

SECONDARY EDUCATION
(SCOTLAND).

LEAVING CERTIFICATE
EXAMINATION

(INCLUDING DAY SCHOOL CERTIFICATE
(HIGHER) GENERAL PAPER).

EXAMINATION PAPERS

1930.



LONDON:

PRINTED AND PUBLISHED BY HIS MAJESTY'S STATIONERY OFFICE

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1930.

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LEAVING CERTIFICATE EXAMINATION

(including Day School Certificate (Higher)
General Paper).

The Leaving Certificate Examination (including the General Paper set in connection with the award of the Day School Certificate (Higher)) is held annually by the Scottish Education Department. In 1930 it commenced on Monday, 24th March.

Candidates must be pupils of a school at which, or in connection with which, the examination is held, and must have been in regular attendance at the school from January to the date of the examination.

EXAMINATION PAPERS.

DAY SCHOOL CERTIFICATE
(HIGHER), 1930

GENERAL PAPER

Monday, 24th March—10 A.M. to 12 NOON

The value attached to each question is shown in brackets after the question.

N.B.—Write legibly and neatly, and leave a reasonable space between the lines. Marks will be deducted for bad writing.

1. Write a short Composition, to fill about a page of your book, on *one* of the following :—

- (a) The Joys of Collecting.
- (b) Scottish Ballads.
- (c) A Harbour and its Attractions.
- (d) Hill-Climbing.
- (e) The Crusades.

(30)

2. Read the following passage carefully and answer the questions that follow it :—

Our last stage from Thingvalla back to Reykjavik was got over very quickly, and seemed an infinitely shorter distance than when we first performed it. We met a number of farmers returning to their homes from a kind of fair that is annually held in *the little metropolis* ; and as I watched the long caravan-like line of pack horses and horsemen, wearily plodding over the stone waste *in single file*, I found it less difficult to believe that these remote islanders should be descended from *Oriental forefathers*. In fact, one is constantly reminded of the East in Iceland. From the earliest ages the Icelanders have been a people dwelling in tents. In the time of the ancient Parliament, the legislators, *during the entire session*, lay encamped in movable booths around the place of meeting. No Arab could be prouder of his courser than they are of their little ponies, or reverence more deeply *the sacred rights of hospitality* ; while the solemn salutation exchanged between two companies of travellers, passing each other in the desert—as they invariably call the uninhabited part of the country—would not have misbecome the stately courtesy of *the most ancient worshippers of the sun*.

- (a) What is the main theme of this passage, and on what occasion was it suggested to the writer's mind? Enumerate at least four points which he brings forward in support of the belief he mentions. (12)
- (b) Explain the expressions printed in italics. (6)
- (c) Give a general grammatical analysis of the second sentence in the passage—"We met forefathers." (5)
- (d) Give the precise meaning of the following words, *as used in this passage* :—stage, infinitely, annually, Parliament, legislators, remote, encamped, courser, salutation, uninhabited, misbecome, courtesy. (12)
- (e) Choose any *five* of the words quoted in (d), and break them into their component parts, giving in each case the force of root and affix. (5)

3. Write three short paragraphs comparing *either* Canada *or* Australia with India in point of (1) climate, (2) products, and (3) inhabitants. (15)

4. EITHER (a) How were our American colonies founded, and how were they lost? Give dates where you can.

OR (b) What is meant by the Industrial Revolution? What inventions brought it about? And what effect did it have on the occupations of the people and the distribution of the population in Great Britain? (15)

LEAVING CERTIFICATE EXAMINATION, 1930

ENGLISH

(INCLUDING LITERATURE AND HISTORY)

(FIRST PAPER (a)—COMPOSITION)

Monday, 24th March—10 A.M. to 10.50 A.M.

The value attached to the question is shown in brackets after the question.

N.B.—Write legibly and neatly, and leave a reasonable space between the lines. Marks will be deducted for bad writing.

Write a Composition, *not exceeding three foolscap pages in length*, on any *one* of the following subjects:—

- (a) Lessons by wireless in school.
- (b) The importance of preserving the beauties of rural Scotland.
- (c) Which has most benefited mankind—the great soldier, the great scientist, or the great poet?
- (d) Mary Queen of Scots describes to a friend at the French Court her return to Scotland, and her impressions of that country, its people and its capital. (35)

ENGLISH

(INCLUDING LITERATURE AND HISTORY)

(FIRST PAPER (b)—INTERPRETATION AND LANGUAGE)

Monday, 24th March—11.5 A.M. to 12.45 P.M.

The value attached to each question is shown in brackets after the question.

N.B.—Write legibly and neatly, and leave a reasonable space between the lines. Marks will be deducted for bad writing.

1. Read the following passage through and then answer the questions upon it.

“Lack of the energy and elasticity for which the author pleads has too often handicapped British commercial expansion abroad. The complaint which he quotes—‘You give us, not what we like, but what you think we ought to like’—is a telling indictment of British business methods. Whether it is due to mere lethargy or to the complacent assumption of superiority with which the inhabitants of this island are so often taxed, this attitude is one which, in the modern rush of commercial competition, we cannot afford to maintain. It is not enough that British goods are the best and most reliable in the world. They must also be suited to the needs of the people to whom they are offered. The lack of adaptability and imagination shown by the British trader is one of the main reasons why he has often been outstripped by the representatives of other countries’ interests. His remedy is to use up-to-date in place of antiquated methods and to familiarise himself with the language and customs of the people with whom he intends to deal. When a better understanding is reached on these lines the high quality of British goods should enable this country to develop its trade to an extent that will raise its national prosperity and materially alleviate the burden of unemployment.”

(a) What faults are here imputed to British commerce? What reasons are suggested for the existence of these faults? What means are suggested for removing them? And what benefits would flow from their removal?

(b) Explain the metaphor in "handicapped," and point out where the same metaphor is repeated later in the passage.

(c) Give the exact meaning of the following words and phrases as used in this passage, adding the derivation of the words printed in italics :—

commercial expansion, a telling *indictment*, *lethargy*, *complacent* assumption, taxed, *adaptability*, materially, alleviate. (25)

2. Read the following lines carefully and then answer the questions that follow.

[*Sarpedon urges his friend Glaucus to plunge with him into the battle.*]

"Could all our care elude the gloomy grave,
Which claims no less the fearful than the brave,
For lust of fame I should not vainly dare
In fighting fields, nor urge thy soul to war :
But since, alas ! ignoble age must come,
Disease, and death's inexorable doom,
The life, that others pay, let us bestow,
And give to fame what we to nature owe."

(a) Give the substance of Sarpedon's argument in your own words : explain the last two lines fully.

(b) Comment on the use of—fearful, dare, fighting—in this passage. Give the exact meaning, and if you can the derivation, of—elude, lust, inexorable, doom, bestow.

(c) Who do you think wrote these lines? On what grounds of style and metre is your conclusion based? (20)

3. Rewrite the following passage from Ben Jonson in good modern English, eliminating all archaisms of vocabulary, accident, syntax or order.

"The players have often mentioned it as an honour to Shakespeare, that in whatsoever he penned he never blotted out a line. My answer hath been 'Would he had blotted out a thousand.' Which they thought a malevolent speech. I had not told posterity this, but for their ignorance, who choose that circumstance to commend their friend, wherein he most faulted ; and to justify my own candour ; for I loved the man, and do honour his memory, on this side idolatry, as much as any." (12)

4. (a) Quote, or invent, a sentence to illustrate each of the following :—

inversion, alliteration, apostrophe, irony. (4)

(b) From what source, and about what date, did English borrow each of these words :—

chivalry, algebra, sepoy, garage ? (4)

ENGLISH

(INCLUDING LITERATURE AND HISTORY)

(SECOND PAPER—LITERATURE)

Monday, 24th March—1.45 P.M. to 2.45 P.M.

All candidates should attempt THREE questions, and three only, of which No. 1 is compulsory.

The value attached to each question is shown in brackets after the question.

N.B.—Write legibly and neatly, and leave a reasonable space between the lines. Marks will be deducted for bad writing.

1. The two passages, A and B, printed below are both translations of the same extract from a Hebrew poem in which God is represented as replying to the complaints of a good man in distress.

Answer the following questions :—

- (a) Which of the two versions, A or B, do you consider superior as literature ? Give reasons for your opinion, and support it by quotation from, or reference to, particular verses.
- (b) In verses 12–15 show how B, by making the meaning clearer, has improved on A.
- (c) Though the passages are written in prose, what do you notice about the second half of each verse (when compared with the first half) which distinguishes the writing from ordinary prose ? (16)

A.

(*Book of Job, ch. 38, verses 4-7 and 12-15.*)

Authorised Version.

4. Where wast thou, when I laid the foundations of the earth ?
Declare, if thou hast understanding.
5. Who hath laid the measures thereof, if thou knowest ?
Or who hath stretched the line upon it ?
6. Whereupon are the foundations thereof fastened ?
Or who laid the corner stone thereof,
7. When the morning stars sang together,
And all the sons of God shouted for joy ?
12. Hast thou commanded the morning since thy days ;
And caused the dayspring to know his place ;
13. That it might take hold of the ends of the earth,
That the wicked might be shaken out of it ?
14. It is turned as clay to the seal :
And they stand as a garment.
15. And from the wicked their light is withholden,
And the high arm shall be broken.

B.

(*Dr. Moffat's Translation of the Old Testament.*)

4. When I founded the earth, where were you then ?
Answer me that, if you have wit to know.
5. Who measured out the earth ?—
Do you know that ?
Who stretched the builder's line ?
6. What were its pedestals placed on ?
Who laid the corner-stone ?
7. When the morning-stars were singing,
And all the angels chanted in their joy.
12. Have you ever roused the morning,
Given directions to the dawn,
13. To catch the earth by the corners
And shake out the wicked ?
14. Earth stands out clear like clay stamped by a seal,
In all its colours like a robe ;
15. While wicked men are robbed of their dark hours,
And their uplifted arms are broken.

2. From Chaucer's description of his Canterbury Pilgrims, what would you gather that he most admired, and most disliked, in human nature ? Illustrate by quotation. (12)

3. Illustrate from Shakespeare what you gain, and what you lose, by merely reading a play instead of seeing it acted. (12)

4. Contrast the poetry of Pope with the poetry of Burns. (12)

5. Illustrate from Milton *or* Tennyson *or* Gray the use which a poet can make of his Biblical, classical or historical learning. (12)

6. **Either** (a) Illustrate from the Essays of Elia Charles Lamb's most striking qualities—his goodness of heart, his quaint humour, his love of old things, etc. (12)

Or (b) Write a brief appreciation of Hazlitt, or of Stevenson as an essayist, or of any living essayist known to you. (12)

7. Give a short account of *one* humorous person in *one* of the following novels, showing in what way the humour is characteristic of the author:—*The Antiquary*, *Pride and Prejudice*, *The Pickwick Papers*, *Adam Bede*, *Vanity Fair*, *Far from the Madding Crowd*. (12)

8. Show the importance in literary history of *one* of the following:—Marlowe, Dryden, Dr. Johnson, Wordsworth. (12)

9. What parts of Macaulay's prose works have you read, and what do you think of his descriptions of historical incidents and characters? (Give references.) (12)

ENGLISH

(INCLUDING LITERATURE AND HISTORY)

(THIRD PAPER—HISTORY)

Monday, 24th March—3 P.M. to 4 P.M.

All candidates should attempt THREE questions, viz., the question in Section A and two questions from Section B. The value attached to each question is shown in brackets after the question.

N.B.—Write legibly and neatly, and leave a reasonable space between the lines. Marks will be deducted for bad writing.

SECTION A.

This question should be attempted by all candidates.

1. Show *very briefly* the historical significance of *five* of the following events:—the death of Edward the Confessor; the murder of the Red Comyn; the marriage of Edward II; the battle of Bosworth; the death of Mary Tudor; the Solemn League and Covenant; the siege of Vienna (1683); the siege of Arcot; the fall of the Bastille; the surrender of Napoleon III; the Serajevo murders. (10)

SECTION B.

All candidates should attempt TWO questions from this Section. These may be taken from different Sub-sections, or both from the same Sub-section.

SUB-SECTION (1). EARLY PERIOD (55 B.C. to 1485 A.D.).

2. Give some account of British revolts against the Romans. What was the effect of the withdrawal of the Roman garrisons? (15)

3. How did (a) Canute come to be King of England and (b) Macbeth come to be King of Scotland? Sum up the results of each reign. (15)

4. How is the history of England connected with that of France in the reigns of (a) John, (b) Henry V? (15)

5. Estimate the respective contributions of Wallace and Bruce to the vindication of Scottish independence. (15)

6. Indicate the importance of any *three* of the following:—the Peasants' Revolt; the career of Joan of Arc; the fall of the House of Douglas; the English cloth industry in the Middle Ages; the invention of printing. (15)

SUB-SECTION (2). MIDDLE PERIOD (1485–1763).

7. **Either** (a) How did the discovery of the New World influence the history of (a) Spain and (b) England in the sixteenth century? (15)

Or (b) Why has the reign of James IV been called a golden age in Scottish History? (15)

8. How did England (a) escape an internal religious war at the period of the Reformation and (b) become involved in one in the following century? (15)

9. Give a brief account of any *two* of the following:—the Elizabethan Poor Law; the establishment of the East India Company; Gustavus Adolphus; John Hampden; General Monck; William Penn; Peter the Great; the foundation of the Bank of England; "enclosures" in the eighteenth century. (15)

10. Trace briefly the causes of wars between Great Britain and France between 1689 and 1763 and account for the long interval of peace after 1713. (15)

11. How are any *two* of the following writers connected with the history of their times :—Sir Thomas More, Francis Bacon, Jonathan Swift, Lord Bolingbroke ? (15)

SUB-SECTION (3). MODERN PERIOD (1763–1929).

12. **Either** (a) What influence, apart from foreign policy, did the French Revolution exercise upon Great Britain ? (15)

Or (b) Explain how Great Britain became rich enough to stand the strain of the long French War, 1793–1815. (15)

13. Draw a map to illustrate *one* of the following, and explain the importance of the places you mark in connection with the events to which your map relates :—

(a) the growth of British Dominion in India, 1763–1857 ;

(b) the Peninsular War ;

(c) the development of Australia ;

(d) the Union of Italy. (15)

14. Trace the relations between Great Britain and the United States of America from 1783 to 1918. (15)

15. What important political movements or arguments do you connect with any *one* of the following :—Edmund Burke ; Samuel Wilberforce ; Sir Robert Peel ; the Seventh Earl of Shaftesbury (Lord Ashley) ; Charles Stewart Parnell ? (15)

16. Give a brief outline *either* of the changes in the parliamentary franchise since 1832 *or* of the development of the means of transport and communication since the introduction of railways. (15)

L A T I N

LOWER GRADE

Friday, 28th March—10 A.M. to 12.30 P.M.

The value attached to each question is shown in brackets after the question.

N.B.—Begin each question on a fresh page. Write legibly and neatly, and leave a reasonable space between the lines. Marks will be deducted for bad writing.

1. Translate into English :—

The Carthaginians think it possible to recover Sardinia from the Romans.

Interim Carthaginem, unde Mago, frater Hannibalis, duodecim milia peditum et mille quingentos equites, viginti elephantos, mille argenti talenta in Italiam transmissurus erat cum praesidio sexaginta navium longarum, nuntius adfertur in Hispania rem male gestam esse omnesque ferme eius provinciae populos ad Romanos defecisse. erant qui Magonem cum classe ea copiisque, omissa Italia, in Hispaniam averterent, cum Sardiniae recipiendae repentina spes adfulsit: parvum ibi exercitum Romanum esse; veterem praetorem inde A. Cornelium provinciae peritum decedere, novum exspectari; praeterea fessos iam animos Sardorum esse diuturnitate imperii Romani, et proximo iis anno acerbe atque avare imperatum; gravi tributo et conlatione iniqua frumenti pressos; nihil deesse aliud quam auctorem ad quem deficerent. (25)

2. Translate into English :—

Pamphilus tells how it came about that his two precious goblets were saved from the clutches of Verres, the rapacious Praetor, who had heard of their fame.

Cum sederem, inquit, domi tristis, accurrit Venerius; iubet me scyphos⁽¹⁾ ad praetorem statim adferre. permotus sum; binos habebam; iubeo promi utrumque, ne quid plus mali nasceretur, et mecum ad praetoris domum ferri. eo cum venio, praetor quiescebat; fratres illi Cibratae⁽²⁾ inambulabant. qui ubi me viderunt, "ubi sunt, Pamphile," inquirunt, "scyphi?" ostendo tristis; laudant. incipio queri me nihil habiturum quod alicuius esset pretii, si etiam scyphi essent ablati. tum illi, ubi me conturbatum vident, "quid vis nobis dare, ne isti ab te auferantur?" sestertios mille me poposcerunt; dixi me daturum. vocat interea praetor; poscit scyphos. tum illi coeperunt praetori dicere putasse se alicuius pretii scyphos esse Pamphili: sed non dignos esse quos in suo argento Verres haberet. ait ille idem sibi videri. ita scyphos optimos aufero. (25)

⁽¹⁾ *scyphi* = goblets.

⁽²⁾ The Cibratic brothers, used as tools by Verres in his misappropriations.

3. Translate into Latin :—

(1) Let us ask these men if there is any news.

(2) He hoped to find his arrow under the tree.

(3) Do not answer that you have never been warned.

(4) He reached Africa ten days after he set out.

(5) Have you not learned when to speak and when to be silent ?

(6) One should eat to live, not live to eat.

(7) My uncle does not know whether I am rich or poor.

(8) All the bravest men were wounded as soon as the fight began. (24)

4. Give the Latin words (with their meanings) from which the following are derived :—disparity, casual, aviary, concomitant, impulsive, appendage, serrated, onerous, complicate, suggestion, commercial, internecine. (6)

LATIN

HIGHER GRADE—(FIRST PAPER)

Friday, 28th March—10 A.M. to 12.30 P.M.

The value attached to each question is shown in brackets after the question.

N.B.—Begin each question on a fresh page. Write legibly and neatly, and leave a reasonable space between the lines. Marks will be deducted for bad writing.

Translate the following passages into English :—

1. *Cicero's vanity is wounded at Puteoli while he is returning to Rome from Lilybaeum in Sicily, where he had been Quaestor.*

Vere mehercule hoc dicam : sic tum existimabam, nihil homines aliud Romae nisi de quaestura mea loqui. frumentum in summa caritate maximum numerum Romam miseram ; negotiatoribus comis, mercatoribus iustus, sociis abstinens, omnibus eram visus in omni officio diligentissimus; excogitati quidam erant a Siculis honores in me inauditi. itaque hac spe decedebam ut mihi populum Romanum ultro omnia delaturum putarem. at ego cum diebus eis decedens e provincia Puteolos forte venissem, cum plurimi et lautissimi⁽¹⁾ in eis locis solent esse, concidi paene cum ex me quidam quaesisset quo die Roma exissem et num quidnam

esset novi. cui cum respondissem me e provincia decedere :
 "etiam mehercule," inquit, "ut opinor, ex Africa." huic
 ego iam stomachans⁽²⁾ fastidiose : "immo ex Sicilia,"
 inquam. tum quidam, quasi qui omnia sciret : "quid ?
 tu nescis," inquit, "hunc quaestorem Syracusis fuisse ?"
 quid multa ? destiti stomachari et me unum ex eis feci
 qui ad aquas venissent. (35)

⁽¹⁾ most fashionable.

⁽²⁾ angry.

2. *Euryalus and Nisus meet their death together.*

Volvitur Euryalus leto, pulchrosque per artus
 it cruor inque umeros cervix conlapsa recumbit :
 purpureus veluti cum flos succisus aratro
 languescit moriens, lassove papavera collo
 demisere caput pluvia cum forte gravantur.
 at Nisus ruit in medios solumque per omnes
 Volcentem petit, in solo Volcente moratur.
 quem circum glomerati hostes hinc comminus atque hinc
 proturbant. instat non setius⁽¹⁾ ac rotat ensem
 fulmineum, donec Rutuli clamantis in ore
 condidit adverso et moriens animam abstulit hosti.
 tum super exanimum sese proiecit amicum
 confossus, placidaque ibi demum morte quievit.

