) What evidence is there to support the belief that an Etruscan dynasty once reigned at Rome?
(b.) What were the causes that led to the First Punic War? Show how the Romans were hampered by their constitutional system and had new lessons to learn.
(c.) Describe the measures which Sulla took to re-establish the power of the Senate, and give a short account of his judicial
22. reforms.
(d.) Discuss the character of Pompeius Magnus, and write a short sketch of his career.
(e.) What were the titles and duties of the new class of officials appointed by Augustus to assist him in governing the empire ?
(f.) Compare Horace as a writer of satire with any one other satirist, Roman or English.
(g.) Characterise shortly the extant dramatists of Rome, and mention the more famous of those whose works are lost.
(h.) 'History at Rome was often a prose epic or a panegyric.' Is this true? What Roman historians show most of the moderu spirit of critical research ?

Valete.

## GREEK.

## Lewer Grade.

Friday, 19th June.-2 to 130 P.M.

## I. Translate:-















$$
\dot{\alpha} \pi{ }^{2} \lambda a v \in \epsilon v, \text { " to profit," "to gain"; } \delta \iota a \sigma \pi a ̂ v, \text { " to detach." }
$$

II. Translate into Greek :-
(1) We asked how great the force ( $\delta \dot{v} v a \mu(s)$ of the enemy was.
(2) The messenger told us that our soldiers had died fighting for: their country.
(3) They promised ( $\hat{v} \pi \iota \sigma \chi^{v o v} \mu a \imath$ ) to go away if we gave them money.
(4) On the same day he pursued the barbarians on horseback.
(5) Let us wait till things in the city are ready.
III. (a) Give-





(b) Parse, giving present indic. 1st sing.:-


Give-
perf. inf. pass. of $\pi \epsilon i \theta \omega$, фаív $\omega, \tau \alpha ́ \sigma \sigma \omega, \beta \lambda \alpha ́ \pi \tau \omega$.
fut. part. nom. sing. masc. of $\kappa \lambda \alpha i \omega, \pi i v \omega, \mu u ́ \chi o \mu \alpha \iota, \pi i \pi \tau \omega$. 2nd aor. opt. act. 2nd sing. of $\beta$ aiv $\omega$, $\tau \dot{\epsilon} \mu \nu \omega$, aip $\hat{\omega}$, $\tau \rho^{\prime} \chi$ (


 زе́voוto.
Translate, explaining the syntax :-





(6) $\mu \eta े \pi ~ \pi \rho u \delta \widehat{̣} s \mu \epsilon, \pi \rho o ̀ s ~ \theta \epsilon \omega ิ \nu$.

Give the Greek for:-a fifth part, five times, at home, homewards, along the river, in our power.

## GREEK

Higher Grade.

Friday, 19th June.-2 to 5 P.M.
(Candidates will not be allowed to pass unless they reach the necessary Standard both in Grammar and in Translation.)

## I. Translate:-

## [Persian character and training.]

















[^0]Vincl:
II. Tranclate one of the fulluwing passars:-
[Odysseus makes himself Lnown to Tsiemachns.]














[Hermes leads the blind Oedipus to the place of his death.]













$\mu \epsilon ́ \mu \nu \eta \sigma \theta$ є́ $\mu$ оv $\theta$ avóvtos єủrvxєîs ủcí.

## III. For Greek Prose:-

And being come amongst those barbarous people, methought that I was entered into a new world. The first question which they demanded of us was whether we had been with them heretofore or no. And giving them answer that we had not, they began impudently to beg our victuals from us. And having drunk off one flagon (ácoós) of our wine they demanded another, saying, that a man goeth not into the house with one foot. Howbeit, we gave them no more, excusing ourselves that we had but a little. They were very inquisitive to know whether I came of my own accord, or whether I were sent. I answered that no man compelled me to come, neither had I come unless I myself had been willing.

## Mandeville.


fut. ind. midd. 3rd plur. of $\nu о \mu i \zeta \omega, \gamma \iota \gamma \nu \dot{\sigma} \sigma \kappa \omega$, $\iota \sigma \tau \eta \mu, \tau \rho \epsilon \in \phi \omega$. perf. pass. part. nom. sing. masc. of ajvoí $\omega$, $\kappa \lambda a i ́ \omega, \kappa \kappa i ́ p \omega$, §ov入ิ.
Parse, giving lst sing. pres, ind. act. of $\pi \rho \sigma \sigma \hat{h_{0}} \sigma \alpha \nu, \pi \alpha \rho i \epsilon \sigma a i^{\prime \prime}$,


Vabue, (2) Translate, explaining the syntax:-






(3) Translate into Greek:-
(a) They send him away before hearing him.
(l) They do not send him away before hearing him.
(c) He does the same as we do.
(d) How long have you been at war $\$$
(e) He arrived late in the day.
$(f)$ Do not depart from Athens.
(4) Give the meaning and construction of:-
 $\tau \boldsymbol{\tau} \boldsymbol{\tau} \boldsymbol{\rho} \boldsymbol{\imath}$
Construct sentences illustrating the uses of $\delta$ ó with genit. and acc., and the construction of verbs of denying and fearing.

## GREEK.

> Honours.-First Paper.
> Friday, 19th June.-2 to 5 P.M.
J. Translate:-
(i)
[The casting of the lots to decide who shall fight with Hector.]
















خे тоt


Value.
20.

## (2)

[The ghost of Darius utters his warning to Atossu, mother of Xerxes.]
$\triangle A P E I O \Sigma$. XOPOZ.
 бтрато̀s киріјбєt voбтípov бштпрías.













II. For Greek Prose :

There are two reasons which may induce a Member of this House to address it-he may hope to convince some of those to whom he speaks, or he may wish to clear himself from any participation in a course which he believes to be evil. In coming forward to speak on this occasion, I may be told that I am like a physician proposing to prescribe today for a man who died yesterday, and that it is of no use to insist upon views which the Government and the House have already determined to reject. I feel, however, that we are entering upon a policy which may affect the fortunes of this country for a long time to come, and I am unwilling to lose this opportunity of explaining wherein I differ from the course which the Government has pursued, and of clearing myself from any portion of the responsibility which attaches to those who support the policy which the Government has adopted.

Bright.

## GREEK．

## Honours－Second Paper．

Thursday， 25 th June．－－2 to 5 P．M．
I．Translate ：－
































II．Translate with notes on the syntax ：－




（5）光家 $\mu$ ќ $\pi о v$

（6）$\quad \mu a \dot{a} \mu \theta \epsilon i ̂ s ~ \pi o i ́ \epsilon \iota ~ \theta \in a ̀ s ~$

Translate the following Homeric expressions，commenting on the syntax ：－

Distinguish in meaning the following pair of words :-



Distinguish according to their accent:-

Give the derivation of the following words, noting any differences of meaning between the originals and the derivatives: dactyl, ecstasy, enthusiasm, emblem, halcyon, panic, comma, encyclopadia.
III. Answer any two of the following questions:-
(1.) Compare the heroes of the Iliad and the Odyssey, marking any features typical of Greek character.

## Or,

Give some of the general literary characteristics of the Homeric poems, comparing them with those of any later Epics.
(2.) What do you know of (a) the conditions under which a Greek play was produced, (b) the nature of the scenery, (c) the Production of Trilogies ?
(3.) Give an account of any two of the following:-Periander, Aristides, Agesilaus, Callicratidas, Phocion, Herodotus, Xenophon, Lucian.
(4.) Compare Athens with Sparta in respect of education and government.
(5.) What was the part played by Thebes in the Persian wars and in the struggle with Philip ?
(6) Write explanatory notes on the following terms:-Amphictyon, Thetes, Heliaea, Nomothetae, $\theta \epsilon \omega \rho \iota \kappa o ́ v, ~ \gamma \rho a \phi \grave{\eta} \pi a \rho a v o ́ \mu \omega \nu$.

## FRENCH.

## Lower Grade.

Friday, 19 th June. -10 A.M. to 12.30 P.M.
To secure full marks, the whole of this Paper should be answered.

1. Translate into English:-
(a.) Les jeudis, mon petit ami Julcs, que ma mère considérait avec raison comme un enfant bien élevé, venait souvent passer la journée avec ma socur et moi. On nous lâchait dans un jardinet situé derrière la maison, et nous jouions de préférence aux soldats. Oh! le bon, l'heureux temps où mon imagination transformait les bornes ${ }^{1}$ ) en citadelles, les touffes d'herbes en forêts, le premier bâton venu en cheval fougueux ${ }^{2}$ )! Depuis lors j'ai possédé de vrais chevaux, et le seul que je regrette, c'est celui-là.

Value.
13.

Un jeudi, au moment où j'emportais d'assaut un bastion, une ondée vint nous surprendre, il fallut renoncer à la victoire et rentrer. Nous nous installâmes près de Rose, qui, pour nous tenir en repos, nous raconta l'histoire de deux orphelins dévorés par un ogre. A cette terrible conclusion du récit, nous nous mîmes à sangloter, Léontine et moi, tandis que Jules demeurait impassible.
"Lorsque je serai grand," m'écriai-je, dans un élan généreux, "j'exterminerai les ogres. Tu m'aideras !" dis-je à mon ami.

Il se mit à rire et répondit :
"Bête, il n'y a pas d'ogres, papa me l'a dit."
(Biart.)
( ${ }^{1}$ ) borne= boundary stone.
$\left(^{2}\right)$ fougueux=fiery.

## The Schoolboy and the Bee.

(b.) Un tout petit enfant s'en allait à l'école.

On avait dit: Allez! il tâchait d'obéir ;
10. Mais son livre était lourd; il ne pouvait courir :

Il pleure et suit des yeux une abeille qui vole.
"Abeille !" lui dit-il, " voulez-vous me parler?
Moi, je vais à l'école, il faut apprendre à lire.
Mais le maitre est tout noir, et je n'ose pas rire.
Voulez-vous rire, abeille, et m'apprendre à voler ?"
"Non," dit-elle, " j’arrive, et je suis très-pressée.
J'avais froid, l'aquilon ( ${ }^{1}$ ) m'a longtemps oppressée,
Enfin j'ai vu les fleurs; je redescends du ciel,
Et je vais commencer mon doux rayon de miel."
(Mme. Desbordes-Valmore).
$\left.{ }^{1}\right)$ aquilon=north wind.
2. Write from memory a French version of the passage read out.
3. Translate into French :-

Peter walked on, until he saw a workman who was eating his dinner under a hedge. "Please give me something to eat," said the boy, "I am starving. I have had nothing to eat all day." "Why did you not eat your breakfast?" the workman asked him. "Because mother forgot to put the jam on the table, and I don't like butter," said Peter. "Then you should go back at once, and eat your breakfast without any jam," said the workman. And he finished his dimner himself. "Dear me," thought Peter, who was beginning to be a little ashamed of what he had done, "everyone is cross to-day." A little further on, he met a little girl, who was eating a large piece of cake. "May I have some of your cake?" asked Peter, who was now so hungry that he could hardly keep from crying. "Don't they give you any at home?" asked the little girl, who looked very much surprised, and somewhat scared. Then she smiled, and held out her hand to him.

Value. 4. Translate into French :-Will you lend me your umbrella, please? 7. It is raining and I have forgotten mine. I would lend it to you with 7. pleasure, but I lost it yesterday. Take my sister's and send it back to her to-morrow.
5. Translate into French :-(1) I fear she will lose the watch I gave her. (2) I went and saw your aunt this morning, she is much better. (3) He goes to London three times a year. (4) Guess what I have in my hand. (5) What are you thinking of ? (6) What a lovely day ! (7) What do you think you will do ?
6. Translate the following sentences into English, pointing out in each case the idiom of mood or tense that is illustrated:-
(a.) Croyez-vous qu'elle guérisse ?
(b.) Elle partira donc quand vous voudrez.
(c.) Je vous conseille d'epouser une femme qui sache faire la cuisine.
12.
(d.) Le plus qu'on ait à attendre c'est une ou deux minutes.
(e.) Enfin le jour du départ arriva: M. Eyssette était dejà à Lyon depuis une semaine.
(f.) Quand ils eurent navigué tant de jours, ils découvrirent enfin un cap.

