## LEAVING CERTIFICATE, 1897.

### EXAMINATION PAPERS.

## ENGLISH.

### Lower GRADE.

# Tuesday, 15th June. 10 A.M. to 12.30 P.M.

Every Candidate should answer nine questions, and no more, of which five must be in Section I., two in Section II., and two in Section III. Questions 1, 2, and 3 must be attempted.

#### SECTION I.

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

2. Write a short essay of about two pages on one of the following subjects :---

(a) Any one of the Scottish characters in Scott's novels;

(b) A letter, as to a friend, giving a short account of a journey, real or imaginary, by land or sea.

3. Paraphrase the following lines, so as to bring out their full meaning :-

Great princes have great playthings. Some have play'd

At hewing mountains into men, and some

At building human wonders mountain high.

Some have amused the dull sad years of life

(Life spent in indolence, and therefore sad)

With schemes of monumental fame, and sought

By pyramids and mausolean pomp, Short-lived themselves to immortalise their bones.

Some seek diversion in the tented field,

And make the sorrows of mankind their sport.

But war's a game which, were their subjects wise,

Kings would not play at. Nations would do well

To extort their truncheons from the puny hands

Of heroes, whose infirm and baby minds

Are gratified with mischief, and who spoil,

Because men suffer it, their toy, the World.

4. Parse the words italicised in the above passage.

Give the derivation of ten words of classical origin in the above passage.

5. Make a general analysis of the last sentence of the passage quoted in Question 3.

Explain, and give an example of (a) apposition, (b) coordinate sentence, (c) compound noun, (d) strong verb, (e) indirect object.

- 6. Give (a) the plurals of son-in-law, foot-soldier, man-servant, grouse, calf, hoof, series, covey.
  - (b) The feminines corresponding to waiter, executor, earl, czar, bachelor, nephew, buck, wizard.
  - The past tenses and past participles of wear, bite, burst, bleed, lie (in both senses), crow, grow.
- 7. Point out, and correct, any faults in the following sentences :-
  - (a) No sooner did he begin speaking, when he was interrupted.
     (b) Knox was equally ardent in the matter of reform as
    - Luther.
    - (c) All eyes watched breathlessly as he swam towards the shore.

    - (d) Incredulous as it may appear, it is nevertheless true.
      (e) He proved himself one of the most sagacious men that was in power during that period.
- 8. Name one work of each of the following poets, and describe the Tennyson.
- 9. Give a short description of a scene or incident from history, or drama, or fiction, which particularly impressed you.

### SECTION II.

- (In the answers under this Section attention must be paid to accuracy and clearness of composition. Mere lists of events and dates will not be regarded as sufficient.)
- 10. Write a connected account of the character and career of any two of the following :-Edward the Confessor, Thomas a Becket, King John, Simon de Montfort, William Wallace, Henry V., Richard III., Thomas Cromwell, Sir Walter Raleigh, Strafford, Admiral Blake, Marlborough, Chatham, Sir Robert Peel, Beaconsfield.
- 11. Describe, so as to show their importance, any three of the following: -Council of Whitby, Strongbow's Invasion of Ireland, Mise of Amiens, Statutes of Labourers, Loss of Normandy and Guienne, Battle of Flodden, Babington's Plot, Barebones Parliament, Rye House Plot, Trial of Sacheverell, Peace of Aix-In-Chapelle, Trial of Warren Hastings, Battle of the Nile, Repeal of the Corn Laws, Capture of Sebastopol.
- 12. Write a short paper on one of the following :- The Heptarchy, The Hundred Years' War with France, Constitutional Reforms under Edward I., The Scottish Reformation, The Progress of Events during the Long Parliament, The British Occupation of India.

#### SECTION III.

- 13. Describe the coast of England from Hull to Cardiff, mentioning the chief ports in order, with the main trade of each.
- 14. Name, and indicate the position of, the chief mountain ranges in Scotland and Wales.
- 15. Describe, or draw a map of, the basins of two of the following rivers; mention the chief towns on the banks of each; and state in what the industry of each town consists :--Clyde, Shannon, Thames, Loire, St. Lawrence.

- Give an account of the geography, government, and products of the British colonies and dependencies in America.
- Where are the following places: ---Kiliecrankie, Carthage, Pondicherry, Creçy, Metz, Cape St. Vincent, Delhi, Drogheda, Quebec, Mecca? Choose five of those places, and say what important events are connected with them.
- State what you know of the following :--Trade wind, sirocco, monsoon, gulf-stream, equinox, summer solstice, glacier, lagoon, cyclone, longitude.

### ENGLISH.

### LOWER GRADE.

### Tuesday, 15th June. 10.45 A.M.

### Passage for Dictation.

I have indeed heard of heedless inconsiderate writers, that without any malice have sacrificed the reputation of their friends and acquaintance to a certain levity of temper, and a silly ambition of distinguishing themselves by a spirit of raillery and satire. When there is this petulant humour in an author, he is often very mischievous without designing to be so. For this reason I always lay it down as a general principle, that an indiscret man is more hurtful than an ill-natured one; for as the one will attack principally his enemies, the other injures indifferently both friends and foes.

### ENGLISH.

### HIGHER GRADE AND FIRST PAPER FOR HONOURS GRADE.

### Tuesday, 15th June. 10 A.M. to 1 P.M.

- Every Candidate should answer *nine* questions, and no more; and every Candidate must take questions 1 and 2, and, in addition, *three* other questions in Section I.
- Higher Grade Candidates should take, also, two questions in Section II., and two in Section III.
- Honours Grade Candidates are not required to answer questions from Sections II, and III., but may do so. The full number of marks can be obtained in Section I.

#### SECTION I.

- 1. Write a short essay of about two pages on one of the following subjects :---
  - (a) The changes which steam-power has wrought on the conditions of life in our century.
  - (b) Which is the most useful foreign language to study? and why?

2. Paraphrase the following poem, so as to bring out the full meaning :-

When to the sessions of sweet silent thought I summon up remembrance of things past, I sigh the lack of many a thing I sought, And with old woes new wail my dear time's waste ; Then can I drown an eye, unused to flow, For precious friends hid in death's dateless night, And weep afresh love's long-since-cancelled woe, And moan the expense of many a vanish'd sight. Then can I grieve at grievances foregone, And heavily from woe to woe tell o'er The sad account of fore-bemoaned moan, Which I new pay as if not paid before : --But if the while I think on thee, dear Friend, All losses are restored, and sorrows end.

- 3. Give the derivations (a) of ten words of classical or romance origin, and (b) of ten words of native origin, in the above sonnet.
- 4. Make a general analysis of the following sentence, so as to show exactly how the clauses are related to one another :-

"Outraged as he was, Elizabeth believed that with Flanders still in revolt, and France longing for her alliance to enable it to seize the Low Countries, the Spanish King could not afford to quarrel with her; and her trust in his inactivity seemed in foiling, the project for a Catholic revolt which was to have followed a descent of the Guises on the English coast."

Parse the words italicized in the following sentences :---

- (a) You had better go.
  (b) No one else had a word to say.
  - (c) I needs must wait.
- 5. Distinguish carefully, with illustrative examples, between (a) weak and strong verbs, (b) infinitive and gerund, (c) synthetic and analytic languages, (d) metaphor and simile, (e) accidence and syntax.
- terse, ironical, pedantic, aphoristic, colloquial, euphemistic, florid, bombastic.
- 7. Improve the following sentences, and give reasons for the alterations you make :-
  - (a) Round the romantic Linn of Avon hangs a rich vein of legendary lore.
  - (b) Though such faults undoubtedly deteriorate from his greatness, he yet rises supreme among his contemporaries.
  - (c) This uncle had usurped the kingdom, while Hamlet was grieving at his father's death, and shortly afterwards married his mother.
    - (d) No one will affirm but that the language of Chaucer seems not yet to have attained its manhood, but there is a glorious future in store for her.

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- (e) Another feature of the bay is the rocks being honeycombed with caves, that enter into serious competition with the bathing-machines, which, however, will be found daly drawn up on the beach used by both sexes, while one strip is set apart for men and another for ladies.
- Take any ten of the following characters, and name the works in which they appear: --Lago, Lady Castlewood, Madame Eglantine, Mr. Burchell, Eliaine, Abdiel, Cressida, Mr. Peggotty, Laertes, Meg Merrilles, Palamon, Beëlzebub, Pistol, Dugald Dalgetty, Duessa, Merlin, Jessica, Alan Breck, Becky Sharp, Amyas Leigh. Describe briefly any two of these characters.
- Define, as accurately as you can, the following kinds of poetry :epic, ballad, narrative poem; ode, elegy, idyll; sonnet, hymn,
  song. Name an example of each kind from English Literature,
  and give a short description of its contents and metre.

#### SECTION II.

- (In the answers under this Section attention must be paid to accuracy and clearness of composition. Mere lists of events and dates will not be regarded as sufficient.)
- 10. Write a connected account of the character and carser of any two of the following:--Edward the Confessor, Thomas à Becket, King John, Simon de Montfort, William Wallace, Henry V., Richard III., Thomas Cromwell, Sir Walter Raleigh, Strafford, Admiral Blake, Marlborough, Chatham, Sir Robert Peel, Beaconsfield.
- 11. Describe, so as to show their importance, any four of the following ;—Council of Whitby, Strongbow's Invasion of Ireland, Mise of Amiens, Statutes of Labourers, Loss of Normandy and Guienne, Battle of Flodden, Babington's Plot, Barebones Parliament, Rye House Plot, Trial of Sacheverell, Peace of Aix-la-Chapelle, Trial of Warren Hastings, Battle of the Nile, Repeal of the Corn Laws, Capture of Sebastopol.
- 12. Write short papers on any two of the following :--The Heptarchy, The Rise and Influence of the Town Guilda, The Hundred Years' War with France, Constitutional Reforms under Edward I., A Comparison of the English and Scottish Reformations, The Progress of Events during the Long Parliament, The Freedom of the Press, The British Occupation of India, Educational Reform in our Century.

#### SECTION III.

- 13. Describe the coast of England from Hull to Cardiff, mentioning the chief ports in order, with the main trade of each.
- 14. Name, and indicate the position of the chief mountain ranges in Scotland and Wales. What influence has the physical geography of these two countries had upon their history?
- 15. Describe (or draw a map of) the basins of three of the following rivers, in each case indicating the position, and the historical or commercial importance of the principal towns :-- Clyde, Shannon, Loire, Danube, Nile, Indus.

- 16. Give an account of the geography, government, and products of the British colonies and dependencies in America.
- Where are the following places, and what important events are associated with them :---Killicerankie, Carthage, Pondicherry, Creçy, Metz, Cape St. Vincent, Delhi, Drogheda, Quebee, Mecca?
- State what you know of the following:--Trade wind, sirocco, monsoon, gulf stream, equinox, summer solstice, glacier, lagoon, cyclone, longitude.

#### ENGLISH.

#### HONOURS .- SECOND PAPER.

### Monday, 21st 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.

- Describe the Church of Chaucer's day as it is represented in The Prologue; and contrast the attitude of Chaucer to the social and religious movements of his time with that of Langland.
- State the plan of *The Faerie Queene*. To what extent is the Elizabethan age reflected in it? Describe the Spenserian stanza, and compare it with the Chaucerian stanza (or *rime royal*).
- 3. "Shakespeare has drawn no perfect hero." Discuss this statement.
- 4. Who were the Cavalier poets, and what are the characteristics of their poetry? State what you know of the life and work of any one of them.
- 5. In what respects is the prose of the eighteenth century an improvement upon that of earlier times? Why is the development of prose later than that of poetry?
- 6. Give an account of the characters and works of *three* of the leading contemporaries of Dr. Johnson.
- "Every great poet is a teacher." Discuss this statement of Wordsworth, and illustrate your answer by reference to Wordsworth and any of the other poets of our century.
- Describe the various forms of the English sonnet, name the English poets who have made most use of the sonnet, and give a detailed account of at least one sonnet by each of those whom you name.
- Write a short descriptive note (with name of author and proximate date) on each of the following: — Parlement of Foules, Morte D'Arthur, Arcadia, Comus, Absalom and Achitophel, Battle of the Books, Christabel, Legend of Montrose, Adonais, Henry Exmond.

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Compare or contrast the members of any one of the following groups:--(a) Chaucer and Spenser, (b) Milton and Bunyan, (e) Dryden and Pope, (d) Swift and Carlyle, (e) Dunbar and Burns, (f) Shelley and Keats.

#### SECTION II.

## **Optional** Questions.

11. Translate into Modern English :---

pisum wordum coer pæs cyninges wita and ealdormann gepáfunge sealde and to pære spræce feng and pus cwæð "Pyslic me is gesewen, cyning leófosta, pis andwearde lif manna on eorðan to wiðmetenisse pære tíde, pe ús uncúð is, swá gelíc swá pu æt swæsendum sitte mid pínum ealdormannum and pegnum on wintertíde, and sí fýr onæled, and pín heall gewyrmed, and hit ríne and sníwe and styrme úte; cume ponne án spearwa and The and show any symme use; come pome an spearwa and hræðlice pæst hás purhlede, purh oðre durn in, purh oðre út gewite: hwæt he on lpá tid, pá he inne býð, ne býð ríned mid þý storme pæs wintres! a e pæs býð án eágan brythm and pæs læste fæc, and he sóna of wintra in winter eft eymeð. Swá ponne pis manna lif to medmyclum fæce ætýweð; hwæt pær foregénge, obse hwat pêr efterfylige, we ne cunnon. Forpam gif peds niwe láre áwiht eúblice and gerisenelícre bringe, heo pæs wyrðe is, þæt we pære fyligean."

- 12. (a) Give the 3rd sing. present, 3rd sing. preterite indicative, and past participle of the strong verbs in the above passage.
  (b) Account for the letters italicized in the following words: -its,
  - stable, rather, farther, lesser, ought, once, molten.
- 13. Estimate briefly the influence on the language of the successive conquests of Britain. Indicate the most important changes in English grammar and vocabulary since Chaucer. At what periods have they occurred ?
- 14. "English is the least inflected and the most composite of modern European languages." Discuss the gains and losses incident to these characteristics.
- 15. State what you know of English vernacular literature during the thirteenth and the first half of the fourteenth century.

### LATIN.

#### LOWER GRADE.

## Thursday, 17th June. 10 A.M. to 12.30 P.M.

Candidates should in all cases attempt Question 1.

1. Translate into Latin :---

At last they came to Zama, and while Metellus was attempting to storm the town, Iugurtha surprised his camp. Though beaten off in this assault he attacked the Romans again next day, and Metellus was obliged to give up his enterprise. After garrison-ing the towns which he had taken, he went into winter quarters at Utica, where he proceeded to tamper with Bomilcar. That

traitor urged Iugurtha to surrender, and the king gave up his elephants, the deserters, and a large sum of money. But when it came to giving up himself his heart failed him, and, having discovered Bomilcar's treachery, he slew lim and once more resolved to fight.

### 2. Translate into English :---

### The Lessons of Roman History for a Prince.

(a) Antiquos evolve duces, adsuesce futurae militiæ, Latium retro te confer in aevum. libertas quaesita placet ? mirabere Brutum. perfidiam damnas ? Metti satiabere poenis, triste rigor nimius ? Torquati despice mores. mors impensa bonum ? Decios venerare ruentes. vel solus quid fortis agat, te ponte soluto oppositus Cocles, Muci te flamma docebit; quid mora perfringat, Fabius; quid rebus in artis dux gerat, ostendet Gallorum strage Camillus. discitur hinc nullos meritis obsistere casus : prorogat æternam feritas tibi Punica famam, Regule ; successus superant adversa Catonis.