Fortunati ambo ! si quid mea carmina possunt,
 nulla dies umquam memori vos eximet aevo. (30)

⁽¹⁾ *non setius* = none the less.

3. *The brothers Scipio find an ally against the Carthaginians.*

Eodem anno P. et Cn. Cornelii, cum in Hispania res
 prosperae essent multosque et veteres reciperent socios
 et novos adicerent, in Africam quoque spem extenderunt.
 Syphax erat rex Numidarum, subito Carthaginiensibus
 hostis factus ; ad eum centuriones tres legatos miserunt qui
 cum eo amicitiam societatemque facerent et pollicerentur,
 si perseveraret urgere bello Carthaginienses, gratam eam
 rem fore senatui populoque Romano et adnissuros ut in
 tempore bene cumulata gratiam referant. grata ea
 legatio barbaro fuit ; conlocutusque cum legatis de
 ratione belli gerundi, ut veterum militum verba audivit,
 quam multarum rerum ipse ignarus esset ex comparatione
 tam ordinatae disciplinae animum advertit. tum primum
 ut pro bonis ac fidelibus sociis facerent, oravit ut duo
 legationem referrent ad imperatores suos, unus apud sese
 magister rei militaris restaret. (25)

LATIN

HIGHER GRADE—(SECOND PAPER)

Friday, 28th March—1.30 P.M. to 3.30 P.M.

The value attached to each question is shown in brackets after the question.

N.B.—Begin each question on a fresh page. Write legibly and neatly, and leave a reasonable space between the lines. Marks will be deducted for bad writing.

1. Translate into Latin prose :—

Caesar, after his first consulship, had the province of Gaul committed to his charge for five years, and was allowed at first three legions, to which others were successively added to the number of ten. He set out in the beginning of the month of April, and after his arrival found, to his great mortification, that all was quiet. He had not, however, been long there when he was glad to hear of a commotion of the Helvetii, who, incited by their prince, Orgetorix, had burnt down their houses, and, leaving the country as being too small, had gone in quest of new settlements. Caesar had no sooner been informed of their design than he resolved to drive them back, and with such expedition did he march that, before they knew of his approach, he came upon them as they were going to cross the Rhine. What ensued may be learned from his own writings, though they do not describe his operations in detail. (40)

2. Translate into Latin :—

(1) Surely you were clever enough to understand his meaning ?

(2) If he had not spared the prisoners, the soldiers would have blamed him.

(3) The greater the care with which you undertake the work, the better the result will be.

(4) From what place did you set out with the intention of coming here ?

(5) Eight days ago I did not know whether he was alive or dead.

(6) It is impossible to believe that a Carthaginian will keep his promises. (20)

GREEK

LOWER GRADE

Monday, 31st March—10 A.M. to 12.30 P.M.

The value attached to each question is shown in brackets after the question.

N.B.—Begin each question on a fresh page. Write legibly and neatly, and leave a reasonable space between the lines. Marks will be deducted for bad writing.

1. Translate into English :—

The meaning of the Delphic motto "Know Thyself."

Καὶ ὁ Σωκράτης, Εἶπέ μοι, ἔφη, ὦ Εὐθύδημε, εἰς Δελφοὺς ἤδη πρόποτε ἀφίκου; Καὶ δῖς γε νῆ Δί', ἔφη. Κατέμαθες οὖν πρὸς τῷ νεῷ που γεγραμμένον τὸ Γνωῖθι σαυτὸν; Ἐγῶγε. Πότερον οὖν οὐδέν σοι τοῦ γράμματος ἐμέλησεν, ἢ προσέσχες τε νοῦν καὶ ἐπεχείρησας σαυτὸν ἐπισκοπεῖν ὅστις εἶης; Μὰ Δί' οὐ δῆτα, ἔφη. καὶ γὰρ δὴ πάνυ τοῦτό γε ὤμην εἰδέναι· σχολῆ⁽¹⁾ γὰρ ἂν ἄλλο τι ἤδη, εἴ γε μηδ' ἑμαυτὸν ἐγίγνωσκον. Πότερα δέ σοι δοκεῖ γινώσκειν ἑαυτὸν ὅστις τοῦνομα τὸ ἑαυτοῦ μόνον οἶδεν, ἢ ὅστις ἑαυτὸν ἐπισκεψάμενος ὁποῖός ἐστιν ἔγνωκε τὴν αὐτοῦ δύναμιν, ὥσπερ οἱ τοὺς ἵππους ἀνούμενοι οὐ πρότερον οἴονται γινώσκειν ὃν ἂν βούλωνται γνῶναι, πρὶν ἂν ἐπισκέψωνται πότερον εὐπειθής ἐστιν ἢ δυσπειθής καὶ πότερον ἰσχυρὸς ἢ ἀσθενής καὶ πότερον ταχύς ἢ βραδύς; Οὕτως ἔμοιγε δοκεῖ, ἔφη, ὁ μὴ εἰδώς τὴν αὐτοῦ δύναμιν ἀγνοεῖν ἑαυτὸν. (25)

⁽¹⁾ hardly.

2. Translate into English :—

Alexander, hearing that Darius is encamped at Sochi, advances against him after consultation with his staff.

Ἐτι δὲ ἐν Μαλλῷ ὄντι τῷ Ἀλεξάνδρῳ ἀγγέλλεται Δαρεῖον ἐν Σώχοις σὺν τῇ πάσῃ δυνάμει στρατοπεδεύειν. ὁ δὲ χώρος οὗτος ἐστι μὲν τῆς Ἀσσυρίας γῆς, ἀπέχει δὲ τῶν πυλῶν τῶν Ἀσσυρίων εἰς δύο μάλιστα σταθμούς.

ἐνθα δὴ συναγαγὼν τοὺς ἑταίρους φράζει αὐτοῖς τὰ ἐξηγγελμένα περὶ Δαρείου τε καὶ τῆς στρατιᾶς τῆς Δαρείου. οἱ δὲ αὐτόθεν ὡς εἶχεν ἄγειν ἐκέλευον. ὁ δὲ τότε μὲν ἐπαινέσας αὐτοὺς διέλυσε τὸν σύλλογον· τῇ δὲ ὑστεραία προῆγεν ὡς ἐπὶ Δαρείῳ τε καὶ τοὺς Πέρσας. δευτεραῖος δὲ ὑπερβαλὼν τὰς πυλάς ἐστρατοπέδευσε πρὸς Μυριάνδρῳ πόλει· καὶ τῆς νυκτὸς χειμῶν ἐπιγίγνεται σκληρὸς καὶ ὕδωρ τε ἐξ οὐρανοῦ καὶ πνεῦμα βίαιον· τοῦτο κατέσχεν ἐν τῷ στρατοπέδῳ Ἀλέξανδρον. Δαρεῖος δὲ σὺν τῇ στρατιᾷ διέτριβεν, ἐπιλεξάμενος τῆς Ἀσσυρίας γῆς πεδίον τῷ πλήθει τῆς στρατιᾶς ἐπιτήδειον καὶ ἐνιπάσασθαι τῇ ἵππῳ σύμφορον. (25)

3. Translate into Greek :—

- (1) I heard you saying he was here.
- (2) If he comes, I shall put him to death.
- (3) He was too small to touch the wall.
- (4) Surely you love me?
- (5) He hoped to capture the city by force.
- (6) He shut the gate before the enemy arrived.
- (7) My doctor ordered me to stay at home to-day.

(14)

4. (a) Give the Greek words (with their meanings) from which the following are derived :—

catastrophe, periscope, hydrophone, choir, cinematograph.

(b) Give the meaning of each of the following, and an English word derived from each :—

ποιεῖν, δρᾶν, σκῆνη, νόμος, κέντρον.

(c) Translate into English :—

- (i) ἐπ' ἐκείνων οὐχ οὕτως πόλεμον ἦγον.
- (ii) ἠποροῦμεν τί ποιοῖμεν.
- (iii) περὶ οὐδενὸς τὸ δῶρον ἐποιεῖτο.
- (iv) πρὸς γυναικὸς ἐστὶν οἰκτίρειν τοὺς κακῶς πράσσοντας.
- (v) παρὰ μικρὸν ἦλθεν ἀποθανεῖν.
- (vi) θυμάσιον ὅσον ἡμῖν ὠργίζετο.

(16)

GREEK

HIGHER GRADE—(FIRST PAPER)

Monday, 31st March—10 A.M. to 12.30 P.M.

The value attached to each question is shown in brackets after the question.

N.B.—Begin each question on a fresh page. Write legibly and neatly, and leave a reasonable space between the lines. Marks will be deducted for bad writing.

Translate into English:—

1. *Socrates describes the judgment of the dead.*

ἄκουε δὴ μάλα καλοῦ λόγου, ὃν σὺ μὲν ἠγήσει μῦθον, ὡς ἐγὼ οἶμαι, ἐγὼ δὲ λόγον· ὡς ἀληθῆ γὰρ ὄντα σοὶ λέξω ἃ μέλλω λέγειν. ὥσπερ γὰρ Ὀμηρος λέγει, διενείμαντο τὴν ἀρχὴν ὁ Ζεὺς καὶ ὁ Ποσειδῶν καὶ ὁ Πλούτων, ἐπειδὴ παρὰ τοῦ πατρὸς παρέλαβον. ἦν οὖν νόμος ὅδε περὶ ἀνθρώπων ἐπὶ Κρόνου, καὶ αἰεὶ καὶ νῦν ἔστιν ἐν θεοῖς, τῶν ἀνθρώπων τὸν μὲν δικαίως τὸν βίον διελθόντα καὶ ὀσίως, ἐπειδὴν τελευτήσῃ, εἰς μακάρων νήσους ἀπιόντα οἰκεῖν ἐν πάσῃ εὐδαιμονίᾳ ἐκτὸς κακῶν, τὸν δὲ ἀδίκως καὶ ἀθέως εἰς τὸ τῆς τίσεώς τε καὶ δίκης δεσμοτήριον, ὃ δὴ Τάρταρον καλοῦσιν, ἵεσαι. τούτων δὲ δικασταὶ ἐπὶ Κρόνου καὶ ἔτι νεωστὶ τοῦ Διὸς τὴν ἀρχὴν ἔχοντος ζῶντες ἦσαν ζώντων, ἐκείνη τῇ ἡμέρᾳ δικάζοντες ἢ μέλλοιεν τελευτᾶν. κακῶς οὖν αἱ δίκαι ἐκρίνοντο. ὃ τε οὖν Πλούτων καὶ οἱ ἐπιμεληταὶ οἱ ἐκ μακάρων νήσων ἰόντες ἔλεγον πρὸς τὸν Δία ὅτι φοιτῶν σφιν ἀνθρωποὶ ἐκατέρωσε ἀνάξιοι. εἶπεν οὖν ὁ Ζεὺς, Ἄλλ' ἐγὼ, ἔφη, παύσω τοῦτο γιγνόμενον. (35)

2. *Plague breaks out in Athens.*

καὶ ὄντων τῶν πολεμίων οὐ πολλὰς πω ἡμέρας ἐν τῇ Ἀττικῇ ἡ νόσος πρῶτον ἤρξατο γενέσθαι τοῖς Ἀθηναίοις, λεγόμενον μὲν καὶ πρότερον πολλαχόσε ἐγκατασκῆψαι⁽¹⁾ καὶ

⁽¹⁾ From ἐγκατασκῆπτω = break out among.

περὶ Λῆμνον καὶ ἐν ἄλλοις χωρίοις, οὐ μέντοι τοσοῦτός γε λοιμὸς οὐδὲ φθορὰ οὕτως ἀνθρώπων οὐδαμοῦ ἐμνημονεύετο γενέσθαι. οὔτε γὰρ ἰατροὶ ἤρκουσαν τὸ πρῶτον θεραπεύοντες ἀγνοίᾳ, ἀλλ' αὐτοὶ μάλιστα ἔθνησκον ὅσῳ καὶ μάλιστα προσῆσαν, οὔτε ἄλλη ἀνθρωπεῖα τέχνη οὐδεμία· ὅσα τε πρὸς ἱεροῖς ἰκέτευσαν ἢ μαντείοις καὶ τοῖς τοιούτοις ἐχρήσαντο, πάντα ἀνωφελῆ ἦν, τελευτῶντές τε αὐτῶν ἀπέστησαν ὑπὸ τοῦ κακοῦ νικώμενοι. ἤρξατο δὲ τὸ μὲν πρῶτον, ὡς λέγεται, ἐξ Αἰθιοπίας· ἐς δὲ τὴν Ἀθηναίων πόλιν ἐξαπινάκιως ἐνέπεσε, καὶ τὸ πρῶτον ἐν τῷ Πειραιεῖ ἤψατο τῶν ἀνθρώπων, ὥστε καὶ ἐλέχθη ὑπ' αὐτῶν ὡς οἱ Πελοποννήσιοι φάρμακα ἐσβεβλήκοιεν ἐς τὰ φρέατα.

(30)

3. Either (a) or (b)—

(a) *Helen, meeting Menelaus in Egypt seven years after the fall of Troy, warns him that her new suitor has designs upon his life.*

ΕΛ. ἐν δ' εἰπέ πάντα παραλιπῶν, πόσον χρόνον
πόντου ἔπι νώτοις ἄλιον ἐφθείρου πλάνον;

ΜΕ. ἐν ναυσὶν ὧν πρὸς τοῖσιν ἐν Τροίᾳ δέκα
ἔτεσι διῆλθον ἑπτὰ περιδρομάς ἐτῶν.

ΕΛ. φεῦ φεῦ· μακρόν γ' ἔλεξας, ὦ τάλας, χρόνον,
σωθεὶς δ' ἐκεῖθεν ἐνθάδ' ἦλθες εἰς σφαγὰς.

ΜΕ. πῶς φῆς; τί λέξεις; ὡς μ' ἀπώλεσας, γύναι.

ΕΛ. θανεῖ πρὸς ἀνδρὸς οὗ τὰδ' ἐστὶ δώματα.

ΜΕ. τί χρῆμα δράσας ἄξιον τῆς συμφορᾶς;

ΕΛ. ἦκεις ἀελπτος ἐμποδῶν τ' ἐμοῖς γάμοις.

ΜΕ. ἦ γὰρ γαμεῖν τις τὰμ' ἐβουλήθη λέχῃ;

ΕΛ. ὕβριν θ' ὕβρίζειν εἰς ἔμ' ἦν ἔτλην ἐγώ.

ΜΕ. ἰδίᾳ σθένων τις ἢ τυραννεύων χθονός;

ΕΛ. ὅς γῆς ἀνάσσει τῆσδε Πρωτέως γόνος.

ΜΕ. τὸδ' ἔστ' ἐκεῖν' αἰνιγμ' ὃ προσπόλου κλύω.

ΕΛ. ποίοις ἐπιστὰς βαρβάρους πυλώμασιν;

- ME. τοῖσδ', ἔνθεν ὥσπερ πτωχὸς ἐξήλαυνόμην.
 ΕΛ. οὐ που προσήγεις βίοντον; ὦ τάλαιν' ἐγώ.
 ME. τοῦργον μὲν ἦν τοῦτ', ὄνομα δ' οὐκ εἶχον τόδε.
 ΕΛ. πάντ' οἶσθ' ἄρ', ὡς ἔοικας, ἀμφ' ἐμῶν γάμων.
 (30)

(b) *Thetis, accompanied by the Nereids, goes to Troy and offers consolation to Achilles, whom she finds mourning the death of his friend Patroclus.*

ὡς ἄρα φωνήσασα λίπε σπέος· αἱ δὲ σὺν αὐτῇ
 δακρυόεσσαι ἴσαν, περὶ δὲ σφισι κῦμα θαλάσσης
 ῥήγνυτο· ταί δ' ὅτε δὴ Τροίην ἐρίβωλον ἴκοντο,
 ἀκτὴν εἰσανέβαινον ἐπισχερώ,⁽¹⁾ ἔνθα θαμειαὶ
 Μυρμιδόνων εἴρυντο⁽²⁾ νέες ταχὺν ἀμφ' Ἀχιλλῆα.
 τῷ δὲ βαρὺ στενάχοντι παρίστατο πότνια μήτηρ,
 ὄξυ δὲ κωκύσασα κάρη λάβε παιδὸς ἐοῖο,
 καὶ ῥ' ὀλοφυρομένη ἔπεα πτερόεντα προσηύδα.

“τέκνον, τί κλαίεις; τί δέ σε φρένας ἴκετο πένθος;
 ἐξαύδα, μὴ κεῦθε· τὰ μὲν δὴ τοι τετέλεσται
 ἐκ Διός, ὡς ἄρα δὴ πρὶν γ' εὐχεο χεῖρας ἀνασχών,
 πάντας ἐπὶ πρύμνησιν ἀλήμεναι⁽³⁾ υἴας Ἀχαιῶν
 σεῦ ἐπιδευομένους, παθέειν τ' ἀεκήλια ἔργα.”

τὴν δὲ βαρὺ στενάχων προσέφη πόδας ὠκύς Ἀχιλλεύς·
 “μῆτερ ἐμή, τὰ μὲν ἄρ μοι Ὀλύμπιος ἐξετέλεσεν·
 ἀλλὰ τί μοι τῶν ἦδος, ἐπεὶ φίλος ὦλεθ' ἑταῖρος,
 Πάτροκλος, τὸν ἐγὼ περὶ πάντων τῶν ἑταίρων;” (30)

⁽¹⁾ ἐπισχερώ = one after another.

⁽²⁾ εἴρυντο = were drawn up.

⁽³⁾ ἀλήμεναι, from εἴλω = pen, confine.

GREEK

HIGHER GRADE—(SECOND PAPER)

Monday, 31st March—2 P.M. to 4 P.M.

The value attached to each question is shown in brackets after the question.

N.B.—Begin each question on a fresh page. Write legibly and neatly, and leave a reasonable space between the lines. Marks will be deducted for bad writing.

1. Translate into Greek :—

When Croesus, King of Lydia, was going to make war on Cyrus, King of Persia, he called together a few of his most faithful friends and thus addressed them : “ Put on an Egyptian dress and go to the oracle⁽¹⁾ of Apollo at Delphi with these presents, some of which are valuable and others worthless. Say that you are Egyptians and are come to consult the oracle, but that from the length of the journey you have entirely forgotten what you were ordered to say. Offer first the worthless presents ; and if Apollo can tell you why you were sent, give him next the valuable ones, and inquire if I shall conquer Cyrus.” The priests easily perceived from the men’s language that they were not Egyptians, and by some means or other discovered who they really were. An ambiguous⁽²⁾ answer was returned by Apollo to the following effect—that if Croesus crossed the river Halys he would overthrow a great empire. (35)

⁽¹⁾ χρηστήριον.⁽²⁾ ἀσαφής.

2. Translate into Greek :—

- (1) I saw that they were marching more quickly than usual.
- (2) If you were to attack the city, I should defend it with all my power.
- (3) What concern is it of his whether I drink wine or water ?
- (4) On every occasion he was badly treated by his fellow-citizens.
- (5) They did not prevent the enemy from ravaging the surrounding country. (15)

3. Translate into English :—

- (1) ἐκὼν εἶναι οὐδὲν ψεύσομαι.
- (2) οὐ πρέπει δι' ὀργῆς ἔχειν οὐδένα.
- (3) ὡς ἔπος εἰπεῖν ἅπαντα ἀπώλετο.
- (4) ὄρα εἴ σοι βουλομένῳ ἐστὶν ἃ λέγω.
- (5) δεινός, ὡς Λακεδαμόνιος, λέγειν. (5)

FRENCH

LOWER GRADE

Thursday, 27th March—10 A.M. to 12.30 P.M.

The value attached to each question is shown in brackets after the question.