## FRENCH.

Lower and Higher Grades.
Friday, 19th June.--10.45 A.M.
This Paper must not be seen by any Candidate.
To be read out once or twice by the Supervising Officer (or a Teacher) at $10.45 \mathrm{~A} . \mathrm{M}$. The substance of this story is to be reproduced by the Candidates in French from memory. No notes may be made while it is being read.
A Parisian millionaire once wrote to the celebrated comic author Scribe: "Honoured Sir, I wish very much to ally my name with yours in the creation of a dramatic work. Will you be so kind as to write a comedy, of which I shall compose one or two lines, so that I may be mentioned in the title ? I will bear the entire expenses, so that I may divide the glory." Scribe replied, "Sir, I regret that I cannot comply with your modest request. It is not in accordance with my ideas of religion or propriety that a horse and an ass should be yoked together." To which the millionaire quickly responded, "Sir, I have received your impertinent letter. How dare you call me a horse !"

## FRENCH.

Higher Grade.
Friday, 19th June. -10 A.m. to 1 P.m.
Candidates must answer all the questions in Section I., and ONe question only in Section II.
The greatest possible attention should be paid to correctness of style both in French and in English.

## Section I.

1. Translate into English :-
(a.) Un autre talent propre à tous les bons écrivains, mais nécessaire à l'orateur, est la coutume de fuir les mots abstraits, parce qu'ils ne conviennent qu'à la science et ne sont pas clairs. Lorsqu'ils apparaissent dans une narration ou dans un discours, par exemple chez Polybe, le lecteur, tout d'un coup s'arrête comme en présence d'un autre esprit ; l'auteur a cessé d'imaginer et de sentir ; on voit qu'il s'occupe à ranger telle action dans telle partie d'un ouvrage de tactique ou de politique ; on allait prendre part à l'action ou aux sentiments
2. des personnages; la passion en nous s'éveillait ; elle tombe, et, de sang froid, nous nous mettons comme Polybe a disserter ou à raisonner. Tite-Live se garde bien d'être philosophe, publiciste, savanf à contre-temps. Il prend toujours des expressions simples; il sait, ou plutôt il sent que les idées et les mots forment une échelle, qu'au bas sont les termes faciles à entendre, nés les premiers, qui réveillent des images sensibles, tout vivants encore; que plus haut sont des expressions tirées avec travail des précédents, accessibles à la réflexion, non à l'imagination, qui, comme des chiffres, ne réveillent que des idées pures.

Saison des Semailles.
Le Soir.
C'est le moment crépusculaire, J'admire, assis sous un portail, Ce reste de jour dont s'éclaire La dernière heure du travail.
Dans les terres, de nuit baignées, Je contemple, ému, les haillons D'un vieillard qui jette à poignées La moisson future aux sillons.
Sa haute silhouette noire
Domine les profonds labours. On sent à quel point il doit croire A la fuite utile des jours.
Il marche dans la plaine immense, Va , vient, lance la graine au loin, Rouvre sa main, et recommence, Et je médite, obscur témoin.
Pendant que, déployant ses voiles L'ombre, où se mêle une rumeur, Semble élargir jusqu'aux étoiles
Le geste auguste du semeur.

## My Dear Peacock,

Since I last wrote to you Mr. Gisborne is gone to England for the purpose of obtaining a situation for Henry Reveley. I have given him a letter to you. Henry is a most amiable person, and has great talents as an engineer. Mr. Gisborne is a man who knows I cannot tell how many languages and has read almost all the books you can think of.

Charles Clairmont is now with us on his way to Vienna.
He has spent a year or more in Spain, where he has learnt Spanish, and I make him read Spanish all day long. It is a most powerful and expressive language, and I have already learnt sufficient to read with great ease their poet Calderon. I have read about twelve of his plays. Some of them certainly deserve to be ranked among the grandest and most perfect productions of the human mind. He exceeds all modern dramatists, with the exception of Shakespeare, whom he rescmbles, however, in the depth of thought and subtlety of imagination of his writings. I rate him far above Beaumont and Fletcher.
$\dot{\text { You }}$ will hear from me again shortly, as $\dot{\circ}$ i send you by sea the Cencis printed, which you will be good enough to keep. Adieu.

> Yours most faithfully, P. B. Shelley.
15. 3. Writc from memory a French version of the passage read out.
4. Translate into French :-
.(a.) Our guest was writing business letters when 1 entered the room.
(b.) The late President of the French Republic took a walk every morning in the Avenue des Champs Elysées, and then set to work.
10.
(c.) More than half of the students began their examination yesterday.
(d.) When spring comes I will take a rest, even if (quand même) my business suffer thereby.
(e.) When the workmen had finished the house, we took possession of it.

## Section II.

One question only to be answered.
5. Translate into French :-
(a.) For three days they didn't see a sail.
(b.) He does nothing but stroll about there.
(c.) It's solder than it was a little while ago.
(d.) It's a long way from here to London; I haven't been there for three years.
(e.) He's crying because he has got drenched.
5.
6. Explain the following plural forms :-

Tout, tous ; gent, gens; cheval, chevaux ; ciel, cieux ; and account for the pronunciation of : œufs and bœufs.
5. 7. Tenace, tenaille, content, destin, soutien are French words all derived from the same Latin root. Name the root and explain the meaning of every one of those words with reference to its etymology.
8. Instead of the above group of words (question 7), candidates 5. may take either of the following ones:-
(a.) Tracer, traineau, traite, distrait, retraite.
(b.) Tournée, touriste, tournoi, atour, dètour.

## FRENCH.

Honours-First Paper.

$$
\text { Friday, 19th June. - } 10 \text { A.m. to } 1 \text { P.M. }
$$

1. Translate into French :-
"I saw him then, messieurs," began the mender of roads, "a year ago this running summer, underneath the carriage of the Marquis, hanging by the chain.
"I am again at work upon the hill-side, and the sun is again about to go to bed. I am collecting my tools to descend to my cottage down in the village below, where it is already dark, when I raise my eyes, and see coming over the hill, six soldiers. In the midst of them is a tall man with his arms bound-tied to his sides-like this! With the aid of his indispensable cap, he represented a man with his elbows bound fast at his hips, with cords that were knotted behind him.
"I stand aside, messieurs, by my heap of stones, to see the soldiers and their prisoner pass (for it is a solitary road, that, where any spectacle is worthy looking at), and at first, as they approach, I see no more than that they are six soldiers with a tall man bound and that they are almost black to my sight-except on the side of the sun going to bed, where they have a red edge, messieurs. Also, I see that their long shadows are on the hollow ridge on the opposite side of the road, and are on the hill above it, and are like the shadows of giants. Also, I see that they are covered with dust, and that the dust moves with them as they come, tramp, tramp! But when they advance quite near to me, I recognise the tall man, and he recognises me. Ah, but he would be well content to precipitate himself over the hill-side once again, as on the evening when he and I first encountered, close to the same spot!"

He described it as if he were there, and it was evident he said it vividly; perhaps he had not seen much in his life.

Value. 2. Write an essay in French on one of the following subjects :-
(a.) Que ce ne sont pas toujours les hommes les plus intelligents, mais les plus persévérants, qui réussissent le mieux dans la vie.
30. (b.) Que pensez-vous du peuple français, de ses vertus et de ses défauts?
(c.) Expliquez l'entente cordiale qui a toujours existé entre la France et l'Ecosse.


$$
\text { Thursday, } 25 \text { th June.-10 A.M. to } 1 \text { P.M. }
$$

Candidates must, in all cases, answer Section I., and should attempt four (and not more than FOUR) of the Questions in Section II.

## Section I.-Translation.

1. Translate into English :-
(a) Joué ! je suis joué ! Ah! double et triple imbécile qui n'a pas compris !...On avait peur; j'ai servi de paratonnerre! La foudre écartée...je ne suis plus qu'une girouette! Deux heures de pouvoir...et reconduit par un laquais! Et pour aller où, où $\uparrow .$. Où irai-je? Déconsidéré, suspect aux masses !...décoloré et sans prestige...A qui faire jamais comprendre la sublimité de mon rôle ?...Et par quel prodige d'eloquence attendrir ce peuple sur le merveilleux accord que j'avais rêvé entre mon pouvoir et sa liberté?.. On me lapidera!...Je suis ruiné, déraciné, assassiné !...Pour deux heures de...Et un méchant diner... Ma popularité pour un plat de lentilles !...Et ce laquais toujours là !...comme une main tendue vers la porte! C'est par la !... Oui, gredin, c'est par là !...mais je ne veux pas le comprendre !Qui ? moi...partir ainsi! Entré par la force de mon génie, je sortirais par celle d'un coup de pied...Allons done! Mazarin en a reçu bien d'autres !...II n'est jamais parti... Est-ce qu'on part ? J'y suis.. j'y reste ! (Il saisit son portefeuille et le serre sur sa poitrine.) Déchainez-vous sur moi, soufflets et camouflets ! Je ne partirai pas! Je m'y cramponne! Un homme tel que moi ne tombe pas du pouvoir! On l'en arrache...par lambeaux !...
(b) J'irai boire l'eau vierge aux sources des grands fleuves: Mes pieds se poseront sur l'azur du glacier. Je veux baigner mon corps aux flots des brises neuves, L'éther le trempera comme l'onde l'acier. Dormons sur une cime avec effort gravie ; Dans la neige éternelle il faut laver nos mains ; L'air fait mouvoir là-haut des principes de vie, Allons l'y respirer pur des souffles humains. Montons! le vent se meurt aux pieds du roc immense

Value. Le doute ne saurait flotter sur ce haut lieu;
Montons ! enveloppé de calme et de silence, Sur les larges trépieds j'entendrai parler Dieu. L'air aspiré là-haut vivra dans ma poitrine.
Ians l'ombre de la plaine un rayon me suivra: Ceux qui m'ont vu gravir pesamment la colline Ne reconnaîtront plus l'homme qui descendra. Plus haut que le sapin, plus haut que le mélèze, Sur la neige sans tache au soleil j'ai marché: Dans l'ether créateur je me baigne à mon aise : Le monde où j'aspirais, mes deux pieds l'ont touché.
J'ai dormi sur les fleurs qui viennent sans culture,
Dans les rhododendrons j'ai fait mon sentier vert, J'ai vécu seul à seul avec vous, ô nature !
Je me suis enivré des senteurs du désert.
Je me suis garanti de toute voix humaine.
Pour écouter l'eau sourdre et la brise voler:
T'ai fait taire mon cœur et gardé mon haleine
Pour recevoir l'esprit que devait me parler ;
Et voilà qu'entouré des cimes argentées,
Cueillant le noir myrtil, buvant au flot sacré, Goûtant sous les sapins les ombres souhaitées, Libre dans les déserts, voilà que j'ai pleuré.