### The Value of a Camp.

(b) Maiores vestri castra munita portum ad omnes casus exercitus ducebant esse, unde ad pugnam exirent, quo iactati tempestate pugnae receptum haberent. ideo quum munimentis ea saepsissent, praesidio quoque valido firmabant, quod qui castris exutus erat, etiamsi pugnando acie vicisset, pro victo haberetur. castra sunt victori receptaculum, victo perfugium. quam multi exercitus, quibus minus prospera pugnae fortuna fuit, intra vallum compulsi, tempore suo, interdum momento post, eruptione facta victorem hostem pepulerunt! patria altera est militaris hæc sedes, vallumque pro moenibus, et tentorium suum cuique militi domus ac penates sunt.

 (a) Give the (1) meaning, (2) gender, (3) ablative singular and ablative plural of the following nouns:—semen, vulnus, dos, specus, caedes, auspea, cervix, merces, lanx, nix. When the ablative singular is a word of three syllables, mark the quantity of the last syllable but one.

(b) Parse the following words, and give the 1st person present indicative active, and other principal parts, of the verbs from which they come :- morere, morere, ceciderint, cecidissem, sustulerunt, vicistis, věnirent, vēneunt, quieveras, ratus es.

(c) Explain, with examples, the force of the adjectival terminations -ax, -bundus, -osus, -aris, -bilis. What is the Latin for -by night, by day, yesterday, to-day, to-morrow? Give the corresponding adjective in each case.

(d) Explain and illustrate the constructions of the prepositions praeter, prae, pro, propter.

- 4. Translate into Latin :-
  - 1. I will do it if you order me.
  - 2. He said that he would do it if I ordered him.
  - 3. At what price do you sell this ? At ten asses.

  - Nothing helps an orator so much as confidence.
     I cannot speak on this subject without betraying his plans.

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5. Describe a Roman warship. When did the Romans become a naval power, and what were the chief occasions on which they fought at sca ?

### LATIN.

### HIGHER GRADE AND FIRST PAPER FOR HONOURS GRADE.

### Thursday, 17th June. 10 A.M. to 1 P.M.

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

#### 1. Translate into Latin :--

On returning to Utica, Pompeius found a message from Sulla, telling him to disband his troops except one legion, and wait till his successor came. The men mutinied, for they liked Pompeius, and Sulla was told that Pompeius was in rebellion. He remarked that "In his old age it was his fate to fight with boys," a saying that "In mis did age it was his rate to fight with boys," a saying to which Pompeius' speech, that "More men worshipped the rising than the setting sun," may have been intended as a rejoinder. But soon he was relieved by hearing that the politic Pompeius had appeased the mutiny. Sulla had the art of yielding with a good grace when it was necessary, and, seeing how popular Pompeius was, he went out to meet him on his return and greeted him by the name "Magnus."

### 2. Translate into English :-

(a)

Alius sit fortis in armis

sternat et adversos Marte favente duccs,

ut mihi potanti possit sua dicere facta

miles et in mensa pingere castra mero. quis furor est atram bellis arcessere mortem?

imminet et tacito clam venit illa pede. non seges est infra, non vinea culta, sed audax

Cerberus et Stygiae navita turpis aquae :

illic rescissisque genis ustoque capillo

errat ad obscuros pallida turba lacus.

quam potius laudandus hic est quem prole parata

occupat in parva pigra senecta casa ! sic ego sim, liceatque caput candescere canis

temporis et prisci facta referre senem.

3. Non L. Paulum minorem aut maiorem imperatorem triumphus quemque civem opinionem habeat, et imitari in hoc populum Atheniensem, lacerantem invidia principes suos, videatur. satis peccatum in Camillo a maioribus vestris est, quem tamen ante receptam per eum a Gallis urbem violarunt; satis insuper a vobis in P. Africano. Literni domicilium et sedem fuisse domitoris Africae! Literni sepulcrum ostendi! erubeseamus, gloria si par illis viris L. Paulus iniuria vestra exaequetur. haec igitur primum infamia deleatur, foeda apud alias gentes, damnosa apud nostros. quis enim aut Africani aut Pauli similis esse in ingrata et inimica bonis civitate velit? si infamia nulla esset et de gloria

tantum ageretur, qui tandem triumphus non communem nominis Romani gloriam habet ? tot de Gallis triumphi, tot de Hispanis, tot de Poenis ipsorum tantum imperatorum an populi Romani dicuntur ?

- 3. Translate into Latin :---
  - (a) What was I to do? I had no one to consult, and the enemy was in sight.
  - (b) If we are to give an account of what we have done, we claim that the judges be impartial.(c) If he had learned this one fact, not only would he never
  - (c) If he had learned this one fact, not only would he never have done what he did, but he would not have thought of it.
  - (d) If you are envied, disregard it. If you are hated, forget it. If you are flattered, despise it.
  - (e) Nobody thought that anyone would escape; but it so felf out that any soldier whatever had some hope of safety.
- Describe shortly the position and powers of the Senate at various periods in Roman history;
   Or,

Explain carefully the structure of the "Hexameter" and "Pentameter," giving the scansion of the last four lines in passage 2(a).

## LATIN.

#### HONOURS. SECOND PAPER.

## Monday, 21st June. 2 to 5 P.M.

1. Translate into Latin :---

I make it a question whether any wise prince or state, in the continuance of a war, which was not purely defensive, or immediately at his own door, did ever propose that his expense should perpetually exceed what he was able to impose annually upon his subjects. Neither, if the war last many yeers longer, do I see how the next generation will be able to begin another; which in the course of human affairs, and according to the various interests and ambition of princes, may be as necessary for them as it bath been for us. And if our fathers had left us deeply involved, as we are likely to leave our children, I appeal to any man, what sort of figure we should have been able to make these twenty years past. Besides, neither our enemies nor our allies are upon the same foot with us in this particular. France and Holland, our nearest neighbours, will much sooner recover themselves after a war.

2. Translate into English :---

(a) Multa dies variique labor mutabilis aevi rettulit in melius, multos alterna revisens lusit et in solido rursus Fortuna locavit, non erit auxilio nobis Actolus et Arpi : at Messapus erit föltzugue Tolumnius et quos tot populi misere duces, nec parva sequetur gloria delectos Latio et Laurentihus agris.

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est et Volscorum egregia de gente Camilla, agmen agens equitum et florentes aere catervas. quod si me solum Teucri in certamina poscunt idque placet tantumque bonis communibus obsto. non adeo has exosa manus Victoria fugit ut tanta quicquam pro spe temptare recuseu. ibo animis contra, vel magnum praestet Achillem factaque Volcani manibus paria induat arma ille licet. vobis animam hanc soceroque Latino Turnus ego, haud ulli veternm virtute secundus, devovi. solum Aeneas vocat, et vocet oro, nec Drances potius, sive est haec ira deorum, morte luat, sive est virtus et gloria, tollat.

(b) Num quid accidere tibi, si damneris, potest durius quam ut mittaris in exilium? ut ducaris in carcerem? num quid ultra quicquam ulli timendum est quam ut uratur ? quam ut pereat? singula ista constitue et contemptores eorum cita, qui non quaerendi sed eligendi sunt. damnationem suam Rutilius sic tulit, tamquam nihil illi molestum aliud esset quam quod male iudicaretur. exilium Metellus fortiter tulit, Rutilius etiam libenter : alter, ut rediret, rei publicae praestitit, alter reditum suum Sullae negavit, cui nihil tunc negabatur. in carcere Socrates disputavit et exire, cum essent qui promitterent fugam, noluit remansitque, ut duarum rernm gravissimarum hominibus metum demeret, mortis et carccris. Mucius ignibus manum imposuit. acerbum est uri, quanto acerbius, si id te faciente patiaris! vides hominem non eruditum nec ullis praeceptis contra mortem aut dolorem subornatum, militari tantum robore instructum, poenas a se inriti conatus exigentem : spectator distillantis in hostili foculo dexterae stetit nec ante removit nudis ossibus fluentem manum quam ignis illi ab hostibus subductus est. facere aliquid in illis castris felicius potuit, nihil fortius.

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

- (a) anulus in digito subter tenuatur habendo.
- (b) dic, hospes, Spartae, nos te hic vidisse iacentes, dum sanctis patriae legibus obsequimur.
- (c) verum anceps pugnae fuerat fortuna ; fuisset ; quem metui moritura ? faces in castra tulissem implessemque foros flammis natumque patremque cum genere extinxem.
- (d) sunt multi qui eripiunt aliis quod aliis largiantur.
- $\stackrel{(e)}{(e)}$  impetrare non potui, quod religione se impediri dicerent. (f) Agricola solebat narrare, se prima in iuventa studium philosophiae acrius hausisse ni prudentia matris coercuisset.
- 4. Write a short Latin letter or essay, describing any important crisis in colonial or forcign affairs that has occurred during the last three years.

#### Or.

Translate into Latin Hexameters or Elegiacs :-On this lone isle whose rugged rocks affright The cautious pilot, ten revolving years Great Poeas' son, unwonted erst to tcars,

Wept o'er his wound; alike each rolling light Of heaven he watched, and blamed its lingering flight;

By day the sea-mew screaming round his cave

Drove slumber from his eyes; the chiding wave And savage howlings chased his dreams by night. Hope still was his; in each low breeze that sighed

Through his low grot, he heard a coming oar-In each white cloud a coming sail he spied;

Nor seldom listened to the fancied roar

Of Oeta's torrents, or the hoarser tide

That parts famed Trachis from the Euboic shore.

5. Answer one (not both) of the following :--

(a) Trace briefly the chief causes which led to the fall of the Republic, and the establishment of the Empire.

Or,

(b) In what department of literature did the Romans show most originality, and in what did they most closely follow Greek models?

### GREEK.

#### LOWER GRADE.

Wednesday, 16th June. 2 to 4.30 P.M.

I. Translate :---

Οίδευ αθείς του θώατου, αδό εί τυγχίνει τζί δυθράπο μόγιστου δυ πάντων των δραθών δείδαι δέ ος δε είδετς δτη τών κακών μόγιστόν δοτιο. Αόγισται δό τούτοις μοραδών δείδαι τό δες δε είδετς δτη τών κακών μόγιστόν δοτιο. παρά θεών ταύτχε τυγχίντας τζίς δεφεάς: δυ τολε μόν άλλαις έδαν, μογοθησιμαι δέ τών δετων διράφαιστάτων. πρώτα δύ στο τα τερί Κλόδου καθ Ηπουα τολε Αγγιών καιδισκους δινηγίστρια. Φασί γιάς τζίς μυγτίς αδτών λεγιών το την δεγμάτι το τολεγικό το τολει το τολεμάτι το τολεί το τολε διλούται της Τημας, δετιδή είς τον καίν διασβαίρας το το τολεί το την διλούταις της Τημας, δετιδή δει το καίν διασβαίραι της διατός διλούταις τολε δικατακιμηθόταις μομείτι διαστήναι, τζίς θεώ δοθήκαι τών δε διαδημότιμας τολε δικατακιμηθόταις μομείτι διαστήναι, τζίς θεώ δοθήκαι τών δε διαδιούτας τολε δικατακιμηθόταις μομείτι διαστήναι, τζίς θεών διδηλοιτων αύτας τότες εδιασζίας άμμαζημός διορησαμείνος.

1 ἀπήνη, "a waggon." 2 ἀρεύς, "a mule." 3 ἀμωβή, "a return."

### 11. Translate into Greek :---

- (1) May the gods accept the gifts which we have given !
- (2) We have ordered these men to stand outside the temple.
- (3) Do you not know what kind of men your enemies are?
- (4) Come forward (παρέρχομαι, aor. imper.) and tell us every thing before you go away.
- (5) The Atheniaus confess (δμολογεῖν) that they were the first to break (λύειν) the peace.

- III. (a) Give the genit. and acc. sing. of δέξα, φοκείς, ίχθις, ἄνθος, ἕκς, and the nom. and dat plur. of ήρως, γέρας, μάρτυς, υίος, ῦδωρ, άστυ.
  - Give comparatives and superlatives of έχθρός, εἰγενής, ἥσυχος, νέος, εἶνους, σώφρων.
  - Give datives, sing. and plur. (all genders), of εδρός, έκών, ὑγιής, πρᾶος, τάλας, πλέως.
  - (b) Give the chief parts of the following verbs: ---αίρῶ, αἴρω, θιγγάνω, ἐπαινῶ, ὄμνυμι, σκοπῶ, τρέχω, γελῶ, δάκνω, καθιζω.

Parse βηθείσι, παρήσθα, ἀπεφήνατο, ἀπειρηκέναι, ἀνεφημένη, κείσθω, ἀπέδραν, δλωλότος, προΐεντο, φανείεν.

(c) Translate :--

(1) μέγιστος ην των καθ' αυτόν.

(2) ἐπὶ τούτοις εἰρήνην ἐποιήσαντο.

- (3) δέκα ἐτῶν οὐχ ήξουσι.
- (4) τοῦτο γύγνεται δι' ἔτους πέμπτου.

Distinguish τ*i*, and δστις, αὐτὸς δ ἀνήρ and δ αὐτὸς ἀνήρ, δι' ἡμᾶς and  $\delta$ ι' ἡμῶν, οὐκ ἀν γενοίμην and μὴ γενοίμην.

## GREEK.

HIGHER GRADE AND FIRST PAPER FOR HONOURS GRADE.

## Wednesday, 16th June. 2 to 5 P.M.

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

I. Translate :---

<sup>4</sup>Ανδρες σύμμαχμ, Ραδάτας διάτροξεν & δυκτί πῶστυ ἡμῶν πολλοῦ &ξια διακ, καὶ ταῦτα πρικ καὶ ἀποῦν ἰρή ἡμῶν ἀραθυν παθείν. τῶν δẻ δ'Ασστρας εἰς τὴν χάραι αὐτῶν ἰμβαλική ἀργζολτατα, ἰβνο ὅτι άμα μῶν τιμορείτῶν αὐτῶν βαλόμους ὅτι δικκῖ ὑπ' ἀτινῶ μέγα βιβλάφθαι ἀμα δὶ ὅσες κἀκτῶν ἐννείται ἀς, εἰ οἱ μὲν πρὸς ἡμῶς ἀφροτάμενω μυβῶν ἐπ' ἀκιδιου καιδυ πιώσται, οἱ δὶ σἰν ἀκείν βι ἀτινῶ μέγα βιβλάφθαι ἀμα δὶ ὅσες κἀκτῶν ἐννείται ἀς, εἰ οἱ μὲν πρὸς ἡμῶς ἀφροτάμενω μυβῶν ἐπ' ἀκιδιου καιδυ πιώσται, οἱ δὶ σἰν ἀκείν βι ἀτινῶ μέγα βιβλάφθαι ἀμοῦν ἐπ' ἀκιδιου καιδυ πώσταται, οἱ δὶ σἰν ἀκείν βι ἀτις ἀλαξα μη ἀκιδύται, ὅτι τάχιστα οἰδλοία εἰκὸς στο αὐτῆ βικόρσεθαι εἶναί. Τὸν οἶν, οἱ ἀβέρς, καλύν τι ἀρ μει δωκῦμεν πωῦσαι, εἰ προθύμως Γιδιάτα βισφόταμιον ἀνδερί ἐξομοριά γ' ἀν, ὡ ἀμαι δίκαια ποιῦμεν ἀν χάριν ἀποδιδόντες. ἀλλὰ μήν καὶ ξιομοριά γ' ἀν, ὡ ἰμῶι δικεί, πράξειμεν ψῶν ἀποῖείς πωῦντες, τῶις ἐἰς ἐξομοριά γ' ἀν, ὡ τοικῦτας νικῶν παράριων καιδίς πωῦντες, τοὺς ἐ' εξομοριά γ' ἀν, ὡ ἡροροθαι, ἑζοβιν δὶ μιρδύω ἐπιθυμεῖ ἰλωα. εἰ δὶ ἀμαιζοειδι ὑμῶν βαζικεσῶν γόροσθαι, ἑζοβιν δὶ μιρδύα ἐπιθυμεῖ ἰλωα. εἰ δὶ ἀμαιζοειδι ὑμῶν

II. Translate one of the following passages :---

(a) Τόν δ' ήμε(3ετ' έπειτα πατήρ κατά δάκρυον εί βων' ξείν', ήτοι μίν γαΐαν Ικάνεις, ήν έρεείνεις, ύβοιστα ίδ' αὐτήν και ἀτάσθαλοι ἀνδρες ἔχουσιν.