N.B.—Begin each question on a fresh page. Write legibly and neatly, and leave a reasonable space between the lines. Marks will be deducted for bad writing.

1. Translate into English :—

Gounod⁽¹⁾ et le paysan aveugle.

Nous étions à la campagne depuis une semaine ; c'était au mois de juin ; les fenêtres ouvertes laissaient entrer dans le salon tous les parfums du jardin. Gounod venait de quitter le piano, et à la musique avait succédé une de ces causeries intimes sur l'art, où la parole a, dans la bouche de notre ami, le charme d'une de ses mélodies. Je lui racontai alors qu'un paysan aveugle, devenu notre voisin, traversait quelquefois, le soir, pendant l'été, la petite route gazonnée qui sépare sa cabane de notre habitation, et venait s'asseoir par terre le long du mur de notre jardin ; et, là, pendant tout le temps que nous faisons de la musique, il restait immobile à écouter.

“ J'aimerais bien chanter pour cet homme-là ! ” s'écria Gounod.—“ Vrai, mon cher ami ? Rien n'est plus facile. Il est deux heures ; Jacques, c'est son nom, va revenir de son travail pour goûter.”

⁽¹⁾ *Gounod* = célèbre musicien français, 1818–1893.

Nous vîmes, en effet, paraître dans l'allée un homme petit de taille mais vigoureux, tâtant avec son bâton le terrain et les arbustes pour s'assurer de son chemin. Nous descendîmes les cinq marches du perron et nous allâmes à lui. (25)

2. Translate into English :—

Me prenant alors par la main, le maréchal Lannes ouvre la fenêtre du balcon qui domine au loin le Danube, dont l'immense largeur, triplée en ce moment par une très forte inondation, était de près d'une lieue. Il pleuvait à torrents, et la nuit était des plus obscures ; on apercevait néanmoins de l'autre côté une immense ligne de feux de bivouac. Napoléon, le maréchal Lannes et moi étant seuls auprès du balcon, le maréchal me dit : "Voilà de l'autre côté du fleuve un camp autrichien, mais l'Empereur désire très vivement savoir si le corps du général Hiller en fait partie, ou s'il se trouve encore sur cette rive. Il faudrait que, pour s'en assurer, un homme de cœur eût le courage de traverser le Danube, afin d'aller enlever quelque soldat ennemi, et j'ai affirmé à l'Empereur que vous iriez !" Napoléon me dit alors : "Remarquez bien que ce n'est pas un ordre que je vous donne ; c'est un désir que j'exprime ; je reconnais que l'entreprise est on ne peut plus périlleuse, mais vous pouvez la refuser sans crainte de me déplaire. Allez donc réfléchir quelques instants dans la pièce voisine, et revenez nous dire franchement votre décision." (25)

3. Translate into French :—

Our dog was always very happy and very good, although he barked too much. Then something happened. A friend of ours who was going to the country asked us to keep her cat till she came back. We promised to do so—without consulting Rover. Poor beast ! He was jealous of the cat from the first day to the last. I am sure he counted the days of our neighbour's absence—she had said she would be back in a fortnight—and his joy when she took away her cat was extraordinary.

Rover was right, and we were wrong, and we made up our minds that we would bring no more cats into our house without his permission. (15)

4. Translate into French :—

- (1) I must see him—tell him to come at once.
- (2) If you come back to-morrow, we shall see what we can do.
- (3) How much did you pay for the two pictures you showed me yesterday ?
- (4) This little girl is only five. She can't write yet.
- (5) It is going to be fine. Don't be afraid to put on your best hat.
- (6) I should like to know what you have done since you went abroad.
- (7) Last night I saw him in the park sitting on a seat. He was listening to the birds. (15)

FRENCH

HIGHER GRADE—(FIRST PAPER)

Thursday, 27th March—10 A.M. to 12 NOON

The value attached to each question is shown in brackets after the question.

N.B.—Begin each question on a fresh page. Write legibly and neatly, and leave a reasonable space between the lines. Marks will be deducted for bad writing.

Translate carefully, with due attention to English form and expression :—

1. Il était de tradition en Écosse, parmi le peuple, de s'imposer des sacrifices pour procurer de l'instruction au plus intelligent des fils. On s'y prenait avec la simplicité et la bonhomie du vieux temps. Les écoliers partaient à l'entrée de l'hiver à pied, quelle que fût la distance, et en demandant chaque soir l'hospitalité. Arrivés dans la ville d'université, ils louaient un logement qui était à peu près leur seule dépense. Le voiturier leur apportait de temps à autre une provision de pommes de terre, de gruau d'avoine et de beurre salé envoyée par la famille ; il remportait le linge sale et les vêtements à raccommoder, et ainsi passait l'hiver. Le printemps dispersait la colonie des campagnards.

Ils retournaient chez eux et reprenaient la pioche et la faux pour gagner l'huile de lampe et les livres de l'hiver suivant. De nos jours, on ne croirait pas qu'avec un système semblable il fût possible d'apprendre seulement à lire. Les têtes étaient apparemment moins dures il y a cent ans, et l'on devenait bon médecin ou bon théologien en étant valet de ferme six mois sur douze. L'Écosse n'était pas d'ailleurs le seul pays où, dès avant le progrès moderne, il fût aisé à un paysan intelligent de pousser ses études. La très petite bourgeoisie française d'avant la révolution ne s'y prenait pas autrement que les cultivateurs écossais pour envoyer ses fils au collège. (25)

2. *Le Départ des Pêcheurs.*

Tandis qu'ils s'éloignaient, laissant traîner leurs dragues⁽¹⁾,

Ils virent les enfants jouer au bord des vagues,
 Et ceux qui, tout le jour, le long des murs assis,
 Inutiles vieillards, n'ont plus que des récits.
 Sur les quais, leurs maisons reluisaient toutes blanches,
 Et par-dessus les toits, au loin, de vertes branches
 Leur laissaient entrevoir de tranquilles hameaux ;
 Les grands bœufs lentement paissaient sous les rameaux,
 Et le vent apportait le gai refrain des pâtres,
 Qui, sur l'herbe couchés devant les flots saumâtres⁽²⁾,
 Savourent leur jeunesse, au reste indifférents.
 Alors, pour éclaircir le front de leurs parents,
 Au bruit des avirons⁽³⁾ le novice et le mousse
 Se mirent à chanter d'une voix lente et douce. (20)

(1) *la drague* = drag-net. (2) *saumâtre* = briny. (3) *aviron* = oar.

3. **Either (a) or (b) :—**

Mithridate parle à ses deux fils.

- (a) Approchez, mes enfants. Enfin l'heure est venue
 Qu'il faut que mon secret éclate à votre vue.
 À mes nobles projets je vois tout conspirer :
 Il ne me reste plus qu'à vous les déclarer.
 Je fuis ; ainsi le veut la fortune ennemie.
 Mais vous savez trop bien l'histoire de ma vie
 Pour croire que longtemps, soigneux de me cacher,
 J'attende en ces déserts qu'on me vienne chercher.
 La guerre a ses faveurs, ainsi que ses disgrâces.
 Déjà plus d'une fois, retournant sur mes traces,

Tandis que l'ennemi, par ma fuite trompé,
 Tenait après son char un vain peuple occupé,
 Le Bosphore m'a vu, par de nouveaux apprêts
 Ramener la terreur du fond de ses marais,
 Et chassant les Romains de l'Asie étonnée,
 Renverser en un jour l'ouvrage d'une année. (20)

Le Bonheur.

- (b) Mes amis ont raison, j'aurais tort en effet
 De me plaindre ; en tous points mon bonheur est parfait.
 J'ai trente ans, je suis libre, on m'aime assez ; personne
 Ne me hait ; ma santé, grâce au ciel, est fort bonne.
 L'étude, chaque jour, m'offre un plaisir nouveau,
 Et justement le temps est aujourd'hui très beau.
 Quand j'étais malheureux, j'étais triste et maussade :
 J'allais au fond des bois, rêveur, le cœur malade.
 Maintenant j'ai quitté les folles rêveries ;
 C'est pour herboriser que j'aime les prairies ;
 A rêver quelquefois si je semble occupé,
 C'est qu'un passage obscur en lisant m'a frappé:
 Quand j'étais malheureux, je voulais aimer, vivre :
 Maintenant je n'ai plus le temps, je fais un livre.
 Vous qui savez des chants pour calmer la douleur,
 Pour calmer la douleur ou lui prêter des charmes,
 Quand vos chants du malheur auront tari les larmes,
 Consolez-moi de mon bonheur. (20)

FRENCH

HIGHER GRADE—(SECOND PAPER)

Thursday, 27th March—2.15 P.M. to 4.15 P.M.

*The value attached to each question is shown in brackets
 after the question.*

N.B.—Begin each question on a fresh page. Write legibly
 and neatly, and leave a reasonable space between the
 lines. Marks will be deducted for bad writing.

1. Translate into French :—

Little Peter had lived all his life alone with his grandmother in the middle of a great forest. One day she fell ill and called to him from her room that she wanted him to come at once as she had something important to tell him.

“ Peter,” she said, “ I am very old and I fear I am going to die. There is only one thing I can leave you, and that is a little coffee-mill⁽¹⁾ which you will find at the bottom of the big chest. Now listen carefully to what I say. The mill will grind⁽²⁾ for you anything you want, but you must always ask it to do so in the same way. For instance, if you want bread, say ‘ Little mill, grind me some bread.’ When you have enough, you will say ‘ Stop, little mill.’ Now you must go and make your way in the great world. Take the path to the west, and as soon as you reach the cottage with the green door, ask the old woman who lives in it to come and see me.”

Then Peter, crying bitterly, kissed his grandmother, bade her good-bye, took the mill and set out to find the old woman at the cottage. After that he took the road west again and on the seventh day he came to the sea. At the harbour the “ Golden Eagle ” was about to set sail, and Peter had a great desire to go on board such a fine ship.

(40)

⁽¹⁾ un moulin à café.⁽²⁾ moudre, moulant, moulu, je mouds, je moulus.

2. Translate into French :—

- (1) Tell them I should like to see them before they go away.
- (2) Wait till I come back. I shall not be long. I have only to post these letters.
- (3) I am sure it will be very cold to-night. I hope the boys have not forgotten to put on their overcoats.
- (4) Your little cousin is afraid to go home by himself. I should be grateful if you went with him.
- (5) The little girl we were speaking to would not tell us how old she was.

(15)

3. Write in French a continuous story based on the following summary, and complete it in your own way. The story should be about one and a half times the length

of your answer to Question 1 and should on no account exceed twice that length. Failure to comply with this instruction may lead to a loss of marks :—

Le Meunier de Sans-Souci.

Un meunier prussien avait un moulin qui s'appelait Sans-Souci—(décrivez le moulin)—Frédéric II, roi de Prusse, voulut bâtir un château près de ce moulin—le moulin allait border la vue. Le roi offrit d'acheter le moulin—le meunier refusa de le vendre. Frédéric, irrité, menaça de le lui prendre—le meunier répondit qu'il y avait des juges à Berlin.

(20)

(Complete the story in your own way.)

FRENCH

HIGHER GRADE—(SECOND PAPER)

Thursday, 27th March—1.30 P.M. to 2 P.M.

This Paper must not be seen by any Candidate.

To be read out by the Teacher at 1.30 P.M. in the presence of the Supervising Officer.

To be written by the Candidates on the separate sheets provided, which must be collected before the Second French Paper is distributed.

DIRECTIONS FOR TEACHER.

1. Read the passage aloud distinctly and deliberately, but not slowly, the object being to bring out the meaning of the whole as clearly as possible. Observe the liaisons as marked.
2. Inform the candidates that they may not ask for the repetition of any word or phrase.
3. Dictate the passage slowly, repeating each group of words (as indicated by vertical lines) twice over, and pronouncing every word very distinctly. The punctuation should be indicated thus :—(.) 'un point,' (;) 'point virgule,' (,) 'virgule,' (:) 'deux points.'
4. After an interval of five minutes read the text over again in the same manner as on the first occasion, but do not on any account repeat separate words at the request of individual candidates.

DICTATION.

Si ceux qui sont nos maîtres, | et qui disent | que Dieu les a mis sur la terre | pour faire notre bonheur, | pouvaient se figurer, | au commencement d'une campagne, | les malheureuses mères, | les pauvres vieillards, | auxquels ils vont | en quelque sorte | arracher le cœur | pour satisfaire leur orgueil, | je crois que pas un seul | ne serait assez barbare | pour continuer. | Mais ils ne pensent à rien ; | ils croient | que les autres n'aiment pas leurs enfants | autant qu'eux. | Ils se trompent : | tout leur grand génie | et toutes leurs grandes idées de gloire | ne sont rien, | car il n'y a qu'une chose | pour laquelle un peuple doit marcher, | c'est quand on attaque notre liberté | comme en 92 ; | alors on meurt ensemble | ou l'on gagne ensemble ; | celui qui reste en arrière | est un lâche ; | il veut | que les autres se battent pour lui. | Voilà la seule guerre juste, | où personne ne peut se plaindre ; | toutes les autres sont honteuses | et la gloire qu'elles rapportent | n'est pas la gloire d'un homme, | c'est la gloire d'une bête sauvage. (10)

GERMAN

LOWER GRADE

Tuesday, 1st April—10 A.M. to 12.30 P.M.

The value attached to each question is shown in brackets after the question.

N.B.—Begin each question on a fresh page. Write legibly and neatly, and leave a reasonable space between the lines. Marks will be deducted for bad writing and for failure to use the German script in the answers to Questions 3 and 4.

1. Translate into English:—

A Youth in the Royal Presence.

Beim Palaste schlug dem armen Philipp das Herz stärker. Man nahm ihm Mantel und Stock ab. Der Prinz Julian sprach mit einem vornehmen Herrn einige

Worte. Sogleich wurden die Polizeidiener weggeschickt; der Prinz ging die Treppe hinauf und Philipp mußte folgen. „Fürchte dich nicht!“ sagte Julian und verließ ihn. Philipp wurde in ein kleines Zimmer geführt, wo er lange allein blieb. Endlich kam ein königlicher Diener und sagte: „Kommt mit mir, der König will Euch sehen.“

Philipp war fast außer sich vor Schrecken. Seine Kniee wurden schwach. Er ward in einen schönen Saal geführt. Da saß der alte König lachend an einem kleinen Tische. Neben ihm stand der Prinz Julian. Sonst war niemand dort. Der König betrachtete den jungen Menschen eine Zeit lang, wie es schien mit einer Art Wohlgefallen. „Erzähle mir alles genau,“ sagte der König zu ihm, „was du in dieser Nacht getan hast.“

Philipp gewann durch die freundliche Anrede des ehrwürdigen Monarchen wieder Mut und erzählte was er getan und erlebt hatte, von Anfang bis zu Ende. Doch war er klug und bescheiden genug das zu verschweigen, was er von den Höflingen gehört hatte und wodurch Julian hätte in Verlegenheit gesetzt werden können. Der König lachte bei der Erzählung einigemal laut; dann stellte er noch einige Fragen über Philipps Eltern und Beschäftigung, nahm ein paar Goldstücke vom Tische, gab sie ihm und sagte: „Nun geh du, mein Sohn, und tue deine Arbeit. Es soll dir nichts geschehen. Aber sage keinem Menschen was du in dieser Nacht getrieben und erfahren hast. Das befehle ich dir. Nun geh!“

Philipp fiel dem König zu Füßen und küßte dessen Hand, indem er einige Worte des Dankes stammelte. Als er wieder aufstand um fortzugehen, sagte Prinz Julian: „Ich bitte, daß Eure Majestät dem jungen Menschen erlauben wolle, draußen zu warten.“

Der König nickte lächelnd mit dem Kopfe, und Philipp ging fort.

2. Translate into English:—

The Robin.

Friedlich sank der Abendschein
 Hinter fernen Gipfeln,⁽¹⁾
 Nur ein kleines Lied allein
 Klang noch aus den Wipfeln.⁽²⁾
 Und was dieser Vogel sang
 Mit der roten Kehle,⁽³⁾
 Zog mit gleichgestimmtem Klang
 Mir durch meine Seele.
 Als es tönte mild und weich
 Und wie sanfte Klage,
 Da gedacht' ich wehmutreich
 Jener schönen Tage.
 Die beglänzte Jugendzeit
 Schwand mit schnellen Flügeln
 Wie das Abendrot so weit
 Hinter jenen Hügeln. (10)

⁽¹⁾ Gipfel = hill-top. ⁽²⁾ Wipfel = tree-top.

⁽³⁾ Kehle = throat.

3. Translate into German:—

- (1) How are you? I am glad to see you again.
- (2) Such a beautiful picture must cost much money.
- (3) I should like to thank you for this lovely present.
- (4) He continued writing while he was waiting for his friend.
- (5) If you make good progress at school I shall take you to Switzerland in the holidays. (15)

4. Translate into German:—

Where have you been this morning? We went through the town to the market. There we saw flowers, fruit and vegetables, but bought only these cherries. They seemed to be quite ripe and were very cheap. Will you have some? Yes, please. Do you not think they are very sweet? You must not eat too many yourself. Give your little brother some. Afterwards come with me into the sitting-room. I want to show you something I have been making while you were away. (15)

GERMAN

HIGHER GRADE—(FIRST PAPER)

Tuesday, 1st April—10 A.M. to 12 NOON

The value attached to each question is shown in brackets after the question.

N.B.—Begin each question on a fresh page. Write legibly and neatly, and leave a reasonable space between the lines. Marks will be deducted for bad writing.

1. Translate carefully, with due attention to English form and expression :—

The Island of Rhodes.

Rhodos zeigt sich dem von Samos kommenden Reisenden als eine lange, unregelmäßige, hohe Insel, die im Norden flacher wird und dort eine niedrige Ebene bildet, an deren äußerster Spitze die Stadt Rhodos liegt. Wenn man sich dieser nähert, erblickt man zunächst die hellen Villen der europäischen Vorstadt: freundliche, von Gärten umgebene Wohnhäuser mit roten hohen Dächern; dann taucht die Festung auf, deren Mauern mit den berühmten Türmen von St. Nikolaus und St. Michel beim ersten Anblick niedrig und unbedeutend erscheinen.

Der Name Rhodos ist nicht mit „Insel der Rosen“ zu übersetzen, denn Rosen gibt es dort nicht mehr als an tausend anderen Orten; der poetische Name „die Rose“ sollte die Insel Apollon als die schönste Zierde des Meeresgartens bezeichnen. Sie ist noch heute schön und wird es immer bleiben, denn ihren Himmel, die wunderbare Beleuchtung der Landschaft und des Meeres kann ihr niemand rauben; aber sie ist nichts weniger als etwas Blühendes. Alles ist verwelkt, erscheint dem Aussterben nahe. (20)

2. *A Garden in Autumn.*

Im alten Garten fand ich heut mich wieder;

Er lag so still im Abendnebel da.

Die blätterlosen Bäume ächzten schwer,

Als quäle sie im Schlaf ein böser Traum.

Raum hörbar schlich ich durch die Gänge hin,
 Ich wollt' die alten Bäume nicht erwecken,
 Damit der eine oder andre nicht
 Mir zuraune⁽¹⁾ verwundert, vortwurfsvoll :
 „ Du bleibst so lang ! Und nun kommst du allein ? “
 Die Bank im stillen Gartentwinkel fand
 Ich grünbemoost. Sie knarrte, tief erschreckt,
 Als ich mich müde niederlassen wollte.
 Nur selten wohl verirrt sich wer⁽²⁾ zu ihr !
 Abseits am Weg, in welchem Streulaub, lag
 Ein toter Vogel : eine Nachtigall.
 War es dieselbe, die im Lenz einst sang,
 Die Zeugin schöner, frühlingstfroher Stunden ?
 Ganz leise schlich ich meinen Weg zurück.
 Wie war im Herbst der Garten öd' geworden !
 Die kahlen Bäume ruhten tief im Schlaf ;
 Nur an dem Gartentor die alte Weide
 Erwachte, als ich scheu vorüberschritt,
 Und nickte traurig mit den langen Zweigen,
 Ein lebenskluges, weises Greifennicken :
 „ Ich wußte ja, du würdest wiederkommen ! “ (25)

(1) zuraunen = flüstern.