## Section II.

2. Write illustrative sentences (with translation) to show the differeut meanings:-
3. 

(a.) of the adverbs bien, aussi, ailleurs, d'ailleurs ;
(b.) of the prefix de in delasser, dedire, deraciner, deffinir, determiner, defaveur.
(c.) of the prefix re in remettre, retenir, rejaillir, refaire.
3. Write ten short sentences, each containing one of the following words, so as to bring out the difference in meaning from the cognate word in English. In every case give a translation:attendre, altérer, agréer, ignorer, proces, transaction, transpirer, user, relation, ingénu.
4. Translate the following sentences into French :-
(1.) He is very much interested in literature.
(2.) He has abused his authority.
(3.) I do not doubt his honesty.
(4.) It has always been an Englishman's characteristic to resist oppression and injustice.
10.
(5.) It is very difficult to please everybody.
(6.) He turned to the chairman.
(7.) He has satisfied every requirement.
(8.) His fate inspires us all with compassion.
(9.) He is mad with grief.
(10.) He is of so fickle a disposition that he is apt to change his friends every month.
5. Translate the following idiomatic phrases:-
(1.) Si j'étais à même de le remplacer, je vous offrirais mon concours de grand cceur.
(2.) À vous entendre, il n'y uurait plus lieu de s'attendre à aucun succes.
(3.) Ces bambins me donnent des distractions; avec eux je ne suis jamais à ce que je fais.
(4.) Il ne se rend pas compte des difficultés qui l'attendent.
(5.) Ne vous adressez pas à moi pour cela, car je ne suis pas en cour auprès du ministre.
(6.) Il a l'humeur si difticile qu'il se met tous ses amis à dos.
(7.) Il ne suffit pas de lancer ici et là un bon mot, de faire de l'esprit.
(8.) Cet ouvrier a toujours maille à partir avec son contremaitre.
(9.) Un bon coup de bourse l'a remis à flot.
(10.) C'est un piocheur qui n'y va pas de main morte.
6. Translate the following sentences, and explain in each case the use of the subjunctive :-
(a.) Qu'il fût lâche, c'est là une calomnie gratuite, que l'histoire sérieuse n'a pas répétée.
(b.) Je serais heureux que mon fils suivît vos cours.
(c.) Si je suis bien en troin et qu'il m'en prenne envie, je lui ecrirai une longue lettre.
(d.) "Chez ces gens pour toujours il se fût arrêté Nonobstant la légèreté
À ses pareils si naturelle."
(e.) Passant, qui que tu sois, respecte ce tombeau.
7. Translate the following passage into modern French, adhering as closely to the original as is consistent with modern usage, and explain the words underlined :-
Il ne me chault des mocqueurs qui disent que nous en parlons bien à notre aise, et ce n'est point à moy qu'ils s'attachent, d'autant qu'il n'y a rien icy de mon creu, comme on le croit. Autant en dis-je de tous les philosophes qui en prononcent leur sentence sans savoir comment; car puis qu'ils ne veulent escouter Dieu lequel parle à eux pour les enseigner, je les adjourne devant son siége judicial, là où ils oiront sa sentence, contre laquelle il ne sera plus question de replicquer. Puis qu'ils ne daignent maintenant l'ouïr comme maistre, ils le sentiront alors leur juge en despit de leurs dents. Les plus habiles et les plus rusez se trouveront icy trompez en leur compte. Qu'ils soient stylez tant qu'ils voudront à renverser ou obscurcir le droit, leurs chapperons fourrez auxquels ils se mirent s'aveuglent, nc leur donneront point la cause gagnée.

Value.
25.
35.
12.

## COMMERCIAL FRENCH.

Wednesday, 24th June.- 2 to 3.30 р.м.

1. Translate into English :-

## M. J. Brussi à Livourne,

J'ai l'avantage de vous remettre ci-joint facture aux étoffes de laine de notre fabrique que vous avez bien voulu commander à mon voyageur, lors de son séjour dans votre ville; elle s'élève, avec ma commission et les autres frais ordinaires, à frs. 785.80 , que je porte à votre débit, payables comptant à Lille ou a Paris.

La balle qui les contient est marquée J. B. No. 400, et a été expédiée, d'après vos ordres, à M. R. Goussot à Marseillc, par le chemin de fer, petite vitesse.

Selon votre désir, j'envoie le certificat d'origine à M. R. Goussot, afin qu'il puisse en toucher la prime pour votre compte. Vous voudrez bien lui donner les ordres nécessaires pour l'expédition ultérieure de ladite balle.

Je désire vivement que cette première affaire vous engage à me transmettre des ordres plus considérables. Dans cette attente, je vous prie d'agréer mes salutations cordiales.

Joseph Landois.
P.S.-On fabrique ici une nouvelle étoffe nommée Poil-de-chèore, dont plus de moitié est en laine; son prix actuel est de 4 fr . le mètre. Vous en avez ci-inclus quelques échantillons.
2. Reply in French to the above letter, acknowledging receipt of the invoice, which you find correct, and advising your correspondent that you credit his account with frs. 785.80 and remit, in settlement, a draft for that amount on E. Legrand of Paris at 7 days' sight. As regards the samples, duly received, say that they are not large enough for you to form an opinion, and ask for larger pieces to be sent, which you will examine, adding that, if you find them satisfactory, you will give an order.
3. Give the French equivalent of the following names of places :Antwerp, The Netherlands, Genoa, Leghorn, Lyons, Algiers, Brazil, India, The West Indies, The Canary Islands, The Channel Islands, New South Wales.
Either
4. Translate the following market report :-

Le Havre, le 18 Mars 1903.
Comme on devait s'y attendre, nos cours ont épronvé cette semaine de notables variations que je m'empresse de signaler.

Cafés.-La cote a été légèrement montée pour les cafés des Antilles et pour les provenances de la Réunion. En Haïti on a pris 493 sacs, solde de "la Perruche," à frs. 38.50 et un autre lot de 250 sacs à frs. 38 .
28.

En Rio, les affaires ont été plus actives; il s'est fait environ 2,000 sacs pour le dehors à $32 \cdot 50$, marchandise très ordinaire, et 59 saes en divers lots pour la consommation, de 34 a 36 frs .

- Les Porto-Cabello ont eu le débouché d'environ 5,000 sacs sur les derniers arrivages, de 47 à 57 frs., en entrepôt, suivant qualité.

Cuirs.--Cinq à six mille pièces ont été vendues sans variation sensible dans les cours, quoique la demande fût asscz soutenue et qu'il $y$ eût tendance à la hausse.

Huiles.-Huile de colza disponible 94 ; courant du mois 92 ; juillet et août 88 . Epurée 103. En huile de palme il s'est traité 10,000 kilogr. disponibles à $47 \cdot 50$, soit dans la parité des derniers cours.
Or (instead of question 4)
5. (a.) Translate into English the following sentences:-
(1.) La eargaison de l' "Aréthuse" a été vendue à livrer à 100 frs . le quintal.
(2.) De nombreux arrivages ont grossi nos existences au delà de ce qu'elles sont habituellement.
(3.) La difficulté de négocier, le taux peu avantageux du papier et les cours élevés de nos produits nous détournent de faire des consignations pour le moment.
(4.) Le navire "Homère," venant de Savannah, qui s'était échoué devant Greenock, a été relevé avec peu d'avarie, et remorqué dans le port.
(b.) Translate into French :-
(1.) The "Lucy" will clear to-day and sail to-morrow morning at high tide.
(2.) Your two drafts, for five hundred pounds each, have becr duly honoured.
(3.) Interest has been paid on this sum at the rate of $6 \%$ per annum.
(4.) We have to enter in the manifest the marks, numbers, packages, names of consignees, weight and approximate value of the goods.

Valuf．

GERMAN．

## Lower Grade．

Thursday，18th June．－2 to 4.30 P．m．
To secure full marks，the whole of this Paper should be answered． Alditional marks will be given for foir writing in the German character．

## Section I．－Translation and Composition．

## 1．Translate into English ：－

 ben blonben ©ettbert nanate．Er mar etiva viergi3 Sabre alt，lebte fitil für fid und

 nur Plagten fie oft baritiber，baÉ ber §immet ituen Feine Sinber gefdentt babe．Bon Bäften wurbe bab פaar wenig befudt，unb went eछ̆ geffat，wurbe an ber gevobnten einfadien §ebensiveife faft nidtt geänbert．Siemand ater tam to bäufig auf bie Surg
 aud）fonft in manden Bingen äbulid mar．Seine eigentlide §eimat war $\mathfrak{T} h u ̈ r i n g e n$, aber er bielt fidy oft uiber ein balbe＇ $\mathfrak{F a b r}$ in biefer Begent auf，wo er nadh feltenen ©teinen futjte，von benen er eine groke ©ammtung bejaf．शun begab es fid einit， Daß ほetbert an einem unfreunbliden §erbftabeno mit feinem Frreunbe unt feiner ©emaftin
 Bimmer，wätrento bie ßäume brauken vor ben Fenfern fiid fidüttetten vor nafier 『älte． Da Walther nur mit Uubeflagen an ben weiten Riucturg badte，fo natm er ©etberts Borfdlag，bie शadit auf bem ভdiofle gu bleiben，bereitwillig an．刃an bradte uun Speifen uub 刃ein berein，warf frifhe ફoljtloben auf bas zeuer，und batb waren bie Freunbe in britere unb vertraulide（ङsejpräde vertieft．

Saお ミubwig §ied．
（b）
 So iù und bin， Unb nidta ju juthen Dub̃ tar mein Simn．
§m Sdiatten fab id） （Fin Btümd）en flebn， W3ie Sterne tercitend W3ie ひ̈uglein fd）ön．

Gefunten．

## Sdy twollt＇es bredien，

Da ingt＇es fein：
＂（oll id）zum ： かelfen（fading）
Bebrodien fein？＂
3．f）arrb＇s mit atten
§e．t ほüŗ
Sum ©arten trug id＇s

uno pflangt＇eş wirber

## 2 m ftitlen Drt；

Nun zueigt es immer
Uito blityt fo fort．
soethe．
2．（a．）Write out from memory a German version of the passage read out．
（b．）Translate into German ：－
A man said one day to his son，＂My boy，you are now sixteen years old，go and see something of the world．When I was your age （say，in thy age）I had to work for myself．＂The lad was only too

Value.
25.
house, and soon the pretty little village with its grey old church, the clear brook where he had played so often, lay far behind him. In all your wanderings, my little man, you will see many strange and wonderful things, but you will never be so happy again as you were in the days that are no more.

## Section II.-Grammar.

3. Give the nominative and genitive singular, and the nominative plural, with the definite article, of the German for any twelve of these words :-window, flame, bed, river, tower, castle, carriage, pocket, picture, ass, nut, potato, ring, present, cloud, lamp.
4. Decline the German for (singular and plural) red wine, that pretty flower, his dear son ; (singular only) Frederic the Great.
5. Add the definite article to the words $\mathfrak{D t}$, $\mathcal{E} i(6), \mathfrak{B a n t}, \mathfrak{F}$ the double plurals of them with their meanings.
6. Give the German adjectives, with their comparatives and superlatives, for-cold, short, near, much, clever, dark ; and translate into German: I am two years younger than he, but you are the youngest of us ; this house is higher than yours, it is the highest in the town.
7. Write out-giving, in the 2nd person singular and plural, only the familiar ('thou') not the polite form :-
(a) The present and perfect indicative active of wifien and fich waiden.
8. (b) The 2nd person singular of the imperfect and perfect subjunctive, and of the imperative of nebmen, efien, befeben, auggeben.
(c) The 3rd person singular of present and imperfect indicative, and of the conditional of werfen, tonnen, wollen, vorlefen.
9. Translate into German :-

My aunt has a small garden before her house.
From whom have you received this pretty book?
Write your letter with the pen, not with the pencil.
Many men have died for their country.
The farmer drove with his wife from the village to the town.
You should not play before, but after, your work.
Please, pour some wine out of the bottle into my glass.
My eldest sister nursed (pflegen) me during my illness.


#### Abstract

GERMAN.

\section*{Lower and Higher Grades.}

Thursday, 18th June.-2.45 p.M. This Paper must not be seen by any Candidate. T'o be read out once or twice by the Supervising Officer (or a Teacher) at 2.45 P.M. The substance of this story is to be reproduced by the candidates in German from memory. No notes may be made while it is being read.

A lawyer who was driving in the country stopped at a cottage to ask his way to a farm where he had something to do. The woman, a simple labourer's wife, came out and said, "I have to go that way too, sir: if you will take me with you, I can show you where you have to leave the main road. I shall be ready in a minute."-"Well," he replied, "bad company is better than none. Make haste." So she put on her cloak and bonnet, and got on the car. When they had gone on for seven or eight miles, without speaking a word, the gentleman asked, "When are we coming to the road which I have to take?""Oh," she said, "we passed it a quarter of an hour ago; but bad company, as you said, is better than none: so I have kept you along with me."


## Higher Grade.

Thursday, 18th June.-2 to 5 P.M.
The whole of this Paper should be answered. No Candidate will be allowed to pass unless the necessary standard is reached both in composition and in translation.
Additional marks will be given for fuir writing in the German character.

