



SECONDARY EDUCATION
(SCOTLAND)

LEAVING CERTIFICATE
EXAMINATION

(INCLUDING DAY SCHOOL CERTIFICATE
(HIGHER) GENERAL PAPER)

EXAMINATION PAPERS
1939

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EDINBURGH

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1939

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Secondary Schools (Scotland) Regulations, 1923. S.R. & O., 1923, No. 929, S. 59. Price 2d.; post free, 2½d.

Code of Regulations for Day Schools in Scotland. S.R. & O., 1923, No. 928, S. 58, as amended by S.R. & O., 1928, No. 329, S. 19, and by S.R. & O., 1933, No. 466, S. 25. Price 4d.; post free, 5d.

Amendment (1935) of the Code of Regulations for Day Schools in Scotland and of the Secondary Schools (Scotland) Regulations, 1923. S.R. & O., 1935, No. 1325, S. 68. Price 1d.; post free, 1½d.

Day Schools (Scotland) Code Minute, 1939. S.R. & O., 1939, No. 422, S. 35. Price 4d.; post free, 5d.

Memorandum Explanatory of the Day Schools (Scotland) Code, 1939. Price 4d.; post free, 5d.

Memorandum on Technical Subjects in Secondary Schools. Price 6d.; post free, 7d.

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Adult Education (Scotland) Regulations, 1934. S.R. & O., 1934, No. 1343, S. 72. Price 2d.; post free, 2½d.

Adult Education (Scotland) (Residential Institutions) Regulations Minute, 1938. S.R. & O., 1938, No. 811, S. 51. Price 1d.; post free, 1½d.



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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 1939 it commenced on Monday, 20th March.

For information as to the purpose and scope of the Examination, and as to the conditions on which pupils (of Scottish schools) may be presented, reference should be made to the Department's circular 30, dated 16th September, 1938. (Price 4*d.* ; post free 5*d.*)

EXAMINATION PAPERS

1939

DAY SCHOOL CERTIFICATE (HIGHER)

GENERAL PAPER

Wednesday, 22nd March—9.30 A.M. to 11.30 A.M.

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

N.B.—Write legibly and neatly, and leave a space of half an inch between the lines. Marks may be deducted for bad or crowded writing.

1. Write a Composition, to fill *about a page and a half* of your book, on *one* of the following subjects:—
 - (a) "Elegy written in a Country Churchyard" or "The Ancient Mariner" or "Tam o' Shanter."
 - (b) The things you most dislike doing.
 - (c) A day in camp or in the city or at an Exhibition.

(d) Road Safety.

(e) A description of a farmyard *or* of a church *or* of your classroom *or* of your mother's kitchen.

(f) What kind of wireless lesson do you like best, and why? (35)

2. Read the following passage carefully and then answer the questions on it :—

The roundabout was the heart of the fair, a swirl of light to which everyone was drawn. Kings and queens, vibrating to the music, crowned the pinnacles of the steam organ; heroes of the Boer war stood to rigorous attention on the brass spirals. Snaking round the top was a many-coloured announcement, which I took to be "Patronized by His Majesty," until, going closer, I discerned a minute apostrophe "s" and the word "subjects." Some men were carrying their wives pillion on the circling horses, laughing broadly and recapturing their youth. It was a weird, unwearying cavalcade of palfreys and monstrous farmyard cocks, of pointed shoes, shivering skirts, red hands clasping satin waists, all journeying to nowhere.

In a different part of the ground a young man was doing his duty on the swing-boats, while others were flinging vigorously at the coco-nuts, ranged in rows like traitors' heads on the Tower. The bouncing balls beat a tattoo to the music. I was tempted into the fortune-teller's grot. Many flaps and curtains closed behind me till even the braying music grew faint, and I sat in a hot thrumming privacy with a gipsy hooded in a veil. I was of an adventurous and uncertain disposition, she said; there was a dark woman in my life; there were also tears on account of a fair woman. "Any more?" I asked, but she only frowned. So out again into the blare and glitter of the night. The breeze lifted a tent-flap and revealed two men in shirt sleeves eating bread and cheese in gloomy silence. In a corner, panting and puffing, stood their traction engines like benign monsters.