(2) wer = irgend jemand.

3. *Frederick the Great.*

Seit er wenige Monate nach der Schlacht bei Rossbach so gründlich geschlagen hatte, wurde er der Held Deutschlands ; ein Jubelruf der Freude brach überall aus. Durch zweihundert Jahre hatten die Franzosen dem vielgetheilten Land großes Unrecht getan ; gerade jetzt begann das deutsche Wesen sich gegen den Einfluß französischer Bildung zu setzen, und jetzt hatte der König, der selbst die Pariser Verse so sehr bewunderte, die Pariser Generale so unübertrefflich mit deutschen Regeln weggeschmecht. Es war ein so glänzender Sieg, eine so schmachvolle Niederlage der alten Feinde, es war eine Herzensfreude überall im Reich. Und je länger der Krieg dauerte, je lebhafter der Glaube an die Unübertwindlichkeit des Königs wurde, desto mehr erhob

sich das Selbstgefühl der Deutschen. Nach langen, langen Jahren fanden sie endlich wieder einen Helden, auf dessen Kriegsrühm sie stolz sein durften, einen Mann, der mehr als Menschliches leistete. Unzählige Anekdoten von ihm liefen durch das Land; jeder kleine Zug von seiner Ruhe, guten Laune, Freundlichkeit gegen einzelne Soldaten, von der Treue seines Heeres flog Hunderte von Meilen; wie er in Todesnot die Flöte im Zelte blies, wie seine wunden Soldaten nach der Schlacht Choral sangen, wie er den Hut vor einem Regiment abgenommen, das wurde am Neckar und Rhein herumgetragen, gedruckt, mit frohem Lachen und mit Tränen der Rührung gehört. (25)

GERMAN

HIGHER GRADE—(SECOND PAPER)

Tuesday, 1st April—2.15 P.M. to 4.15 P.M.

The value attached to each question is shown in brackets after the question.

N.B.—Begin each question on a fresh page. Write legibly and neatly, and leave a reasonable space between the lines. Marks will be deducted for bad writing and for failure to use the German script in the answers to Questions 1, 2 and 3.

1. Translate into German :—

In two or three hours, the prisoner said to himself, the captain will come back to my room and find my poor friend's body. When he recognises it, he will look for me in vain and call in his men. Then they will find the hole and question the people who threw me into the sea and who must have heard my cries when I fell. Immediately boats filled with armed soldiers will be sent out to recapture me, for it will be clear I cannot be far off. The spies of Marseilles will look for me everywhere. Everyone on the coast will be warned not to give refuge to a fugitive found wandering naked and famishing. Where am I to turn? What will become of me? I am hungry and thirsty and cold. I have thrown away even my knife, as it hindered me in swimming. I am in danger of being caught by the first peasant who hopes to earn a reward by betraying me.

I have no more strength, no more courage. Oh, God, have I not suffered enough? I pray you to help me and to save me from the cruel death that threatens me. (35)

2. Translate into German :—

- (1) He had been forbidden to get up before seven in the morning.
- (2) When we arrived in town we were too tired to do anything.
- (3) If it is possible, I should like to see you to-morrow.
- (4) I wonder what has become of the books I brought home yesterday.
- (5) Although he is very rich, he seldom looks happy. (10)

3. Write in German a continuous story based on the following summary. The story should be about one and a half times the length of your answer to Question 1 and should on no account exceed twice that length. Failure to comply with this instruction may lead to a loss of marks :—

Gentleman in India missed a valuable ring—thought it had been stolen by one of his many servants—summoned them—held in his hand number of sticks—gave one to each servant—told them to come back in an hour and said thief's stick would be an inch longer than the others. In fact all were of same length. Servants go away—guilty one cuts inch off his—assemble at end of hour—his stick now shorter than others betrays him. (25)

GERMAN

HIGHER GRADE—(SECOND PAPER)

Tuesday, 1st April—1.30 P.M. to 2 P.M.

This paper must not be seen by any Candidate.

To be read out by the Teacher at 1.30 P.M. in the presence of the Supervising Officer.

To be written by the Candidates on the separate sheets provided, which must be collected before the Second German Paper is distributed.

DIRECTIONS FOR TEACHER.

1. *Read the passage aloud distinctly and deliberately, but not slowly, the object being to bring out the meaning of the whole as clearly as possible.*
2. *Inform the Candidates that they may not ask for the repetition of any word or phrase, and warn them that marks will be deducted for failure to use the German script.*
3. *Dictate the passage slowly, repeating each group of words (as indicated by vertical lines) twice over, and pronouncing every word very distinctly. The punctuation should be indicated thus—(.) 'Komma', (.) 'Punkt', (;) 'Semikolon', (!) 'Ausrufungszeichen.'*
4. *After an interval of five minutes read the text over again in the same manner as on the first occasion, but do not on any account repeat separate words at the request of individual candidates.*

DICTATION.

After long absence a wanderer returns home.

Er reiste durch Deutschland in die Schweiz. | Wie schlug ihm das Herz, | als er das Städtlein seiner Heimat | vor sich am Berge liegen sah! | Es war ihm, | als hätte er es erst gestern verlassen. | Aber je näher er kam, | desto veränderter fand er vieles; | freilich nur in Kleinigkeiten; | und doch jedes verschwundene Gartenhäuschen, | jedes neu errichtete Gebäude | erregte seine Aufmerksamkeit und Bewunderung. | Was ihm einst als Kind | groß vorgekommen war, | schien ihm jetzt klein, | der himmelhohe Turm niedriger, | die breite Gasse viel enger, | das väterliche Haus viel zusammengedrückt | als er sich vorgestellt hatte. | Welchen Jubel machte seine Erscheinung | im Hause der Eltern, | welches Aufsehen im ganzen Städtchen! | Jeder wollte ihn sehen, | der nun so groß | und kaiserlicher Hauptmann geworden war. (10)

GAELIC

LOWER GRADE

Tuesday, 1st April—10 A.M. to 12.30 P.M.

The value attached to each question is shown in brackets after the question.

N.B.—Begin each question on a fresh page. Write legibly and neatly, and leave a reasonable space between the lines. Marks will be deducted for bad writing and spelling.

1. Translate into English :—

Bha móran seirbhis an lorg na h-àirighe. Bha an toiseach na bothain ri'n togail agus na cròithean ri'n dèanamh air son a' bhainne, nan laogh, agus nam meann. Rachadh prasgan dhaoine ri monadh le tuaghan is spaidean, agus bhiodh gathan biorach eile aca gu stobadh anns a' bhàr mhòintich gus an amaiseadh iad air na craobhan giuthais a bha bho linn nan linn-tean am falach ann sin.

Bha na bothain tughte le sgrath, is sguabach fhraoich no bharrach anns an doras. Bha na leapaichean dèanta de fhraoch agus de luachair, agus na cluasagan de an chanaich. Tha iomradh againn cuid de na caileagan a bhi a' snìomh na canaich air a' chuigeil.

Bha an crodh ri bhleoghann agus ri shaodachadh agus ri bhuachailleachd. A h-uile nì ghabhadh dòirteadh, bha e air a chur ann am meadar le iomaidil air, ceangailte le sreing ghaoisid. Bheireadh caileag so dhachaidh air a druim ann an guailleachan, is bu mhath an t-annlan a bha an cois an eallaich aig a' bhaile. (20)

2. Translate into English :—

An uair chiaradh air an fheasgar,
Gum bu bheadarach do fhleasgaichean ;
Bhiodh pìoban mór 'g an spreigeadh ann,
Is feadanan 'g an gleusadh.

Sgiobair ri là gaillinn thu,
A sheòladh cuan nam marannan,
A bheireadh long gu calachan
Le spionnadh ghlac do threunfhear.

Sgeul beag eile dhearbhadh leat,
 Gur sealgair sìthne an garbhlaich thu,
 Le do chuilbheir caol nach dearmadach,
 Air dearg-ghreigh nan ceann eutrom.

B'e sud an leómhann aigeannach,
 An uair nochdadh tu do bhaidealan,
 Làmh dhearg is long is bradanan,
 An uair lasadh meanma t'eudainn.

(20)

3. Translate into Gaelic :—

Dunvegan is a quaint mingling of the architecture of many ages ; each proprietor from the ninth to the nineteenth century has left his mark on the old castle. The oldest portion is a square tower, with walls of immense thickness (from nine to twelve feet), supposed by some to be the work of Norwegians.

The position is very fine, with surroundings of wood, Skye's rarest treasure, and standing on a mass of grey rock, which juts out into the sea. The bay is landlocked, and on this morning, calm as a mirror, reflected each line of the old building. When the tide ebbs, there is revealed a broad belt of the richest brown and gold tangle and yellow sand.

(20)

4. Write in Gaelic a continuous story, based on the following summary, and complete it in your own way. The story should be about one and a half times the length of your answer to Question 3, and should on no account exceed twice that length. Failure to comply with this instruction may lead to a loss of marks.

An old Highland farmer was said to have the best temper in the world. His old shepherd, who had served him for thirty years, had never seen him angry. A friend, anxious to test him, promised the shepherd a reward if he succeeded in making his master lose patience. The shepherd knowing his master's great regard for his garden, left the gate open for the sheep to enter—these made havoc among crops, bushes, flowers, and vegetables. The farmer complained to the shepherd in a mild way—the latter seemed annoyed at the remonstrance.

Next day the gate was again left open, with similar results.

(20)

(Complete the story in your own way.)

GAELIC

HIGHER GRADE—(FIRST PAPER)

Tuesday, 1st April—10 A.M. to 12 NOON

The value attached to each question is shown in brackets after the question.

N.B.—Begin each question on a fresh page. Write legibly and neatly, and leave a reasonable space between the lines. Marks will be deducted for bad writing.

1. Translate into idiomatic English :—

Is math a thuig an sean duine-uasal còir, MacDhomhnaill nan Eilean, gun robhas a' dèanamh allaidh air, agus bu bhuidhe le a nàdur dian-thogarrach an dùbhlanaich gu am feusaig. Cha robh e an geall cuing no cumha a ghabhail air 's an ionad tharruing lann bha an sud. Thagair e a dhlighe fhéin, ged b'éiginn da a cheann thoirt fodha ri linn "roinn Mhurchaidh is Fhearchair" a dhèanamh air an oighreachd. Ach bha sin do na morairean mar am fùdar-cluaise do'n urchair. Bha a h-uile fear a' toirt sgairbh a creig dha fhéin, mar bu dual.

Chaochail snuadh Mhic Ghille-Sheathain, gille-mór MhicDhomhnaill, an uair a chuala e na cumhachan troma air an toirt air lom. Bha esan le a thuaigh-chatha 'n a ghlaic is prasgan Ìleach air an corraibh cnàmh a' rùnachadh cothrom a' bhruthaich a ghabhail is sgapadh nan cearc breaca a dhèanamh air na cladhairean buaireasach a dh'aobhraich a' cheannairc is an ar-a-mach. Bha MacDhomhnaill le a chuid mhacraidh is a chuid dhaingnichean 'n a chulaidh-fharmaid mhóir; is iomadh car mu chnoc is falach cuain a bhathas ag cur air, is b'e rùn fhéin na buinn a thoirt as gu n-iar, gun eang a lasachadh gus an cluinneadh e tabhann nan gadhar-luirg an Cill Chomain. (25)

2. Translate into English :—

Ach nam faiceadh tu na fir ud
 Ri uchd teine is iad an òrdugh,
 Coslas fiadhaich a' dol sìos orr',
 Falbh gu dian air bheagan stòldachd ;
 Claidheamh rùisgte an làimh gach aon fhir,
 Fearg 'n an aodann is faobhar gleois orr',
 Iad cho nimheil ris an iolair,
 Is iad cho frioghail ris an leómhann.

Cha mhór a thionnal nan daoine ud
 Bha r'a fhaotainn 'san Roinn Eòrpa ;
 Bha iad fearail an am caonnaig,
 Gu fuilteach faobharach stròiceach ;
 Nam faigheadh tu iad an gliocas
 Mar bha am misneachd 's am mórchuis,
 C'àite am facas riamh ri'n àireamh
 Aon fhine b'fhearr na Clann Domhnaill ?
 Bha iad treubhach fearail foinnidh,
 Gu neo-lomarra mu'n stòras ;
 Bha iad cunbhalach 'n an gealladh,
 Gun fheall gun charachd gun ròidean ;
 Ged a dh'iarrta nuas an sinnsir
 O mhullach an cinn gu am brògan,
 An donas cron a bha ri inns' orr',
 Ach an rìoghalachd mar sheòrsa.

(30)

3. Translate into English, *or* turn carefully into Scottish Gaelic :—

The Feast of Tara.

Ionann iomorro Feis Teamhrach is rìogh-dháil choitcheann, amhail pharlaimeint, mar a dtigeadh coimthionól uasal is ollamhan Éireann go Teamhair gacha treas bliadhain um Shamhain, mar a gcleachtaoi leo reachta d'ordughadh is d'athnuadhadh, is fromhadh do dhéanamh ar annálaibh is ar seanchus Éireann. Is ann fós do h-orduighthí ionadh suidhe do gach aon d'uaislibh na hÉireann do réir a chéime is a gharma féin, agus fós is ann do h-orduighthí ionadh suidhe do gach ceann-feadhna da mbiodh ós cionn na laochraidhe do bhiodh ar buannacht ag ríoghaibh is ag tighearnaibh Éireann. Do bhiodh fós do nós i bhFeis Teamhrach cibé do dhéanadh éigean nó goid, do bhuaileadh neach nó d'imreadh arm air, bás do thabhairt dó, agus gan neart ag an rígh féin nó ag aon eile maithmheachas do thabhairt dó san ghníomh soin. Do cleachtaoi leo fós bheith ar feadh trí lá roimh Shamhain ag comhól, sul do shuidheadh an ríogh-dháil.

(20)

GAELIC

HIGHER GRADE—(SECOND PAPER)

Tuesday, 1st April—2.15 P.M. to 4.15 P.M.

The value attached to each question is shown in brackets after the question.

N.B.—Begin each question on a fresh page. Write legibly and neatly, and leave a reasonable space between the lines. Marks will be deducted for bad writing and spelling.

SECTION I.

All the questions in this Section should be attempted.

1. Write an essay, in Gaelic, on *one* of the following subjects:—

- (a) Na goireasan as feumaile do'n Ghàidhealtachd.
- (b) An duine uasal—ciamar a dh'aithnichear e. (30)

2. Turn into idiomatic Gaelic:—

- (1) I do not wish to trouble you, but tell me what ails you.
- (2) The hawk swooped down on the chickens and carried off one in each claw.
- (3) The hunter fired at the stag, but missed him.
- (4) The lamb whose mother's fleece the wolf was wearing ran after him. (10)

3. Translate into English:—

- (1) Dh'éigh iad port, 's gun d'fhuair iad coit,
'S bu bheag an toirt mar thachair dhaibh.
- (2) Ma bhios an dà cheaird air a làmhan,
Nar a lughaid ort uair i.
- (3) An uair théid thu gu buillean,
Is do nàimhdean a dh'fhuireach,
Gu cinnteach bidh fuil air am bian.
- (4) Och, tha bhuil ann!
Is uireasbhach gann fo dhìth
Glòir gach teanga
A labhras cainnt seach ì. (10)

SECTION II.

THREE questions should be attempted from this Section.

The answers may be either in Gaelic or in English.

4. Write a short note on each of the following :—
comhdhaltas, luathadh, comraich, Tir na h-Oige. (5)

5. What territories, mainland or insular, do you associate with the following names :—Mac Mhic Ailein, Mac Mhic Alasdair, Mac Dhomhnaill Duibh, MacCailein, Somhairle Mór Mac Ghille-Brighde ? (5)

6. Suggest Gaelic equivalents for :—telegram, aeroplane, motor-cycle, semi-colon, writing desk. (5)

7. Locate the following :—An Carbh (or am Parbh), An Caol Arcach, An Linne Sheileach, Baile Bhóid, Cill Chuimein. (5)

8. Quote a verse from any Gaelic poem upon the sea ; mention the author, and give shortly in Gaelic or in English the substance of the poem. (5)

GAELIC

HIGHER GRADE—(SECOND PAPER)

Tuesday, 1st April—1.30 P.M. to 2 P.M.

This paper must not be seen by any Candidate.

To be read out by the Teacher at 1.30 P.M. in the presence of the Supervising Officer.

To be written by the Candidates on the separate sheets provided, which must be collected before the Second Gaelic Paper is distributed.

DIRECTIONS FOR TEACHER.

1. *Read the passage aloud distinctly and deliberately, but not slowly, the object being to bring out the meaning of the whole as clearly as possible.*
2. *Inform the candidates that they may not ask for the repetition of any word or phrase.*

3. Dictate the passage slowly, repeating each group of words (as indicated by vertical lines) twice over, and pronouncing every word very distinctly. The punctuation should be indicated.
4. After an interval of five minutes read the text over again in the same manner as on the first occasion, but do not on any account repeat separate words at the request of individual candidates.

DICTATION.

Bha amannan àraid | is dòighean àraid | ri'n coimhead | am buain nan luibhean, | is bha rannan àraid | ri'n aithris | an am an cur gu feum. | Bha an duine | anns gach linn de'n t-saoghal, | cho fada 's as fios duinn, | a' strì ri cungaidh-leighis | a thoirt as na luibhean. | Cha chuir e iongantais oirnn | mar sin | gu robh a h-uibhir de mheas | aig ar n-aithrichean | air cuid de luibhean na machrach, | is cho fada is a dh'fhan iad | air a bhi 'g an gnàthachadh | mar chungaidh-leighis, | bha an gnothach ceart gu leir; | ach an uair a tha iad a' buileachadh | buadhan freasdail orra, | tha amharus againn | gu bheil iad a' dol | na's fhaide na tha barantas aca | air a shon.

(10)

SPANISH

LOWER GRADE

Wednesday, 2nd April—10 A.M. to 12.30 P.M.

The value attached to each question is shown in brackets after the question.

N.B.—Begin each question on a fresh page. Write legibly and neatly, and leave a reasonable space between the lines. Marks will be deducted for bad writing.

1. Translate into English :—

A las seis de la mañana del día 19 de junio de 1867, salieron de sus celdas respectivas el emperador y sus dos generales D. Miguel Miramón y D. Tomás Mejía. Desde luego se emprendió la marcha hacia el lugar de la ejecución caminando a la vanguardia una escolta de caballería, y

detrás de los tres coches, otra fuerza respetable. Un número considerable de hombres y de mujeres del pueblo se agolpaba, triste y silencioso, a ver por la última vez al emperador, a quien la población de Querétaro consagraba un profundo afecto, y al general Mejía, que siempre disfrutó de notable popularidad en aquella población.

Media hora después de haber sido sacados de la prisión, llegaron las víctimas al sitio destinado a la ejecución. Después de bajar sucesivamente de sus carruajes, avanzaron con firme paso por el centro del cuadro de cuatro mil hombres, hasta llegar al punto del suplicio. Allí Maximiliano se despidió de sus generales, y luego, adelantándose algunos pasos, y alzando la voz para ser oído de todos, exclamó con sonoro y firme acento: "Voy a morir por una causa justa, la de la independencia y la libertad de Méjico. ¡Que mi sangre selle las desgracias de mi nueva patria! ¡Viva Méjico!" (25)

2. Translate into English :—

Un día en que todos iban caminando alegres y descuidados, vieron los niños que los guías se volvían de repente hacia ellos y les gritaban :

—Los enemigos vienen hacia nosotros. Tenemos que atacarlos, pues de lo contrario no llegaríamos nunca a las Grandes Puertas.

Los niños, enardecidos ante la idea de una lucha, determinaron no volver atrás ni ceder terreno, por fuerte que fuese ese enemigo.