## Sfetion I.-Translation and Composition.

1. Translate into English :-
(a) Ein Dorfdjen, bem fim Wbwalb mit rafden ©dxritten näherte, lag in eine:
 twar wie in einem (Bartenteich. Einige ber saüten lagen bidtt am ©tranbe, anbere an
 waren Elteine, mit Æufdeln eingefafte (5ärtden; auf ben mit veibem ©xnbe ausgefallten
 paar rothaarige $\mathfrak{B u b e n}$ rearen bamit beidäfigt, ein $\mathfrak{F o o t}$ mit $\mathfrak{Z e e r}$ zu beftreiden. Wer einer ber gröperen şütten faf cine grau mit zıvei Mädden, शige flitenb. 2te fie Dbrwaltos ©dritte börten, (f)auten fie neugierig von ibrer 2 urbeit auf; unb or fragte fie
 $\mathfrak{F r o o}$ haben fönne. "Etine," fagte bie §rau, inbem fie ibr gutmütiges, wettergebräuute反
 bcmn nidht, baß er mübe unb aubgefungert ift? Seeh ins şauê unt bring' mas mir
 meinen ©ie bas?" fragte Drivaib, ben angebotenen Mlas annetmeno. "Mfun, ein



 (Etubienreife begriffenen Ranb(h)aftemaler gemadt wurbe. "Eo mollen ©ie mid) ein paar ञage bier befalten?" fragte cr. "İa, aber bie wänbe bürfen ©ie nidt vollfrięetn,"

 ben §errn; und, bört bu, bote aud) von bem alten ©ognac, ben ber ( ©labs Sodjen aus


> f. Spiethayen, giobblematijde 刃aturen.
(b)

> Sute Fübrung.

Sinunter flieg id) einen Felfentang,
$\chi_{n}$ meiner §ano ein Sinb, und bielt für biefes
Die 2fugen fararf geridtet auf ben \$3eg,
Den glat ithm fucteno für bie fleinen $\mathfrak{z u}$ йe ;
unt wätrend idf ibm haff von Etein \%u Ctein,
 Sit ihm zu fherzen \#'ser bumbert Dinge; Uub alfo Eamen tadend wir ine 저hat.
©in anbermal ging idj ben $\mathfrak{m e g}$ allein; Run erft bemertt' id) ez, wie fteil or war, Entgegen flarten unter meinen Füben Wbgrünbe mir, bie id nod niđt gefeten; Dft fraudelt' id) und bielt mid nur mit झnüh', Sif ging id) febt unb muft' zurïde mieber, Sft fäumt' idb bange mit dem nädjften ©ddritt. §sinunter fam id mit genauer giot unb modet es roobt in meinem Sperzen fuurren,
 out.
(b.) Translate into German :-

A musician in London once announced a concert, and engaged the famous Madame Malibran to sing at it. He agreed to pay her twenty guineas; but the weather being very unfavourable, the concert was so badly attended that he could hardly pay his expenses. He went to see the French singer, and asked her if she would be satisfied with half the sum he had promised her ; but she insisted that she must have the whole. He countcd out twenty sovereigns on the table one by one.
25. "Is that enough ?" he asked beseechingly. "No," she replied, "I want one more sovereign ; you know, you promised me twenty guineas not twenty pounds." He laid down another sovereign, saying aloud to himself, "Ah, what will bccome of my poor wife and children!" Madame Malibran at once said, "I made you give me all I was to get, so that I might have the pleasure of giving it all back to you ; please make me happy and take it," and ran out of the room.

## SECTION II.

3. Give the nominative and genitive singular, and the nominative plural, with the definite article, of the German for any ten of these words :-victory, defeat, answer, virtue vice, quality, colour, collar, season, cushion, heel, parrot, rake, spade, adventure, enterprise.

 die (3räber; verffändig, verfiändlid); beitbar, beilfam; er vergift, er vergieft; or hat gefatleu, et if gefatten.
4. By means of the definite article distinguish between the two genders, with the meanings and respective plurals, of ©ditt, ©teure, Siefer, 5. $\quad$ Baurr, $\mathfrak{\Re a t} ;$ and give the meanings and double singulars, with the definite article, of శoclien, るeten, ©palten, ©efelten, £uvellen.

## 6. Translate into German :-

(a) Many a (mand) famous hero has been celebrated in song.
(b) He has said the same thing to many a pretty maid.
(c) For supper I can give you nothing but a piece of good Dutch cheese.
(d) The king drove in a carriage drawn by two noble Arab horses.
(e) This book was sent me by a certain Berlin scholar.
7. Write out:-
(a) The familiar 2nd person singular of the present and imperfect subjunctive, and of the imperative of befeten, vernegmen, aufefien, burctlefen, fiid ergeben.
(b) The 3rd singular of the present, imperfect, and pluperfect indicative active, and the infinitive with ou of bergefien, abpauen, wiberfpreden, प̈bergetpen, äbergergen.

Value.
with their meanings, and (in the case of nouns) the definite article:-
5. (nouns) burn, thread, shirt, knight, churl, edge, sinew, show, stove, sheath, leaf ; (adj.) silly, bleak, buxom, sly, raw, doughty ; to ply, to cough, to sup.

## GERMAN.

## Honours.-First Paper.

Thursday, 18th June. - 2 to 5 P.M.
Additional marks will be given for fair writing in the German character.
I. Translate into German :-

And sometimes, when they had gone on in this bantering fashion for a while, she would suddenly go up to him-if they were indoors, that is to say-and put her hand on his arm, and timidly hope that she had not annoyed him. At first the Whaup laughed at the very notion of his being vexed with her, and dismissed the tender little penitent with a rebuke and a kiss; but by-and-by he grew to dread these evidences of a secret wish to please him and be submissive. He began to see how Coquette had formed some theory of what her duties were, and continually referred to this mental table of obligations rather than to her own spontaneous impulses of the moment. She seemed to consider that such and such things were required of her; and while there was something to him inexpressibly touching in her mute obedience, and in her timid anticipation of his wishes, he would far rather have beheld her the high-spirited Coquette of old, with her arch ways, and fits of rebellion and independence.
"Coquette," he said, "I will not have you wait upon me like this. It is very kind of you, you know; but it is turning the world upside down. It is my business to wait on you, and see that everything is made nice for you, and have you treated like a queen. And when you go about like that, and bother yourself to save me, I feel as uncomfortable as the beggars of old times must have felt who had their feet washed by a pious princess. I won't have my Coquette disguised as a waiting-maid."

> W. Black, A Daughter of Heth.

II Write a German essay on one of the following subjects :-
30.

Sarl ©buarb Etuaxt und ber શuffand von 1745.

(sin Alufentgalt an ber Seefufte.

GERMAN.
Honours.--Second Paper.
Monday, 22nd June.- 2 to 5 P.M.
The whole of this Paper should be answered.
Additional marks will be given for fuir writing in the German character.
Section I.-Translation.

## 1. Translate into English:-

 von Der fonfligen Eage ber Berbältniffe abgefebben, nidtt teidt auf einen $\mathfrak{B u}$ ürbigeren bätte fatten fömnen. Eer war in ber vollen Blüte ber Jabre; er batte von früh an in Befabren
 Berbätniffe, an bie Xenfhauungen, wie fie in der Ungebung Baifer ©igiemunos lebten, geroönt ; bie Zarabitionen bes luremburgifdjen ईaufes verbanoen fidid mit babsburgiidjem Selbifgefüht. Sein vielbevährter ©ifer gegen bie §eger war meit ent fernt, ein 2 LuEbruct von frömmigfeit ober tirdflider §ingebung zu fein; unt wenn er vouf feinen ๔tänben rüuflidttlos Gelb unb Dienft forberte, wenn er ben Surrenben hart entgegentrat, io geldabl es nidtt in fleinlider (Eiferfudt auf die zu mädtigen Unterthanen; immer war

 vavongetragen, mürbig unb nadjotüctidy iu vertreten.
§. ©. Droyien, Gefdiate ber פreufifden פolitif.
(b) Der bamalige Buftano biefir Bergidente war nod um vietes unvirtlider ats
 von fdmüler ફige - benn ber Dfon fpeift bort oben su jeber §atresjeit fein §otz ats
 Einige magere sügner büpften von §ifd $z^{4}$ §ifd, um bie gefatenen $\mathfrak{B r o f a m e n}$ zu pitten; mefrere Sonnte beltten burdeinanter; z:vei kieblingbgiegen pflegtrn ibr Fell unter ber

 Eite © und grungten, ftand, geläufhboll eine Streitigfeit verbanbelno, um ben æixt, als ben

 bem §atenber unt ber عaterne; unter ith an \{dmukiger æafet ber $\mathfrak{B o g e t h a ̈ n d t e r ~ v o r ~}$ einem 'grojen תiruge; uno neben ibm, fidf geberbeno mie ein völlig aubgervadjener,
 blá vor ఇübiafeit, vor Tseins unt Tabatbyenuघ.

## siart ©pindter.

(c) Uno nun ging es binaus in bie weite tombaroifde Flädie, Dfträrts, Tpabua zu, truy mid) Das leid)te (Sefpanu.
Tauiger Duft lag über ber Zlur, im fprofienben Siornfeto §dtugen bie §udtetn, Doin fern raufdte ber btinfinbe ๔trom,
9Ronobell grüften am $\mathfrak{B e g}$, reblaubumiponnen, oie uimen,
Durd) bie (Suprefinen berab riffette fitberneb Ridt;
'Kber am סunteln (5ebirg' ftill glommen Die Fruer ber §irtens und berüber, gebärupit, wehte der Ion der ©djalmei.
Fremo war altes untber und toct, fo traulidy, Dem ftitlen
Reidstum Diefer शatur fühtt' idf) mid innig venvanot ;

Das fie im reinften 2 cciovo leif' in fid fetber cretang!
Giern wie ber peimat Mebelgevölt lag jeglide ©orge,
und zu leben allein \{dien mir, ou atmen, ein Bläतt ;



## Value.

## Section II.

2. Add the definite article and meaning to ten of the following nouns, 5. and give the irregular plurals assigned to them :- Bau, $\Re a u b$, , 5 unft, Ungtüte,

3. Frame altogether ten sentences (with translation) to show under 5. what conditions the German infinitive active without $z^{4}$ is used-(a) for the past participle; (b) for the (English) infinitive passive; (c) for the present participle.
4. Form abstract nouns, with the definite article and meaning, from 5. five of these :- סreift, böje, felten, arm, beib, ftolz, lieblos; and adjectives, with meanings, from five of these:-©laube, Wberglaube, 宊ode, ßerg, Ernft, Frieg, Bube,
5. Frame complete sentences (with translations) showing with what case or preposition five of the following past participles (used adjectively
6. and figuratively) are construed:-einverftanben, ungebalten, bebaftet, verfeffen, gervadjen, verlegen, bewandert, geroogen.
7. Give the German for five of the following sets of words (each set
8. to be formed from the same radical word) :-to sin, sin, sinner, sinful ; thief, theft, thievish, thievishness; to dream, a dream, dreamer, dreamy, reverie; to flatter, flatterer, flattery, flattering; clean, to cleanse, cleanly, cleanliness, purity ; to rob, robber, robbery, rapacious, rapacity.
9. Give the meanings and explain the formation of ten of the following words:-mittelf, erkenntlid, şoffabrt, weilanb, abtrünnig, allerbingह, Şaft, flugg, eigentlid), flebentlid, J̌rift, 2(d)t巨eretärung, seerfunft.
10. Translate idiomatically into German :-
(a.) I insist on your giving me my money's worth.
(b.) Why did you not do what you have been so often told to do.
(c.) Do you object to my shatting the window ? I have a bad cold.
(d.) If you do this, you will fall out of the frying pan into the fire.
(e.) I have just finished reading the book; but really it is hardly worth reading.