Then there was a choice of wonders, "The Headless Egyptian" or "The Smallest Horse in the World." Now, several from Benfield had served in Egypt during the war, and headless Egyptians could languish unseen for them. But about that horse We put down our twopences and were rewarded with what should be a reminiscence for the rest of our lives. For now, when we see a big dog, we say: "Once I see a horse that wasn't no bigger than him, in the year our fair were held in the parsonage meadow."

- (a) Where was the fair held ? (1)
 (b) Name the various amusements of the fair. (5)
 (c) What was the least popular amusement and why ? (2)
 (d) What noises could be heard at the fair ? (4)
 (e) Give the fortune-teller's actual words to the writer. (3)
 (f) Compare the interior of the fortune-teller's grot with that of the tent occupied by the two men. (4)
 (g) Describe briefly in your own words the roundabout, and the people on it ; and write down the actual announcement. (7)
 (h) Rewrite the last sentence (" Once . . . meadow.") in correct English. (4)

3. (a) Explain carefully the following phrases as used in the passage contained in question 2 :—a swirl of light (line 1), recapturing their youth (line 10), journeying to nowhere (line 13), traitors' heads on the Tower (lines 16–17), could languish unseen (line 32). (10)

(b) Give the meaning of the following words as used in the passage :—vibrating (line 2), pillion (line 9), disposition (line 22), benign (line 28), reminiscence (line 34). (5)

(c) Select from the passage *three* words describing the sound of music, and distinguish shades of meaning in them. (3)

4. (a) Combine the following statements into a single sentence, using a principal and three subordinate clauses, or a principal clause, a participial phrase and two subordinate clauses :—

He had not gone far—he suddenly felt very tired—he lay down under a tree—it afforded abundant shade. (5)

(b) Give the plural of the following :—
 tobacco, himself, son-in-law, omnibus, radius, child's. (3)

(c) Write down the present participle of the following verbs :—
 occur, gallop, die, hinge, quarrel, frolic. (3)

5. Name six characters in the Bible noted respectively for (a) strength, (b) wisdom, (c) patience, (d) treachery, (e) indecision, (f) leadership.

Write the appropriate quality after each name. (6)

1939

LEAVING CERTIFICATE EXAMINATION

ENGLISH

(INCLUDING LITERATURE AND HISTORY)

(FIRST PAPER (a)—COMPOSITION)

Monday, 20th March—9.30 A.M. to 10.30 A.M.

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

N.B.—Write legibly and neatly, and leave a space of half an inch between the lines. Marks may be deducted for bad or crowded writing.

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

- (a) Describe your favourite hobby and state what pleasure and profit you derive from it.
- (b) Narrate, in the form of a letter to a friend, any adventure which you may have had *either* on the sea *or* among the hills.
- (c) "Sweet are the uses of adversity."
- (d) "A room without pictures is like a house without windows." With this sentence as a text, write on the place of art in the home.
- (e) What can you say for, and what against, modern methods of advertising?
- (f) "If Edward II had won the battle of Bannockburn—, if James IV had won the battle of Flodden—, if Prince Charles Edward had won the battle of Culloden—." Choose *one* of these three suppositions and imagine the results.

(35)

ENGLISH

(INCLUDING LITERATURE AND HISTORY)

(FIRST PAPER (b)—INTERPRETATION AND LANGUAGE)

Monday, 20th March—10.45 A.M. to 12.25 P.M.

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

N.B.—Write legibly and neatly, and leave a space of half an inch between the lines. Marks may be deducted for bad or crowded writing.