—Allí veo el jefe del ejército, que se llama Ignorancia dijo uno de los guías—. Si pudiésemos vencerle, fácil nos sería acabar con los que le acompañan, el coronel Pereza y el capitán Ira.

Los guías distribuyeron los niños en compañías, cada una con un guía al frente. Las únicas armas que poseían los niños eran sus cabezas, sus corazones y sus manos, mientras que los enemigos tenían pistolas, dardos y escudos hechos con cartón.

—Cuando oigáis la voz de mando—dijo el guía que hacía las veces de jefe—, debéis cargar a fondo contra el general Ignorancia y procurar atarle de pies y manos con las cuerdas del Conocimiento de que os hemos provisto. (20)

3. Translate into Spanish :—

Jane : Good evening, Mary. Where did you find these pretty flowers ?

Mary : I found them in the wood, near the old bridge.

Jane : Did you see my sisters in the wood ? They went for a walk there after dinner and I have come to meet them.

Mary : No, I did not see anyone either on the road or in the wood.

Jane : Well, they must have gone home by another way.

Mary : Did they take the dog with them ?

Jane : Yes, he always goes with them when they go for a walk in the evening.

Mary : I think I heard a dog barking near the farm.

Jane : I hear a dog barking now. I am sure it is León. There they are ! Good-night, Mary. I must go home with them. I'll see you to-morrow. (20)

4. Translate into Spanish :—

(1) Have you read your sister's letter ?—No, I have been too busy.

(2) He told him that he would not go there.

(3) Will you please bring me some books when you return from London ?

(4) The little girls we met in the street were cold and hungry.

(5) I do not wish you to play with these boys.

(6) Their brother, who is a doctor, is now in Madrid.

(7) How old are you ?—I shall be thirty-five next Thursday. Why do you want to know my age ? (15)

SPANISH

HIGHER GRADE—(FIRST PAPER)

Wednesday, 2nd April—10 A.M. TO 12 NOON

The value attached to each question is shown in brackets after the question.

N.B.—Begin each question on a fresh page. Write legibly and neatly, and leave a reasonable space between the lines. Marks will be deducted for bad writing.

Translate, with due attention to English form and expression :—

1. Era ciego de nacimiento. Le habían enseñado lo único que los ciegos suelen aprender, la música ; y fue en este arte muy aventajado. Su madre murió pocos años después de darle la vida : su padre hacía un año solamente. Tenía un hermano en América que no daba cuenta de sí. Sin embargo, sabía que estaba casado. El padre, indignado, mientras vivió, de la ingratitude del hijo, no quería oír su nombre : pero el ciego le guardaba todavía mucho cariño. No podía por menos de recordar que aquel hermano, mayor que él, había sido su sostén en la niñez, y que siempre le hablaba con dulzura. La voz de Santiago, al entrar por la mañana en su cuarto diciendo : “ ¡ Hola Juanito ! Arriba, hombre, no duermas tanto, ” sonaba en los oídos del ciego más grata que las teclas del piano. ¿ Cómo se había transformado en malo aquel corazón tan bueno ? Juan no podía persuadirse de ello, y le buscaba un millón de disculpas. Unas veces achacaba⁽¹⁾ la falta al correo ; otras se la figuraba que su hermano no quería escribir hasta que pudiera mandar mucho dinero : pero ningunas de estas imaginaciones se atrevía a comunicar a su padre. Únicamente cuando éste, exasperado, lanzaba algún apóstrofe contra el hijo ausente, se atrevía a decirle : “ No se desespere usted, padre ; Santiago es bueno ; me da el corazón que ha de escribir uno de estos días. ” (25)

⁽¹⁾ *achacar* = impute.

2. El tiempo deslizóse dulcemente
 como mansa corriente
 que cruza el hondo valle, limpia y clara.
 Pero ya tuve edad, y como es uso,
 mi buen padre dispuso
 que mis graves estudios empezara.
- ¡ Conservaré el recuerdo mientras viva !
 Sin pena a dejar iba
 por vez primera los paternos lares :
 mi amante madre preparaba inquieta
 la estudiantil maleta,
 y sin querer llorar, lloraba a mares.

Mi padre enternecido, aunque severo,
 ensillaba el overo⁽¹⁾
 que ya esperaba indócil a la puerta.
 La hermosa niña, casi adolescente,
 inclinaba la frente,
 callada y sin color como una muerta.

En confusión ruidosa, pero grata,
 la loca cabalgata
 de otros muchachos a buscarme vino.
 — Rayaba apenas la rosada aurora.—
 — “¡Vamos, Juan, que ya es hora!”—
 Gritó la turba y prosiguió el camino. (20)

⁽¹⁾ dapple-grey.

3. *Rodrigo*—El corazón de Isabel no es ahora mío, lo sé; pero Isabel es virtuosa, es el espejo de las doncellas: cumplirá lo que jure, apreciará mi rendida fe, y será el ejemplo de las casadas.

Margarita—Mirad que su afecto a Marsilla no se ha disminuido.

Rodrigo—No me inspira celos un rival, cuyo paradero se ignora, cuya muerte, para mí, es indudable.

Margarita—¿Y si volviese aún? ¿Y si antes de cumplirse el término, se presentara tan enamorado como se fué, y con aumentos muy considerables de hacienda?

Rodrigo—Mal haría en aparecer ni antes ni después de mis bodas. Él prometió renunciar a Isabel, si no se enriquecía en seis años; pero yo nada he prometido. Si vuelve, uno de los dos ha de quedar solo junto a Isabel. La mano que pretendemos ambos, no se compra con oro; se gana con hierro, se paga con sangre.

Margarita—Vuestro lenguaje no es muy reverente para usado en esta casa, y conmigo; pero os le perdono, porque me perdonéis la pesadumbre que voy a daros. Yo, noble don Rodrigo, yo que hasta hoy consentí en vuestro enlace con Isabel, he visto por último que de él iba a resultar su desgracia y la vuestra. (25)

SPANISH

HIGHER GRADE—(SECOND PAPER)

Wednesday, 2nd April—2.15 P.M. to 4.15 P.M.

The value attached to each question is shown in brackets after the question.

N.B.—Begin each question on a fresh page. Write legibly and neatly, and leave a reasonable space between the lines. Marks will be deducted for bad writing.

1. Translate into Spanish :—

In the middle of a great forest there once grew a pretty little Fir Tree⁽¹⁾. The sun shone on him and the breezes played round him. Near him grew many other fir trees, most of which were much older and bigger than he, and he was not happy for he was always wishing to be as big as they were.

In summer the country children often came into the forest to gather wild strawberries. After they had filled their baskets, they would sit down near the tree and say, "What a pretty little tree this is!"

In autumn the woodcutters used to come and fell the tallest trees. They cut off their branches and put them on carts, and horses drew them away from the forest.

The Fir Tree often wondered what became of his big brothers. So in spring, when the swallows and storks came back he asked them if they knew. One wise old stork thought for a moment and replied, "Yes, I think I have seen them. As I was flying across the sea I met some big ships. They had fine new masts that looked like fir. I am sure they were the trees you speak of." (35)

⁽¹⁾ Use *el pino*.

2. Translate into Spanish :—

- (1) When he returns from London he will go to see her.
- (2) He was afraid that the weather would be bad the following week.
- (3) The danger is not so great as it appears.
- (4) On arriving at their house he gave each of my nephews a present.
- (5) If he had told the truth it might have prevented a disaster. (15)

3. Write in Spanish a continuous story, based on the following summary. The story should be about one and a half times the length of your answer to Question 1, and should on no account exceed twice that length. Failure to comply with this instruction may lead to a loss of marks.

Winter time—a cottage in the forest—a little boy and his sister live with old uncle—uncle goes out for wood—violent snow storm comes on—night approaches—children afraid—they decide to go out with the faithful dog—search for their uncle—terrible difficulties—dog finds old man in the snow—children save his life. (20)

SPANISH

HIGHER GRADE—(SECOND PAPER)

Wednesday, 2nd April—1.30 P.M. to 2 P.M.

This Paper must not be seen by any Candidate.

To be read out by the Teacher at 1.30 P.M. in the presence of the Supervising Officer.

To be written by the Candidates on the separate sheets provided, which must be collected before the Second Spanish Paper is distributed.

DIRECTIONS FOR TEACHER.

1. *Read the passage aloud distinctly and deliberately, but not slowly, the object being to bring out the meaning of the whole as clearly as possible.*
2. *Inform the candidates that they may not ask for the repetition of any word or phrase.*
3. *Dictate the passage slowly, repeating each group of words (as indicated by vertical lines) twice over, and pronouncing every word very distinctly. The punctuation should be indicated thus :—(.) 'punto,' (,) 'coma,' (:)' dos puntos'.*
4. *After an interval of five minutes read the text over again in the same manner as on the first occasion, but do not on any account repeat separate words at the request of individual candidates.*

DICTATION.

Aunque el puerto | de Constantinopla | ofrezca un fácil acceso | a los buques mercantes, | puede quedar cerrado | para los buques de guerra : | las orillas, | sin ser demasiado escarpadas, | dominan la costa, | y la entrada del puerto | se angosta en forma tal, | que en otras épocas | le ha sido posible | a la ciudad sitiada | cerrarla con una cadena. | La ciudad misma | ocupa una elevada península, | y estando separada | del tronco continental | por tierras bajas, | es fácil de fortificar | contra cualquier ataque. | Para intentar un asedio | el enemigo debiera adueñarse | de los Dardanelos | y del Bósforo | y disponer además | de una escuadra | y de un poderoso ejército. |

A estas ventajas | de situación, | suma Constantinopla | las de un clima menos crudo | que el de las ciudades | situadas a orillas del Mar Negro | o en la costa asiática del Bósforo, | pues las alturas | que se elevan | al Norte de la ciudad | la defienden en parte | de los vientos fríos. (10)

MATHEMATICS

LOWER GRADE—(FIRST PAPER)

Tuesday, 25th March—10 A.M. to 12 NOON

Before attempting to answer any question, Candidates should read the whole of it very carefully, since time is often lost through misapprehension as to what is really required.

Four-place logarithmic tables are provided.

All the figures should be neatly drawn. All the steps of the proofs must be given. Preference will be given to proofs which depend on first principles, and in all cases it should be clearly shown on what assumptions the demonstrations are based.

The value attached to each question is shown in brackets after the question. Marks will be deducted for careless or badly arranged work.

SECTION I.

All the questions in this Section should be attempted.

1. Prove that the straight lines joining the corresponding ends of two equal and parallel straight lines are themselves equal and parallel. (10)
2. Prove that the angle at the centre of a circle is double the angle at the circumference standing on the same arc. (11)
3. Prove that in an obtuse-angled triangle the square on the side opposite the obtuse angle is greater than the sum of the squares on the sides containing the obtuse angle by twice a certain rectangle. (13)
4. Find a fourth proportional to three given straight lines; prove your construction. (12)

SECTION II:

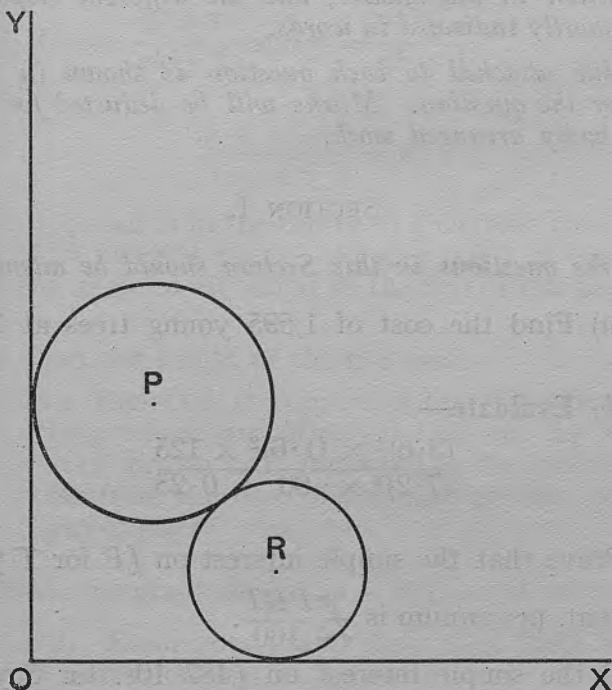
Only THREE questions should be attempted from this Section.

The propositions in Section I (above) on which certain of these deductions depend are indicated in brackets.

5. On the sides AB , BC , CD , DA of a parallelogram $ABCD$ points P , Q , R , S are taken such that the lengths BP , BQ , DR , DS are equal. Prove that $PQRS$ is a parallelogram. (Section I, 1.) (18)
6. Prove by means of Section I, 3 (or otherwise) that in an isosceles triangle whose vertical angle measures 120° the square on the base is three times the square on one of the equal sides. (18)
7. AB is a given diameter of a circle. Make and prove a construction for finding in AB produced a point P , such that the angle between PA and a tangent from P to the circle may be equal to a given angle. (18)
8. From the data given below draw an accurate plan of a quadrilateral field $ABCD$. State what scale you have chosen—
 $AB = 150$ yd.; angle $BAC = 30^\circ$; angle $BAD = 45^\circ$;
 angle $ABD = 90^\circ$; angle $ABC = 120^\circ$.
 - (a) Find, otherwise than by measurement, the size of the angle BDC , indicating clearly your reasoning.
 - (b) From your tables (or otherwise) find the distance of C from the diagonal BD .
 - (c) Find the area of the field in square yards. (18)

9. The figure given below (*which need not be copied in your examination book*), represents two coins in a rectangular corner of a box. If the coins are moved so as always to remain in contact with each other and with the sides OX , OY forming the corner, prove the following statements:—

- (a) The distance between the centres P and R of the coins remains constant.
- (b) If a rectangle $PQRS$ is formed by drawing through P and R straight lines parallel to OX and OY , then, as the coins are moved, P and R move along straight lines; Q (the nearest angular point to O) remains fixed; and S moves on an arc of a circle. (18)



MATHEMATICS

LOWER GRADE—(SECOND PAPER)

Tuesday, 25th March—1 P.M. to 3.30 P.M.

Before attempting to answer any question, Candidates should read the whole of it very carefully, since time is often lost through misapprehension as to what is really required.

Square-ruled paper and four-place logarithmic tables are provided.

All the working must be legible and shown in its proper position in the answer, and the different steps should be shortly indicated in words.

The value attached to each question is shown in brackets after the question. Marks will be deducted for careless or badly arranged work.

SECTION I.

All the questions in this Section should be attempted.

1. (a) Find the cost of 1,595 young trees at 39s. 7d. per 100.

(b) Evaluate—

$$\frac{(3.6)^2 \times (1.6)^2 \times 125}{(7.2)^2 \times 80 \times 0.25} \quad (10)$$

2. Prove that the simple interest on £ P for T years at R per cent. per annum is £ $\frac{PRT}{100}$.

Find the simple interest on £487 10s. for 5 years at 3 per cent. per annum. (15)

3. A cylindrical jar of diameter 13 cm. and of the same height is half filled with water. A metal sphere, of the same diameter, is then placed in it. Find, to the nearest cubic centimetre, how much water will overflow. ($\pi = 3.142$.) (12)

4. Solve the equations—

$$(i) \frac{x-2y}{3} + \frac{5y-2x}{6} = \frac{1}{2}, \quad 3y-x=1 - \frac{y-x}{4}$$

$$(ii) \frac{7}{2x-3} - \frac{2x+3}{5} = \frac{8}{15} \quad (15)$$

SECTION II.

Only THREE questions should be attempted from this Section.

5. (i) Factorize completely—

$$(a) x^2(x-1)^2 - (x-1)^2(x-2)^2,$$

$$(b) 20a^2 + 20a + 5 - 20b^2.$$

$$(ii) \text{ If } x = \frac{a+1}{ab+1} \text{ and } y = \frac{ab+a}{ab+1},$$

prove that—

$$\frac{x+y-1}{x-y+1} = a. \quad (16)$$

6. A flag-staff is in the centre of a circular piece of level ground of radius $85\frac{1}{2}$ yards. At any point of the circumference the angle of elevation of the top of the flag-staff is $21^\circ 48'$.

(a) Find the height of the flag-staff.

(b) The flag-staff is supported by guy-ropes 60 feet long which are attached half-way up the flag-staff, drawn taut and fixed in the ground. How far from the base of the staff are the feet of the guy-ropes? (16)

7. Draw the graph of $\frac{1}{10}x(x-3)(x-6)$ from $x = -1$ to $x = +7$. From your graph show that there are three values of x that make $x(x-3)(x-6) = 5$. (16)

8. The length and breadth of a rectangular floor of 377 square feet area are measured by means of a stick of unknown length. The length of the room is 10 times that of the stick and a foot more; the breadth is 5 times the length of the stick and 2 feet more. How long is the stick and what are the measurements of the room? (16)

9. If $\frac{1}{u} + \frac{1}{v} = \frac{1}{f}$ and $d = u + v$:

(i) find the value of d when $f = 6$, $u = 6.5$, and

(ii) show that $d : f = 25 : 6$ when $u : v = 2 : 3$. (16)

MATHEMATICS

HIGHER GRADE—(FIRST PAPER)

Tuesday, 25th March—10 A.M. to 12 NOON

Before attempting to answer any question, Candidates should read the whole of it very carefully, since time is often lost through misapprehension as to what is really required.

All the figures should be neatly drawn. All the steps of the proofs must be given. Preference will be given to proofs which depend on first principles, and in all cases it should be clearly shown on what assumptions the demonstrations are based.

The value attached to each question is shown in brackets after the question. Marks will be deducted for careless or badly arranged work.

SECTION I.

All the questions in this Section should be attempted.

1. Show how to draw the tangents from an external point to a circle, proving the construction. (11)

2. Prove that similar triangles are to one another in the duplicate ratio of (*i.e.*, as the squares on) their corresponding sides. (12)

3. A straight line is perpendicular to each of two intersecting straight lines at their point of intersection; prove that it is perpendicular to their plane. (12)

4. Prove, by means of a figure, that in any triangle ABC —

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

and write down the other relations of this type. (11)

SECTION II.

Only THREE questions should be attempted from this Section.
The propositions in Section I (above) on which certain of these deductions depend are indicated in brackets.

5. Show how to draw a straight line through a given external point so that the length intercepted on it by a given circle may equal a given length which does not exceed the diameter of the circle: prove your construction.

How many solutions are there in general? What is the exceptional case? (Section I, 1.) (18)

6. A circle is circumscribed to a triangle ABC , and the tangent at A meets the side BC produced at the point P . Prove that PC is to PB in the duplicate ratio of AC to AB (i.e., as the square on AC is to the square on AB). (Section I, 2.) (18)

7. AB is any chord of a fixed circle and P is any point at which it subtends a right angle. Prove that the sum of the squares on the lines joining the mid-point of the chord to P and to the centre of the circle respectively is constant. (18)

8. If P is the intersection of the diagonals of a face of a rectangular parallelepiped, and Q the intersection of the diagonals of the opposite face, prove that the straight line PQ is perpendicular to the planes of both faces. (18)

9. ABC is a triangle, and through C a parallel is drawn to the internal bisector of the angle A . From B a straight line BN is drawn perpendicular to this parallel and meeting it in the point N . Prove, by finding two different expressions for the length of BN , that $(b + c)\sin\frac{1}{2}A = a \cos\frac{1}{2}(B - C)$. (18)

 MATHEMATICS

HIGHER GRADE—(SECOND PAPER)

Tuesday, 25th March—1 P.M. to 3.30 P.M.

Before attempting to answer any question, Candidates should read the whole of it very carefully, since time is often lost through misapprehension as to what is really required.

Square-ruled paper and four-place logarithmic tables are provided.

All the working must be legible and shown in its proper position in the answer, and the different steps should be shortly indicated in words.

The value attached to each question is shown in brackets after the question. Marks will be deducted for careless or badly arranged work.

SECTION I.

All the questions in this Section should be attempted.

1. (i) 824 articles were purchased at £2 7s. 6d. each and 776 at £2 4s. 0d. each. What was the average price per hundred for the whole purchase?