Value．

COMMERCIAL GERMAN．

Wednesday，24th June．－4 to 5．30 P．M．

The whole of this Paper should be answered．

## 1．Translate into English ：－

§ull，ben 23．ฒai 1903
§erren S（hmiot u．Söthne，
Samburg，
 erbalten．

Eaut beifolgenden אonnoffements babe id）heute mit Dem＂Witbetm，＂תapt． Cdramm，in Sonfignation an Šbre 2foreffe，

100 Balten Baumbolle，
100 Riften 巨avana＝3uder，
verlaben，und erfuche Sie bie Berfititerung berfetben，zum $\mathfrak{F s e r t e}$ bon $50,8,000$ auf bie Baumnolte unb $\mathfrak{\Re 2}$ ． 12,000 auf ben Зucter，zur bittigften 90 rämie beforgen $\mathfrak{z u}$ mollen．

Raあ）ben Sxitteitungen，wethe Sie mir von §brent Nartte in Bejug auf obige Wrtifel maden，erwarte id ein vorteilfafteb Æifuttat biefer Spefutation．Die Efin＝ Eaufepreife erfegen ©ie aub ber beitiegenben FaEtura．

इֹb babe auf গedjung biefer fionfignation
$£^{7} 70015 \mathrm{mt}$ ．bato
auf Sie entnommen und empfeble biefe ふratte $\mathfrak{\Im y v e r ~ g e f a ̈ l l i g e n ~ S d h u g n a t m e . ~}$
5odjadtungsoolt，
F．Müller．
2．Acknowledge receipt of the foregoing letter，thanking your friend for his consignment，which，upon arrival，will have your best attention． Say that you have duly effected the insurance，mentioning the premium you have paid，and that you take note of his draft，which you will honour in due course．

## 3．Translate the following market report ：－

Bucter．－Die ©たteigetung ber פreife im 2ngemeinen，vom Februar bie suni，war burd bie fidere Exvartung einer geringeren 及ufubr in biefent §abre verantaft．Diefe Ervorrtung if nidt：in Erfüllung gegangen unt baber bie gegenvörtige æeation．

Saffee．－Sn ben tegten orei Wodien hat bie Nadfrage iefr zugenommen，namentlidh für Ben ©fport unb auf ©petulation．EFine Eabung ©t．Domingo，¡dpomment，wurbe зи 47 s ，fïr bas 刃itteltandiffte Meer verkauft．
Safao．－Die Sadfrage if beffer und ca．1，000 Catte von ben Rotonien fino wäbrens ber tegten 8 Zage plaziert worben．

Seibe．－sparkt febr flatu ba die fonfumenten fidh gut mit Seibe verfeben baben．
 bie عabung ber＂Eotumbine＂bradte bobe Mreife．Xpfet inen und Bitronen unbegehtt．


4．Give the German equivalents of the following articles of commerce：－
Hìites，furs，lace，cotton goods，provisions，drieá fruit，palm－vil， hardware，chemicals，agricultural machinery．

Value. 5. (a) Translate into English the following sentences:-

(2) Der Durdicidnittzpreiz if ungefâbr 100 פxxe. pr. 3tr.
(3) झan bat von bem भeeber ©ntidädigung verlangt.
(4) Diefebs (sefdaft rentiert bjer nid)t.
(5) Das̃ §auptablaggebiet für biefen Nertifet if bie Zauttei.
(6) झึaren unter 3ottberfdなuß.
(7) 2afle pooften im Sauptbud) werben zrweimal follationiert.
24.
(8) Unter গadinatme ber ভpefen.
(b) Translate into German :-
(1) The manager has a salary of $£ 1,000$ a year.
(2) These goods are liable to duty.
(3) The case of samples had to be entered in the manifest and freight paid upon it.
(4) The steamer is loading coals for Odessa.
(5) He has paid the amount by instalments.
(6) The cotton-mills are working half-time.
(7) This signature must be attested by a notary.
(8) He acted morely as a broker in the transaction.

Value.

The whole of this Paper should be answered. Candidates will not be allowed to pass unless they reach the necessary standard both in composition and in translation.

## Section I.

1. Translate into English:-
(1.) Dominada España por los sarracenos, un puñado de valientes, desdeñando el yugo enemigo, huyeron á las montañas de Asturias y eligieron por caudillo á don Pelayo, vástago ${ }^{1}$ de la real familia de los godos. Los cántabros se unieron á su estandarte y mantuvieron á los moros en continua alarma, haciendo frecuentes correrías en los territorios de que se habían apoderado. Así el valiente Pelayo extendió los límites de su pequeño estado, se adelantó hacia las montañas de León, se apoderó de varias plazas, echando los primeros cimientos de la monarquía española, cuyos guerreros debían á su vez arrojar á los invasores hasta los lejanos peñascos del Atlas.

Imposible sería dar una idea, ni aproximada siquiera, de las continuas guerras sostenidas por espacio de más de siete siglos entre los españoles y los musulmanes; guerras en que mil capitanes valientes, cuyo nombre y fama han llegado hasta nosotros, se inmortalizaron. Por fortuna las guerras civiles empezaron á devorar á los sarracenos, debilitando sus fuerzas, al paso que crecían las de los cristianos, que, aunque también divididos, adquirieron vigor con la reunión de las coronas de Castilla y León en San Fernando, que logró apoderarse de Jaén, Córdoba, Murcia y Sevilla; haciendo tributario al rey de Granada, último atrincheramiento de los musulmanes.
${ }^{1}$ Scion.
Los Caracoles.
(2.)

Dos caracoles un día
Tuvieron fuerte quimera Sobre quien mayor carrera En menos tiempo daría.
7. Una rana les decía: Yo he llegado á sospechar Que sois ambos á la par Algo duros de mover, Antes de echar a correr Mirad si podéis andar.
(3.) Doña Críspula-Don Vicente.
$D^{\text {a }} C r$.-Perdone Vd, que le haya hecho esperar. Haga Vd. el favor de tomar asiento.
D. Vic.-Pero, Senora ....

Valub, $\quad D^{a} C r$.-Vamos, $\sin$ cumplimientos. A mí me gusta la gente franca. - Su rostro de Vd. no me es desconocido. Ya le he visto á Vd. no sé dónde.
D. Vic.-Montaner es mi apellido.
$D^{\mathfrak{s}} C r$.-GTiene Vd. algún parentesco con Doña Dolores de Bausá, la madrina de mi hija ?
D. Vic.-Somos primos.
$D^{a} C r$.-b Primos ? De manera que Vd. y el difunto D. Jaime...
D. Vic.-Eramos hermanos.
$D^{a}$ Cr.-Era muy hombre de bien.... y riquísimo. \& Vd. habrá
12.
tenido parte en su herencia ?
D. Vic.-No, señora; la repartió entre los pobres de la familia. Bastante hizo por mí con enviarme á la Habana y ponerme en carrera. Se empeñó mi hermano en que yo habia de hacer mi fortuna en América y no paró hasta salirse con ello. "Te vas á Cuba (me estaba repitiendo siempre) y cuando hayas adquirido un mediano capital regresas á tu país, te haces propietario $y$ te casas con una mallorquina honrada y bonita."
$D^{a} C r$.-En fin vuelve Vd. á Palma, como buen mallorquín, con los tesoros del nuevo mundo.
D. Vic.-Aún queda por allá lo mejor de mis bienes ....
2. Translate into Spanish :-

Henry the Fourth, King of France and Navarre, was justly called the Great, for the happiness and prosperity of his people were the chief object of his solicitude. The Queen of Navarre, his mother, was a very sensible woman and directed his education herself. She taught him to bear fatigue without murmuring and to disregard danger. His food and clothes were of the simplest description. He often went bare-headed and bare-footed, and he was accustomed from his childhood to climb the highest mountains.
10. 3. Write from memory a Spanish version of the passage read out.

## Section II.

4. Write (in full) the present and past definite tenses of the following verbs:-caber, distinfuir, entender, leer, servir, vencer. Give the past participle of decir, poner, resolver, ver, and both forms of the past participle of bendecir, consumir, despertar, elegir, incluir, torcer. Mention some past participles with an active meaning.
5. How is the English gerund to be rendered in the following sentences:-
I heard about his selling the house.
He insisted upon my paying the debt.
On leaving the church I met him.
He did it without my asking him.
My not having finished the work was the reason of my coming
late.

Value. 6. (a) Translate into English the following idiomatic expressions :--
(1.) Este joven gana mil y pico pesetas al mes.
(2.) El vapor llegará á eso de las once.
(3.) No hay que darle vueltas.
(4.) Lo hizo de muy mala gana.
(5.) Di por supuesto que Vd. no volvería.
(6.) Le eché á Vd. menos en el baile.
12. (b) Translate into Spanish :-
(1.) He will be back this day fortnight.
(2.) About the middle or end of January.
(3.) There is no hurry.
(4.) Please post these letters as soon as possible.
(5.) I have no money to spare.
(6.) Give it to anybody you like.
7. Write in Spanish a letter to a friend (using the familiar form tú), saying what you intend to do after you leave school. Tell him
16. how long you have been learning Spanish, what you have been reading, and what you think are the advantages to be derived from a knowledge of the language.


To be read out once or twice by the Supervising Officer (or a Teacher) at 2.45 P.M. The substance of this story is to be reproduced by the Candidates in Spanish from memory. No notes may be made while it is being read.

King George the Third of England, whilst passing once through a remote country district, stopped at a small inn for breakfast. The breakfast consisted of eggs and coffee, for which the innkeeper handed a bill of one guinea to the king. "What !" exclaimed the king, on looking at the bill, "eggs must be scarce in this part of the country." "No," replied the innkeeper, "eggs are plentiful enough, but kings are scarce."

## Lower Grade.

Wednesday, 17 th 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.
10. Additional marks will be given for neatness, arrangement, and style.
8. 1. Divide $(5781 \times 5784)-762$ by $(29 \times 24)+22$.
8. 2. If a yard of wire cost a penny, find the value of a kilometre of the same wire, taking a yard as equal to $9 \frac{1}{7}$ decimetres.
3. A man bought a gross of pencils at $6 \frac{1}{2} d$. per dozen, a hundred at 1s. $4 d$. per score, and 44 at $1 \frac{1}{4} d$. each. If he then sold them all at $9 \frac{1}{2} d$. per dozen, how much did he gain or lose?
4. The average number of persons admitted to an exhibition during the first five days was 416, the average number during the first six days was 551 ; how many were admitted on the sixth day ?
12. 5 . Show that $\frac{3}{5}=\frac{12}{20}$, illustrating your answer by a figure.
6. (1) Explain how the difference between two fractions can be found.
16. (2) One box contains $\frac{3}{7}$ of a hundredweight of flour, another contains $\frac{7}{18}$ of a hundredweight. Find which contains most flour and how many pounds it contains more than the other.
7. (1) State and prove the rule for multiplying two decimal numbers, taking as an example the product $\cdot 072 \times 13 \cdot 55$.
20.
(2) Simplify $£ 4 \cdot 375+5 \cdot 25 s \cdot+4 \cdot 55 d$.
8. Find the simple interest on $£ 351613 \mathrm{~s} .4 \mathrm{~d}$. for 3 years at $4 \frac{1}{2}$ per
10. cent. per annum.

## Value.

## ALGEBRA

## Lower Grade.

Wednesday, 17 th 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.
10. Additional marks will be given for neatness, arrangement, and style.

1. Multiply $x^{2}+3 x y+y^{2}$ by $x^{2}-3 x y+y^{2}$, and divide
$2 x^{4}-7 x^{3} y-12 x^{9} y^{2}-27 y^{4}$ by $x^{2}-3 x y-9 y^{2}$.
Verify both results when $x=10, y=1$.
2. Simplify
(1) $\frac{2}{x^{2}-4 x+3}-\frac{1}{x^{2}-3 x+2}$;
3. 

(2) $\frac{(1+x)^{2}-x(1+x)}{(1-x)^{2}+x(1-x)} \div \frac{(1+x)^{2}-x(1+x)^{2}}{(1-x)^{2}+x(1-x)^{2}}$.
3. Resolve into factors
(1) $(3 x+2 a)^{2}-(2 x+3 a)^{2}$;
9.
(2) $x(x-1)-y(y-1)$;
(3) $(a+b)(a-b)+(a+b)(b-c)$.
4. Prove that $a^{8} \times a^{4}=a^{7}$, and that $\left(a^{8}\right)^{4}=a^{12}$.
12.

$$
\text { Simplify } \frac{\left(\left(x y^{2}\right)^{2}\right.}{\left(x^{4} y^{2}\right)^{8}} \times \frac{\left(x y^{4}\right)^{4}}{\left(x^{2} y\right)^{2}}
$$

5. Solve the following cquations, verifying your results in each case :
(1) $3(x-a)=4(x+b)$;
(2) $\frac{x-4}{x-3}-\frac{x-6}{x-5}=\frac{x-8}{x-7}-\frac{x-10}{x-9}$.
6. Trees are planted in rows, there being as many trees in each row as there are rows. Five more rows are now added, and it is found that the number of trees has been increased by a quarter of the original number. How many trees are there in each row ?
7. Solve the equations
(1) $\left\{\begin{array}{l}7 x-8 y=7 \\ 5 y-4 x=11 .\end{array}\right.$
8. 

(2) $\cdot 12 x^{2}-\cdot 7 x+1=0$.
(3) $\frac{1}{x-1}+\frac{1}{x-2}=1$.