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2:3

δώρα δ' έτώστα ταϊτα χαρίζει, μιοβ δαίζων ε' γάρ μυ ζωών γ' έκζιμα; Τθάκης δυ' δήμο, τῆ κόν σ' δόδριστο άμειφιδρικος δατόπαιφία καὶ δεύη άγιαθ3' & γιαρ θέμις, τοττε ύπαβξη, άλλ' άγμ μοι τόδε είται και δατρείως κατάλεξαν, πότου δή έτος στης διτε ξείωσας δεείδου σίν ξίναν δόστημοι, έμθα παίδ', εί ποτ' έμν γε, δόσμαροι : Για του τίτλα φιλαν καί πατρίδος αύγ δήσμαροι : Για του τίτλα φιλαν καί πατρίδος αύγ δημοί και διανότον Τλαρ γένετ' εδδέ έμχτηρ καλούα στο μοτικόματα πατρίδος ή εί μις τερά κάλους πομοτικόματα πατρίδος ή εί μις τερά κάλους το λεχίσσυν ίδον πάσις, δις δια μοτόμες αίδο διαχος πολοδορος, διχόρμον Πηνελόπεια, κάνου το λεχίσσυν δόν πάσις, δις διαξιοις

### Human Life.

Εί τις προσελθών μοι θεών λέγοι\* Κράτων, έπὰν ἀποθάνης, αἶθις ἐξ ἀρχῆς ἔσει. έσει δ' δ τι άν βούλη, κύων, πρόβατον, τράγος, άνθρωπος, ίππος δὶς βιῶναι γάρ σε δεῖ ειμαρμένον τοῦτ' ἐστίν, ὅ τι βούλει δ' ἐλοῦ· άπαντα μάλλον, εὐθὺς εἰπεῖν ἀν δοκῶ, ποίει με πλήν ανθρωπον αδίκως εὐτυχεῖ κακώς τε πράττει τοῦτο τὸ ζῷον μόνον. ό κράτιστος ίππος επιμελεστέραν έχει έτέρου θεραπείαν άγαθὸς άν γένη κύων, έντιμότερος εί τοῦ κακοῦ κυνὸς πολύ. άλεκτρυών γενναΐος έν έτέρα τροφή έστιν, δ δ' άγεννής και δέδιε τον κρείττονα. άνθρωπος αν ή χρηστός, εὐγενής, σφίδρα γενναΐος, ούδεν δφελος εν τῷ νῦν γένει. όνον γενέσθαι κρεϊττον ή τους χείρονας δράν ξαυτοῦ ζῶντας ξπιφανέστερον.

### III. Translate into Greek :--

*(b)* 

- Being asked of what country he was, he said he was a Persian.
- (2) They perceived that he had too small a force to be of any use to his friends.
- (3) I should not have thought that such a man would bear misfortune so bravely.
- (4) When I have accomplished this task, I will return to take you with me into Greece.
- (5) We sent a herald to Plataea, bidding them to do nothing further till we had decided about the prisoners.
- (6) Socrates was condemned to death, though he had in no way violated the laws of the city.
- IV. (1) Give (a) Fut. ind. 2nd plur. of δράω and ἐπαινῶ.
   (b) Imperf. ind, 2nd sing, of δύναμαι and κάθημαι.

(c) 2nd aor. opt. 3rd sing. of άλίσκομαι and φθάνω.

(d) Perf. pass. 3rd sing. of ἀναλίσκω and ώθῶ.

Parse: θηρώεν, παρήνεσα, διέφθορε, διαβήτε, δεδόχθω, συνειλεγμένος, επιλαθέσθαι, επινόει.

Write down the Greek of "Ulysses," "Heracles," "Draco," "Helot," adding the genit. and acc. of each noun.

(2) Translate, explaining points of idiom :---

(a) ἀπαγορεύω σε μή ταῦτα δράν.

· 0) κατήλθον οι ύπο των τυράννων έκπεσόντες.

(c) φράζε καλ πεπράξεται.

(d) δλίγου έδέησα αποθανείν.

(e) χαριζόμενος οίω σοι ανδρί.

Express idiomatically in Greek :--

(a) You cannot go away too soon.

(b) I deny the truth of this.

(c) I despise death in comparison with disgrace.

(d) I have a right to ask this.

Distinguish between the meaning of the active and the middle voice of  $-\lambda \alpha \mu \beta \Delta \kappa_{\mu\nu}$ ,  $\delta \pi \tau \epsilon_{\mu\nu}$ ,  $\phi \nu \lambda \delta \tau \tau \epsilon_{\mu\nu}$ ,  $\mu_{\mu\sigma} \theta_{\nu} \delta \nu_{\nu}$ .

Give the English of μη γένηται τοῦτο-ἐπὶ τῶν τοιάκοντα-εἰ γὰρ ὦφελον θανεῦν-ἀνδρειότερος αὐτός αὐτοῦ.

### GREEK.

### HONOURS .- SECOND PAPER.

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

I. Translate :-

(1) Τήν δή τοιαύτην, ώσπερ είπον, κυρίαν ἐποιήσαν ἐπιμελεϊσθαι τῆς εὐταξίας, η τοὺς μὲν οἰομένους ἐνταῦθα βελτίστους ἀνδρας γύγνεσθαι, παρ οίς οι νόμοι μετά πλείστης ακριβείας κείμενοι τυγχάνουσιν, άγνοεϊν ενόμιζεν. ούδεν γὰρ κωλύειν όμοίους ឪπαντας είναι τοὺς "Ελληνας ἕνεκά γε τοῦ ῥάδιον είναι τὰ γράμματα λαβείν παρ' ἀλλήλων. ἀλλὰ γὰρ οὐκ ἐκ τοιούτων τήν έπίδοσιν είναι της άρετης άλλ' έκ των καθ έκάστην ημέραν έπιτηδευμάτων. τούς γάρ πολλούς τοις ήθεσιν αποβαίνειν όμοίους ανάγκη, έν οις αν έκαστο παιδευθώσιν. ἐπεὶ τά γε πλήθη καὶ τὰς ἀκριβείας τῶν νόμων σημεῖον εἶναι τοῦ κακῶς οἰκεῖσθαι τὴν πόλιν ταύτην ἐμφράγματα γὰρ αὐτοὺς ποιουμένους των αμαρτημάτων πολλούς τίθεσθαι τοις νόμους αναγκάζεσθαι δείν δέ τούς εἶ πολιτευομένους οὐ τὰς στοὰς ἐμπιπλάναι γραμμάτων, ἀλλ' ἐν ταῖς ψυχαϊς έχειν τὸ δίκαιον οὐ γὰρ τοῦς ψηφίσμασιν ἀλλὰ τοῦς ήθεσι καλῶς ολκείσθαι τας πόλεις, καλ τούς μέν κακώς τεβραμμένους καλ τούς ακριβώς τών νόμων άναγεγραμμένους τολμήσειν παραβαίνειν, τους δ' άσφαλώς πεπαιδευμένους και τοῦς ἀπλῶς κειμένοις θελήσειν ἐμμένειν. ταῦτα δὲ διανοηθέντες ού τοῦτο πρῶτον ἐσκόπουν, δι' ὦν κολάσουσι τοὺς ἀκοσμοῦντας, άλλ' έξ ων κατασκευάσουσι μηδέν αὐτοὺς άξιον ζημίας ἐξαμαρτάνειν. ήγοῦντο γὰρ τοῦτο μέν αὐτῶν ἔργον είναι, τὸ δὲ περὶ τὰς τιμωρίας σπουδάζει» τοῦς ἐχθροῦς προςήκει».

[The speaker is Menelaus, shipwrecked on the coast of Egypt.]

(2) Όρημα δὲ χόρας, Ϋης ξῶκ καὶ λοώς, αἰκ δἶῦ ὅχλο γὰρ ἐσπεσῶν ὅσχανίμην, ὅσθ ὅσκοῆσα τὰ, ἐμὰς Ἐσχλαιίας, κρύπτων ὑπ' ἀἰδῶς Ἐσχλαιίας, κρύπτων ὑπ' ἀἰδῶς τὰς τύχας. ὅτων ὅ ἀνὴρ πράξη κακῶς ὑψηλάς, εἰς ἀιψίαν πίστει κακῶι ὅσῦ ἀιλῶν ὑυσδιάμους, χρέα ἐὰ τύρμι μ² ὅτες χὰρ σῖτος πάρα οῦτ ἀμοὴ χρῦτ ἐσῆστες ἀ ἀπλα ὅ εἰκάσω πάρεστι καὶς ἕκβδι<sup>3</sup>, δἰς ἀμπίσχυματα χιλάς τε σώτος ὅμαῶν ὅσ ὅ ἀπορο υνοῦς κρύμας γυναῖκα τὴν κακῶν πάντων ἰμοὶ ἀμῶα σμιλοτοστε τῶμ<sup>3</sup> ἀσκράτας ἀχο,

II. For Greek prose :--

Next day, in the assembly, Cleon violently attacked the populace for the inconstancy they had displayed, warning them at the same time that it was the height of madness for a people with such imperial responsibilities as theirs to give way to uawise tenderness of heart. The Mytilennems had inflicted ou them grievous injury without provocation, and unless stern jurice were meted out there would be fresh outbreaks of these troubles in the not distant future. They ought to adhere to their former decision, and turn a deaf ear to politicians whose prime aim was not the commonwealth but self.

III. (a) Sketch briefly the development of the article in Greek, commenting on the following passages :--

- (1) ἐπεὶ τό γε καλὸν ἀκούεμεν ἐστὶν ἀοιδοῦ.
- (2) ἦκε δ' ἐπ' ᾿Αργείοισι κακὸν βέλος, οἱ δέ νυ λαοὶ θνῆσκον.

(b) Explain the following case usages :---

(1) λούεσθαι ποταμοΐο.

- (2) τοῦδ' αὐτοῦ λυκάβαντος ἐλεύσεται.
- (3) έβοήθουν ώς είχον τάχους.

(4) ψήφισμα νικάν.

(c) Translate, with short notes on the syntax ;---

(1) έλογιζοντο ώς, εἰ μὴ μάχοιντο, ἀποστήσοιντο αί πόλεις.

- [Express this in Oratio Recta.]
- (2) ήδέως αν τούτω έτι διελεγόμην, έως απέδωκα.
- (3) ώς χρησμοῦ όντος την πόλιν διαφθαρήναι.

IV. Answer one of the following questions :---

1. Describe, with examples, the character of the *tuparris* in Corinth, Sicyon, and Megara.

2. Sketch the life and character of Cimon.

3. Enumerate, with dates, the chief confederacies of Greece, and indicate in each case the special causes of their weakness.

## FRENCH.

### LOWER GRADE.

### Wednesday, 16th June. 10 A.M. to 12.30 P.M.

Candidates must, in all cases, answer all questions in Section I., and should attempt four questions (NOT MORE) from among the other sections.

### SECTION T

1. Translate into English :-

(a) Murat se promena quelques minutes à grands pas dans la chambre ; puis il s'assit sur son lit et laissa tember sa tête dans ses deux mains. Sans doute, pendant le quart d'heure où il resta ainsi absorbé dans ses pensées, il vit repasser devant lui sa vie tout entière, depuis l'auberge d'où il était parti ju-qu'au palais où il était entré ; sans doute, son aventureuse carrière se déroula pareille à un rêve doré, à un mensonge brillant, à un conte des Mille et Une Nuits. Comme un arc-en-ciel, ses deux extrémités se perdaient dans les nuages de sa naissance et de sa mort.

(A. DUMAS.)

(b) Un cheval vigoureux, monté par un enfant, Semblait s'en amuser au milieu d'une plaine, Tantôt effleurant (1) l'herbe à peine,

Tantôt sautant, caracolant (2).

"Quoi !" lui dit un taureau, mugissant de colère,

"Un écuyer pareil te gouverne à son gré !

Comment n'en es-tu pas outré (3)?

Va, jette-le dans la poussière." -" Moi ! " répond le noble coursier,

"Ce serait là vraiment un bel exploit de guerre !

Aurais-je à me glorifier De jeter un enfant par terre ?"

(LA MOTTE.)

### (1) Skimming over; (2) gambolling; (3) angry.

- 2. Give the two participles, and the 1st and 3rd persons, singular and plural, of the present indicative and present subjunctive of venir. pouvoir, faire, lire, and écrire.
- 3. Translate into English, and write in the plural in French :- Un vieil ami ; il m'a donné un cheval ; mon fils est arrivé.
- 4. Translate into English, and write in the feminine in French :- Le héros de ce livre est un tout petit garçon ; il est écolier, doux et gentil; le neveu du maître est malade.
- 5. Translate into French :---

"What shall I do with this money now," says I, "for I have nowhere to put it?" "Why, have you no pockets?" says he. "Yes," says I, "but they are full of holes." Nothing could be more perplexing than this money was to me all that night. I carried it in my hand a good while; at last I sat down and pulled off one of my shoes and put the four guineas into that, but after I had gone awhile my shoe hurt me o I could not go, so I had to sit down again and take it out of my shoe and carry it in my hand. Well, I carried it home with me to my lodging,

and when I went to go to sleep I knew not what to do with it, but lay with it in my hand, and my hand in my bosom, but then sleep went from my eyes. Oh, the weight of human care ! I, a poor beggar-boy, could not sleep so soon as I had but a little money to keep, who, before that, could have slept upon a heap of bricks, stones or cinders, or anywhere, as sound as a rich man does on his down bed,\* and sounder too. (DEFOE.)

\* Down bed = lit de duvet.

#### SECTION II.

6. State the difference between the form of an English and that of a French question, and translate :-

Will your letter be posted in time ? Did you reply to his question ?

Is your sister at home?

State when some is to be expressed in French by (1) du, de la, des; (2) de; (3) quelque, quelques; and write one short French sentence as an example of each rule.

8. Translate into French :--

Would he not have been happy if his friend had come and played this afternoon with him ?

He had written to him, but it is now too late for him to come. What time do you intend going home this evening?

About a quarter to six.

Last winter was very wet, so we did not get much skating.

9. Translate into English :---

(a) N'y a-t-il personne ici qui veuille me ressusciter, en me rendant mon cher argent, ou en m'apprenant qui l'a pris? Il faut, qui que ce soit qui ait fait le coup, qu'avec beaucoup de soin il ait épié l'heure; et l'on a choisi justement le temps où je parlais à mon traître de fils. Sortons. Je veux aller chercher la justice et faire donner la question à toute ma maison, à servantes, à valets, à fils, à fille, et à moi aussi.