(ii) At a certain date it was estimated that the number of thousands of pennies in circulation was 461,583, of halfpennies, 251,418, and of farthings, 103,936. Find their total value to the nearest £1. (10)

2. A sum of money at compound interest, payable yearly, amounted in one year to £132 and in three years to £159 14s. 4·8d. What was the rate per cent. ? (11)

3. Distinguish between a *term* and a *factor*. What are the terms and what are the factors of $4a^2b^2 - 9c^2$? Find the sum of the factors and the product of the terms.

One factor of $a^3 + b^3 + c^3 - 3abc$ is $a^2 + b^2 + c^2 - bc - ca - ab$. What is the other factor?

Factorize completely—

$$(a^2 + b^2) cd + (c^2 + d^2) ab. \quad (11)$$

4. Assuming the formulae for the sine and cosine of the sum of two angles, prove that

$\cos A + \cos B = 2 \cos \frac{1}{2}(A + B) \cos \frac{1}{2}(A - B)$,
and write down the similar formula for $\cos A - \cos B$.

Prove that—

$$(i) \sec^2 A = \frac{2 \sec 2A}{1 + \sec 2A};$$

$$(ii) \cos 2A = \frac{1 - \tan^2 A}{1 + \tan^2 A};$$

(iii) if A, B, C are the angles of a triangle—

$$\tan A = \frac{\sin A \sin C}{\sin B - \sin A \cos C}. \quad (11)$$

5. Taking tabular values of $2 \sin x$ and $\tan x$ to the nearest second decimal place, draw the graphs of these functions, on the same diagram, for values of x from 0° to 60° . Give a statement of what happens to the graphs for values of x onwards to 90° .

Utilize this figure to find the least positive value of x which satisfies the equation—

$$2 \sin x = \tan x. \quad (12)$$

SECTION II.

Only THREE questions should be attempted from this Section.

6. If $\frac{a-b}{c-d} = \frac{a+b}{c+d}$, prove that $a : b = c : d$.

Solve the equation—

$$\frac{(p+q)x - (r-x)}{(p-q)x - (r+x)} = \frac{(p+q)x + (r-x)}{(p-q)x + (r+x)}. \quad (15)$$

7. If S denote the sum of the first n terms of the series

$$1 + 2a + 3a^2 + 4a^3 + \dots$$

prove that

$$(1-a)S = 1 + a + a^2 + \dots + a^{n-1} - na^n,$$

and hence prove that

$$S = \frac{1-a^n}{(1-a)^2} - \frac{na^n}{1-a}.$$

If $a = \frac{1}{2}$ and $n = 20$, show that S differs from 4 by an amount 11×2^{-18} . (15)

8. The lengths of the sides AB , BC , CD , DA of a quadrilateral are respectively 8, 9, 12, 17 feet, and that of the diagonal BD is 15 feet. Show that the angles ABD and BCD are right angles.

Determine as accurately as your tables allow, the size of the angle CDA and the length of the diagonal AC . (15)

9. If $\log_a M = x$ and $\log_a N = y$, prove that $\log_a MN = x + y$.

Prove that, if $\log \frac{9}{10} = a$, $\log \frac{24}{25} = b$ and $\log \frac{81}{80} = c$,

then $\log 2 = 2b + 3c - 7a$. (15)

10. (i) Solve the equations—

$$\begin{aligned}(a - 4)x + (a + 1)y + a &= 0 \\ x - y - a &= 0\end{aligned}$$

(ii) If $x = y^2$, show that there are two positive integral values of a which make this possible; select *one* of these values, and prove that for it the equations

$$\begin{aligned}(a - 4)y^2 + (a + 1)y + a &= 0 \\ y^2 - y - a &= 0\end{aligned}$$

have a common root.

(15)

ELEMENTARY ANALYSIS

ADDITIONAL MATHEMATICAL SUBJECT

(Higher Grade)

Wednesday, 26th March—10 A.M. TO 12.30 P.M.

Before attempting to answer any question, Candidates should read the whole of it very carefully, since time is often lost through misapprehension as to what is really required.

Not more than FOUR questions should be attempted from Section I, and not more than THREE questions from Section II.

Square-ruled paper is provided.

The value attached to each question is shown in brackets after the question. Marks will be deducted for careless or badly arranged work.

SECTION I.

Not more than FOUR questions should be attempted from this Section.

1. (a) If $\frac{a_1}{b_1}, \frac{a_2}{b_2}, \dots, \frac{a_n}{b_n}$ are n unequal fractions whose denominators are positive, prove that the fraction $\frac{a_1 + a_2 + \dots + a_n}{b_1 + b_2 + \dots + b_n}$ lies between the greatest and least of them.

(b) If $\frac{x}{a} = \frac{y}{b} = \frac{z}{c}$, prove that

$$\begin{aligned} & \frac{x^4 + a^4}{x^3 + a^3} + \frac{y^4 + b^4}{y^3 + b^3} + \frac{z^4 + c^4}{z^3 + c^3} \\ &= \frac{(x + y + z)^4 + (a + b + c)^4}{(x + y + z)^3 + (a + b + c)^3}. \end{aligned} \tag{13}$$

2. Prove from first principles that the number of combinations of n things taken r at a time is equal to the number taken $(n - r)$ at a time, and that each of these is equal to $\frac{n!}{r!(n - r)!}$.

Out of 12 privates and 4 corporals, in how many ways can a squad of four privates and a corporal be chosen, and how many of these squads will contain a given private? (13)

3. If n is a positive integer and if $x = \cos \theta + i \sin \theta$, investigate, without assuming the truth of de Moivre's theorem, the values of $\frac{1}{x}$, x^n and $\frac{1}{x^n}$.

Find all the values of $(-1)^{\frac{1}{6}}$ and of $1^{\frac{1}{6}}$. (13)

4. Prove that the sum of the first n terms of the series whose n^{th} term is $n r^n$ is $\frac{r - (n + 1) r^{n+1} + n r^{n+2}}{(1 - r)^2}$.

Show that the series

$$1^2 r + 2^2 r^2 + 3^2 r^3 + \dots + n^2 r^n$$

is equal to

$$\frac{1}{(1 - r)^3} \left\{ r + r^2 - (n + 1)^2 r^{n+1} + (2n^2 + 2n - 1) r^{n+2} - n^2 r^{n+3} \right\} \tag{13}$$

5. Find from first principles the differential coefficient of $\tan x$.

Differentiate $(x^2 + x) e^x$ and integrate $(x^2 + x - 1) e^x$ and $\frac{x + 1}{(x - 2)(x - 3)}$. (13)

SECTION II.

Not more than THREE questions should be attempted from this Section.

6. Prove the binomial theorem for a positive integral index, and state it, with any necessary limitations, for any real index.

If $x < 1$, prove that

$$\frac{8-x}{(2-x)^2(1+x)} = 2 - \frac{1}{4}x + \frac{3}{2}x^2 - \frac{11}{16}x^3 + \dots \quad (16)$$

7. Show that the area contained by a given curve, the axis of x , and the ordinates corresponding to the abscissae x_1 and x_2 is

$$\int_{x_1}^{x_2} y \, dx,$$

it being understood that the curve does not cross the axis of x in the interval considered.

In the case of the curve $y(1+x^2) = 1-x^3$, show that the area cut off by the axis of x from the origin to the point where the curve cuts the axis of x is

$$\frac{\pi}{4} + \frac{1}{2}(\log_e 2 - 1). \quad (16)$$

8. Show that the curve whose equation is

$$y^2 = x^2(4-x^2)$$

is symmetrical about both axes and is limited in every direction. Express its gradient at any point as a function of x : find the points at which the gradient vanishes and becomes infinite, and investigate the gradients at the origin. Sketch the curve and its circumscribing rectangle. (16)

9. If θ is the circular measure of an acute angle, prove that $\sin \theta < \theta < \tan \theta$.

Hence, and using the fact that $\sin \theta = 2 \sin \frac{1}{2}\theta \cos \frac{1}{2}\theta$, show that $\sin \theta > \theta - \frac{\theta^3}{4}$.

Use these theorems to estimate the error involved in taking the circular measure of 10° instead of its sine.

(16)

10. The terms of an infinite series are alternately positive and negative, and each is numerically less than the preceding. Prove that, if the n^{th} term tend to zero as n increases indefinitely, the series converges.

Are the following series convergent or divergent? Give reasons.

- (i) $1 + \frac{2^2}{2!} + \frac{3^2}{3!} + \frac{4^2}{4!} + \dots$
- (ii) $\frac{1}{1.2} + \frac{1}{3.4} + \frac{1}{5.6} + \dots$
- (iii) $\left(\frac{1}{2}\right)^{\frac{1}{2}} + \left(\frac{2}{3}\right)^{\frac{2}{3}} + \left(\frac{3}{4}\right)^{\frac{3}{4}} + \dots$ (16)

GEOMETRY

ADDITIONAL MATHEMATICAL SUBJECT

(Higher Grade)

Wednesday, 2nd April—10 A.M. to 12 NOON

Before attempting to answer any question, Candidates should read the whole of it very carefully, since time is often lost through misapprehension as to what is really required.

Square-ruled paper is provided.

Marks will be deducted for careless or badly arranged work.

Six questions should be attempted, of which **THREE** at least must be from Section I. and **TWO** at least from Section II. The **SIXTH** question may be taken either from Section I. or from Section II. All the questions are of equal value.

SECTION I.

1. Prove that, for all values of t , the point whose co-ordinates are $(2 + 3t, 4 - 5t)$ lies upon a straight line.

Show also that this line is perpendicular to the line given by the corresponding co-ordinates $(5t - 4, 3t + 2)$; and find the co-ordinates of their common point.

2. Prove that the equation of two lines through the origin perpendicular to the lines given by $ax^2 + 2hxy + by^2 = 0$ is

$$bx^2 - 2hxy + ay^2 = 0.$$

If $4h^2 = a^2 + 6ab + b^2$, show that these four lines are so placed that each makes an angle of 45° with the next.

3. Show that the equation

$$x^2 + y^2 + 2gx + 2fy + g^2 = 0$$

represents a circle which touches the axis of x .

Find the equations of two circles, each passing through the points $(2, 1)$ and $(1, 2)$, and each touching the axis of x . Show that they also touch the axis of y .

4. Prove that if (x', y') is on the parabola $y^2 = 4ax$, the equation of the tangent at (x', y') is

$$yy' = 2a(x + x').$$

Find the co-ordinates of the points common to the curves

$$y^2 = 4a(x + a) \text{ and } y^2 = -4a(x - a)$$

and show that the curves cut at right angles.

[You may assume that the equation of the tangent at the point (x', y') on the curve $y^2 = 4k(x + k)$ is $yy' = 2k(x + x' + 2k)$.]

5. Show that the line $\frac{x}{a} \cos \theta + \frac{y}{b} \sin \theta = 1$ touches the ellipse $x^2/a^2 + y^2/b^2 = 1$, whatever be the value of θ .

Prove that the rectangle contained by the perpendiculars drawn from the two points $(\sqrt{a^2 - b^2}, 0)$ and $(-\sqrt{a^2 - b^2}, 0)$ to any tangent to the ellipse is constant.

SECTION II.

6. Obtain an expression for the length AP from the vertex A to the orthocentre P of a triangle ABC , in terms of the side a and the angle A alone.

A rod BC slides so that its extremities B, C are in contact with two fixed lines ABX, ACY . Show that the locus of the orthocentre of ABC is a circle.

7. Prove that the centroid of a triangle is in line with the circumcentre O and the orthocentre P ; and that it lies at a point of trisection of OP .

If A, B, C are respectively the middle points of the sides YZ, ZX, XY of a triangle XYZ , show that the triangles ABC, XYZ have a common centroid, and that the circumcentre O of triangle ABC is the mid-point of the line joining the orthocentres of ABC and XYZ .

8. Two circles intersect at an angle θ . Prove that their inverses with regard to any circle also intersect at the same angle.

Three circles S, S', S'' touch each other at P , and S'' lies within S' , and S' within S . A number of circles are drawn to touch both S and S'' . Prove that they each intersect S' at the same angle.

9. Define the polar of an internal point P with respect to a circle C .

If QR is the polar of P , and RP that of Q , and PQ that of R , show that the centre of the circle is the orthocentre of the triangle PQR .

10. Three circles belong to a coaxial system. A common tangent touches two of them at P and Q , and cuts the third at R and S . Prove that (PQ, RS) is a harmonic range.

If the coaxial system have real limiting points, state what this theorem becomes when the first two circles contract to the limiting points.

DYNAMICS

ADDITIONAL MATHEMATICAL SUBJECT

(Higher Grade)

Monday, 31st March—2 P.M. to 4 P.M.

Before attempting to answer any question, Candidates should read the whole of it very carefully, since time is often lost through misapprehension as to what is really required.

Square-ruled paper is provided.

The value attached to each question is shown in brackets after the question. Marks will be deducted for careless or badly arranged work.

SECTION I.

All the questions in this Section should be attempted.

1. Show how to obtain from a velocity-time graph the space described during any interval of time and the acceleration at any instant.

A particle is projected vertically upwards with velocity v_1 , and t seconds later another particle is projected vertically upwards with a lesser velocity v_2 . Draw their velocity-time graphs on the same diagram; and if the particles strike the ground at the same instant, find t . (16)

2. Find the direction and the magnitude of the resultant of two forces P and Q , acting at a point, when the angle between their lines of action is α .

A smooth bead is threaded on a string which is attached at its ends to two fixed points, and a horizontal force P , acting in the vertical plane containing the two points, is applied to the bead. If α is the angle between the two portions of the string meeting at the bead, and W is the weight of the bead, prove that the tension in the string is—

$$\frac{1}{2} \sec \frac{1}{2} \alpha \sqrt{W^2 + P^2}. \quad (16)$$

3. Explain the relation $mf = P$, defining the symbols carefully.

A railway wagon moves freely down an incline, which falls one foot per 200 feet of rail, with uniform velocity; find in lb. weight per ton the total resistance (due to friction on rails, etc.) to the motion. If the wagon is started up the incline with a velocity of 15 miles per hour, find how far it travels before coming to rest. [The resistance is assumed to be the same whether the wagon is moving up or down the incline.] ($g = 32$.) (16)

4. State the conditions of equilibrium of a floating body.

A right circular cone of specific gravity S floats in water with its vertex downwards; prove that the ratio of the depth of the vertex below the surface to the height of the cone is $S^{\frac{1}{3}}$. (16)

SECTION II.

Only two questions should be attempted from this Section.

5. The centres of gravity of two masses are given ; find the centre of gravity of the masses taken together.

Two circular holes of equal diameters are punched in a uniform circular cardboard disc, their centres being 6 inches from the centre of the disc on radii making an angle of 60° with each other. Find where a hole of double the diameter of each of the other two must be punched in order that the disc may balance at its centre. (18)

6. Define " Kinetic energy " and " Horse-power. "

An engine working at 400 horse-power is able to pull a train weighing 200 tons at a maximum speed of 30 miles per hour along a level stretch. If it start from rest and the resistances to a slowly moving train along this level stretch are equal to 12 lb. weight per ton, find the acceleration, assuming that it is uniform. (18)

7. A uniform heavy rod AB rests with the end A in contact with a rough vertical wall, and the end B supported by a light horizontal string whose other end is attached to the wall at a point C , vertically above A . If the rod be on the point of slipping down the wall, prove that the coefficient of friction between rod and wall is $2 \tan CBA$. (18)

8. Show how to find the pressure of the air inside a diving bell of given height immersed to a given depth in water.

The pressure of the air in the bell before immersion is 30 inches of mercury, the capacity of the bell is 300 cubic feet, and the bell is kept full of air, when immersed, by means of a pump at the surface. Find the depth of the bottom of the bell below the surface, and the volume of air at atmospheric pressure which has been pumped in, when the pressure inside the bell is 40 inches of mercury. (The specific gravity of mercury is 13.5.) (18)

BOOKKEEPING

Monday, 31st March—10 A.M. to 1 P.M.

The value attached to each question is shown in brackets after the question. In addition, 25 marks are allowed for writing, ruling and style.

1. Explain briefly the following :—

B/L. Rebate. Account Current. Credit Note.
Overdraft. (10)

2. What is the Imprest System of Petty Cash? Draw up a form of Petty Cash Book and enter therein 5 items showing how the system operates. (10)

3. What is the effect of crossing a cheque (a) "Not negotiable," (b) "Royal Bank of Scotland, Dundee," and (c) "Account payee only"? (10)

4. The following balances appeared in the books of A. Ambrose at 31st December, 1929 :—

Cash in hand, £20; Overdrawn at Bank, £67 10s.; Discounts allowed me, £9 7s. 5d.; Stock (at 1st January), £313 19s. 4d.; Sundry Debtors, £182 15s.; Sundry Creditors, £103 16s. 9d.; Trade Expenses, £14 7s. 6d.; Salaries, £25; Interest on Bank Overdraft, £5; Returns Inwards, £49 5s. 8d.; Sales, £981 3s. 7d.; Purchases, £573 10s.; Returns Outwards, £38 17s. 9d.; Bad Debts, £31 18s.; Fixtures and Fittings, £75; Bills Receivable, £380.

You are required to draw up a Trial Balance (find the Capital), and prepare Trading and Profit and Loss Accounts and Balance Sheet.

The value of the Stock on hand at 31st December, 1929, was £102 2s. 3d. (40)

5. On 1st June, 1929, Thos. Still started business with £5,000 at the Bank. On that date he purchased a warehouse for £1,750 and the stock of goods on the premises for £575, paying by cheque. His transactions during the month of June were as follows :—

1929.

June 2. Sold goods to G. Andrews value £159 14s. 11d.
Drew cheque for £50 for Office Cash.

7. Received G. Andrews' acceptance for £150 at 1 month, and his cheque for the balance due.

8. Bought goods of W. Bennett, £83 6s. 8d.
10. Paid W. Bennett by cheque less $2\frac{1}{2}$ per cent. discount.
11. Sold goods to M. Colin, £213 5s. 9d.
16. Goods invoiced at £41 2s. 5d. returned by M. Colin as damaged.
Claim for damage made on the Railway Company.
17. Bought from C. Donald goods, £97 16s. 8d. less trade discount of $12\frac{1}{2}$ per cent.
18. Sold goods to R. Edwards, £188 17s. 4d.
21. M. Colin settled his account by cheque less $2\frac{1}{2}$ per cent. cash discount.
25. Railway Co. admit claim for damage and forward cheque for £18 10s.
Sold damaged goods for cash, £20. Paid cash into Bank.
26. Bought from W. Bennett goods, £180 10s., less 15 per cent. trade discount.
27. Paid wages £9 10s.
28. G. Andrews is unable to meet his liabilities. Composition of 13s. 4d. in the £ accepted, and cheque for amount due received.
- June 29. Gave W. Bennett my Bill for £100 at 3 months and cheque for balance of account.
Paid Petty Expenses for month, £8 11s. 7d., and Salaries, £16 10s.

All cheques were paid into Bank the same day.

Record the above in the necessary Books of Account, post to the Ledger and extract a Trial Balance. Bill Books are not required.

N.B.—No Profit and Loss Account or Balance Sheet is to be prepared.

COMMERCIAL ARITHMETIC

(FIRST PAPER)

Monday, 31st March, 2 P.M. to 2.30 P.M.

This paper will be taken up at the end of half-an-hour, when the second paper will be given out.

The sums are not to be copied out, and all the calculations required are to be performed mentally.

More importance will be attached to accuracy than to quickness.

The value attached to each question is shown in brackets after the question.

Fill this in first

Name of School.....

Name of Pupil.....