## Value.

GEOMETRY.

## Lower (frade.

$$
\text { Wednesday, } 17 \text { th June.-12 Noon to } 2 \text { P.m. }
$$

All ordinary symbols and contractions are allowed.
All the steps of the proofs must be given, and in all cases it must be clearly shown on what assumptions the demonstrations are based.

All figures should be drawn accurately with ruler and compasses.
10. Additional marks will be given for good style, neatness, and accuracy.

Candidates should give about one hour to each part of the paper.
Part I.-A.
8. A 1. Draw a straight line perpendicular to a given straight line from a given point outside the line, giving construction and proof.
A 2. If one side of a triangle be produced prove that the exterior angle thus formed is equal to the sum of the two interior opposite angles.
11. What important property of a triangle can be deduced from this theorem?
7. A 3. If two parallelograms are on the same base and between the same parallels, prove that they are equal in area.
A 4. If two chords of a circle intersect within the circle, prove that the rectangle contained by the segments of the one is equal to the rectangle contained by the segments of the other.
14.
$A B, C D$ are chords of a circle which intersect in $O$ : if $A O$ be $\frac{8}{8}$ inch, $O B 1 \frac{1}{4}$ inch, $C O \frac{1}{4}$ inch; find the length of $C D$. (The figure need not be drawn to scale.)

## Part II.-B.

15. B 5. $A B C D$ is a quadrilateral whose sides are bisected in $P, Q, R, S$ : prove that $P Q R S$ is a parallelogram, and compare its area with that of the quadrilateral.
16. B 6. Draw a triangle $A B C$; from $A$ draw $A D$ perpendicular to $B C$ meeting it in $D$, and produce $A D$ to $E$ so that $D E=\frac{1}{2} B C$; on $A E$ as diameter describe a circle cutting $B C$ or $B C$ produced in $F$ : prove that the square on $D F$ is equal in area to the triangle $A B C$.
17. B 7. Construct a triangle on a given base such that the vertical angle is $45^{\circ}$, and that the perpendicular from one extremity of the base to the opposite side is half the base. State your construction clearly but do not give any proof.
18. B 8. $A, B, C, D, E, F$, are six points in a circle, such that $A B$ is parallel to $E D$, and $B C$ is parallel to $F E$; prove that $C D$ is parallel to $A F$.

## Value.

## ARITHMETIC.

Higher Grade.
Wednesday, 17 th 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.
10. Additional marks will be given for neatness, arrangement, and style. Algebraical symbols may be used, if properly explained.
8. 1. Find, corrected to the nearest penny, the price of 127 tons 16 cwt . 2 qrs. of coal at 24 s . 6 d . per ton.
18. 2. Simplify.
(1) $\frac{4 \frac{3}{4}-1 \frac{2}{7}-2 \frac{1}{6}}{\left(6 \frac{3}{4} \div 4 \frac{1}{2}\right) \times\left(4 \frac{1}{7}-3 \frac{2}{5}\right)}$,
(2) $\frac{.03 \times .025}{(.05)^{3}-.03 \times(.05)^{2}}$,
(3) 4.375 of $£ 210 \mathrm{~s} .+13.75 \mathrm{~s} .-3 \cdot 27$ of $£ 36 \mathrm{~s}, 8 \mathrm{~d}$.
10. 3. A man bought an estate at 18 per cent. below its real value and sold it at 10 per cent. above its real value. If his profit was $£ 1358$, how much did he pay for the estate ?
10. 4. A tank, 1.2 metres long and 67 centimetres broad, is filled with water to a depth of 35 centimetres. Find the weight of the water to the nearest pound assuming that a cubic centimetre of water weighs a gramme and that a kilogramme is $2 \cdot 204$ pounds.
5. (1) Explain the object of each step in extracting square root, finding as your example the root of 289 .
22. (2) The area of a square is $139 \cdot 808$ square metres; find its side, corrected to the nearest millimetre, without using unnecessary figures.
10. 6. Brass expands when heated so that a unit of length at the freezing point of water becomes 1.0019 at the boiling point of water. Express in cubic inches, corrected to three significant figures, the increase in bulk when a brass cube whose edge is 9 inches at the freezing point is heated to the boiling point of water.
12. 7. Find, to the nearest penny, the compound interest on $£ 4,560$ for 6 years at 5 per cent. payable yearly.



## ALGEBRA.

## Higher Grade.

$$
\text { Wednesday, } 17 \text { th June. }-3 \text { Р.м. to } 4.30 \text { Р.м. }
$$

All the work must be shown, and such explanation added as is required to indicate the methods adopted.
10. Additional marks will be given for neatness, arrangement, and style.
6. 1. Simplify

$$
\frac{(1+x)\left(1-x+x^{2}\right)\left(1-x^{3}+x^{7}\right)+x^{6}(1-x)}{1-x^{2}+x^{4}\left(1-x^{2}+x^{4}\right)}
$$

2. State and prove the rule for finding the lowest common multiple of two quantities.
Prove from your method that if $A$ and $B$ be two algebraical expressions which have no common factor, it is possible to find two other expressions $u$ and $v$ such that

$$
u A+v B=1
$$

3. Solve the equations
4. 
5. If
(1) $\left(a^{2}-b^{2}\right)\left(x^{2}-1\right)=4 a b x$;
(2) $\left\{(a-b) x+b y=2 a^{2}+b^{2}\right.$,
(3) $\sqrt{14+x}-\sqrt{11-x}=\sqrt{3-x}$.
6. 

$$
a: b=c: d
$$

prove that
If

$$
p a+q b: r a+s b=p c+q d: r c+s d
$$

$$
2 a+b: 3 a-b=6 a+2 b: 3 a+b
$$

prove that

$$
7(a+3 b,: 12(2 b-a)=a+b: b
$$

12. 5. $A$ rides at 10 miles an hour along a road, $B$ starts from the same place an hour later and rides in the same direction at 12 miles an hour, $C$ starts from the same place an hour after $B$, and travelling in the same direction as the others passes $B 20$ minutes before he passes $A$; find the two rates at which $C$ may have travelled.
1. 6. Find the sum of 10 terms of the series $6,4 \frac{1}{2}, 3$, \&c.

Three numbers are in arithmetical progression, the product of the numbers is 15 times their sum, and the sum of their squares is 155 ; find the numbers.
16. 7. Find an expression for the sum of $n$ terms of a geometrical series whose first term is $a$, and whose common ratio is $r$.

If $x$ be the sum of the first $p$ terms of a geometrical series, $y$ the sum of the first $2 p$ terms, and $z$ the sura of the first $3 p$ terms, show that $x, y$, and $y+z-x$ are in geometrical progression.
7517.

## GEOMETRY.

## Higher Grade.

Wednesday, 17 th June. -12 Noon to 2 P.M.
All ordinary symbols and contractions are allowed.
All the steps of the proofs must be given, and in all cases it must be clearly shown on what assumptions the demonstrations are based.

All figures should be drawn accurately with ruler and compasses.
10. Additional marks will be given for good style, neatness, and accuracy.

Candidates should give about one hour to each part of the paper.
Part I.-A.
A 1. Bisect a given angle.
Show that the construction, to draw a straight line at right angles to a given straight line from a given point in the same, may be considered to be a particular case of this proposition.
A 2. Prove that the straight line, drawn through a point in a circle at right angles to the diameter passing through that point, is a tangent to the circle, and that every other straight line through that point cuts the circle.
A 3. Find a fourth proportional to three given straight lines.
Find how many fourth proportionals can be found to three given straight lines, when the lines may be taken in any order.
14. A 4. If a straight line be perpendicular to a given plane, prove that every plane which passes through the straight line is perpendicular to the given plane.
If a straight line be not perpendicular to a given plane, prove that one and only one plane through the straight line is perpendicular to the given plane.

## Part II.-B.

B 5. $A K$ is the bisector of the angle $A$ of the triangle $A B C$, prove that the bisectors of the angles $B$ and $C$ meet at a point in $A K$, and also that the bisectors of the exterior angles at $B$ and $C$ meet at a point in $A K$.
14.

Two circles $A B C, A D E$ touch at $A$ and $B D$ is parallel to the tangent at $A$; if the tangents at $B$ and $D$ meet in $O$, prove that $O A$ bisects one of the angles between $O B$ and $O D$.
B 6. Construct a triangle $A B C$, having given the length of $B C$ and the lengths of the perpendiculars $B M$ and $C N$ drawn from $B$ and $C$
12. to the opposite sides.

Examine the number of solutions.
B 7. $A B C D$ is a square whose side $A D$ is divided in $E$ so that $A E$ is a third of $A D$; if $A C$ and $B E$ be joined, prove that the areas of the parts into which the square is divided are proportional to 1 , 3,9 , and 11 .
B 8. If $A B C D$ be a tetrahedron, give constructions to find (1) a point equally distant from the four vertices, (2) a point equally distant from the four faces.
value. ELEMENTARY TRIGONOMETRY AND LOGARITHMS.
Higher Grade.
Tuesday, 23rd June.-10 A.M. to 11.30 A.M.
All ordinary symbols and contractions are allowed.
All the steps of the proofs must be given.
10. Additional marks will be given for neatness, good style, and accurately drawn figures.

1. Define the sine and tangent of an acute angle.

Show how to extend your definition so as to embrace any angle less than four right angles.
11. If $\cos A=2 \sin A$, find the values of $\sec A$ and $\operatorname{cosec} A$.
2. $A B C$ is a triangle, right-angled at $C$; if $A$ and $b$ are given, find the values of $a, c, B$.
In the triangle $D E F, D G$ the perpendicular from $D$ to $E F$ is 6
12. millimetres; if $\cos E=\frac{5}{13}, \cos F=\frac{4}{5}$, find the sides of the triangle.
3. Prove geometrically that
(1) $\sin (A-B)=\sin A \cos B-\cos A \sin B$.
10. (2) $\sin A+\sin B=2 \sin \frac{A+B}{2} \cos \frac{A-B}{2}$
4. Solve fully the equation
12.

$$
\sin x+\sin 3 x=\sin 2 x+\sin 4 x
$$

5. Prove the identities
(1) $\frac{\sin A+\sin B}{\cos A+\cos B}+\frac{\cos A-\cos B}{\sin A-\sin B}=0$;
6. 

(2) $\sin 2 A+\cos 2 A=\frac{(\cot A+1)^{2}-2}{\cot ^{2} A+1}$;
(3) $\frac{\tan 3 A}{\tan A}=\frac{2 \cos 2 A+1}{2 \cos 2 A-1}$.
9. 6. Use logarithms to find the cube root of 5378.42 correct to two decimal places.
13. 7. If in a triangle $A B C, b=137 \cdot 25$ units, $c=125$ units, and $A=$ $48^{\circ} 32^{\prime} 30^{\prime \prime}$, find $B$ and $C$.
10. 8. From a balloon the angles of depression of two successive milestones on a level road in the same vertical plane as the balloon are seen to be $45^{\circ}$ and $30^{\circ}$, find the height of the balloon.

## Valur.

## ALGEBRA.

## Honours Grade.

$$
\text { Wednesday, } 17 \text { th June. }-3 \text { P.M. to } 4.30 \text { P.M. }
$$

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

Write down the general term in the expansion of $(a x+b)^{n}$.
Find the coefficient of $x^{5}$ in the expansion of $\left(1+x+x^{8}+x^{4}\right)^{5}$.
2. If ${ }_{n} C_{r}$ represent the number of combinations of $n$ things taken $r$ together, find the value of $r$ for which ${ }_{n} C_{r}$ is greatest, when $n$ is given.
In how many ways can $3 n$ letters, of which $x$ are $a$ 's, $y$ are $b$ 's, and the rest $c$ 's, be arranged in a row ?
Show that the number of ways is greatest when $x=y=n$.
3. Show that a rational proper fraction, whose denominator is the product of two integral functions which are prime to each other, can always be resolved into the sum of two proper fractions with these functions as denominators.

Resolve into partial fractions
(1) $\frac{x^{2}}{(x-1)(x-2)^{3}}$
(2) $\frac{1}{x^{4}-x^{2}}$.