### (MOLIÈRE.)

(b) Boileau est un des plus populaires de nos poètes classiques. (d) boneau est un des pars popuremement, ni aucun système Depuis deux siècles, ni aucun gouvernement, ni aucun système d'enseignement ne l'a retranché des études nécessaires. apprenons à lire dans ses ouvrages; nous en sommes imbus; Boileau est dans nos veines. On n'est pas libre en France de ne Pour moi, je l'estime si excellent pas lire Boileau . . . . qu'il n'en est pas un, dans notre pays, dont je trouve plus vrai, ce que lui-même a dit de Homère :-

C'est avoir profité que de savoir s'y plaire.

(D. NISARD.)

### SECTION III.

10. Translate into French :---

(a) The school hours were long and Tom's patience short, so that soon he began to descend into the street, and go and peep

in at the school door and the wheelwright's\* shop, and look out for something to while away the time.

### (Tom Brown's Schooldays.) \* Charron.

(b) From the hearthstone, from the chimney; from the clock, the pipe, the kettle, and the cradle; from the floor, the walls, the celling, and the stairs; from the crit without, and the coupboard within, and the household implements; from everything and every place fairies came trooping forth.

### (CH. DICKENS.)

#### SECTION IV.

- State what you know of one of the works of one of the following writers — Racine, Fénelon, B. de St. Pierre, Châteaubriand, Lamartine, La Fontaine.
- 12. Give, in French, a short account of your doings on one day of your holidays.

13. (a) Translate into French :-

Some railway shares; the board of directors; a branch of a bank; a fire insurance policy; a life insurance policy; marine insurance; a wholesale dealer; a postal order; the company is issuing fresh debentures; the iron market was very firm yesterday; isotokbroking.

(b) Translate into English:

Un commanditaire ; un comptable ; un courtier en laines ; un connaissement ; une facture acquittée ; il a déposé son bilan ; le prix d'achat doit être indiqué sur la commande.

### FRENCH.

#### HIGHER GRADE AND FIRST PAPER FOR HONOURS GRADE.

### Wednesday, 16th June. 10 A.M. to 1 P.M.

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

1. Translate :--

(a) Seigneur, avcc raison je demeure étonnée. Je me vois dans le cours d'une même journée, Comme une criminelle amenée en ces lieux ; Et lorsqu'avec frayeur je parais à vos yeux, Que sur mon innocence à peine je me fie, Vous m'offrez tout d'un coup la place d'Octavie. J'ose dire pourtant que je n'ai mérité Ni cet excès d'honneur, ni cette indignité. Et pouvez-vous, seigneur, souhaiter qu'une fille Qui vit presque en naissant éteindre sa famille, Qui dans l'obscurité nourrissant sa douleur, S'est fait une vertu conforme à son malheur, Passe subitement de cette nuit profonde Dans un rang qui l'expose aux yeux de tout le monde, Dont je n'ai pu de loin soutenir la clarté, Et dont une autre enfin remplit la majesté ?

(RACINE : Britannicus.)

Brins d'osier, brins d'osier,

*(b)* 

Courbez-vous assouplis sous les doigts du vannier. Brins d'osier, vous serez le lit frêle où la mère Berce un petit enfant aux sons d'un vieux couplet ; L'enfant, la lèvre encore toute blanche de lait, S'endort, en souriant dans sa couche légère.

Brins d'osier, brins d'osier,

Courbez-vous assouplis sous les doigts du vannier. Vous serez le panier plein de fraises vermeilles Que les filles s'en vont cueillir dans les taillis ; Elles reutrent le soir, rieuses au logis, Et l'odeur des fruits mires s'exhale des corbeilles.

Brins d'osier, brins d'osier.

Courbcz-vous assouplis sous les doigts du vannier. (A. THEURIET.)

### Le Corbeau.

(c) Ce facétieux personnage a dans la plaisanterie l'avantage que donne le sérieux, la gravité, la tristesse de l'Inàbit. J'en voyais un tous les jours dans les rues de Nantes, sur la porte d'une allée, qui, en demi captivité, ne se consolait de son alle rognée<sup>1</sup> qu'en faisant des niches aux chiens. Il laissait passer les roquets <sup>2</sup>; mais, quand son ceil malicieux avisait un chien de belle taille, djøne entin de son couraçe, il santillais par derrière, et, par une manœuvre habile, inaperçue, tombait sur lui, donnait deux piqûres de son fort bee noir; le chien fuyait en criant. Snitšalit, paisible, et grave, le corbeau se replaçait à son poste, et jamais on n'eût pensé que cette figure de croque-mort vint de prendre un te passe-temps.

### 1 clipped ; 2 pugs.

(Michelet.)

2. Translate into French :---

When I travelled, I took a particular delight in hearing the songs and fables that are come from father to son, and are most in vogue among the common people of the countries through which I passed; for human nature is the same in all reasonable creatures; and whatever falls in with it will meet with admirers amongst readers of all qualities and conditions. Molière, as we are told by Monsieur Boilean, used to read all his comedies to an old wonnan who was his housckeeper, as she sat with him at her work by the chimney corner; and could foretell the success of his play in the theatre from the reception it met at his freside; for he tells us that the audience always followed the old wonnan and never failed to laugh in the same place.

(ADDISON.)

#### SECTION II.

3. Give the first person, singular and plural, of the present, imperfect and preterite indicative of proton's sengager, jaillir; the second person, singular and plural, of the future and pluperfect indicative of subremir and sorienter; and the two participles (with the auxiliary verb used in each case) of fuillir, feindre, native, pourvoir, mourir.

4. (a) Translate :---

- Into French.—Go and ask her why she persists in ringing my bell, after you have just told her I intended writing to her.
- (2) Into English.—Après l'avoir entendue chanter, on se sentait sans s'en rendre compte pouvoir oublier le boire et le manger à l'écouter.
- (b) State the rules according to which you use a different tense or mood in French verbs from the English.
- 5. (a) Write in full in French.—Wednesday, June 16th, 1897, from 10 A.M. to 1 P.M.
  - (b) Form short French sentences, showing which French numbers take the mark of the plural and when they remain invariable.
- 6. Give, and illustrate fully, the rules governing the use of French adjectives qualifying gens.

7. (a) Translate into idiomatic French :---

- (1) He was caught in the act.
- (2) He will smart for it.
- (3) As you like it.

(b) Translate into idiomatic English :---

- (1) Entre chien et loup.
- (2) Charbonnier est maître chez lui.
- (3) A bon entendeur, salut !

### SECTION III.

8. Write in modern French :---

"Teil chevalier n'ot en la terre

D'armes porter, de faire guerre."

(ROMAN DE BRUT.)

And comment on the different syntax shown in your rendering.

9. Write in modern French :---

Si je vous ai de rien mesfait, je vous le desferai; l'un par l'autre.

(JOINVILLE.)

And comment on the different syntax shown in your rendering.

10. Give and account for the etymology of-

(a) The following nouns : joue, gaîne, hêtre.

- (b) The following verbs : aider, craindre, choir.
- Give the origin of the following "learned" words, with the meaning of each word, and, in each case, another French word of "popular" formation from the same Latin origin, with its meaning: integre, décanat, fabrique, légal, charité, libérer, penser, lépital.

#### SECTION IV.

- State in French what you know of one of the following writers and his works: Ste Beuve, H. Taine, F. Coppée, Alphonse Daudet, E. Renan.
- State in French what you know of one of the works of one of the following writers: Racine, Boileau, Pascal, Bossuet, J. J. Rousseau, Mme. de La Fayette.
- State what you know of the influence of (a) Malherbe on French Poetry, (b) Descartes on French Prose, (c) Corneille on French Tragedy.

### SECTION V.

15. Translate into English and answer in French the following letter :---

### Paris, 8 septembre, 1896.

Messieurs C ... Frères, Dijon.

MESSIEURS,

Nous sommes fâchés d'avoir à vous dire que notre traite sur vous pour 1,840 fr., nous est revenue protestée, avec 22 fr. 50 c. de frais.

N'ayant pas reçu un mot d'explication, nous ne savons que penser de cette affaire.

Avant de commencer des poursuites, nous voudrions savoir quelles raisons vous pouvez donner, ou si vous êtes prêts à nous envoyer une remise pour la somme totale.

Agréez, Messieurs,

Nos sincères salutations,

B ..... ET CIE.

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

Glasgow, Feb. 11th, 1897.

Messrs. C ... & Co., Lyons.

GENTLEMEN,

We have an enquiry for a better class of fringe, similar to enclosed pattern. If you can do this make well, and have any in stock, you might add one gross of 3-inch to the next delivery of goods for us. But at any rate let us have a quotation of price, and a pattern, if possible, by return of post.

# Yours truly,

17. Translate :--

- (a) Into French.—On joint and equal account; to advertise largely; an accommodation bill; spirits in bond; homeward cargo; outward cargo; warehousing charges.
- (b) Into English.—Traiter de gré à gré; une créance véreuse; marchandiscs renducs en gare; donner des arrhes; des lainages; le gulon d'or et le galon d'argent.

R ... & Co.

## FRENCH.

### HONOURS .- SECOND PAPER.

### Saturday, 19th June. 10 A.M. to 1 P.M.

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

### SECTION I.

1. Translate :---

(a) On the 27th June, 1787, between the hours of eleven and twelve at night, I wrote the last lines of the last page in a summerhouse in my garden. After laying down my pen, I took several turns in a *berceau*, or covered walk of acacias, which commands a prospect of the country, the lake, and the mountains. The air was temperate, the sky was scene, the silver orb of the moon was reflected from the waters, and all nature was silch. I will not dissemble the first emotions of joy on the recovery of my freedom, and, perhaps, the establishment of my fame. But my pride was soon humbled, and a sober melancholy was spread over my mind, by the idea that I had taken an everlasting leave of an old and agreeable companion, and that whatsoever might be the future fate of my listory, the life of the historian must be short and precarious. I will add a fact which has seldom occurred in the composition of six, or even of five, quartos. Not a sheet has been seen by any human eyes, excepting those of the author and the

### (GIBBON.)

(b) There are no natural objects out of which more can be learned than out of stones. They seem to have been created especially to reward a patient observer.

(RUSKIN.)

(c) On coming out of a sick room, it is not till we have established ourselves in the sitting-room, wheeled round the armchair to the firc, felt our appetite return and taken up a book, that we can be considered as restored to ourselves.

(W. HAZLITT.)

### SECTION II.

## Translate into English :---

(a) Tels ils étaient, tels ils sont encore. Ancun des traits de leur premier type ne s'est altéré. C'est toujours le même peuple errant, sans feu ni lieu, sans culte ni code, épars et identique à lui-même sur tous les sentiers du monde où il essaime ses noires caravanes. Il a gardé sa paresse réveuse, son indépendance égoïste, son ignorance du bien et du mal, sa rébellion tenace aux lois du travail et de la contrainte. Aux autres les villes policées, les maisons solides, le foyer qui fonde, le clamp qui enracine, la sécurité du bien-être, les travaux de l'intelligence. Au Bohême les forets touffues, les sierras pierreuses les arches de ponts écroilés, la tente qu'on roule chaque matin autour du bâton de voyage.

(PAUL DE SAINT-VICTOR : " Les Bohémiens.")

(b) Parlons un peu de M. de Turenne; il y a longtemps que nous n'en avons parlé. Ecoutez, je vous prie, une chose qui est à mon sens fort belle : il me semble que je lis l'histoire romaine. Saint-Hilaire, lieutenant-général de l'artillerie, fit donc arrêter Sainternard, index and sait toujours galopé, pour lui faire voir une batterie; c'était comme s'il eût dit: "Monsieur, arrêtez-vous un peu, car c'est ici que vous devez être tué." Le coup de canon vient pen, are essite que vous devez erre due. Le coup de canon vient donc et emporte le bras de Saint-Hillaire, qui montrait cetto batte-rie, et tue M. de Turenne. Le fils de Saint-Hillaire se jette à son père, et se met à crier et à pleurer. "Taisez-vous mou enfant," lui dit-il : "voyez," en lui montrant M. de Turenne raide mort, "voilà ce qu'il faut pleurer éternellement, voilà ce qui est irré-parable," et sans faire nulle attention sur lui, se met à crier et à pleurer cette grande perte. M. de la Rochefoucauld pleure luimême, en admirant la noblesse de ce sentiment.

#### (MME. DE SÉVIGNÉ.)

(c) Mon rêve c'est d'aller, quand je serai très vieux, Dans mon pays d'enfance où dorment mes aïeux, Vivre modestement dans une solitude ; D'y mener sans regret et sans inquiétude Une existence calme et douce, en revoyant Les bois et les vallons où je courais enfant ; De m'asseoir aux beaux jours sur l'herbe des clairières, Près des mêmes genêts et des mêmes bruyères, Toujours comme autrefois prompt à m'émerveiller; Et d'entendre au lointain quelque ménétrier <sup>1</sup> Marier, en jouant bourrée<sup>2</sup> ou montagnarde,<sup>3</sup> Mes rimes aux accords de sa vielle \* criarde.

(GABRIEL MARC.)

1 village fiddler ; 2 jig ; 3 Highland fling ; 4 hurdy-gurdy.

### SECTION III.

3. Give the lost forms of the old French adverb or (now conjunction), and all the modern French words of which it now forms a part, and translate :-

Or diet, nus l'orrum.

Or sus, nous voilà bien !

# (CHANSON DE ROLAND.)

(MOLIÈRE.)

Or cà, sire Grégoire, que gagnez-vous par an?

### (LA FONTAINE.)

4. Translate :-

(a) Vous voudriez me faire taire.

(b) Vous voulez me faire taire.

(c) Si j'avais dit un mot, vous étiez perdu.
(d) Je ne doute pas qu'il ne prétât l'oreille.

(Molière.)

(e) Croyez-vous que vous fissiez mal d'aller une fois chezlui?

(RACINE.)

And comment on the moods and tenses of the verbs used in the above texts.

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- 5. Translate and write in modern French, and comment upon the syntax of the following sentences :-
  - (a) Le n'avoir point de mal, c'est le plus heureux bien estre que l'homme puisse espérer.

(MONTAIGNE.)

- (b) Priez pour moi l'oyseau Cyllenien, Guider mes pas jusqu'à tant que j'arrive. (DU BELLAY.)
- (c) Nous craignons et honnorons Dieu purement ; Nous désirons son nom estre sanctifié.

(CALVIN.)

- (d) Et pour lier des mots si mal s'entraccordants, Prendre dans ce jardin la lune avec les dents.
- (BOILEAU.) (e) Quant Carles veit qui tuit sunt mort paien. (CH. DE ROLAND.)
- 6. Give the derivation of métier, aigu, danger, aider, outrecuidance, ensemble, travailler, menu, dru, forge.
- 7. Trace the origin of the reflexive voice in French verbs, and account for the use of être in its compound tenses. Explain its use in modern French, and give, with examples, the rules governing its past participle.

#### SECTION IV.

- 8. Give, in French, a brief account, either of one of the tragedies of Corneille, Racine, or Voltaire; or of one of the comedies of Corneille, Racine, or Molière; and state what titles the work you choose has to a permanent place in French literature.
- 9. State what you know of either Boileau's or Ste. Beuve's principles in literary criticism, and justify your statement by reference to their application of those principles.
- 10. State what you know of the "quarrel between the Ancients and the Moderns," in the seventeenth century, and trace its results in the subsequent periods of French literature.
- 11. State what you know of either V. Hugo's dramatic works, or Lamartine's poems, and quote any passage you know from them.
- 12. "Tel, comme dit Merlin, cuide engeigner autrui Qui souvent s'engeigne soi-même . . .