1. We shall not, we hope, be suspected of a bigoted attachment to the doctrines and practices of past generations. Our creed is that the science of government is an experimental science, and that, like all other experimental sciences, it is generally in a state of progression. No man is so obstinate an admirer of the old times as to deny that medicine, surgery, botany, chemistry, engineering, navigation, are better understood now than in any former age. We conceive that it is the same with political science. Like those physical sciences which we have mentioned, it has always been working itself clearer and clearer, and depositing impurity after impurity. There was a time when the most powerful of human intellects were deluded by the gibberish of the astrologer and the alchemist; and just so there was a time when the most enlightened and virtuous statesmen thought it the first duty of a government to persecute heretics, to found monasteries, to make war on Saracens. But time advances; facts accumulate; doubts arise. Faint glimpses of truth begin to appear, and shine more and more unto the perfect day. The highest intellects, like the tops of mountains, are the first to catch and to reflect the dawn. They are bright, while the level below is still in darkness. But soon the light, which at first illuminated only the loftiest eminences, descends on the plain and penetrates to the deepest valley. First come hints, then fragments of systems, then defective systems, then complete and harmonious systems. The sound opinion, held for a time by one bold speculator, becomes the opinion of a small minority, of a strong minority, of a majority of mankind. Thus, the great progress goes on, till schoolboys laugh at the jargon which imposed on Bacon, till country rectors condemn the illiberality and intolerance of Sir Thomas More.

Lord Macaulay.

- (a) Summarize simply, **as far as possible in your own words**, the argument of the above passage, limiting your answer to about half the length of the original. (15)
- (b) Explain carefully the meaning of the following phrases as used in the passage:—bigoted attachment (lines 1 and 2); working itself clearer (line 11); the gibberish of the astrologer (lines 13 and 14); harmonious systems (line 27); bold speculator (line 28). (10)
- (c) Give the derivation of any *five* of the following words:—science, navigation, political, working, deposit, delude, persecute, perfect, fragment, rector. (5)
- (d) Discuss briefly the figure of speech in lines 19 to 25 (“Faint glimpses . . . deepest valley.”). (4)
- (e) Write down the part of the passage that is a direct quotation from the Bible. (2)
- (f) Combine the following statements into a complex sentence:—But time advances; facts accumulate; doubts arise. (3)

2. Write sentences which not only include but bring out the meanings of the following words:—resourcefulness, seditious, animated, prestige, churlish, contagious, phenomenon. (14)

3. (a) Give an example of each of the following:—simile, hyperbole, onomatopœia, personification. (6)

(b) Punctuate and insert capitals in the following passage:—no it was not me said the judge although to be quite frank with you it might have been me i believe it was glenkindie. (3)

(c) Identify the metres used in the following:—

- (i) And hear no more at all.
- (ii) Yet I doubt not through the ages one increasing purpose runs.
- (iii) And the sheen of his spears was like stars on the sea. (3)

ENGLISH

(INCLUDING LITERATURE AND HISTORY)

(SECOND PAPER—LITERATURE)

Monday, 20th March—1.30 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 space of half an inch between the lines. Marks may be deducted for bad or crowded writing.

(Answer the FIRST question and any TWO of the others.)

1. How far does Shakespeare mean us to sympathise with, and how far does he mean us to blame, any *one* of the following :—Shylock, Brutus, Macbeth, Ophelia, Lear, Coriolanus, Richard II, Caliban, Malvolio ?

Or

Discuss and illustrate this statement :—

“In his comedies Shakespeare was kinder to his young women than to his young men. They have fewer faults and more sense.”

Or

Describe any comic scene occurring in a Shakespearian tragedy. What purpose do you think is served by its introduction ? (16)

2. Give the names of all the clerical pilgrims in the Prologue to *The Canterbury Tales*, and briefly describe the character of *one* of them.

Or

What claim has Chaucer to be called the Father of English Poetry ? (12)

3. Comment briefly on any *three* of the following, giving in each case the author and his approximate date :—
L'Allegro, Alexander's Feast, The Rape of the Lock, John Gilpin, Tam O'Shanter, The Lay of the Last Minstrel, Kubla Khan, The Lady of Shalott, Thyrsis, Lepanto.

(12)

4. Discuss and illustrate by quotation the patriotic element in the poetry of Burns.

(12)

5. Describe briefly the plot and the setting of a novel, *either* by Scott *or* by Stevenson, dealing with Scottish life.