Alternative Questions.
15. $4 a$. Solve the equations:
(1) $\frac{a}{x+b}-\frac{b}{x-a}=2$;
(2) $\left\{\begin{array}{l}x^{2}+x y+2 x+y=11 \\ y^{2}+x y+2 y+x=\end{array}\right.$

$$
\left\{y^{2}+x y+2 y+x=7\right.
$$

15. Or,

4b. Rationalize the equation

$$
(y+z-x)^{\frac{1}{d}}+(z+x-y)^{\frac{z}{z}}(x+y-z)^{\frac{1}{d}}=0
$$

and deduce that, when $x, y, z$ satisfy this equation,

$$
(x+y+z)^{4}-27\left(x^{2}+y^{2}+z^{2}\right)^{2}+54\left(x^{4}+y^{4}+z^{4}\right)=0 .
$$

## Value.

5a. Explain what is meant by the graph of a function.
15. Draw in a single figure the graphs corresponding to the equations
(1) $y=x$,
(2) $y=x^{3}$,
(3) $y=x^{3}-x$
and show how the third graph may be obtained from the first two by means of a geometrical construction.

Or,
5b. Explain what is meant by a complex number or quantity.
If a rational integral expression have the factor

$$
x-a+b \sqrt{-1}
$$

show that it also has a factor

$$
x-a-b \sqrt{ }-1
$$

Resolve $x^{4}+a^{4}$ into two real quadratic factors, and $x^{8}+a^{6}$ into three quadratic factors.

6a. Explain what is meant by Mathematical Induction.
Prove by induction or otherwise that if

$$
\begin{gathered}
\mathrm{a}_{n}=a(a-1)(a-2) \cdots(a-n+1) \\
(a+b)_{n}=a_{n}+n a_{n-1} b+\frac{n(n-1)}{1.2} \dot{a}_{n-2} b_{2}+\ldots+n a b_{n-1}+b_{n}
\end{gathered}
$$

Or,
6b. Find an expression for the sum to $n$ terms of the series whose $r$ th term is $r(r+1)(r+2)(r+3)$.

Hence, or otherwise, sum the series.

$$
1^{3}+2^{3}+3^{3}+\cdot \cdot+n^{8}
$$

## Valur.

## GEOMETRY.

## Honours Grade.

Wednesday, 17 th June.- 12 Noon to 2 P.M.
All ordinary symbols and contractions are allowed.
All the steps of the proofs must be given, and in all cases it should be clearly shown on what assumptions the demonstrations are based.
9. 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.
13. 1. Prove that the circle, described through the mid points of the sides of a triangle, also passes through the feet of the perpendiculars from the opposite vertices.

If this circle, the points in which it meets the base of the triangle, and the vertical angle be given, construct the triangle.
13. 2. $A B C$ is a triangle inscribed in a circle, and $D$ is the mid point of $B C$. If the tangents at $B$ and $C$ meet in $E$, and a circle described with $E$ as centre and $E B$ as radius, cut $A B$ in $F, A C$ in $G$, prove that $F G$ passes through $E$, and that the angle $F A E$ is equal to the angle $C A D$.
13. 3. Find a point $P$ in the straight line $A B C D$ such that

$$
A P \cdot B P=P C \cdot P D ;
$$

and prove that there is only one such point in the line.
13. 4. $A B C D$ is a regular tetrahedron and $E, F$ are the mid points of $A B$, $C D$; prove that $E F^{2}=\frac{1}{2} A B^{2}$.

Planes are described through each edge of $A B C D$ parallel to the opposite edge ; prove that they enclose a cube, and determine its volume.

> Alternative Questions.
13. $5 a$. If a transversal meet the sides $B C, C A, A B$ of a triangle $A B C$ in $\tau, M, N$ respectively, prove that

$$
B L . C M \cdot A N=C L \cdot A M \cdot B N .
$$

The inscribed circle of a triangle $I J K$ touches $I J, J K$ in $P, Q$ respectively, and $P Q$ meets $I K$ produced in $R$; express $K R$ in terms of the sides of the triangle.

## Value.

13. $5 b$. If straight lines through the vertices $A, B, C$ of a triangle $A B C$ be concurrent in $O$, and meet the opposite sides in $L, M, N$ respectively, prove that

$$
B L \cdot C M \cdot A N=L C \cdot M A \cdot N B
$$

If a point $P$ be joined to $A, B, C$ and straight lines $A D, B E, C F$ be drawn so that the angles $B A D, C B E, A C F$ are respectively equal to $P A C, P B A, P C B$, prove that $A D, B E, C F$ are concurrent.
13. 6a. Define a harmonic range.
$P$ is any point in a circle whose diameter $A B$ is produced to $D$; if $P C$ be drawn to meet $A B$ in $C$, so that the angle $B P C$ be equal to the angle $B P D$; prove that $A, C, B, D$ form a harmonic range.
Or
13. 6b. $A, B, C, D$ are four points in a straight line ; prove that

$$
A B \cdot C D-A C \cdot B D+A D \cdot B C=0,
$$

due regard being paid to the signs of the segments. Hence prove that the sum of the cross ratios $(A B D C)$ and $(A D B C)$ is unity.
13. 7 a. Define the radieal axis of two circles, and prove that the radical axes of three circles taken two at a time meet in a point.
On the sides $A B, A C$ of the triangle $A B C$ segments of circles are described towards the triangle containing angles supplementary to half the angle $B A C$. Any circle through $B$ and $C$ meets these segments in $M$ and $N$; prove that $B M, C N$ meet on the bisector of $A$.

Or
13. 7b. If any number of points are collinear, prove that their polars with respect to any circle are concurrent.
$A B C$ is a triangle, and the tangent at $A$ to the circumscribing circle meets $B C$ in $D$ and is produced to $E$, so that $D E$ is equal to $A D$; prove that the polar of $E$ with regard to any circle through $B$ and $C$ passes through $A$.

All ordinary symbols and contractions are allowed.
All the steps of the proofs must be given.
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. Find the expression for all the angles which have the same tangent as a given angle.
2. Solve the equation $\tan 3 \theta=1,(1)$ by means of the above theorem, (2) by a graphic method, or by solving for $\tan \theta$; and show the correspondence between the solutions.
3. 
4. Find the cosine of any angle of a cyclic quadrilateral in terms of the sides, and deduce the sine of the same angle.
5. If $r$ be the radius of the inscribed circle of a triangle, $R$ the radius of the circumscribed circle, and $r_{1}, r_{2}, r_{3}$ the radii of the escribed circles, prove that :-
6. 

$$
\begin{gathered}
\text { (1) } r=4 R \sin \frac{A}{2} \sin \frac{B}{2} \sin \frac{C}{2} \\
\text { (2) } r_{1}=4 R \sin \frac{A}{2} \cos \frac{B}{2} \cos \frac{C}{2} \\
\text { (3) } 4 R=r_{1}+r_{2}+r_{\mathrm{s}}-r . \\
\text { Alternative Questions. }
\end{gathered}
$$

4a. Define a logarithm and expand $\log _{e}(1+x)$ in a series of powers of $x$.
Prove that
15.

$$
\begin{aligned}
& \log _{\star} 2=2\left\{\begin{array}{l}
1 \\
3
\end{array}-\frac{1}{2} \cdot \frac{1}{3^{3}}+\frac{1}{3} \cdot \frac{1}{3^{3}}-\ldots\right\}+ \\
& \left\{\frac{1}{3^{2}}+\frac{1}{2} \cdot \frac{1}{3^{4}}+\frac{1}{3} \cdot \frac{1}{3^{6}}+\ldots\right\}
\end{aligned}
$$

Or
4b. Prove that $\frac{\sin \theta}{\theta}$ tends to the limit 1 , as $\theta$ is indefinitely diminished. Prove that $\sin \theta$ is less than $\theta$ and is greater than $\theta-\frac{\theta^{8}}{4}$, and deduce the value of $\sin 1^{\circ}$ to 5 decimal places.
$5 a$. Prove that

$$
\tan ^{-1} x+\tan ^{-1} y=\tan ^{-1} \frac{x+y}{1-x y}
$$

15. 

Prove that the series

$$
\tan ^{-1} \frac{1}{2}+\tan ^{-1} \frac{1}{8}+\ldots+\tan ^{-1} \frac{1}{2 n^{2}}+\ldots
$$

tends to the limiting value $\frac{\pi}{4}$. Is any special value for the inverse function implied?

Or
$5 b$. Prove that when $n B=2 \pi$
$\cos a+\cos (a+B)+\cos (a+2 B)+\ldots+\cos \{a+(n-1) B\}=0$.
15. A point $O$ is taken within a circle of radius $\alpha$ at a distance $b$ from the centre and points $P_{1}, P_{2}, P_{3}, \ldots P_{n}$ are taken on the circumference, so that $P_{1} P_{2}, P_{2} P_{3}, \ldots P_{n} P_{1}$ subtend equal angles at $O$, prove that
$O P_{1}+O P_{2}+\cdots+O P_{n}=\left(a^{2}-b^{2}\right)\left(\frac{1}{O P_{1}}+\frac{1}{O P_{2}}+\cdots+\frac{1}{O P_{n}}\right)$.
15. $6 a$. The top of a pole is observed to have an angle of elevation $\theta$, and its reflection in a lake $h$ feet below the point of observation has an angle of depression $\phi$. If $x$ be the height of the top of the pole above the level of the lake, prove that

$$
x=h \frac{\sin (\phi+\theta)}{\sin (\phi-\theta)},
$$

and find $x$ to the nearest foot when $h=20, \phi=60^{\circ}, \theta=45^{\circ}$ Or

6b. Lengths $O P, O Q, O R$, respectively equal to the sides $B C, C A \quad A B$ of a triangle $A B C$, are measured along a straight line $O X$, and through $P, Q, R$ straight lines $P L, Q M, R N$ are drawn, making
15. the angle $L P X=\frac{1}{2} A, M Q X=\frac{1}{2} B, N R X=\frac{1}{2} C$, prove that the lines $P L, Q M, R \vec{N}$ meet in a point, and that the distances of that point from $P, Q, R$ are equal to the distances of the inseribed circle of $A B C$ from $A, B, C$.

## ELEMENTS OF DYNAMICS.

## Additional Mathematical Subject.

$$
\text { Tuesday, } 23 \text { rd June. }-2 \text { P.M. to } 3.30 \text { p.M. }
$$

10. 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.
11. Definite velocity, and state how it is measured.

One cyclist rides due north at 12 miles an hour ; another rides 10. cyclist relatively to the first in magnitude, and show his relative direction by means of a careful diagram.
2. A body is projected with velocity $V$ and has an acceleration $a$ in
10. the same direction. If $v$ be its velocity after it has travelled a distance $s$, prove that

$$
v^{2}-V^{2}=2 a s
$$

A stone is thrown down a well 100 feet deep with a velocity of 60 feet per second. Find with what velocity it will reach the bottom, taking the acceleration of gravity as 32 feet per second per second; and find the time taken.
3. Forces of 15 and 8 units act at a point -
(1) in the same direction ;
12.
(2) in opposite directions;
(3) in directions at right angles to each other ;
(4) in directions making an angle of $120^{\circ}$ with each other.

Find in each case the magnitude and direction of the resultant of the forces.
4. Explain how to find experimentally the centre of gravity of a thin plane lamina of irregular form.

Weights of $1,2,3$, and 6 lbs . are placed at the corners $A, B$, $C, D$ of a square table $A B C D$. Show by means of a carefully drawn figure the position of the centre of gravity of the weights.
5. Define work and horse-power, explaining the connection between them.
A man weighing 12 stone climbs a hill 4,000 feet high. Find the work done against gravity and the average horse-power exerted if the ascent take 5 hours.
6. State the laws of statical friction.

A mess of 10 lbs . is placed on a plane which rises 3 feet vertically in 5 feet measured up the plane, and the coefficient of friction is $\frac{1}{2}$; find what force (if any) must act on the body up the plane to prevent its slipping.
7. Define specific gravity.

A piece of wood floats in water, and $\frac{1}{3}$ of its volume is above the surface ; find its specific gravity.
If the wood be now placed in oil, and float with $\frac{3}{10}$ of its volume above the surface, find the specific gravity of the oil.

What is meant by the pressure at a point in a fluid? Show how the pressure, at a point a given depth below the surface of smooth water, may be calculated.
The height of the water barometer is 33 feet. A diving bell is sunk in a lake, until the volume of air in the bell is reduced to one-third its original volume. Find the depth of the surface of the water in the bell below the surface of the lake.