#### (LA FONTAINE.)

Analyse the fable beginning with these two lines, or write a short essay in French demonstrating their truth.

## SECTION V.

- 13. Write an essay, in French (not exceeding 40 lines), on one of the following subjects :-
  - (1) Your favourite pastime.
  - English litterature in the period best known to you.
     The period of French listory best known to you.
     The "heroes" of Cornelle's Tragedies.
     The "heroines" of Racine's Tragedies.

(6) "Quelle condition vous paraît la plus délicieuse et la plus libre, on du berger ou des brebis? Le troupeau est-il fait pour le berger ou le berger pour le troupeau ? Image naïve des peuples et du prince qui les gouverne, s'il est bon prince."

(LA BRUYÈRE.)

### GERMAN.

## LOWER GRADE.

#### Tuesday, 15th June. 2 to 4.30 P.M.

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

## SECTION I.

1. Translate into English :---

Bier Tage fpater ritten bie Fremblinge wieber gur Ronigsburg hinauf, um Abschied zu nehmen. Dem König war es leid, benn er hatte bie ftattlichen Männer lieb gewonnen, und barum bot er ihnen jest an, fie follten fich von ihm erbitten, mas fie wollten, Gold und Geschmeibe, ober Rog und Gewand. Der alte Bate aber bantte und ermiderte, fle hatten beffen felbft genug; nur eines bitte er, bag ber Ronig mit feiner Gemablin und Tochter noch einmal ihre Schiffe befchauen möchte, benn bas murte ihnen eine große Ehre fein. Dagu war hagen gern bereit und verfprach arglos, am nächften Morgen mit feinem gangen Sofftaate fie zu befuchen. 218 ber Ronig nun mit ben Frauen und einem glänzenden Gefolge an bas Meeresufer gefommen war, bob man bie Frauen höflich von den Roffen, und alle gingen noch einmal von Bude zu Bude, prüften und bewunderten bie Baren und bachten an nichts Bofes. Sobald aber bie fchone Gilbe eins ber Fabrzeuge betreten hatte, gab Bate bas Beichen, und ploglich wimmelten alle Schiffe von gewappneten Männern, Die bisher verborgen unter bem Berbede gelegen hatten. In einem Augenblicke maren bie Unfer gelichtet, und bie Gegel aufgezogen, und aus ben friedlichen Bandelsleuten waren grimmige Belben geworben, bie ftatt bes Ellenmaßes bas blanfe Edwert boch über ben Säuptern fchmangen. Bobl zogen auch Sagen und feine Ritter ihre Schwerter, aber ichon waren bie Fremben bom Ufer abgestoffen, und fein Schiff lag bereit, ihnen ju folgen. Furchtbar tobte ber alte Sagen, und laut flagte bie Ronigin, ihre fcone Lochter aber wußte nicht, wie ihr geschehen mar ; fie faß auf bem boben Schiffe und fchaute in bas wilbe Meer, und wenn fie ber Eltern und ber lieben Beimat gebachte, trauerte fie bitterlich. Uber nicht fern von ihr fag ber junge gorand, griff in feine Sarfe und fang Lieb um Lieb ; und als Silbe bie Baubertone wieber vernahm, erinnerte fie fich fence 21benbs und ber Worte, bie ber Ganger gesprochen hatte, und Freude und Sehnfucht nach bem jungen Rönig hettel zogen in ihr berg ein.

2. Bacmeifter, "Gubrun."

2. Translate into German (using the polite form of address, and giving the German of all the proper names) :--

There is somebody at the door, Mary; see who it is.—It is Mr. Small, Miss Margaret.—Ask him to come in.—Good morning, Miss Hill, I hop you are quite well.—Yes, thank you, we are all in good health.—Are your brothers at home?—I believe, Charles is working in his room, but William went yesterday to

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Newtown to visit his friend, James Green .-- Will he be away long ?-I fear he will not return till (say before) Wednesday or Thursday of next week. We expect a letter from him to-morrow or the day after.—I wish (say I would) he had told me of his trip. My grandmother lives at Newtown, and I have long promised her a visit.—But can you not go after (say follow) him this afternoon or to-morrow morning? I am sure, my brother would be so glad to have you there, for his friend is in his business the greater part of the day.—Well, Fill see whether it is possible. I must first ask my purchts.—As you have been there, you probably (noti) know that neighbourhood (@egne) very well.—Oh, yes, I know every spot. But, if you allow me, I will now go up and speak to Charles for a minute.—Very well, you know where to (say where you will) find him.

#### SECTION II.

- 3. Give the nominative and genitive singular and the nominative plural, with the definite article, of the German words for any ten of these :- eye, ear, hole, carriage, chair, pencil, leaf, cloud, river, neighbour, body, fault, bird, eagle, goose.
- 4. Decline, singular and plural, the German for that woman, strong wind, and our dear friend.
- 5. Write out, in German :- 5, 8, 15, 17, 21, 36, 54, 66, 179, 283; the 1st, 16th, 106th; 1, 2; on Saturday, the 6th of March, 1897.
- 6. Write out : -
  - (a) The present and imperfect indicative of fpreden, wiffen.
     (b) The future perfect indicative of fein.

  - (c) The perfect indicative passive of loben.
- - (a) The 3rd person singular present, imperfect, and perfect indicative active of geben, leben, effen, burfen, thun, raten.
    - (b) The 2nd person singular imperfect subjunctive and imperative of fein, miffen, brechen, nehmen, fenden, nennen.

#### SECTION III.

- 8. Give the Cerman for-for whom ? with what? in whom ? in what?—for that (therefor), in this (herein), over that; from me, for thee, with her, with them, without them.
- 9. Form four sentences with propositions that govern the genitive; and as many with prepositions that govern the accusative only.
- 10. Mention four verbs that form their compound tenses with the auxiliary fein; and four that form their past participles without ge=.
- 11. Mention three of Schiller's, and as many of Leffing's plays; and state what you know of the plot of one of each set.
- 12. Mention the titles of altogether six poems written by Goethe, Uhlanb, and feine ; and, if possible, give the beginning of two of them.

## GERMAN.

## HIGHER GRADE AND FIRST PAPER FOR HONOURS GRADE.

## Tuesday, 15th June. 2 to 5 P.M.

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

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

### SECTION I .- TRANSLATION AND COMPOSITION.

1. Translate into English :---

a. In biefem qualvollen Buftaube ftreifte Graf Ulrich in ben Gebirgen umber und hatte beinahe bie Grenze bes Landes erreicht, als er fich in einem Balb verirrte, ohne eine Berberge angutreffen, mo er übernachten tonnte. Er band fein Pferd an einen Baum und legte fich baneben ins Gras; benn er mar febr ermubet, minber von ben Befchwerlichfeiten ber Reife, als von bem innern Scelentampfe. Der Tröfter in Noten, ter gulbne Schlaf, brudte ihm balb bie Augen zu und machte ibn auf einige Beit feines Ungemachs vergeffen. Da fchuttelte ihn ploglich eine falte Sand und erweckte ihn aus feinem tiefen Schlummer. 2016 er erwachte, fiel ihm bie Geftalt eines hagern alten Beibes ins Geficht, bie fich über ihn ber beugte und ihm mit einer Sandlaterne in bie Ungen leuchtete. Bei biefem unerwarteten Unblick überlief ihn bie Saut mit einem talten Schauer ; er meinte, er fabe ein Gefpenft. Doch verließ ibn feine Berghaftigfeit nicht gang ; er raffte fich auf und fprach : "Weib, wer bift bu, und warum unterfängft bu bich, meine Rube ju ftoren ? "-Die Alte antwortete : " 3ch bin bie Rränterfrau ber Signora Dottorena aus Pabna, bie bier auf ihrem Landgute lebt und mich ausgefandt bat, ibr Rräuter und Wurgeln ju fuchen, von großer Rraft und Wirfung, wofern fie in ber Mitternachtftunde gegraben werben. 3ch fand Euch auf meinem Bege und hielt Guch für einen Erfchlagenen, ber unter bie Mörber gefallen wäre ; barum ruttelte und fchuttelte ich Euch, um gu feben, ob noch Leben in Euch fei."-Durch biefe Rebe hatte fich ber Graf vom erften Schreden wieber erholt und fragte : " 3ft bie 2Bohnung beiner Gebieterin fern von bier ?"-Die Ulte ermiberte : "3hr Bandhaus liegt bort im Grunde; ich tomme eben von baber. Co 3hr eine Rachtherberge von ihr begehrt, wird fle Guch folche nicht verjagen." Der Reifige, ber nach einem guten, gaftfreundlichen Bette trachtete, um ber nötigen Rube zu pflegen, ganute ungefänmt fein Bferb und mar bereit, feiner Begweiferin zu folgen.

I. R. A. Mufäus. 2 2

Rurge Beit barauf hatt' unfer Pflauger Auf ber Jagb im Balbe fich verirret. über Stoct und Stein, burch Thal und Bäche Stieg er fchmer auf manchen jaben Felfen, Um fich umgufeben nach bem Bfabe, Der ihn tief in biefe Bilbnis brachte. Doch fein Spahn und Rufen war vergebens; Nichts vernahm er als bas hohle Echo Langs ben boben, fchwargen Felfenwanben. Angftlich ging er bis zur zwölften Stunte, Bo er an bem Fuß bes nachften Berges Roch ein fleines, fchwaches Licht erblidte. Furcht und Freude fchlug in feinem Bergen. Und er faßte Mut und nahte leife. "Wer ift braußen ?" brach mit raubem Tone Eine Stimme tief ber aus ber Boble, Und ein Mann trat aus ber fleinen Wohnung. "Freund, im Balbe hab' ich mich verirret," Sprach ber Europäer furchtfam fchmeichelnb, "Gonnet mir, bie Dacht bier zuzubringen, Und zeigt nach ber Stabt, ich werb' Guch banten, Morgen fruh mir bie gewiffen Wege."

3. G. Seume.

### 2. Translate into German :---

A gendeman, who had a large family and only a small income, took a house in the country, where he simply kept a housemaid moraing, by hearing these two quarrelling in the kitchen. At last, being unable to bear the disturbance any longer, he called the man and woman before him, reproached them with their objectionable behaviour, and asked the cause of it. The woman complained that she had far too much to do, and that the coachman, who had a pretty easy place, would not relieve (*eag* assist) her by fetching the milk and cream from a farmhouse, which was no this business to fetch the milk, and that he had not been hired to do anything of the sort. "What do you consider your duty is ?" asked the master. "My duty," prejied the man, "is to clean the carriage, to see to the horses, and to drive." "You are quite right," said the gendeman, with a smile ; "you understand your duty perfectly well, and shall do nothing beyond it; but I order yon henceforth to get the horses and carriage out every morning at seven o'clock, and to drive the maid to the farmer's for the milk." Ever afterwards the man went for the milk on foot without murmuring.

### SECTION II .- GRAMMAR.

 Give the nominative and genitive singular and nominative plural, with the definite article, of the German words for any ten of these: — judge, judgment, loss, fcol, collar, colour, herald, trial, jewel, monument, nosegay, nobleman, spectre, corpse, vassal.

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- 4. Distinguish between—bas Mal, bas Mahl; bie Schranfen, bie Schränfe; bas Gefinke, bas Gefinke, bas Gefinkel; bie öfeilikelt, bie öfeilikelt, geiftig, geiftlich; eruftlich, eruftlich, geruchlos, geruchlos; erfindlich, erfinderifch; ich freue mich darauf, ich mich darauf, ich freue mich darauf,
- Mention six nouns that are used only in the plural; and add the definite article to, and form plurals of-Danf, Lob, Mat, Tod, Unglücf, Bergnügen.
- Show, by examples, under what conditions the pronominal adjectives weldy, foldy, all, and mandy remain without signs of gender and case-form.
- 7. Give the 3rd person singular present, imperfect, and perfect indicative of fich befinnen, vollbringen, hechealten, wilffahren, mißforauchen; and the 2nd person singular imperative and the past participle of wiberfprechen, vergeben, teilnehmen, loslaffen, ablefen.
- 8. Express in German:—What o'clock is i? It is a quarter past twelve, half past two, a quarter to three; at ten o'clock; London, 3rd January, 1897; the reign of Charles the First; in one hour and a half; in three years and a quarter; the armies of two nations; the inhabitants of the two countries; with three horses.

SECTION III .- PHILOLOGY AND WORD-FORMATION.

- Give five nouns in -idon't; five in -tum (two of them masculine, if possible); and two in ridy. Add the definite article and meaning to each word.
- What difference is there, in respect of formation, between the two abstract nouns @wigfeit and &cidytigfeit? Mention three other examples of each kind.
- Form abstract nouns (with the definite article and meaning) from any ten of these :- heifer, minder, troden, fparfam, fromm, foundtern forwer, ftoly, finster, bereit, nahe, matt, warm, böje, begierig.
- Give the German or English etymological equivalents of any ten of each of the following two sets of words; adding, in each case, the exact meaning of the German word:—
  - (a) Cross, yoke, maid, luck, murder, nail, besom, need, hearth, path, plough; to steal, to dream, to shove, to leap.
  - (b) Bufen, 3werg, Tau, Flucht, 3weig, Rrebs, Spibe, Teig, Saufe, Born, Siegel, 3abre, Girfch, fchlagen, fchinden.

SECTION IV .- LITERATURE AND COMMERCIAL CORRESPONDENCE.

- (Not more than Two questions to be answered from this Section.)
- 14. Give some account of either the Nibelungen or Gubrun.
- State what you know of two of these writers :---Uhland, Mücfert, Rörner, Sauff.

- Give a short account of two of the literary schools of the 18th, and beginning of the 19th, century.
- 17. Assign any twelve of the following works to their respective authors, characterising them in a single worl (drama, epic, &c.):- Emilia Galotti. Juranbot. Momanyero. Arin: Apfignetie auf Tauriê. Duintus Firlein. Der Ming des Bolyfrates. Die Germannsfölacht. Fortunat. Die Luigows. Derron, Kabale und Liebe. Der Ider Schlauber. Erifden und Iglebe. Der fleight Geburtstag. Liebesfrühling. Der Ming her folgender F.
- 18. Write, in German, to a commercial gentleman in Germany, who is a friend of your father, asking his advice as to what you had better do in order to acquire a thorough knowledge of German ; whether by attending for a time some commercial school, or entering some business.
- 19. Acknowledge receipt of an agent's letter, pointing out to him that the information he has sent is incomplete in regard to some branches of trade and industry, and impressing upon him the importance of keeping his eyes on the agents of rival firms.
- 20. Give some account, in German, of the German coinage, and the systems of weights and measures.

### GERMAN.

HONOURS .--- SECOND PAPER.

### Saturday, 19th June. 2 to 5 P.M.

- Candidates must, in all cases, answer Questions 1 and 2, Section I. : and should attempt EXCHT questions (not more) from the other Sections.
- Additional marks will be given for fair writing in the German character.

SECTION I .- TRANSLATION AND COMPOSITION.

1. Translate into English :---

a. So fuhr er im Frühfommer hinaus unter ben blanen Einmel mit ben gerläfteten, weißen, giehenten Wolfen in bie flache, wärfliche Zankfort hinein. Alber wie heinelte fle ihn au! Der fandige Feldweg ließ die flachtar müden Alcrepferbe langlaut ichreiten, hapten von ürpigem Erleagebülch und blüchenden Brombergesfräuch. Aus Bog ber Wag in ein Fichienwalbehen ein, zwischen blue beiter Birfe durchschnunen hier und ba die weiße Bilte und belle Laub einer Birfe durchschnunen für und ba die weiße Bilte und baub einer Birfe durchschnunent fer Uter Birfe, fcmang ich auf auf aus bem Lännenwchreft, und flog dann mit raufchenben Schwingen über ben Buch, fich tiefer wiegend, als mülfer en neugierig feben, was feine Ruche ftdrete, vahrend von fern ein Muchaf einen eintönigen Buir eines Ause forte, nachen von fern ein Muchaf einen eintönigen Buir eines Muche ftdreten von Ruch einen inten interingen Buir eines Ause freiten unge Bog weiten ein gieben, was feine Ruche ftörte, vahrend von fern ein Muchaf einen eintönigen Buir einstellen lieb.