(12)

6. "Wordsworth exalted and transfigured the natural and the common." Discuss this statement and illustrate it from your reading.

(12)

7. Select an essay written by *one* of the following authors and briefly describe its subject matter and style :—
 Bacon, Addison, Lamb, Hazlitt, Macaulay.

Or

What do you know of *one* of the following :—
 Christian, Isaac of York, Mr. Micawber, Beatrix Esmond, Romola, Father Brown ?

(12)

8. Give an account of any book you have read dealing with

(a) Scientific Research

or

(b) Exploration

or

(c) Mechanical Invention.

(12)

ENGLISH

(INCLUDING LITERATURE AND HISTORY)

(THIRD PAPER—HISTORY)

Monday, 20th March—3 P.M. to 4.15 P.M.

All candidates must attempt **THREE** questions, viz., the question in Section A and two questions from Section B, one of which must be selected from Sub-section (3).

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

N.B.—Write legibly and neatly, and leave a space of half an inch between the lines. Marks may be deducted for bad or crowded writing.

SECTION A

This question must be attempted by all candidates. The answers to the individual points should be brief, and not more than 15 minutes should be devoted to the whole question.

1. Show *briefly* the historical significance of *five* of the following :—Battle of Carham ; Marriage of Henry II of England ; Death of the Maid of Norway ; Siege of Orleans ; Diet of Worms ; National Covenant ; Death of Charles II of Spain ; Capture of Quebec ; Treaty of Tilsit ; Anglo-French Entente of 1904. **(10)**

SECTION B

Two of the ten questions in this Section must be answered, and one of these two must be selected from Sub-section (3).

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

2. **Either** (a) Describe briefly the settlement of the Anglo-Saxons in England and estimate their contribution to its political development.

Or (b) Explain the importance of Malcolm Canmore and his sons in the history of Scotland. **(15)**

3. (a) To what extent were the Emperors Frederick Barbarossa and Frederick II responsible for the decline of the Holy Roman Empire ?

Or (b) Describe the organisation of a mediaeval English manor and explain the disappearance of villeinage.

Or (c) What causes tended to retard the development of stable government in *either* Scotland *or* England during the fifteenth century ? (15)

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

4. **Either** (a) Describe the parts played respectively by Portugal, Spain and England in the Age of Maritime Discovery before 1558.

Or (b) Explain the different courses taken by the Reformation in Scotland and in England. (15)

5. **Either** (a) Do you agree with the view that the Peace of Westphalia (1648) marks the beginning of a new era in Europe ? Give your reasons.

Or (b) What were the causes of the Union of Scotland and England in 1707 and what were its principal results ? (15)

6. Discuss the historical importance of *two* of the following:—James IV of Scotland ; Sir Thomas More ; Copernicus ; William the Silent ; John Pym ; Edward Hyde, Earl of Clarendon ; John Maitland, Duke of Lauderdale ; John Churchill, Duke of Marlborough ; Peter the Great ; Sir Robert Walpole. (15)

SUB-SECTION (3). MODERN PERIOD (1763–1939).

7. **Either** (a) Do you consider that William Pitt the Younger showed himself a greater statesman before or after the outbreak of war in 1793 ?

Or (b) Trace briefly the course of the Peninsular War and estimate its influence on the fortunes of Napoleon. (15)

8. **Either** (a) “Peace without plenty.” How far is this a true description of conditions in Britain during the period 1815–1830 ?

Or (b) In what ways did Disraeli serve the cause of social reform ? (15)

9. **Either** (a) To what extent does the work of Bismarck entitle him to be considered the maker of modern Germany ?

Or (b) Trace the course of the Irish Home Rule movement between 1870 and 1914. (15)

10. Discuss the historical importance of *two* of the following :—George Washington ; Warren Hastings ; James Watt ; William Cobbett ; Michael Faraday ; Richard Cobden ; Count Cavour ; Cecil Rhodes ; Earl Kitchener of Khartoum ; Dr. Nansen. (15)

11. (a) Show how Scotland has been affected by industrial changes in the twentieth century.