## Value.

10. 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.

Candidates may try six questions, namely, Nos. 1, 2, 3, and an alternative in each of Nos. 4, 5, 6.

1. Prove that when a point moves in a straight line with uniform acceleration in the direction of motion, its average velocity during any interval is half the sum of its initial and final
2. velocities.

A train starts from rest with uniform acceleration, and, after travelling 10 miles, reaches its full speed of 60 miles an hour. It travels 10 miles at this rate, and is then uniformly retarded, coming to rest after travelling 10 miles more. Prove that its average speed during the whole time it is in motion is 36 miles an hour.
15. 2. If a point move with uniform acceleration, prove that its path is a parabola.

Prove that the range of a projectile on a horizontal plane through the point of projection is proportional to the product of the horizontal and vertical components of its initial velocity.
3. Draw a figure of the system of pulleys in which the same cord goes round all the pulleys, and find the mechanical advantage of the system.

If a force of 56 pounds weight support an attached mass of 200 lbs ., and a force of 40 pounds weight support an attached mass of 136 lbs ., find the weight of the lower block and the arrangement of cord and pulleys.

Alternative Questions.
4a. Find the resultant of two given forces which act at a point in directions inclined at a given angle.
15.

A particle in equilibrium in the plane of a triangle is acted on by forces proportional to its distances from the vertices. Prove that it is situated at the centroid of the triangle.
Or
4b. Enunciate the principle of moments, and explain its application to the lever.
A uniform $\operatorname{rod} A B$, one pound in weight and 12 inches in length, being suspended from a point $x$ inches from its centre, it is found that a mass of $M$ pounds hung at $A$ is balanced by 4 lbs . hung at $B$, while if the mass of $M$ pounds be hung at $B$ it is balanced by 3 lbs. hung at $A$. Find $M$ and $x$.

## Value. 5a. State Boyle's Law.

A cylindrical diving-bell, whose height is 8 feet and whose volume is 220 cubic feet, is immersed in water until the top of the bell is 10 feet below the surface. If the height of the water
15. barometer be 33 feet, find how many cubic feet of air, measured at atmospheric pressure, must be pumped into the bell to keep out the water.
Or
5b. Define specific gravity, and explain a method of finding the specific gravity of a liquid.

A mixture of specific gravity 1.6 is made by adding 5 litres
15. of water to 12 litres of sulphuric acid of specific gravity $1 \cdot 8$ : find approximately what contraction has taken place in the volume of the combined liquids.
6a. Define the hodograph of a moving point, and explain the relation between the velocity at any point of the hodograph and the circumstances of the motion. Deduce the form of the hodograph when a body starts with a given velocity and is acted on by gravity.
15.

A point $P$ has an initial velocity $V$ and is acted on by gravity. After two seconds its velocity is found to be horizontal and of magnitude 32 feet per second. Find its initial velocity in magnitude and direction, assuming the acceleration of gravity to be 32 feet per second per second.
Or
6b. State the laws of friction. How does dynamical friction differ from statical friction?
A particle is projected with a velocity of 96 feet per second
15. down a rough plane inclined to the horizon at an angle whose tangent is $\frac{8}{12}$. If the coefficient of friction be $\frac{2}{3}$, find (1) the retardation, (2) the velocity after $t$ seconds, (3) when the particle will come to rest.

## Value.

GEOMETRICAL CONICS.

# additional Mathematical Subject. 

(Higher Grade and Honours.)
Tuesday, 23rd 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. Preference will be given to proofs which depend on first principles, and in all cases it should be clearly shown on what assumptions the demonstrations are based.

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

1. Define a parabola, its focus, directrix, and axis.
2. Prove that in the parabola the subtangent is equal to twice the abscissa and that the subnormal is constant.
3. If in a parabola $S Y$ be the perpendicular from $S$ on the tangent
4. at $P$, prove that $Y$ lies on the tangent at the vertex $A$, and that $S Y$ is a mean proportional between $S P$ and $S A$.

Prove that $P Y$ is a mean proportional between $S P$ and the abscissa $A N$.
3. If $Q V$ be an ordinate to the diameter $P V$ in the parabola, prove that $Q V^{2}=4 S P \cdot P V$.
4. If $N^{\prime}, S^{\prime \prime}$ be the foci of a central conic, $A, A^{\prime}$ the vertices, and
14. $X, X^{\prime}$ the points in which the transverse axis meets the directrices, prove that $A A^{\prime}$ is a mean proportional between $S S^{\prime}$ and $X X^{\prime}$.

Prove that any circle through $S$ and $X$ is cut orthogonally by the circle described on $A A^{\prime}$ as diameter.
5. If from the foci of a central conic perpendiculars are drawn to the tangent at any point, prove that the feet of the perpendiculars are
18. on the circumference of the circle described on the transverse axis as diameter.

If $A$ be a fixed point within a circle, $C$ the centre, and $P$ any point on the circumference, prove that the straight line which bisects $A P$ at right angles is a tangent to an ellipse whose foci are $A$ and $C$.
6. Prove that if all the generating lines of a cone be produced
14. beyond the vertex, and a plane cut both the cone and the produced cone, the section will be a hyperbola.

## ANALYTICAL GEOMETRY.

## Additional Mathematical Subject.

(Higher Grade and Honours.)
Tuesday, 23rd June.-12 Noon to 1.30 P.M.
10. All the steps of the proofs must be given. Additional marks will be given for neatness, good style, and aecurately drawn figures.
The co-ordinate axes may be assumed to be rectangular.
15. 1. How many conditions are necessary to determine the position of a straight line in a plane? Give examples of the different forms these conditions may assume.

Write down the equations to the straight lines passing through the point $(2,3)$ and (i) parallel, (ii) perpendicular to the straight line

$$
x+4 y=7
$$

$$
A x+B y+C=0, \quad A^{\prime} x+B^{\prime} y+C^{\prime}=0
$$

15. be the equations to two straight lines, prove that the straight line

$$
\left(A+\lambda A^{\prime}\right) x+\left(B+\lambda B^{\prime}\right) y+C+\lambda C^{\prime}=0
$$

passes through their point of intersection.
Find the relation necessary between $a, b$ and $c$, in order that the lines

$$
\begin{aligned}
& a x+b y=c, \\
& b x+c y=a, \\
& c x+a y=b,
\end{aligned}
$$

may meet in a point.
3. A circle has its centre at $(a, b)$, and its circumference passes
15. through the origin ; find its equation, and the lengths of its intercepts on the axes.
4. The co-ordinates of $A, B, P$ are $(a, 0),(b, 0),(x, y)$. Prove that the tangent of the angle $A P B$ is

$$
\pm \frac{(a-b) y}{(x-a)(x-b)+y^{2}}
$$

If $A, B, C, D$ be collinear, and the angles $A P B, C P D$ are equal, find the equation to the locus of $P$.
5. Trace the following loci
(1) $2 x+y=3$;
15. (2) $x^{2}+y^{2}=2$;
(3) $(x-2)^{2}+(y-1)^{2}=1$.

Find the two points common to the three loci.
6. Find the equation to the chord of contact of tangents drawn from the point $(a, b)$ to the circle

$$
x^{2}+y^{2}=c^{2} ;
$$

15. and show that if this chord passes through a fixed point $(p, q)$ then $(a, b)$ lies on a fixed line.

Find the equation to this line when

$$
p=q=\frac{1}{2} c
$$

and illustrate your result by a figure.

## BOOK-KEEPING:

## Friday, 19th June.-2 P.M. to 4.30 P.m.

On 1st July 1902, W. Cobb and J. Ball entered into partnership and commenced business as merchants in the name of Cobb and Ball. They agreed to divide their profit three-fourths to Cobb, and one fourth to Ball; but the latter as managing partner was to receive a salary of $£ 200$ a year out of the profits before division.
Their transactions for three months were:-


Record these transactions in :-
Cash Book ;
56.

Invoice (or Goods Bought) Book ; Returus Book; Day (or Goods Sold) Book ; Journal.

Note.-Do not journalise any entries recorded in the other books

## 54. Post from these books to a Ledger.

Frame a Profit and Loss Account for the three months ending 30th
12. September, 1902.

> Note.-The transfers to the Profit and Loss Account must be by Journal Entries.

## Value.

## COMMERCIAL ARITHMETIC.-First Paper.

Thursday, 25th 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.

More importance will be attached to accuracy than to quickness.
$\underline{\text { Fill this in first }}\left\{\begin{array}{l}\text { Name of School } \\ \text { Name of Pupil }\end{array}\right.$
13.

1. Add-

16459
3947
70584
679
31886
49375
8705
66993
24388
71690
178
62949
20796
384
16097
44968
1475
39587
641
83649
30076
8364
92873
15946

Value. 2. Write down the values of -

| 5 per cent. of £364 10s. |  |
| :---: | :---: |
| $2 \frac{1}{2}$ ", £198 3s.4d. |  |
| 15 " £47 |  |
| 4 " £735 |  |
| 1 dozen articles at $6 \frac{3}{4} d$. each ... |  |
| 2 ", , 1s. $1 \frac{1}{2} d$. each ... |  |
| 1 gross $\quad$, $4 \frac{1}{2} d$. each |  |
| 25 articles at $4 s .6 d$. each... |  |
| 150 " 2s.6d. " |  |
| 240 ", 1s. $2 \frac{1}{2}$ d. ", ... |  |
| $\frac{3}{4}+\frac{5}{6}-\frac{7}{12} \quad$.. |  |
| $\cdot .05-.00005$ |  |
| $\cdot 05 \times \cdot 00005$ |  |
| - $05 \div \cdot 00005$ |  |
| - $164 \times 125 \quad$.. | ItII. |
| - $164 \div 125$ | x-7 |
| Express £4.725 in £ s. $d$. ... |  |
| " £16.1875 ", ... |  |
| " 18 s .6 d . as a decimal of $£ 1$ |  |
| " 4s. $3 d$. as a vulgar fraction of £1 |  |
| " $66 \mathrm{yds}$. , ", " 1 mile |  |
| ,, 1 quarter 12 lbs as a vulgar fraction of 1 ton ... |  |
| " 3.5 metres +6.8 decimetres in centimetres ... |  |
| $\text { " } 4 \text { kilogrammes }+\begin{gathered} 47 \\ \text { kilogrammes } \ldots . \\ \ldots \end{gathered} \ldots . \begin{gathered} \text { grammes in } \\ \ldots \end{gathered}$ |  |

COMMERCIAL ARITHMETIC.-SECOND Paper.
Thursday, 25th 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.
7. Additional marks will be given for neatness, arrangement, and style.

Algebraical symbols may be used if properly explained.
7. 1. How many men can be employed for $£ 65,4586 \mathrm{~s}$. if each is to receive £18 11 s .6 d . ?
7. 2. If the 11th October be a Saturday, what day of the week will the following 28th February be ?

Value. 3. Find the price of $4 \frac{1}{2}$ per cent. stock when money invested in it brings in a return of $5 \frac{1}{3}$ per cent. (Disregard brokerage.)
4. An alloy of silver is mixed with an alloy of gold in the ratio of 7 to 9 ; the percentage of dross is $13 \frac{1}{2}$ in the silver alloy and $17 \frac{1}{4}$ in the gold alloy; find the percentage of dross in the mixture.
7. 5. If an article cost $13 s .9$., at what price should it be marked in order that it may be sold at 10 per cent. below the marked price and still bring in a profit of 20 per cent. on the outlay?
13. 6. A rectangular plot of ground is 85 feet long by 72 feet broad and is laid out as a lawn surrounded by a path 2 ft .9 in . wide ; find (1) the area of the path in square yards, (2) the cost to the nearest penny of covering it 3 inches deep with gravel at 10 s. the cubic yard.
10. 7. How many silver half dollars can be coined from 10 bars of silver, each 55 centimetres long, 36 millimetres broad and 25 millimetres thick; if a half-dollar weigh 12.5 grammes, and silver be $10 \frac{1}{2}$ times as heavy as water, a cubic centimetre of which weighs 1 gramme ?
8. Find, to the nearest penny, the amount to which $£ 460$ will increase in 4 years at 4 per cent. compound interest payable yearly.


[^0]:    aiкís $\omega$, "meltreat."