Guftab gu Putlit, "Das Frolenbaus,"

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6. Dennach war [angft bie Kumbe von ben Schickfal ber großen Urme bis in vie entlegenste Stütte gebrungen, zuerst bunkle Gerichte von Not und Verfult, bann bie Icadricht von einem ungeheuern Veranbe in Wosskau und ben gestigen wenen. Dann von einer funget und ben Kaifer and ben Boen gestigen wenen. Dann von einer funget und ben Kaifer and bas Bolf barüber, benn bie Schube lagerten nicht nur in ber Sauptilad und ben Fellungen bes Ausches, sie hatten auch in ben Provingen ihre Späher und verfühlten Angeber, benen ber Barger aus bem Bege ging. Seit ber lehen kager unstie ung, bas ber Aniger felbit von sienen fich, war er verfühlt, als Gergog von Wierag, Lag und Bacht und vertäufige agleich agleichen.

Suftav Freytag.

Bieb in Frieden, o Tochter, ein Saus zu erbauen burch Weisheit Und holdfeliges Thun, als liebliche Krone bes Mannes ! Siehe, furmahr, weit ebler benn Gold und foftliche Perlen Ift ein tugenbfam Deib, - beg lebt ber Gefegnete länger ! Thut euch Liebes hinfort, thut, Rinberchen, nimmer euch Leibes, Bis euch fcheibe ber Lob ! - Nun, Mutterchen, nicht fo ernfthaft ! Gieb mich an ! Wir felber verließen ja Bater und Mutter. Auch bein Bater ja machte fich ftart und bie liebende Mutter, 2018 uns weit in bie Fremd' Abziehenden lange fie nachfahn, Und an ber Ede nunmehr wir gurudfahn, winfend ben Abichieb. Stumm bann fagen wir beibe, bie Sand' in einander gefaltet, Beber bes fchonen Gefilbs achtfant in besonnetem Fruhtau, Noch bes fchwebenben Lerchengefangs und bes fleifigen Landvolfs. Bis bich bas Bort : "Dir bin ich von nun an Bater und Mutter !" Rraftigte, bas bu im Ruffe : " 3a, bein auf ervig ! " gurudgabft. Johann Seinrich Bog, "Luife."

2, Translate into German :---

a. This litle excursion to Richmond was long remembered by these three. It was the last of their meetings before Sheila was ushered into the big world, to busy herself with new occupations and cares. It was a pleasant little journey throughont, for as they got into the laudau to drive back to town, the moon was shining high up in the southern heavens, and the air was mild and fresh, so that they had the carriage opened, and Sheila, well wrapped up, lay and looked around her with a strange wonder and joy as they drove underneath the shadows of the trees and out again into the clear sheen of the night. They saw the river, too, flowing smoothly down between its dark banks; and somehow here the silence checked them, and they hummed no more those tunes they used to sing at Borxa. Of whas were they thinking, then, as they drove through the silver night, along the lonely road? The young husband, at least, was rejoicing at his great good fortune that he had secured for ever to himself the true-hearted girl who now sat opposite him, with the moon

light touching her face and hair; and he was laughing to himself at the notion that he did not properly appreciate her, or understand her, or perceive her real character. If not he, who then? WILLIAM BLACK, A Princess of Thule.

- b. (1) I spoke to him about it, but he would not be advised.
  - (2) I know him only too well, he is not to be depended upon.
  - (3) She excused herself for having offended my wife.
  - (4) My landlord has not yet succeeded in letting his house.
  - (5) My brother beat the fellow, although he was nearly twice his size.
  - (6) She was highly amused at my having taken the matter seriously.
  - (7) The pitcher may go to the well once too often...
  - (8) Don't make a mountain of a molehill.

### SECTION II .- PHILOLOGY AND SYNTAX.

- Mention five pairs of adjectives (with the meanings) showing the difference of meaning attaching to the affixes -lich and -ijch.
- 4. Give any adjectives in -fam you know, for which there are parallel adjectives in English; and add six others in -fam which correspond to English adjectives derived from the same stem, but by other affixes.
- 5. Form verbs, with or without prefixes (not prepositions), from the adjectives :-- beiß, füß, ftarf, fdwaah, blind, milb, arm, alt, breit, naße, bitter, gütig. Add the meaning to each verb.
- 6. Give the meaning, and explain the formation, of any ten of the following words, noting any irregularities in this respect: namentlido, flefentlidd, noahrheitögetreu. Böglein, ich flürbe, Groğmutter's Liebling, hiefig, Alpfelfin, Lächerlich, Riefer, allenfalls, bes Plackts, Zintenfaß, leibfaftig, aufelenö, männiglich.
- Show, by examples, to what German sounds the English dentals t, th, d usually correspond; and state whether a similar correspondence obtains in regard to the gutturals and labials.
- 8. Give the German for the following sets of words (each to be formed from the same radical word):---to obey, obedient, obedience, to follow, the following (suite), consequence (squel), consequently, compliant; to write, the writ, seribe, writer (author); to sing, a song, singer, capable of being sung; to drink, a drink (draught), drink (beverage), drinker, drunk (intoxicated), drunkenness; true, truth, truthful, truthfulness, veracious; to envy, envy, envious.
- 9. Give idiomatic meanings (or, if possible, synonyms) of any ten of the following past participles:—verbroffen, verlegen, ungegogen, befonuen, befobeiden, aufgelegt, beforgt, befangen, entfoloffen, ausgelaffen, betagt, entfest, unterthan; and mention three others which (like ungegogen) are only used negatively (with une).

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- Give two distinct Gorman words, with the definite article, for each of any ten of the following English homonyms (words with more than one distinct meaning): --race, sentence, bank, capital, air, word, act, sabject, row, match, party, column, step, habit, case.
- Show, by examples, in what cases the Infinitive Active is used in German—(a) for the Present Participle Active; (b) for the Past Participle Passive; (c) for the Present Participle Passive; (d) for the Imperative.

### SECTION III .- LITERATURE.

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

- 12. State what you know of the Meistersinger.
- 13. Name five poems of chivalry of the 12th and 13th centuries, with the names of their authors, and state what circles of legend they have to be referred to.
- Explain in what respect Leffing may be called the father of the modern German drama, both as a critic and a playwright.
- 15. Mention six larger epic or romantic poems composed between the birth of floptof and the death of Gottk; and give some account of one of them.
- 16. State what you know of the lyrical poetry since the death of Goethe.

### ARITHMETIC.

#### LOWER GRADE.

### Monday, 14th June. 10 A.M. to 11.30 A.M.

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

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

- Find, by practice, the dividend on £7,126 10s. at 9s. 6d. in the pound.
- A bronze medal is composed of copper, tin and zinc. If 15/2 of the medal be copper and 1/2 be tin, what fraction of it is zinc?
- 3. A square paddock contains 16 square poles, and is enclosed by hurdles 2<sup>3</sup>/<sub>4</sub> yards long. How many hurdles are required?
- 4. How many yards of paper, 27 inches broad, will be required to cover a wall 3<sup>1</sup>/<sub>2</sub> yards high and 5<sup>1</sup>/<sub>4</sub> yards broad?
- Find the greatest common factor and the least common multiple of 336, 468 and 792.

3.01

6. Simplify-

(a) 
$$\frac{\frac{2}{2\frac{1}{4}} - \frac{13}{2}}{\frac{21}{4} - \frac{13}{2}} + \left(\frac{2}{2\frac{1}{4}} + \frac{13}{2}\right)$$
  
 $\frac{39}{713}$   
(b)  $\frac{\frac{39}{555} \times \frac{91}{555} \times \frac{91}{24} \times \frac{24}{24}}{\frac{59}{555} \times \frac{91}{15} \times \frac{24}{241}}$ 

- A picture, 18 inches broad and 10<sup>1</sup>/<sub>2</sub> inches deep, is to be photographed on a reduced scale, so that the breadth of the photograph nay be 7<sup>1</sup>/<sub>2</sub> inches. Find the depth of the photograph.
- 8. Simplify-

(a) 
$$(8.47 + .016 - .0028) \times (.75 + .075 - .8125);$$

 $(b) \ 3 \cdot 4\dot{3}9\dot{9} \div \dot{4}3\dot{5}.$ 

- (a) Express .0390625 of a day (24 hours) in minutes and seconds;
   (b) If 8 metres are equal to 315 inches, express one metre as a decimal fraction of a yard.
- 10. In a school of 1200 the number presented for an examination was 20 per cent. of the whole, while the numbers passing in the first and second classes were respectively 124 and 324 per cent. of those presented. Find the number presented and the number passing in each class.
- 11. A customer deposits £100 in a bank on 31st January, £159 on 30th April, and £125 on 31st July. What interest is due to him on 31st December, the rate being 2½ per cent. per annum, and one-twelfth of a year's interest being allowed for each calendar month?

### ALGEBRA.

### LOWER GRADE.

### Monday, 14th June. 3 P.M. to 4.30 P.M.

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

1. If a=3, b=4, c=5, find the values of— (1)  $\frac{a+b+\sqrt{a^2+b^3}}{\sqrt{a^3+b^3+c^3}}$ ;  $(a-(b-c)) \{b-(c-a)\} \{c-(a-b)\}$ 

(2) 
$$\frac{(a-(b+c))}{\{a-(b+c)\}} \frac{(b-(c+a))}{\{c-(a+b)\}}$$

2. One of the factors of  $8x^4-12x^2+21x-5$  is  $9x^2+3x-1$ , find the other factor.

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- 3. A dealer buys a+b tons of hay, at  $\pounds(c-d)$  per ton, and a-b tons at  $\pounds(c+d)$  per ton; if he sell the whole at  $\pounds c$  per ton, what profit does he make ?
- 4. Resolve into factors-
  - (1)  $x^3 a^2 x + 1;$ (2)  $6x^2 - x - 15;$
  - (3)  $x^4 + a^3 x$ ,
- 5. Simplify-
  - (1)  $\frac{1}{a} + \frac{1}{a-b} \frac{b}{ab-a^{2'}}$
  - $10x^3 + 13x^2 + 7x + 15$ (2) $15x^3 + 7x^2 + 13x + 10$

6. Solve the equations— (1)  $\frac{3}{5}(7x+11) - \frac{11}{7}(5x-3) - \frac{2}{9}(13x-8)=0$ ;

- (2)  $\frac{\cdot 4}{x} = \frac{\cdot 5}{x} \left( 1 \frac{\cdot 1}{x} \right);$
- (3)  $a\left(\frac{1}{5}x-\frac{2}{3}c\right)-b(a+\frac{1}{3}x)+c(b+\frac{2}{3}a)=x(\frac{1}{5}c-\frac{1}{3}b).$
- 7. Divide the number 23 into two parts such that the difference between their squares may be 161.
- 8. Prove the identity- $(b-c)^3+(c-a)^3+(a-b)^3=3$  (b-c) (c-a) (a-b).
- 9. Solve the equations-
  - (1)  $\frac{10}{x-5} \frac{9}{x+5} = 4\frac{1}{4};$ 7x - 5y = 1, (2)  $\begin{cases} 4y - 3z = 1, \\ 5z - 8x = 1; \end{cases}$
  - (3)  $\sqrt{3x+4} \sqrt{2x+2} = \sqrt{x-6}$ .
- 10. A motor car going at a certain rate for 10 miles, and at double that rate for the rest of the journey, takes 4 hours 40 minutes; but if it had gone at the faster rate for 10 miles and at the slower rate for the rest, it would have taken 6 hours 50 minutes. Find the two rates and the total length of the journey.

. 95.2

# GEOMETRY.

### LOWER GRADE.

#### Monday, 14th June. 12 noon to 2 P.M.

All ordinary symbols and contractions are allowed.

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

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

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

- 1. Give Euclid's postulates.
  - From a given point draw a straight line equal to a given straight line.
- When two angles of a triangle are unequal, the greater angle has the greater side opposite to it.

In a triangle ABC, AD and AE bisect the interior and exterior angles at A, meeting BC in D and E, prove that BA is greater than BD, and less than BE.

Triangles on equal bases and between the same parallels are equal in area.

The triangles ABC and DBC, on opposite sides of BC, are equal in area, prove that AD is bisected by the line BC.

- Describe a parallelogram equal to a given polygon, having a side equal to a given straight line and an angle equal to a given angle.
- 5. If a straight line be bisected and divided internally at any other point, the sum of the squares on the unequal segments is double the sum of the squares on half the line and on the line between the points of section.

PQR is an acute-angled triangle, and QR is bisected in O, prove that  $PQ^2 + PR^2 = 2PO^2 + 2QO^2$ .

6. Find the centre of a given circle.

P and Q are the mid points of two parallel chords of a circle, show that the line PQ passes through the centre.

- The straight line drawn perpendicular to the diameter of a circle from its extremity touches the circle, and any other straight line through the same extremity cuts the circle in one other point.
- 8. If from a point without a circle two straight lines be drawn to cut the circle, the rectangles contained respectively by the whole lines and the parts of them without the circle are equal.

A point O is taken 13 inches from the centre of a circle whose radius is 5 inches; a circle with centre O and radius 9 inches, cuts the given circle in P; OP produced cuts the circle again in Q; find the length of OQ, and also the length of the tangent drawn from O to the given circle.

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9. Construct a triangle having given the base and the lengths of the perpendiculars to the opposite sides from the extremities of the base

How many different triangles may in general be described to satisfy the given conditions ?

Is there any restriction on the lengths of the given lines? If so, state it.

## ARITHMETIC.

#### HIGHER GRADE.

## Monday, 14th June. 10 A.M. to 11.30 A.M.

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

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

- 1. Find the values of-
  - <sup>13</sup>/<sub>15</sub> of 3 furlongs, 4 chains, 3 yards, 2 feet.
     <sup>1</sup>·9375 of 10 cubic yards.
- 2. A can do a piece of work in 14 days of 9 hours, and B can do the same piece in 12 days of 7 hours. How long will they take to do it, working together for 8 hours a day ?
- 3. Give the two rules for the determination of leap year.
- On what day will a child, born 1st June, 1897, have lived exactly 4000 days?
- 4. The average passenger fare on a railway is 11d. a mile, the average ourney is 12 miles, and the average weekly revenue is £710306. Find the average number of passengers in a week.
- 5. Simplify the expressions-

  - $(1) \left(\frac{4844}{5536} + \frac{7623}{8316}\right) \div 1^{\frac{19}{24}}.$
  - (2)  $\cdot 61936 \times 9 \cdot 6872 \times 20 \cdot 83$ .
- 6. The sum of £189 6s. 9d. is to be divided between 7 men, 11 women, 5 boys, and 6 girls, so that for every 5s. a man receives a woman may get 2s. 11d., and for every 3s. 6d. a woman receives a boy may get 2s. 6d. and a girl 1s. 6d. Find how much each person receives.
- 7. What sum will amount to £8,334 18s. in 3 years at 5 per cent. compound interest ?
- 8. A square enclosure is surrounded by a roadway whose breadth is one-eleventh of the side of the enclosure. The area of the road-way is 1 acre, 2 roads, 28 square poles, 5 square yards. Find the length of the side of the enclosure in fect.
- A man invests in Government stock paying 2<sup>3</sup>/<sub>4</sub> per cent. interest, and finds that after paying 6d. in the pound income tax, his net income is exactly 2<sup>1</sup>/<sub>2</sub> per cent. of the sum invested. At what price did he purchase the stock ?