Or (b) Trace the main developments in the status of the British Dominions since 1914.

Or (c) What were the principal provisions of the Treaty of Versailles (1919), and to what extent have they ceased to operate ? (15)

L A T I N

LOWER GRADE

Monday, 27th March—9.30 A.M. to 12 NOON

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

N.B.—Begin the answer (or fair copy of an answer) to each question on a fresh page. Write legibly and neatly, and leave a space of half an inch between the lines. Marks may be deducted for bad or crowded writing.

1. Translate into English :—

(a) *The daring of Mucius.*

C. Mucio adulescenti nobili indignum videbatur Romanos ab Etruscis obsideri. quam indignitatem audaci facinore ulciscendam esse ratus, penetrare in hostium castra constituit. senatum adiit, et "transire Tiberim," inquit, "Patres, et intrare, si possim, castra hostium volo ; magnum, si di iuvant, in animo est facinus." approbant Patres ; abdito

intra vestem ferro proficiscitur. ubi eo venit, in magna militum turba prope regem constitit. cum stipendium forte militibus daretur, et scriba cum rege sedens pari fere ornatu multa ageret, eumque milites adirent, Mucius timens rogare uter rex esset, scribam pro rege occidit. a servis regis comprehensus regi, "Romanus sum," inquit, "civis; C. Mucium vocant; hostis hostem occidere volui; nec ad mortem minus animi est, quam fuit ad caedem; et facere et pati fortia, Romanum est. nec unus in te ego hos animos gessi; longus post me ordo est idem petentium decus; hoc tibi iuvenes Romani indicimus bellum." (28)

(b) *Why Commius refused to enter the Roman camp.*

Commius vero in castra Romana non venit. nam superiore anno Labienus, cum eum cognovisset contra Caesarem coniurationem facere, infidelitatem eius sine ulla perfidia iudicavit comprimi⁽¹⁾ posse. quem quia non credidit ad se venturum esse, C. Volusenum Quadratum cum paucis centurionibus misit, qui eum per simulationem⁽²⁾ colloquii interficerent. cum in colloquium ventum esset, et manum Commii Volusenus arripuisset, centurio eum adortus est; sed vel insueta re permotus, vel a Commii amicis prohibitus, hominem conficere non potuit; graviter tamen gladio caput percussit. cum utrimque gladii dstricti essent, neutri pugnare studebant; nostri, quod mortifero vulnere Commium credebant affectum esse, Galli, quod insidiis cognitis, plura, quam videbant, extimescebant. quo facto Commius statuisse dicebatur numquam in conspectum cuiusquam Romani venire. (22)

(1) *comprimo* = curb, check.

(2) *pretence*.

2. Translate into Latin :—

- (1) Shall not we, who are young men, die for our country?
- (2) His wife had forgotten that he would not be present.
- (3) Since they were crossing the street carelessly, they were killed.
- (4) Let us ask him if he is willing to run.
- (5) I fear that the moon will soon be hidden by thick clouds.
- (6) Their boat is so small that they never sail in winter.

- (7) We all know that few Romans were worse citizens than Catilina.
- (8) How many slaves had you sent to guard those sheep? (23)
3. (a) Give the first person singular of the perfect indicative active, and the first supine, of *invado*, *sentio*, *surgo*, *impello*, *consuesco*, *converto*, *mordeo*.
- (b) Give the genitive plural of *lex*, *vis*, *dives*, *tres*, *manus*, *frater*, *caput*. (7)

LATIN

HIGHER GRADE—(FIRST PAPER)

Monday, 27th March—9.30 A.M. to 12 NOON

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

N.B.—Begin the answer (or fair copy of an answer) to each question on a fresh page. Write legibly and neatly, and leave a space of half an inch between the lines. Marks may be deducted for bad or crowded writing.