1. (a) Add :—	£	s.	d.
	72,992	18	$3\frac{1}{4}$
	6,308	0	$7\frac{3}{4}$
	83,541	13	$2\frac{1}{4}$
	97,245	9	$0\frac{1}{2}$
	68,357	0	8
	726	4	$3\frac{1}{2}$
	52,295	2	$9\frac{3}{4}$
	64,310	5	5

(b) Divide £277,034 7s. 9d. by 13..... (5)

2. Write down the values of the following :—

$$\frac{15.4 - 3.5}{1.5 + 5.3} \dots\dots\dots$$

$$\sqrt{255025} \dots\dots\dots$$

$$\sqrt{255025} \dots\dots\dots$$

12,400 cu. ft. of gas at 7.5 pence per therm (1000 cu. ft. = 5 therms).

.....

$17\frac{1}{2}$ per cent. of £3,340..... (10)

3. Express :—

2 fur. 24 poles as a decimal of a mile.....

·6265 of £1 in shillings and pence

150 metres \times 13 kilometres in square
decametres

The value of 11*d.* per lb. in £ s. *d.* per ton
.....

(10)

COMMERCIAL ARITHMETIC

(SECOND PAPER)

Monday, 31st March—2.30 P.M. to 4 P.M.

Before attempting to answer any question, Candidates should read the whole of it very carefully, since time is often lost through misapprehension as to what is really required.

Four-place logarithmic tables are provided.

All the working must be shown in its proper position in the answer, and the different steps of the calculation should be shortly indicated in words.

Algebraical symbols may be used if properly explained.

The value attached to each question is shown in brackets after the question. In addition, 7 marks are allowed for neatness, arrangement and style.

1. The British trawl landings of fish in Scotland during 1926 amounted to 1,693,586 cwts., valued at £1,802,713 as compared with 1,776,459 cwts., valued at £1,902,107 in 1925. Express (correct to the nearest farthing) the increase, or decrease, in the average price per cwt. in 1926 compared with 1925. (7)

2. For the purpose of the allocation of a grant in relief of rates, the number of the population of an area is increased in the proportion by which the number of children under 5 years of age per 1,000 of population exceeds 50. Given a population of 117,000, of which the number of children under 5 years of age is 7,605, what increase is allowed? (7)

3. A man held £15,000 in 5 per cent. War Loan Stock, which he sold at $101\frac{3}{4}$. At what price must he invest the proceeds in $3\frac{1}{2}$ per cent. Conversion Loan Stock to give him the same income? (Ignore brokerage and stamps). (8)

4. The profits of a business are divided between the two partners, A and B, in the ratio 3 : 4. A's capital is £6,300 and B's, £8,800. The profits for the year amount to £1,617. What rate per cent. interest will each receive on his capital? (8)

5. What is the banker's profit (to the nearest penny) in discounting on August 5th at $5\frac{1}{2}$ per cent. a bill for £5,037 10s., drawn on June 9th for 5 months? (9)

6. The rates of exchange, London—Paris—New York, on two different days were as follows:—

London—Paris, fr. to £.	123·92	123·93.
London—New York, dol. to £.	4·85	4·84 $\frac{3}{4}$.
Paris—New York, fr. to dol.	25·55 $\frac{3}{4}$	25·56 $\frac{1}{4}$.

On which day, and by which route, direct or *via* Paris, would it have been cheaper to make a remittance from London to New York? (9)

7. A merchant bought 3,250 metres of silk at 30 francs per metre and sold it at 5s. 6d. per yard. What was his profit in English money? (1m.=39·37 in. : £=124 fr.). (10)

8. £1 National Savings Certificates payable in full at the end of 5 years could formerly be purchased for 15s. 6d., but now cost 16s. What is the rate per cent. per annum, compound interest, in each case? (10)

SCIENCE

HIGHER GRADE—(BOTANY)

Tuesday, 1st April—2.15 P.M. to 4.15 P.M.

FIVE questions in all should be attempted.

Answers should, wherever possible, be illustrated by diagrams.

N.B.—Write legibly and neatly, and leave a reasonable space between the lines. Marks will be deducted for bad writing.

SECTION I.

Both questions in this Section should be attempted.

1. *Either (a)* Describe with drawings the floral structure of any zygomorphic (irregular) insect-pollinated flower you know. Draw a median longitudinal section of the flower and explain carefully how it is pollinated.

Or (b) Describe with drawings the floral structure of any wind-pollinated flower you know. Make enlarged drawings of its style and stigma and of its stamen. Explain wherein these differ from the corresponding organs of an insect-pollinated flower and give reasons for the differences.

2. *Either (a)* Describe any *two* experiments which you have performed, or which you have seen performed, to demonstrate the features of the process of respiration. Name the plant used and give some idea of the time required to demonstrate the feature in each experiment.

Or (b) What do you understand by the term germination? What are the conditions necessary for germination? How would you demonstrate by experiment that these conditions must be fulfilled before germination will take place? Name the plant used in each demonstration and state how long it would be necessary to continue the experiment to obtain the necessary result.

SECTION II.

Only THREE questions from this Section should be attempted.

3. Define the term xerophyte. What conditions of soil and climate further the growth of xerophytes? Explain how the xerophyte *Armeria maritima* (the sea pink or thrift) flourishes both on the mountain tops and on the sea shore.

4. Draw a transverse section of the leaf of a typical dicotyledon as viewed under the microscope. Name all the tissues shown in your drawing.

N.B.—Make your drawing large enough to show the thickness of the cell walls.

5. Using the Compositae as an example, give an account of the factors leading to the success of a natural order in the struggle for existence.

6. Describe with drawings the various modifications which the underground parts of plants may undergo. What is the physiological significance of each modification?

7. In what different ways do plants multiply vegetatively in nature? Give an example of each method. Describe how man has made use of any three of these methods for increasing his stock of any particular plant.

SCIENCE

HIGHER GRADE—(CHEMISTRY)

Wednesday, 2nd April—2.15 p.m. to 4.15 p.m.

Not more than FIVE questions should be attempted. Full marks will not be awarded unless the answers are illustrated by diagrams and supplemented by equations wherever possible.

H = 1, O = 16, S = 32, Na = 23, C = 12, Mg = 24.

Mathematical tables will be supplied to those who desire them.

N.B.—Write legibly and neatly, and leave a reasonable space between the lines. Marks will be deducted for bad writing.

1. State as clearly as you can three reasons for saying that the action of a substance in a chemical reaction is catalytic.

Describe the experiments you would perform to justify the statement that the manganese dioxide added to the potassium chlorate in the preparation of oxygen is a catalyst.

2. Define, adding a brief explanation in each case, the following terms:—equivalent, atomic weight, valency.

0.57 gm. of a divalent metal displaced 228 c.c. hydrogen (temperature 15° C., pressure 81 cm. mercury) from hydrochloric acid. Calculate the equivalent weight and the atomic weight of the metal.

0.7 gm. of the same metal, after treatment with nitric acid, evaporation to dryness, and ignition, gave 1 gm. of oxide. Again calculate the equivalent, and write a note on the result.

3. Give a detailed account of the method you would employ to prepare sulphur dioxide in the laboratory. Write a note on the reactions involved.

State the properties of the gas and contrast the bleaching action of sulphur dioxide with that of chlorine.

4. Define the term normal solution, using sulphuric acid and caustic soda to illustrate your answer.

Why is sodium carbonate generally preferred to caustic soda when making up a solution with which to estimate the concentration of a given acid solution ?

Describe the preparation of normal sodium carbonate.

100 c.c. of dilute sulphuric acid required 80 c.c. of normal sodium carbonate for complete neutralisation. What weight of sulphuric acid did it contain ?

After adding a piece of magnesium ribbon to another 100 c.c. of the same acid and waiting till the action was finished, it was found that 40 c.c. of normal sodium carbonate was sufficient for neutralisation. Calculate the weight of magnesium added.

5. On heating a certain white crystalline substance with concentrated sulphuric acid a mixture of carbon monoxide and carbon dioxide was evolved.

Describe how you would

- (a) determine the proportion of each gas ;
- (b) convert the mixture to carbon monoxide ;
- (c) convert the mixture to carbon dioxide.

Either—

Name a substance that would yield such a mixture of gases and write the equation for the reaction.

Or—

Write a brief note on the method you would use to prepare carbon monoxide.

6. The members of the following pairs are sometimes mistaken for one another. State the points of resemblance in each case and give two tests by which you would distinguish one from the other :—

- (a) hydrogen and carbon monoxide ;
- (b) sulphur dioxide and hydrochloric acid gas ;
- (c) nitrous oxide and oxygen ;
- (d) nitrogen and carbon dioxide ;
- (e) quicklime and slaked lime.

7. *Either—*

Describe the manufacture of coal gas. Mention four important by-products and give some account of the uses to which they are put.

Or—

Write a short note on the occurrence of either (a) iron or (b) copper in nature.

In the case of the metal you select give an account of one method employed in obtaining the metal from the ore, noting particularly any points in which your knowledge of science enables you to understand the processes.

SCIENCE

HIGHER GRADE—(ENGINEERING)

Wednesday, 2nd April—2.15 P.M. to 4.15 P.M.

FIVE questions should be attempted, viz., THREE questions from Section A, and TWO questions from Section B.

When Candidates use a formula they must explain each symbol and show as far as possible how the formula is built up. Units must always be stated.

Take $\pi = \frac{22}{7}$, and $g = 32$ ft. per sec. per sec.

Square-ruled paper and four-place logarithmic tables are provided.

N.B.—Write legibly and neatly, and leave a reasonable space between the lines. Marks will be deducted for bad writing.

SECTION A.

1. Explain clearly the terms: "kinetic energy," "radius of gyration," "brake horse-power."

How would you find experimentally *either* the radius of gyration in any particular case, *or* the brake horse-power of an engine?

An engine of 14 B.H.P. starting from rest takes 2 minutes 56 seconds to reach its normal rate of revolution. The fly-wheel weighs 2.5 tons and has a radius of gyration of 3.5 feet.

If the B.H.P. of the engine develops at a constantly increasing rate from zero to 14, and is wholly expended in increasing the speed of the fly-wheel, determine the normal revolutions per minute of the engine.

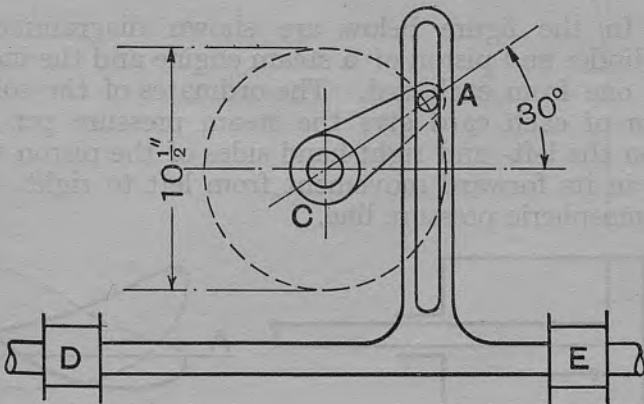
2. Explain how a man, by means of two or three turns of a rope round a mooring-post on a pier, can control the motion of a ship to which the other end of the rope is attached. State the law expressing the ratio of the pull exerted by the ship and that exerted by the man.

In a pulley drive of 5.5 H.P., the driving pulley is 14 inches in diameter, and the belt has a safe *total* working strength of 450 pounds. If the ratio of the tensions in the two stretches of the belt is 1 to 0.45, find the least number of revolutions per minute that the driving pulley can safely make.

3. The figure given below is a diagrammatic sketch of a mechanism for driving a double-action pump. Determine *from first principles*—

- The number of turns per minute of the crank (CA), if the velocity of the slotted bar, at the instant shown in the figure, is 2.2 feet per second towards E.
- The acceleration of the slotted bar at the same instant. State this completely.

State, giving reasons, what the motion of the pin (A) is relative to the slot in the bar.



4. Define clearly : “ shearing - force,” “ bending-moment,” “ Young’s modulus ”.

Describe an experiment for finding Young’s modulus in any particular case.

Draw on squared paper the shearing-force and bending-moment diagrams for a uniform beam 10 feet long, weighing 5 tons, and supported horizontally at its two ends.

SECTION B.

5. A boiler has an efficiency of 66 per cent., and burns 425 pounds of oil per hour of a calorific value of 17,600 B.Th.U.

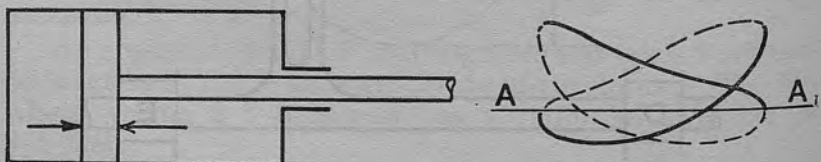
What weight of water will be evaporated per hour into dry saturated steam at a pressure of 135 pounds per square inch from feed water having a temperature of $120\cdot65^{\circ}$ F.?

In the test of a boiler it was found that 10,000 B.Th.U. were required to produce 10 pounds of steam at a pressure of 130 pounds per square inch from feed water at a temperature of $132\cdot53^{\circ}$ F. Find the dryness fraction of the steam.

Data from Steam Tables from which quantities required for solution of above question should be taken, interpolated where required.

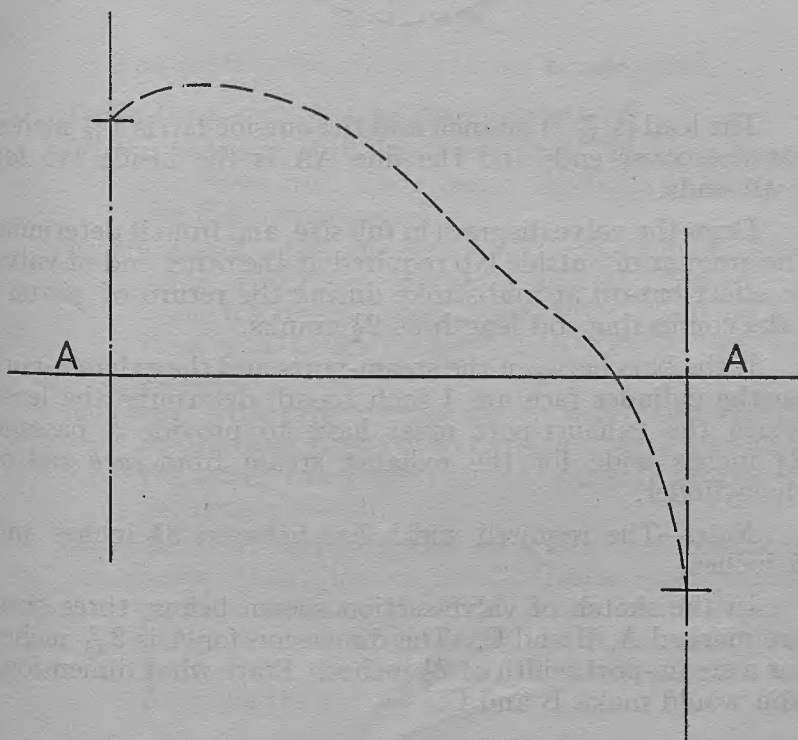
Pressure in lbs. per sq. in.	Temp. in F°.	Total Heat in B.Th.U. per lb.
120	341·0	1185·9
130	347·1	1187·8
140	352·8	1189·5

6. In the figure below are shown diagrammatically the cylinder and piston of a steam engine and the indicator cards, one from each end. The ordinates of the solid line portion of each card give the steam pressure per square inch on the left- and right-hand sides of the piston respectively in its forward movement from left to right. AA is the atmospheric pressure line.

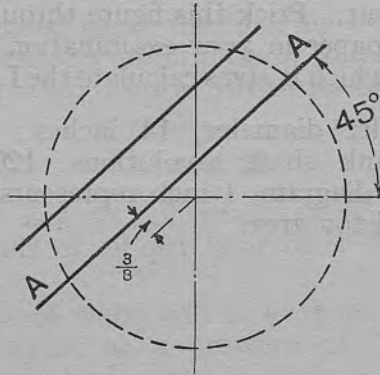


The ordinates of the curve in the figure below, from the datum line AA, give the differences—corrected for piston rod area—between the steam pressures per square inch on the left- and right-hand sides of the piston at each point in its forward movement. Prick this figure through on to a page of square-ruled paper in your examination book and from the information which it gives calculate the I.H.P. developed.

Data—Cylinder diameter, 14 inches; crank length, 12 inches; crank shaft revolutions, 120 per minute; vertical scale of diagram, 1 inch represents 30 pounds per square inch of piston area.



7. The valve diagram, with certain data, for the cover end of the cylinder of a steam engine, rotating clockwise, is indicated in the figure below (cylinder to left).



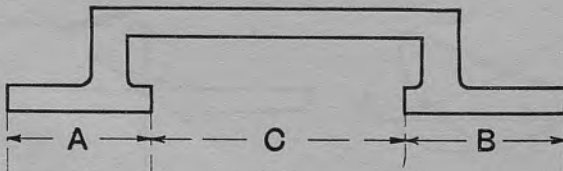
The lead is $\frac{7}{16}$ of an inch and the outside lap is $1\frac{11}{16}$ inches for the cover end, and the line AA is the inside lap for both ends.

Draw the valve diagram in full size, and from it determine the amount of outside lap required at the other end of valve to effect cut-off at mid-stroke during the return of piston; take connecting rod length as $2\frac{1}{2}$ cranks.

If the bars between the steam-ports and the exhaust-port on the cylinder face are 1 inch broad, determine the least width the exhaust-port must have to provide a passage $2\frac{1}{8}$ inches wide for the exhaust steam from *each end* of the cylinder.

Note.—The required width lies between $3\frac{3}{4}$ inches and 5 inches.

In the sketch of valve-section shown below, three sizes are marked A, B and C. The dimension for A is $3\frac{7}{16}$ inches for a steam-port width of $2\frac{1}{8}$ inches. State what dimensions you would make B and C.



SCIENCE

LOWER GRADE—(GEOGRAPHY)

Wednesday, 26th March—10 A.M. to 12.30 P.M.

SIX questions should be attempted, viz., the whole of Section A, TWO questions from Section B, and TWO questions from Section C.

The value attached to each question is shown in brackets after the question.

N.B.—Write legibly and neatly, and leave a reasonable space between the lines. Marks will be deducted for bad writing.

SECTION A.

The whole of this Section should be attempted.

1. On the accompanying map of Scotland—

(a) Name Arran, Mull, Islay and Bute. Mark and name the Forth and Clyde canal, the Crinan canal and the Caledonian canal.

(b) Mark and name the towns of Grangemouth, Kirkcaldy, Inverness, Dumfries and Montrose; and name the rivers Tweed, Spey, Nith, Findhorn and Don, and Lochs Lomond, Long, Fyne, Ness and Rannoch.

(c) Draw, with careful reference to relief, two railway routes from Glasgow to Carlisle. Mark and name the latter town and one intermediate station on each route shown.

(d) Shade and name on the map one area producing large quantities of small fruits, one yielding granite, and one in which water has been or is being utilised to generate hydro-electric power. Print F on the first area, G on the second, and P on the third. (20)

2. On the accompanying map of North and Central America—

(a) Name Long Island, Newfoundland, Cuba, Lake Winnipeg and Hudson Bay; and mark and name the towns of Toronto, St. Louis, Boston, Mexico City and Buffalo.

- (b) Shade one area producing large amounts of raw cotton, one producing tobacco, one producing maize and one producing timber. In each case print the name of the product and of the area intended close to the shading, and in each case mark and name a town which serves as a collecting centre for the product.
- (c) Insert on the map five dotted lines marking the limits of the time zones, that is of the belts within which standard time differs from that of Greenwich by 4, 5, 6, 7 and 8 hours respectively. Number the lines in sequence from east to west and also insert and name the tropic of Cancer and the Arctic Circle. (20)

SECTION B.

Two questions should be attempted from this Section.

3. State the precise position of Glasgow, and indicate some of the reasons which have led to its becoming the largest town of Scotland and the second largest within the British Isles. (15)

4. Compare as to physical features, climate and products the counties of Devon and Cornwall on the one hand with those of Kent, Surrey and Sussex on the other. Name *four* towns in each of the two areas. (15)

5. Name and describe shortly three steamship routes from Great Britain to Ireland, naming the terminal ports in each case. State, with reasons, the chief kinds of traffic carried on by the routes selected. (15)

6. Indicate some of the causes which have influenced the localisation of industries in the British Isles, illustrating by a discussion of any *three* of the following industries:—iron and steel, soap-making, paper-making, woollen manufacture, brewing, shipbuilding. (15)

SECTION C.