.200

## ALGEBRA.

# HIGHER GRADE.

## Monday, 14th June. 3 P.M. to 4.30 P.M.

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

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

1. Simplify-

$$(a+b+c)\Big(\frac{b+c-a}{bc}+\frac{c+a-b}{ca}+\frac{a+b-c}{ab}\Big)-$$
$$\frac{b+c-a}{a}\cdot\frac{c+a-b}{b}\cdot\frac{a+b-c}{c}\cdot$$

2. Solve the equations-

- (1) (a-c)(bx-1) = (a-b)(cx-1);
- (2)  $\begin{cases} x y + z = 8, \\ x + \frac{1}{2}y z = \frac{1}{3}x \frac{1}{2}y + \frac{1}{5}z = 0. \end{cases}$
- 3. If  $x^3 + 3x^2 9x + c$  be the product of three factors, two of which are identical, prove that c is either 5 or -27, and find the factors in each case.
- 4. Solve the equations-
  - 1 1 1  $\frac{1}{x} - \frac{1}{x-a-b} = \frac{1}{a} + \frac{1}{b};$ (1)(2)  $\begin{cases} x^2 + y + z = 21, \\ x^2 + yz = 22, \\ x^2yz = 96; \end{cases}$
  - (3)  $\sqrt{x^2+x+4}+\sqrt{x^2-x+3}=2x+1.$
- 5. A walks a quarter of a mile in an hour farther than B, and in consequence takes a quarter of an hour less time to walk 15 miles. Find the rate at which each walks. Explain the negative results.
- 6. The weights of two men are as 12 to 11; a year later they have gained additional weight in the proportion of 18 to 1, and their total weights are now as 29 to 24. If the heavier man now weighs 12 stone 6 lbs., find his original weight.
- 7. If  $a + \sqrt{b} = c + \sqrt{d}$ , a and c being rational quantities, and  $\sqrt{b}$  and  $\sqrt{d}$  proper surds, prove that a = c and b = d.

Simplify 
$$\frac{4+\sqrt{2}}{2+\sqrt{2}} + \frac{4-\sqrt{2}}{3+\sqrt{2}} + \frac{9\sqrt{2}-13}{3-\sqrt{2}}$$

Find the square root of 7  $(3+2\sqrt{2})$ .

- 8. Prove that  $x^{n} = \frac{n}{p}$ , stating carefully what you assume. Hence, or otherwise, find a rational quantity which can be divided, without remainder, by  $x^{\frac{5}{2}} + y^{\frac{5}{2}}$ .
- 9. Write down expressions for the sum of n terms of (1) arithmetical, (2) a geometrical series, whose first and second terms are a and b.

If the fourth term of a progression be 1, and its 7th term be  $\frac{1}{8}$ , find the sum of 10 terms, (1) when the series is arithmetical, (2) when it is geometrical.

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## GEOMETRY.

### HIGHER GRADE.

### Monday, 14th June. 12 noon to 2 P.M.

All ordinary symbols and contractions are allowed.

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

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

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

1. The complements of the parallelograms which are about a diagonal of any parallelogram are equal.

ABCD is a parallelogram, and APQR, QSCT are parallelo-grams about the diagonal AC; show that their difference is equal to twice the triangle QBD.

2. Prove that a quadrilateral which is bisected by both its diagonals must be a parallelogram.

3. Describe a square which shall be equal to a given rectilineal figure.

- 4. Angles in the same segment of a circle are equal. A, B, C are points in the same straight line, and O is another point; perpendiculars drawn from A, B, C to OA, OB, OC in the plane OABC intersect in L, M, N; show that L, M, N, Oare concyclic.
- 5. Construct a triangle having each of the angles at the base double the vertical angle.

Construct a triangle having each of the angles at the base seven times the vertical angle.

6. Prove that every equilateral polygon inscribed in a circle is also equiangular.

7. If two triangles be equiangular they shall be similar, those sides

the images as equivalent the point of and to similar, these sides being homologous which are opposite equal angles. ABC is a triangle, and P is a point on its circumscribed circle, AQ is drawn parallel to CP to meet BC (produced if necessary) in Q; show that the rectangle  $AB \cdot AC$  is equal to the rectangle AQ. BP.

8. If the exterior vertical angle of a triangle be bisected by a straight line which also cuts the base produced, the ratio of the external segments of the base shall be equal to the ratio of the sides of the triangle.

A is a fixed point in an indefinite straight line, P a variable point in the same line, S an external point, SR is drawn perpendicular to SA to cut the given line in R; prove that (1) the ratio SP: PA is never less than SR: RA, (2) a point P' can generally be found in the given line such that SP': P'A=SP:PA.

9. In the tetrahedron ABCD, AB, AC, and AD are equal. Show that the centre of the circumscribing sphere lies in the perpendicular drawn from A to the plane BCD.

# ELEMENTARY TRIGONOMETRY AND LOGARITHMS. HIGHER GRADE.

### Friday, 18th June. 10 A.M. to 11.30 A.M.

All ordinary symbols and contractions are allowed.

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

- 1. Prove that the ratio of the radius to the circumference of a circle is constant.
- 2. Show that the tangent of an angle can have any value positive or negative.

Is this true of any other trigonometrical ratio? Give reasons for your answer.

3. Prove the identities :-

- (1)  $\cos^4 A + \cos^2 A \sin^2 A + \sin^2 A = 1$ ,
- $\frac{1+\sin A}{\sec A+1} + \frac{1-\sin A}{\sec A-1} = 2 \cot A (\operatorname{cosec} A \cos A).$ (2)
- 4. Prove geometrically, and as generally as you can, one of the following identities :-
  - (1)  $\sin(A+B) = \sin A \cos B + \cos A \sin B$ ,
  - (2)  $\cos(A+B) = \cos A \cos B \sin A \sin B$ .
  - Deduce the identity :--

 $\frac{\cos(a + B + C)}{\cos A \cos B \cos C} + \tan B \tan C + \tan C \tan A + \tan A \tan B = 1.$ 

5. Prove that

an 
$$\theta = \frac{\sin 2\theta}{1 + \cos 2\theta}$$

and hence find tan 15°. Verify your result by a simple geometrical construction.

6. Prove the following relations among the sides and angles of a triangle :-

(1)  $a^2 + b^2 - c^2 = 2ab \cos C$ ,

(2)  $a \cos B \cos C + b \cos C \cos A + c \cos A \cos B = \frac{abc}{4R^2}$ 

where R is the radius of the circumscribing circle.

- 7. A man, on the top of a cliff by the sea, observes a small boat on the horizon, and finds that the angle of depression of the boat is a. If r be the radius of the earth, show that the height of the cliff is r (sec  $\alpha - 1$ ), and the distance of the boat is r tan  $\alpha$ .
- 8. Show that log (x<sup>\*</sup>)=n log x, and hence solve the equation (1.035)<sup>\*</sup>=2. To what problem in interest does your result give the answer?

9. Prove the formula

 $\tan\frac{A}{2}\tan\frac{B-C}{2} = \frac{b-c}{b+c}$ 

If, in the triangle ABC, b=71, c=29, and  $B-C=90^{\circ}$ , find the third side and all the angles.

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## ALGEBRA.

## HONOURS' GRADE.

## Monday, 14th June. 3 P.M. to 4.30 P.M.

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

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

1. If  $y = \frac{ax+b}{cx+d}$ ,  $z = \frac{ay+b}{cy+d}$ ,  $x = \frac{az+b}{cz+d}$ for all values of x, then  $a^2 + bc + ad + d^2 = 0.$ 

2. Solve the equations

(1)  $ax + a^2y + a^3z = 1$ ,  $bx+b^2y+b^3z=1, cx+c^2y+c^3z=1;$ (2)  $(x+y)^2+y^2=106,$  $x^4+4y^4=2756.$ 

3. Find the condition that the equations

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

should have a common root.

Show that your result is equivalent to the identity  $(\alpha - \gamma) (\alpha - \delta) (\beta - \gamma) (\beta - \delta) = 0;$ where  $(\alpha, \beta), (\gamma, \delta)$  are the respective pairs of roots of these equations.

4. Define proportion and continued proportion.

If a, b, c, d are in proportion, determine x and y so that a + x, b+x, c+y, d+y may be in continued proportion.

5. When are numbers said to be in harmonic progression?

- Four numbers are in harmonic progression; the first, third, and fourth are in geometrical progression ; the sum of all four is one hundred. Find the numbers.
- 6. Prove the formula for the number of selections (combinations) of ndifferent things taken r together.

In how many ways can a white balls and b black balls be placed in a row, so that no two black ones are adjacent, a being not less than b+1?

7. Explain under what circumstances the expansion of  $(1+x)^*$  will have a greatest term, n not being a positive integer.

Find which is the numerically greatest term in the expansion of

(1) 
$$(1+x)^{174}$$
 when  $x=\frac{3}{4}$ ,  
(2)  $(1+x)^{-10}$  when  $x=\frac{3}{4}$ .

- 8. Explain the graphic representation of a complex quantity : and show how to represent graphically any integral power of such a quantity: e.g.  $(a+bi)^{*}$ .
- 9. A number n of travellers set out on an exploration, and each can carry supplies for one person for a days. Show that, assuming the supplies to be uniformly consumed, the furthest distance it is possible to reach for all to return safely is na/(n+1) days' journey, and that the travellers must return one by one at intervals of a/(n+1) days.

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### GEOMETRY.

### HONOURS GRADE.

## Monday, 14th June. 12 noon to 2 P.M.

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

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

- 1. Divide a given straight line so that twice the rectangle contained by the whole line and one part shall be equal to the square on the other part.
- 2. If the opposite angles of a quadrilateral are supplementary, prove that the vertices lie on the circumference of a circle.
  - A point O is taken within an equilateral triangle ABC, and OP, OQ, OR, are drawn perpendicular to the sides. Prove that

$$QR : RP : PQ = OA : OB : OC.$$

- 3. If two faces of a tetrahedron are equal in area, then the shortest distance between their common edge and the opposite edge bisects the latter.
- 4. Show that any transversal parallel to one ray of a harmonic pencil has equal parts intercepted between the other three.

Three collinear points A, B, C, being given, determine a point D, that, with them, completes a harmonic range; and show clearly how many solutions there are.

5. From a point P on the circumscribing circle of a triangle PX, PY, In a point I on the createst rough of the respective sides BC, CA, AB. Prove that X, Y, Z are collinear. Show that the line YZ is greatest, for all positions of P,

when AP is a diameter.

- 6. If I be the inscribed and J an escribed centre of a triangle ABC, and AIJ cuts the side BC in P and the circumscribing circle in X, prove that  $XI^2 = XI^2 = XP \cdot XA$ .
  - Hence, or otherwise, show that if HIK, LJM be drawn parallel to BC to cut AB in H, L, and AC in K, M, the circles on HL, KM as diameters touch in X.

7. Prove that the three perpendiculars of a triangle meet in a point,

- Prove that the line joining this point to the mid-point of any side, and produced to meet the circumscribing circle, is bisected where it meets the side.
- 8. Define the limiting points of a system of co-axial circles. If these are given, show how to find the two circles of the system that have a given radius.

9. Explain the principle of inversion.

Prove that if the nine points circle be inverted with reference to the mid-point of one side, the inverse will be a straight line anti-parallel to that side with respect to the other two.

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### TRIGONOMETRY AND LOGARITHMS.

### HONOURS GRADE.

### Friday, 18th June. 10 A.M. to 11.30 A.M.

All ordinary symbols and contractions are allowed. Additional marks will be given for neatness, good style, and accurately drawn figures.

 Draw curves showing the variations in sin θ, in sin 2θ, and in cos 2θ, as θ increases in value from zero to 2π radians.

By the aid of your diagram show that when  $\sin 2\theta$  is given,  $\sin \theta$  may have one of four different values, but if  $\cos 2\theta$  is given,  $\sin \theta$  may have one of only two different values.

2. If all the following angles are acute, and  $\sin \theta = \cos \phi \cos \beta$ , and  $\sin \phi = \cos \theta \cos \alpha$ , then  $\sin \alpha = \tan \theta \tan \beta$ , and  $\sin \beta = \tan \theta \tan \alpha$ .

### 3. Prove for all values of A and B the identity

 $\begin{aligned} \cos(\mathcal{A}+\mathcal{B}) &+ \cos(\mathcal{A}-\mathcal{B}) = 2 \cos \mathcal{A} \cos \mathcal{B}.\\ \text{If } 17\theta &= 2\pi, \text{ show that}\\ \cos\theta &+ \cos 2\theta + \cos 3\theta + \ldots + \cos 16\theta \end{aligned}$ 

 $= 16 \cos \theta \cos 2\theta \cos 4\theta \cos 8\theta.$ 

4. If  $A + B + C = 180^\circ$ , prove that

 $\sin^2 A + \sin^2 B - \sin^2 C = 2\sin A \sin B \cos C$ ; and hence show how to obtain the angle C, in a triangle ABC, in terms of the sides.

Within a triangle ABC, a point P is taken such that each side subtends at P an equal angle; prove that

 $\frac{AB^2 - AC^2}{PB - PC} = \frac{BC^2 - BA^2}{PC - PA} = \frac{CA^2 - CB^2}{PA - PB}.$ 

5. What kind of formulæ are best adapted to logarithmic computation ? Show how to find the third side of a triangle, in which a, b, C, are given by a formula thus adapted.

If a = 17305, b = 28194,  $C = 63^{\circ}$  15', find c, using such a formula, or otherwise.

- 6. The summits of two distant hills of equal height are known to be one mile apart, and the line joining them lies north and south. An observer at the same height notes that the nearer hill lies 9<sup>o</sup> west of north, and placing his stick, which is a inches long, in such a position that its extremities just cover the summits, he finds that his eye is b inches from each end. Find the distance of each hill from the observer.
- 7. Find expressions for the radii of the escribed circles of a triangle. If  $r_1, r_2, r_3$ , be these radii, show that the sides are given by

$$a\sqrt{r_2 r_3 + r_3 r_1 + r_1 r_2} = r_1 (r_2 + r_3)$$
, etc.

8. Assuming Demoivre's theorem, prove that

### $e^{\theta i} = \cos \theta + i \sin \theta.$

A line OA is drawn of any length, AB is taken equal, and at right angles, to OA; BC equal, and at right angles, to  $\frac{1}{2}AB$ ; CD equal, and at right angles, to  $\frac{1}{2}BC$ , and so on always turning in the same direction. Prove, from the above result, or otherwise, that the ultimate position of the extremity P of the last side of the figure constructed is on the eircle whose centre is O, and radius OA, and that the park AP is equal to the radius.

## 9. (1.) Sum the series

$$\tan^{-1}\frac{1}{3} + \tan^{-1}\frac{1}{7} + \tan^{-1}\frac{1}{13} + \dots + \tan^{-1}\frac{1}{n^2 + n + 1}$$

(2.) Prove that, when x is less than unity,

 $1 + x \cos \theta + x^2 \cos 2\theta + \ldots$  to infinity

$$=\frac{1-x\cos\theta}{1-2x\cos\theta+x^2}$$

From this result deduce the expansion of  $\cos n\theta$  in terms of  $\cos \theta$ .