Translate into English the following passages :—

1. *Cicero describes the kindness shown to him in exile by Plancius, who was then quaestor in Macedonia.*

Audi, Laterensis⁽¹⁾, ut scias quid ego Plancio debeam, confiteareque aliquando me, quod faciam, et grate et pie facere: huic⁽²⁾ autem, quae pro salute mea fecerit, si minus profutura sint, obesse certe non oportere. nam Plancius, simul ac me Dyrrachium attigisse audivit, statim ad me profectus est. o acerbam mihi, iudices, memoriam temporis illius et loci, cum hic in me incidit, cum complexus est conspersitque lacrimis nec loqui prae maerore potuit! de praetore Macedoniae nihil nunc dicam amplius nisi eum et civem optimum semper et mihi amicum fuisse, sed eadem timuisse quae ceteros: C. Plancium fuisse unum, non qui

⁽¹⁾ Laterensis was prosecutor.

⁽²⁾ huic = Plancius, the defendant.

minus timeret, sed, si acciderent ea, quae timerentur, mecum ea subire et perpeti vellet. qui, cum ad me L. Tubero decedens ex Asia venisset easque insidias, quas mihi paratas ab exulibus coniuratis audierat, ad me animo amicissimo detulisset, in Asiam me ire comparantem non est passus. vi me, inquam, Plancius et complexu suo retinuit. (30)

2. *Driven by a storm to Carthage, Aeneas has just told Queen Dido who he is.*

Obstipuit primo aspectu Sidonia Dido,
casu deinde viri tanto, et sic ore locuta est :
' quis te, nate dea, per tanta pericula casus
insequitur ? quae vis immanibus applicat⁽¹⁾ oris ?
tunc ille Aeneas, quem Dardanio Anchisae
alma Venus Phrygii genuit Simoentis⁽²⁾ ad undam ?
atque equidem Teucrum memini Sidona venire
finibus expulsum patriis, nova regna petentem
auxilio Beli ; genitor tum Belus opimam
vastabat Cyprum et victor dicione tenebat.
tempore iam ex illo casus mihi cognitus urbis
Troianae nomenque tuum regesque Pelasgi.
quare agite, o tectis, iuvenes, succedite nostris.
me quoque per multos similis fortuna labores
iactatam hac demum voluit consistere terra :
non ignara mali miseris succurrere disco.'

(1) = drives.

(2) Simois, *gen.* Simoentis, a river near Troy.

Scan the first three lines, marking the principal caesura in each. (30)

3. *Brigands have tried to murder King Eumenes by rolling down rocks as he went through a pass.*

Latrones cum decurrere ad conficiendum regem saucium possent, velut perfecta re, in iugum Parnassi refugerunt. ad corpus regis primo amici, deinde satellites ac servi concurrerunt ; tollentes sopitum vulnere ac nihil sentientem, vivere tamen ex calore et spiritu remanente in praecordiis senserunt ; victurum exigua ac prope nulla spes erat. quidam ex satellitibus secuti latronum vestigia re infecta redierunt. compotem iam sui regem amici postero die deferunt ad navem ; inde Corinthum ; a Corintho per Isthmi iugum navibus traductis Aeginam traiciunt. ibi adeo secreta eius curatio fuit, admittentibus neminem, ut fama

mortuum in Asiam perferret. Attalus quoque celerius, quam dignum concordia fraterna erat, credidit, nam et cum uxore fratris et praefecto arcis, tanquam iam haud dubius regni haeres, est locutus; quae postea non fefellere regem, et in primo congressu⁽¹⁾ uxoris petendae praematuram festinationem fratri obiecit. (30)

⁽¹⁾ congressus = meeting.

LATIN

HIGHER GRADE—(SECOND PAPER)

Monday, 27th March—1.0 p.m. to 3.0 p.m.

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

N.B.—Begin the answer (or fair copy of an answer) to each question on a fresh page. Write legibly and neatly, and leave a space of half an inch between the lines. Marks may be deducted for bad or crowded writing.