Two questions should be attempted from this Section.

7. State in what parts of continental Europe any *three* of the following are produced on a large scale, and indicate the advantages possessed in each case by the producing areas:—raw silk, wine, flax fibre, beet sugar, olive oil. (15)



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1325/30.

Scale of One Inch to One Statute Mile - 63360

Ordnance Survey, 1930.

<p>Main Routes between Towns over 14' of Moaling</p> <p>Other Roads</p> <p>Roads under 14' wide</p> <p>Minor Roads</p> <p>Bridle & Footpaths</p> <p>(Private Roads are uncoloured. Unfenced Roads are shown by dotted lines)</p> <p>Slopes steeper than 7</p>	<p>Surface Good & fit for fast traffic</p> <p>Fit for ordinary traffic</p> <p>Indifferent or winding road</p> <p>Bad</p>	<p>Railways Double Line</p> <p>Single Line</p> <p>Mineral Lines and Tramways</p> <p>Wood</p> <p>Orchard</p> <p>Marsh</p>	<p>Viaduct</p> <p>Bridge Over</p> <p>Bridge Under</p> <p>Level Crossing</p> <p>Embankment</p> <p>Sand Hills</p> <p>Rocks</p> <p>Beam</p> <p>Ferry</p> <p>Ferry (For Vehicles V)</p> <p>Ferry (For Foot Passengers F)</p> <p>Lock</p> <p>Rough Pasture</p>	<p>Church or Chapel with Tower</p> <p>Spire</p> <p>without either</p> <p>Windmill</p> <p>Lighthouse</p> <p>Parks & Ornamental Ground</p>	<p>Post and Telegraph Office</p> <p>Post Office</p> <p>with Telephone</p> <p>Road Mileage</p> <p>Altitude</p> <p>Boundaries, County</p> <p>County & Parish</p> <p>Parish only</p> <p>Contours</p>
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LEAVING CERTIFICATE EXAMINATION, 1930.

SCIENCE.
HIGHER GRADE—(GEOGRAPHY).

M A P .

FILL THIS IN FIRST.

Name of School.....

Name of Pupil.....

TO BE PINNED INSIDE THE CANDIDATE'S BOOK OF ANSWERS
AND THUS SENT TO THE DEPARTMENT.

8. Compare *either* Argentine and Chile *or* Egypt and the Transvaal as to physical features, products and external trade. (15)

9. Explain what is meant by the Monsoon Lands of Asia, and give a short account of the climate of *one* of the countries included, indicating how it affects the life of the people. (15)

10. Select any *three* of the following ; state, with a sketch-map, the exact position of each of the three selected ; and explain the reasons for its importance :—Malta, Sydney, Hong Kong, Durban, Aden. (15)

SCIENCE

HIGHER GRADE—(GEOGRAPHY)

Wednesday, 26th March—10 a.m. to 12.30 p.m.

FIVE questions should be attempted, *viz.*, the whole of Section A, TWO questions from Section B, and TWO questions from Section C.

The value attached to each question is shown in brackets after the question.

N.B.—Write legibly and neatly, and leave a reasonable space between the lines. Marks will be deducted for bad writing.

SECTION A.

The whole of this Section should be attempted.

1. The accompanying map shows a part of the Southern Uplands of Scotland, with the town of Moffat, in the Popular Edition of the 1-inch map.

(a) Draw, with careful reference to detail, a contoured sketch-map of the headstreams of the Tweed and of the Annan, and annotate your map. Compare the water-parting here with that between the headstream of the Evan Water and the Clyde. (8)

(b) The map shows (1) part of the main railway to Carlisle ; (2) a main road fit for fast traffic ; (3) a main road fit for ordinary traffic. Describe the course of each

in relation to the relief, indicating the significance of the route followed in each case. Add a note on some of the minor roadways shown. (12)

(c) Describe, illustrating by a contoured sketch-map, the precise position of Moffat, and discuss its relation to the lines of communication within the area shown. (8)

SECTION B.

Two questions should be attempted from this Section.

2. What are the essential features of the geography of Scotland? Your answer should take the form of a brief, concise description such as would be useful to one who knew nothing of the country. (18)

3. Explain, with the help of diagrams, how you could ascertain in the field (1) the width of a broad river; (2) the gradient of a gently-sloping bank. (18)

4. Give a reasoned account of the main kinds of traffic carried on between the North Sea ports of Britain and Baltic ports. (18)

5. Describe the region of the South Wales coalfield, naming the chief towns. State the chief industries carried on, and point out the advantages which the area possesses for the prosecution of these. (18)

6. Draw a sketch-map *either* of the Iberian *or* of the Italian peninsula, and give some account of the geography of the selected area. (18)

SECTION C.

Two questions should be attempted from this Section.

7. What is meant by the Mediterranean type of climate? Name the parts of the world in which this climatic type occurs, and describe briefly, with special reference to agricultural products, one area outside Europe possessing this kind of climate. (18)

8. Discuss, with illustrative diagrams, the effects of rivers on the surface of the land. (18)

9. Name the chief land-masses crossed by the tropic of Cancer, and give a reasoned account of the contrasts between them as regards climate and products. (18)

10. Select one well-defined type of forest, name an area in which it occurs, and describe its characteristics, relating these to the physical conditions. State also the chief products of the forest selected. (18)

11. Give an account, illustrated by a sketch-map, of the area drained by *one* of the following rivers:—Mississippi-Missouri, Murray-Darling, Orange, Niger. (18)

SCIENCE

HIGHER GRADE—(PHYSICS)

Wednesday, 26th March—1.30 p.m. to 3.30 p.m.

Not more than FIVE questions should be attempted. One of these must be taken from Section I (Mechanics), and one from each of two other Sections. The remaining two questions may be selected from any part of the paper.

Answers should, wherever possible, be illustrated by diagrams.

Mathematical tables will be supplied to those who desire them.

Before handing in their examination books Candidates should enter in the space provided on the front cover the numbers of the questions they have attempted.

N.B.—Write legibly and neatly, and leave a reasonable space between the lines. Marks will be deducted for bad writing.

SECTION I (MECHANICS).

1. Distinguish between stable, unstable, and neutral equilibrium, and give an example of each, stating why the equilibrium is of the particular character in each case.

A weight of 10 lb. is suspended by means of two strings, respectively 5 and 12 inches long, the ends of the strings being fixed at two points 13 inches apart on the same level. Find by means of a carefully drawn diagram the tension in each of the strings. Check your answers by calculation.

2. What are the velocity-ratio, mechanical advantage, and efficiency of a machine, and how are these three terms related to each other?

The figures in the following table were obtained from a series of laboratory experiments with a pair of three-sheaved pulley blocks. Complete the table, and state any conclusions you would draw from a comparison of the load and efficiency columns.

Load.	Effort.	Mechanical Advantage.	Velocity Ratio.	Efficiency (per cent.).
lb.	lb.			
1·00	0·40			
2·25	0·72			
3·50	0·95			
6·75	1·30			
9·00	1·67			

3. Distinguish between specific gravity and density, and state the units appropriate to each.

A specific gravity bottle full of water weighs 55 grams. The bottle is emptied, metal pellets weighing 25 grams are inserted, and the bottle filled up with water. The bottle and contents now weigh 76·8 grams. What is the specific gravity of the metal?

SECTION II (SOUND).

4. Describe (quoting approximately accurate experimental figures) a method of finding the velocity of sound in air. State clearly why it is necessary to note the temperature, but not the barometric pressure, when the experiment is made.

When the temperature is 15° C. an observer standing at a distance from a cliff-face hears the echo of his shout after an interval of 2·5 seconds. How far is he from the cliff? What would be the interval if the temperature were 0° C.?

5. State why tuning forks (*a*) are made of hardened steel, (*b*) have two equal prongs, (*c*) are often mounted on hollow boxes made of thin wood and open at both ends, and (*d*) why these boxes are made smaller as the pitch of the fork is higher.

How can the pitch of a tuning fork be determined?

SECTION III (HEAT).

6. Distinguish carefully between quantity of heat and temperature. Describe a laboratory method of determining approximately the temperature of a Bunsen flame.

75 grams of lead pellets, at a temperature of $85^{\circ}\text{C}.$, are added to 48 grams of water, at a temperature of $12^{\circ}\text{C}.$, contained in a copper calorimeter weighing 40 grams. The resultant temperature is $15^{\circ}\text{C}.$ Find the loss of heat due to radiation, etc.

$$\text{s.h. of copper} = 0.10 \text{ cal.}$$

$$\text{s.h. of lead} = 0.03 \text{ cal.}$$

7. Define the terms melting point and boiling point. Describe experiments to show the effect of an increase of pressure on (a) the melting point of ice, and (b) the boiling point of water. Explain clearly the difference between evaporation and boiling.

8. Describe how you would construct a mercury thermometer, giving the methods you would employ to determine accurately its "fixed points."

Why is it necessary to know the height of the barometer when fixing the upper "fixed point"?

What point on the Fahrenheit scale corresponds to $-273^{\circ}\text{C}.$, and what point on the Centigrade scale corresponds to $98.4^{\circ}\text{F}.$?

SECTION IV (LIGHT).

9. State the laws of reflection and of refraction of light.

When a lighted candle is held in front of a plane mirror *two* images of the flame are seen, one considerably dimmer than the other. Explain this by means of a diagram.

Explain, also by means of a diagram, the fact that an object when seen through a shop window appears to be nearer than it really is. On what two things does the amount of apparent shortening of distance depend?

10. Illustrate, by means of a diagram, the main features of the optical system of the eye, describing and naming the various parts. Say what is meant by "accommodation," and state how it is effected.

Illustrate by means of diagrams the faulty focussing in (a) "long sight," and (b) "short sight," and say what type of lens is required in each case.

SECTION V (ELECTRICITY AND MAGNETISM).

11. Describe, with the help of diagrams, Faraday's icepail experiment, and state clearly three important conclusions to be drawn from it, regarding the effect of a charged body on a hollow conductor, or nest of hollow conductors.

12. Describe and illustrate one method of comparing experimentally the E.M.Fs. of two voltaic cells. Give the theory of your method.

When no current is running, the potential between the terminals of a cell whose internal resistance is 1.1 ohms is 1.5 volts. What will be the potential difference between the terminals when they are joined by a conductor whose resistance is 3.4 ohms?

13. Explain, with the aid of a diagram, the principles involved in the construction of a tangent galvanometer, and show how the instrument may be used to measure current.

Describe an experimental method of determining the constant of a galvanometer.

What are the advantages of using an ammeter to measure current?

14. Describe the construction, and explain the action, of a deflection magnetometer.

How would you compare experimentally the strength of the magnetic field due to a bar-magnet at two points along a line through its centre at right angles to its axis?

A bar-magnet 10 cm. long is placed at right angles to the magnetic meridian, with its centre 20 cm. magnetically east of the centre of the needle of a deflection magnetometer. Taking H as equal to 0.18 dyne, and the deflection as equal to 5 degrees, find the strength of a pole of the magnet.

SCIENCE

HIGHER GRADE—(PURE ZOOLOGY)

Monday, 31st March—2 P.M. to 4 P.M.

FIVE questions in all should be attempted.

Answers should, wherever possible, be illustrated by diagrams.

N.B.—Write legibly and neatly, and leave a reasonable space between the lines. Marks will be deducted for bad writing.

1. Where would you expect to find the following Protozoa:—(1) Amoeba, (2) Paramecium, (3) Euglena, (4) Opalina? Write short notes on the structure and the method of feeding of each.

2. What do you understand by the term larva? What part does a larval stage play in the life-history of an animal?

3. Compare and contrast the life-histories of—

- (a) Aurelia.
- (b) Obelia.
- (c) Hydra.

4. Describe briefly the main features of the structure of the crayfish. Compare in this respect the crayfish with any insect with which you are acquainted.

5. The circulation of the blood is closely related to the way in which an animal breathes. From this point of view, compare the circulatory system of (1) a fish, (2) the frog, (3) the rabbit.

6. What are the characteristic features of the Mammalia? How do you account for the success of this group of Vertebrates?

7. Describe the alimentary canal of the frog and compare it with that of the rabbit.

SCIENCE

HIGHER GRADE—(ZOOLOGY AND HUMAN PHYSIOLOGY)

Monday, 31st March—2 P.M. to 4 P.M.

FIVE questions in all should be attempted.

Before handing in their books Candidates should enter in the space provided on the front cover the numbers of the questions they have attempted in both Sections.

Answers should, wherever possible, be illustrated by diagrams.

N.B.—Write legibly and neatly, and leave a reasonable space between the lines. Marks will be deducted for bad writing.

SECTION I.—ZOOLOGY.

1. What do you understand by the term larva? What part does a larval stage play in the life-history of an animal?

2. Describe briefly the main features of the structure of the crayfish. Compare in this respect the crayfish with any insect with which you are acquainted.

3. What are the characteristic features of the Mammalia? How do you account for the success of this group of Vertebrates?

4. Describe the alimentary canal of the frog and compare it with that of the rabbit.

SECTION II.—HUMAN PHYSIOLOGY.

5. Write a full account of any *three* of the following:—bile, gastric juice, urine, blood.

6. Explain the term "adequate diet," and show how an adequate diet for a normal adult can be ascertained and supplied.

7. Describe fully any one "special sense" organ. By what means is the sensation transmitted to the brain?

APPENDIX.

LIST OF AUTHORITIES BY WHOM EVIDENCE OF SUCCESS AT THE LEAVING CERTIFICATE EXAMINATION IS CONDITIONALLY ACCEPTED IN LIEU OF PRELIMINARY EXAMINATIONS.

N.B.—FOR PARTICULARS AS TO THE CONDITIONS GOVERNING
ACCEPTANCE REFERENCE SHOULD BE MADE TO THE
REGULATIONS OF THE AUTHORITY CONCERNED.

Scottish Universities Entrance Board :

University of Aberdeen.
University of Edinburgh.
University of Glasgow.
University of St. Andrews.

University of Oxford.

University of Cambridge.

University of London.

University of Bristol.

University of Durham :

Durham Colleges.
Armstrong College, Newcastle-upon-Tyne.
College of Medicine, Newcastle-upon-Tyne.

Northern Universities Joint Matriculation Board :

University of Manchester.
University of Liverpool.
University of Leeds.
University of Sheffield.
University of Birmingham.

University of Wales.

The Queen's University of Belfast.

Girton College, Cambridge.

Imperial College of Science and Technology :

Royal College of Science.
Royal School of Mines.
City and Guilds (Engineering) College.

Royal Holloway College, Englefield Green, Surrey.

The Lords of Council and Session (for purposes of the Law
Agents' Act).

The Society of Solicitors before Supreme Courts.

The Law Society.

The General Council of Medical Education and Registration of the United Kingdom.

The Dental Board of the United Kingdom.

The Joint Examinations held by :

The Royal College of Physicians of Edinburgh.

The Royal College of Surgeons of Edinburgh.

The Royal Faculty of Physicians and Surgeons of Glasgow.

The Examining Board in England by the Royal College of Physicians of London, and the Royal College of Surgeons of England.

*The Pharmaceutical Society of Great Britain.

The Chartered Accountants of Scotland.

The Institute of Chartered Accountants in England and Wales.

*The Society of Incorporated Accountants and Auditors.

*The London Association of Accountants.

*The Institute of Municipal Treasurers and Accountants (Incorporated).

The Faculty of Actuaries in Scotland.

The Institute of Actuaries.

The Chartered Insurance Institute.

The Institute of Bankers.

The Chartered Institute of Secretaries.

*The Royal Sanitary Association of Scotland.

The Faculty of Surveyors of Scotland.

The Surveyors' Institution.

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* Evidence of having obtained the Day School Certificate (Higher) is also accepted by these Authorities ; and by the Air Ministry—for entry as Aircraft Apprentice and as Apprentice Clerk, Royal Air Force.

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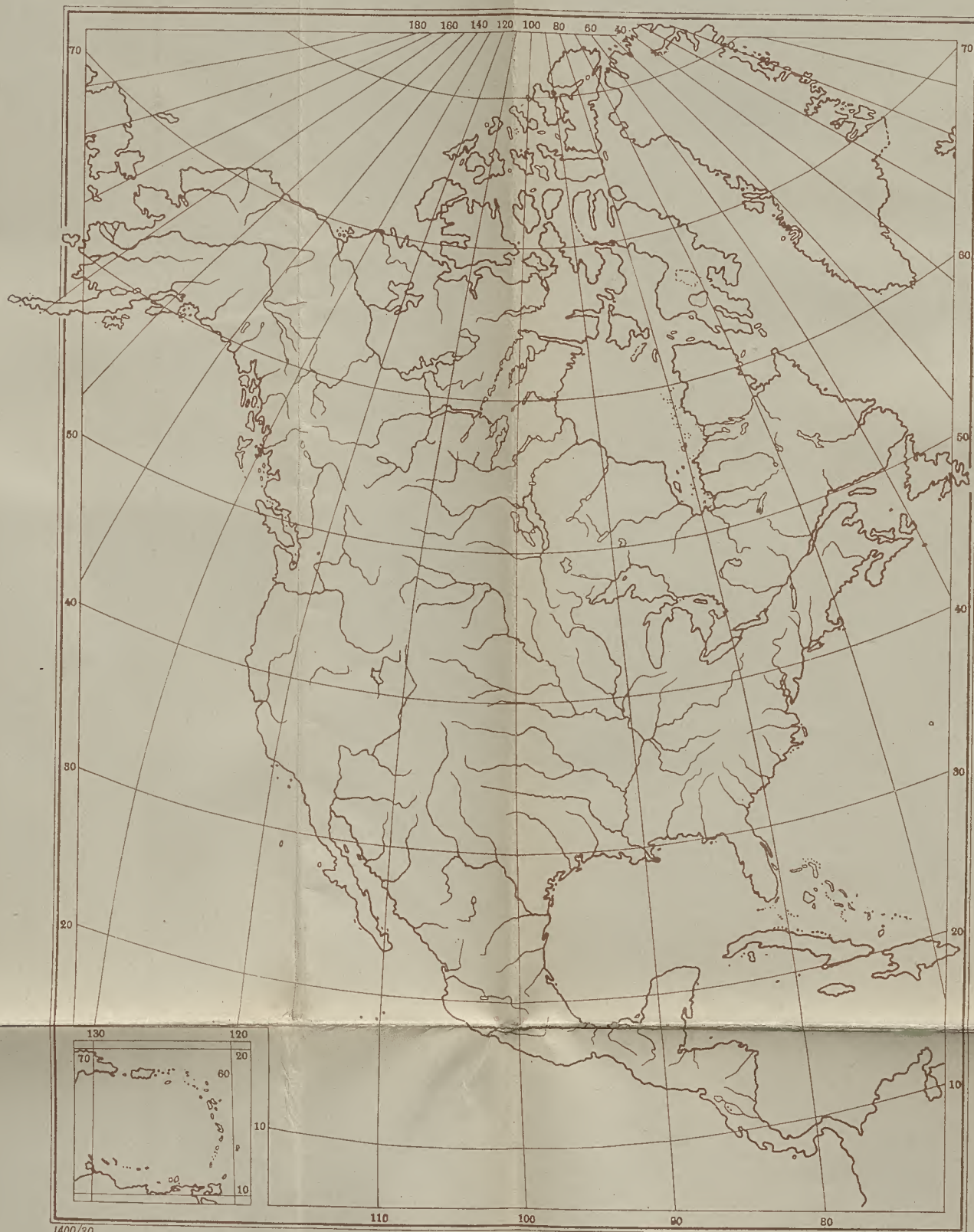
FILL THIS IN FIRST.

Name of School.....

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[OVER.]



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