## ELEMENTS OF DYNAMICS.

### Additional Mathematical Subject.

#### Friday, 18th June. 2 P.M. to 3.30 P.M.

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

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

1. Enunciate and prove the proposition known as the Triangle of Velocities.

ABC is an equilateral triangle and velocities represented in magnitude and direction by 3AB, 2BC, and CA are imparted simultaneously to a particle; show that its resultant velocity is represented by twice the perpendicular from A to BC.

Show how to resolve a given velocity into two components at right angles to each other.

A ship is sailing in a direction between east and north at the rate of 13 knots; if the easterly component of its velocity be 12 knots, find the northerly component.

3. Define force and momentum. How is force related to momentum?

A roller weighing 10 cwt, is moving at the rate of 2 miles an hour ; compare its momentum with that of a cannon-ball weighing 16 lbs, and travelling at the rate of 1,232 feet a second.

4. Show that a body projected obliquely under the action of gravity will describe a curved path.

A cricket ball is thrown in a direction making an angle of 60° A circlet tail is autom in a uncertain marker in age to be with a horizontal plane, it is initial velocity being 100 feet per second, find its velocity at its highest point (the resistance of the air being neglected). Find also how many seconds the ball will take to reach a vertical wall 50 yards in front of the thrower.

5. If two unequal parallel forces act at given points of a body in opposite directions, find the magnitude and line of action of a third force which shall be in equilibrium with them.

A lever is 8 feet long; one end is used as fulrum, and an upward force equal to the weight of 10 pounds is applied to the other in order to raise a weight of 32 pounds. Find at what point of the lever the weight is suspended.

6. Define work, and explain how it is measured.

In the system of pulleys in which one string goes round all the pulleys, show that the work done by gravity on the power as it descends a given distance is equal to the work done against gravity in the accompanying ascent of the weight.

7. Explain how the pressure at a given depth below the surface of a liquid is measured.

The pressure of the air on the surface of the sea is 15 lbs. on the square inch, and a cubic foot of sea-water weighs 1,025 ounces; find the pressure at a depth of 768 yards,

 Describe a pump for forcing air into a closed vessel. If the pump is connected with the pneumatic tyre of a bicycle by a short tube, show clearly that each stroke forces in less air than the preceding stroke.

#### HIGHER DYNAMICS.

#### ADDITIONAL MATHEMATICAL SUBJECT.

(Higher Grade and Honours.)

# Friday, 18th June. 2 P.M. to 3.30 P.M.

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

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

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

1. Define the moment of a force about a point.

Prove that the sum of the moments of two forces represented by AB, AC, about any point O, is equal to the moment of their resultant about the same point.

2. State the conditions of equilibrium of a body acted upon by three forces.

The legs of a double step-ladder, whose weight may be neglected, are each 10 feet long, and are joined by two strings, each 5 feet long, and on each side attached to points of feet from the top. A man, whose weight is 12 stone, stands on the top. Find the tension of each string if the floor be smooth. If the floor be rough, and the strings be removed, find the greatest angle at which the ladder can be opened when the man is at the top.

3. A heavy body is placed on a table, with three vertical legs, at the centre of the circle circumscribing the triangle ABC formed by the points of insertion of the legs. Prove that the additional pressures sustained by the legs are in the ratios a cos A: b cos B: c cos C.

Examine whether, if a table have four vertical legs at the corners of a square, and the body be placed at the centre, the additional pressures will be necessarily equal.

 Apply the principle of work to find the connection between the power and the weight in the case of (1) the inclined plane, (2) the wheel and axle.

A man, weighing 11 stone, rides a bicycle geared to 66 inches (i.e., each revolution of the crank propels the bicycle a distance equal to the circumference of a circle whose diameter is 66 inches) and of weight 35 pounds. If the crank-arm is 63 inches long, and if he puts his whole weight on the pedal, show that the steepest hill on which he can keep his bicycle at rest will have an inclination of one in six. In what position must the crank be?

5. Prove and explain the formulæ  $v^2 = V^2 + 2gs$ , 2s = (V+v)t.

Prove that the time of falling down all chords of a vertical circle to its lowest point is the same.

Is this true if the plane of the circle be inclined ?

6. Find the acceleration to the centre under which a particle will describe a circle of radius r with velocity v.

A shot is fired in a horizontal direction: assuming that there is nothing in the way, find its velocity in feet per second in order that it may just travel round the earth, whose radius is 3,960 miles.

 Prove that the path of a body moving under the action of gravity is a parabola.

Find the direction in which a body must be projected with initial velocity of 1,600 feet per second, in order to hit a mark at a horizontal distance of 7 miles and 3,040 feet.

8. Define resultant pressure and centre of pressure.

Find the position of the centre of pressure on the bottom of a rectangular bath 20 feet long, 10 feet wide, 4 feet deep at one end, and 6 feet deep at the other, the bottom being an inclined plane.

9. What is "Boyle's Law"?

Show that if a partially filled balloon be released and begin to ascend, it will rise with constant acceleration until it becomes full through the expansion of the contained gas, when the acceleration will begin to decrease.

Is this last result true, whether the neck of the balloon be open or closed ?

### GEOMETRICAL CONICS.

#### Additional Mathematical Subject.

### (Higher Grade and Honours.)

### Friday, 18th June. 4 P.M. to 5.30 P.M.

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

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

1. Distinguish between the three classes of conic sections.

If an ellipse, a parabola, and a hyperbola have the same focus S and the same directrix, and if a line drawn from S meet the ellipse in E, the parabola in P, and the hyperbola in H, show that SH > SP > SE.

- A is the vertex of a parabola, and from P, any point in the curve, PM is drawn at right angles to the directrix, PA produced meets the directrix in K; show that MSK is a right angle.
- 3. Find the locus of the foot of the perpendicular from the focus on the tangent to the parabola. Two parabolas have the same focus S, and tangents are drawn

to both parabolas at their vertices, meeting in T. Show that a straight line through T perpendicular to ST will touch both parabolas, and find the points of contact.

4. If perpendiculars are drawn from the foci of a central conic to a tangent, the rectangle contained by the perpendiculars is equal to the square on the semi-axis minor.

 State the fundamental property of conjugate diameters in an ellipse, and prove that supplemental chords are parallel to two conjugate diameters.

From P, any point in an ellipse, PN is drawn perpendicular to a fixed diameter DE. Show that PN is a maximum when CP is conjugate to CD.

6. In the hyperbola the portion of any tangent intercepted between the asymptotes is bisected at the point of contact.

Define a rectangular hyperbola, and prove from the definition that if A, A' are the vertices, and P any point on the curve, the ordinate PN is a tangent to the circle through A, A' and P.

 If a right cone be cut by a plane which is parallel to a generating line of the cone and at right angles to the plane containing that line and the axis of the cone, the section is a parabola.

Show that the *latus rectum* of a parabola cut from a given cone varies as the distance between the vertex of the parabola and the vertex of the cone.

### ANALYTICAL GEOMETRY.

### Additional MATHEMATICAL SUBJECT.

## (Higher Grade and Honours.)

### Friday, 18th June. 12 noon to 1.30 P.M.

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

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

1. Find the area of the triangle formed by joining the points (63, 36), (15, 0), (0, 20).

Prove that this triangle is right angled.

2. Show that y = mx + c is the equation to a straight line, and determine the significance of m and c.

Form the equation to the straight line drawn through the point (h, k) at right angles to the line y = mx + c, and obtain the co-ordinates of their point of intersection.

- Determine the condition that three straight lines meet in a point. Find what value p must have in order that the straight lines px+4y=6, 3x+4y=5, 2x+3y=4, may meet in a point.
- 4. Form the equation of the circle which passes through the points (2, 1), (0, 3), (2, 5), and find the co-ordinates of its centre and the length of its radius.
- 5. Find the co-ordinates of the point which divides in a given ratio the line joining two given points.

*P* is any point on the curve  $xy=a^2$ , *A* is a fixed point (-a, 0) find the equation to the locus of a point that divides *AP* in the ratio *m* : *n*.

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6. Transform the equation  $(a^2+b^2)(x^2+y^2)+2(a^2-b^2)xy=2a^2b^2$  to axes bisecting the angles formed by the original axes, and reduce it to its simplest form.

7. Obtain the equation to the tangent at any point of a circle. If from (h, k) any line be drawn cutting the circle  $x^2+y^2=a^2$ , the tangents at the point where it meets the circle will intersect on the line  $hx + ky = a^2$ .

# BOOK-KEEPING.

Wednesday, 16th June. 2 P.M. to 4.30 P.M.

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Valter	Long c	ommenced business on 1st December, 1896, with :-	-								
		£ s. d.									
Cash	-	1,000 0 0									
Prem	ises vai	iued at									
Office	e furnit	ure valued at 100 0 0									
And he owned to John Scott for a loan											
sec	ured or	ver his premises 600 0 0									
the following were his transactions during December, 1896 :											
1896		£ s. d									
Deceml	ber 1.	Lodged in Bank of Scotland 900 0 0	j								
22	21	Paid for office books (in cash) 5 0 0	)								
,,	2.	Paid for two horses (by cheque) 60 0 0	,								
22	22	Paid for carts (by cheque) 40 0 0	)								
22	5.	Purchased from the Midlothian Coal Coy.									
		1,000 tons coal, at 10s. a ton 500 0 0	)								
,,	53	Accepted bill for same 500 0 0	)								
22	7.	Sold R. Lawson 50 tons, at 15s 37 10 0	)								
33	8.	Sold, for cash, 10 tons, at 16s 8 0 0	)								
>>	10.	Sold J. Henderson 200 tons, at 15s 150 0 0	)								
22	>>	Received bill for same 150 0 0	)								
22	16.	Purchased from the Scottish Collieries, Ld.,									
		2,000 tons at 12s	)								
22	20.	Sold to the Leith Foundry Company, 1,500									
		tons, at 14s. 6d 1,087 10 0	)								
>9	27.	Received for same	5								
39	33	Discount allowed 54 7 6	5								
33	39	Lodged in Bank of Scotland	)								
>>	33	Discounted J. Henderson's Bill, per Bank of	c .								
		Scotiand, proceeds credited by bank - 148 18 (	9								
23	30.	Sold to F. Mawson, Hengoland, 500 tons, at	0								
		Paid chimping duce (by choque) - 40.0 (	0								
23	59	Purchased from the Spettich Collingian Id	,								
3.9	. 33	1.000 tons at 13s 650 0 (	0								
		Paid the Scottish Collieries, Ld. (by cheque) 1.140 0 (	0								
33	>>	Discount allowed by them 60 0 (	0								
33	53	Cash drawn from hank 50 0 (	0								
33	21	Paid salaries (in cash) - 56 0 (	0								
33	01.	for stationery (by cheque) = - 6 0 (	0								
22	33	,, in our our (of our due)	~								

Write 5 % per annum off Premises (= £4 3s. 4d.) and 10 % per annum off Furniture (= 16s. 8d.) for depreciation, and allow John Scott interest at 4 % per annum (= £2). The stock of coal on hand at 31st December, 1896, is valued at 1,044*l*.

36-1

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

Post all the entries to Ledger Accounts. Separate Accounts should be opened for each class of expenditure.

Frame a Profit and Loss Account, and carry the balance to Walter Long, Capital Account. Then frame a Balance Sheet.

The Balances (or balancing entries) should all be filled in and the Accounts closed and ruled off.

Find the rate per ton at which the coal is taken at 31st December, 1896, and show how the books can be kept to show the stock on hand.

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36%

# COMMERCIAL ARITHMETIC .- FIRST PAPER.

# Thursday, 17th 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.

Add the columns placing the answers in the spaces provided. More importance will be attached to accuracy than to quickness.

Fill this in first       Name of School         Name of Pupil	
miles fur. poles yds. ft. in. £ s. d.	217 94

2	2	34	3	1	6	338	10	4월	317,246,315
6	3	10	2	0	8	6,727	8	6	283,185,109
3	4	36	1	2	10	156	16	$9\frac{3}{4}$	318,166,610
1	3	20	2	1	10	4,789	15	111	245,309,188
2	6	17	4	2	0	76	3	4	71,468,914
1	4	3	3	2	6	759	19	41	23,154,510
6	0	25	1	0	8	624	16	01	267,708,908
	4	26	3	0	5	76	10	11	112,307,659
4	6	38	5	2	4	93	16	4	245,236,712
	3	10	0	1	9	7,926	0	$5\frac{1}{2}$	198,187,610
	6	26	4	1	10	591	15	$0\frac{3}{4}$	354,392,100
7	7	29	3	2	9	197	2	8	212,963,458
	6	6	4	0	0	8,946	16	$3\frac{1}{2}$	167,859,012
1	2	10	4	<b>2</b>	4	839	19	7	12,273,413
	4	26	2	0	10	66	4	91	255,678
1	6	19	3	2	3	635	2	$10\frac{1}{2}$	290,172,314
8	1	32	4	0	7	6,298	10	3	140,216,782
6	5	37	2	1	0	3	2	10	390,581,215
<b>2</b>	4	0	0	2	8	1,795	4	$6\frac{3}{4}$	34,645,676
	2	16	2	0	5	682	15	2	389,160,115
4	6	2	5	0	11	9,326	19	$2\frac{1}{2}$	203,894,564
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### COMMERCIAL ARITHMETIC .-- Second Paper.

## Thursday, 17th June. 2.30 P.M. to 4 P.M.

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

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

- What is the cost of 14 tons 2 cwt. 3 qrs. 14 lbs., at £6 6s. 8d. per ton.
- Express in acres, roods, and poles, correct to the nearest pole, the area of a rectangular field, whose length is 313 yards and breadth 175 yards.
- 3. A room is 49 ft. 6 in, long, 37 ft. 4 in, broad, and 13 ft. 2 in, high. What is the largest number of persons it can hold so that each shall have at least 80 cubic feet of air ?
- 4. A dealer buys Ceylon tea at £12 per cwt., and Chinese tea at £9 6s. per cwt., mixing them in the proportion of 3 of the former to 7 of the latter. Find, to two decimal places, how much per cent. he will gain or lose by selling the mixture at 2s, per 1b. ?
- 5. A creditor allows his debtors a discount of  $2\frac{1}{2}$  per cent, and gives the agent who collects the money  $\frac{1}{4}$  per cent, of the sum collected by him. What will the creditor receive out of debts amounting to  $\pm 6,800$ ?
- 6. A litre contains a cubic decimetre. Taking a metre as 3.28 feet, and a gallon as containing '16 cubic feet, find what decimal fraction a litre is of a gallon, correct to two decimal places.
- 7. The rateable value of a town is £553784; an assessment, has to be made for a charge of £27846. What will be the necessary rate in the pound, expressed in pence and hundredths of a penny ? How much will be collected in excess of the requirement if all the assessment is paid in ?

8. Define the par of exchange and the course of exchange.

- If the par of exchange between London and Paris be 25'17, and the course of exchange be quoted at 25'21, find, to three decimal places, at how much per cent, premium English money stands.
- stands.
  9. An investor buys £1,000 stock in each of the following, the prices named including brokerage :—Consols, 2<sup>3</sup>/<sub>2</sub> per cent, at 108<sup>3</sup>/<sub>1</sub>/<sub>2</sub>; London and North Western, 3 per cent, at 117<sup>3</sup>/<sub>1</sub>. Natal, 3<sup>1</sup>/<sub>2</sub> per cent, at 109<sup>1</sup>/<sub>2</sub>; Tasmania, 4 per cent, at 115<sup>1</sup>/<sub>2</sub>. Find the cost of the whole, and the average rate of interest obtained, correct to two decimal places.