1. Translate into Latin prose:—

Both sides fought with desperation. Around the King the fight was fiercest. There stood the flower of his army, determined to protect him and to save their country. He himself was confident of victory. Wherever he saw his men hard pressed, he sent help; when they drove back the enemy, he sent messages of encouragement and praise. Knowing that if he were killed the day would be theirs, the Germans kept attacking the mound on which he stood. At last one of their horsemen, crying out "This is the man whose troops have ravaged our fields and burned our cities; may I either kill him or die myself," and putting spurs to his horse, dashed through the ranks. Cutting down those who threw themselves in his way, he pierced the King with his spear. That was the end of the battle. Seeing that their King was dead, the French fled in disorder. It is said that eight thousand of them perished before nightfall.

(35)

2. Translate into Latin :—

- (1) As the flowers are covered with snow, none of us will be able to work in the garden.
 - (2) Who does not know that boys are never tired of reading about famous soldiers ?
 - (3) Since the wind has changed, their ship will not reach here tomorrow.
 - (4) I cannot remember if I shut the door when I left home.
 - (5) Though the guards are exhausted with cold and hunger, they will do whatever you order.
 - (6) I never write without telling you all about my journey ; today I have nothing to tell you, for I am ill. (20)
3. (a) Give the first person singular of the perfect indicative active of *exquiro*, *flecto*, *divello*, *texo*, *devincio*, *accumbo*.
- (b) Give *one* Latin word for each of :—whence ; on the ground ; one each ; unwillingly. (5)

GREEK

LOWER GRADE

Friday, 24th March—9.30 A.M. to 12 NOON

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

N.B.—Begin the answer (or fair copy of an answer) to each question on a fresh page. Write legibly and neatly, and leave a space of half an inch between the lines. Marks may be deducted for bad or crowded writing.

1. Translate into English :—

(a) *How Codrus died to save Athens.*

Κόδρου δὲ βασιλεύοντος τοῖς Πελοποννησίοις ἔδοξε στρατεύειν ἐπὶ τὴν πόλιν ἡμῶν. καὶ πρῶτον μὲν εἰς Δελφοὺς ἀποστείλαντες τὸν θεὸν ἐπηρώτων εἰ λήψονται τὰς Ἀθήνας. ἀνελόντος⁽¹⁾

⁽¹⁾ ἀναῖρω = answer.

δὲ τοῦ θεοῦ αὐτοῖς ὅτι τὴν πόλιν αἰρήσουσιν ἐὰν μὴ τὸν βασιλέα τῶν Ἀθηναίων Κόδρον ἀποκτείνωσιν, ἐστράτευον ἐπὶ τὰς Ἀθήνας. Κλεόμαντις δὲ τις πυθόμενός πως τοὺς τοῦ θεοῦ λόγους ἐξήγγειλε τοῖς Ἀθηναίοις. ὁ δὲ Κόδρος, κελεύσας τοὺς Ἀθηναίους προσέχειν⁽¹⁾ ὅταν τελευτήσῃ τὸν βίον, ἐκ τῶν πυλῶν λάθρα ἐξελθὼν φρύγανα⁽²⁾ συνέλεγε πρὸ τῆς πόλεως, προσελθόντων δ' αὐτῷ δυοῖν ἀνδρῶν ἐκ τοῦ στρατοπέδου καὶ τὰ κατὰ τὴν πόλιν πυνθανομένων, τὸν ἕτερον αὐτῶν ἀπέκτεινε, ὁ δὲ ἕτερος, νομίσας πτωχὸν εἶναι, τῷ ξίφει ἀπέκτεινε τὸν Κόδρον. τούτων δὲ γενομένων οἱ μὲν Ἀθηναῖοι κήρυκα πέμφσαντες πρὸς τοὺς Πελοποννησίους ἤξιον δοῦναι τὸν βασιλέα θάψαι. οἱ δὲ Πελοποννήσιοι τοῦτον μὲν ἀπέδωσαν, γνόντες δὲ ὅτι οὐκέτι δυνατὸν αὐτοῖς τὴν πόλιν κατασχεῖν, ἀπεχώρησαν.

(1) = to watch, pay heed.

(25)

(2) = sticks, firewood.

(b) *Gadatas departs to defend his own land.*

Προσέρχεται δὲ τῷ Κύρῳ ὁ Γαδάτας καὶ λέγει ὅτι ἤκουσιν αὐτῷ ἄγγελοι ὅτι ὁ Ἀσσύριος παρασκευάζοιτο ὡς ἐμβαλῶν εἰς τὴν ἑαυτοῦ χώραν. ἐὰν οὖν ἀφῆς με, ἔφη, ὦ Κύρε, τὰ τείχη ἂν πειραθῆην διασωῶσαι. καὶ ὁ Κύρος εἶπεν, ἐὰν οὖν ἴης, πότε ἔσει οἴκοι; καὶ ὁ Γαδάτας εἶπεν, εἰς τρίτην δειπνήσω ἐν τῇ ἡμετέρᾳ. ἦ καὶ τὸν Ἀσσύριον, ἔφη, οἶει ἐκεῖ ἤδη καταλήψεται; εὖ μὲν οὖν, ἔφη, οἶδα· σπεύσει γὰρ ἕως ἔτι πρόσω δοκεῖς ἀπειναι. ἐγὼ δ', ἔφη ὁ Κύρος, ποσταῖος⁽¹⁾ ἂν τῷ στρατεύματι ἐκεῖσε ἀφικοίμην; πρὸς τοῦτο δὴ ὁ Γαδάτας λέγει, πολὺ ἤδη, ὦ δέσποτα, ἔχεις τὸ στράτευμα, καὶ οὐκ ἂν δύναιο μεῖον ἢ ἐν ἑξ ἢ ἐπτὰ ἡμέραις ἐλθεῖν πρὸς τὴν ἐμὴν οἰκίαν. σὺ μὲν τοίνυν, ἔφη ὁ Κύρος, ἀπιθι ὡς τάχιστα· ἐγὼ δ' ὡς ἂν δυνατὸν ἦ πορεύσομαι. ὁ μὲν δὴ Γαδάτας ὤχητο.

(1) = in how many days.

(25)

2. Translate into Greek :—

- (1) Unless our soldiers fight more bravely, they will be defeated.
- (2) All the citizens thought the poet was mad.
- (3) His son does not know that your daughter is rich.
- (4) The general himself could not persuade us to remain.
- (5) Let us ask him who these women are.
- (6) Take care never to wrong your friends.
- (7) He never stops telling me that he was once a slave. (21)

3. (a) Give the first person singular of the aorist indicative active of γινώσκω, τίθημι, ἀκούω, καθορῶ, φεύγω, ἄγω, θαυμάζω, δίδωμι.
- (b) Give the dative singular and the dative plural of τις, ναῦς, ἀνὴρ, βούς, θυγάτηρ. (9)

GREEK

HIGHER GRADE—(FIRST PAPER)

Friday, 24th March—9.30 A.M. to 12 NOON

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

N.B.—Begin the answer (or fair copy of an answer) to each question on a fresh page. Write legibly and neatly, and leave a space of half an inch between the lines. Marks may be deducted for bad or crowded writing.

Translate into English :—

1. *Phillidas and some confederates seek to free Thebes from Spartan rule. They kill Leontiadas, one of the Spartan leaders.*

Λαβῶν δὲ ὁ Φιλλίδας τρεῖς αὐτῶν ἐπορεύετο ἐπὶ τὴν τοῦ Λεοντιάδου οἰκίαν· κόψας δὲ τὴν θύραν εἶπεν ὅτι παρὰ τῶν πολεμάρχων ἀπαγγεῖλαι τι βούλοιο. ὁ δὲ ἐτύγχανε μὲν

χωρὶς κατακείμενος ἔτι μετὰ δεῖπνον, καὶ ἡ γυνὴ παρεκάθητο. ἐκέλευσε δὲ τὸν Φιλλίδαν πιστὸν νομίζων εἰσεῖναι. οἱ δὲ ἐπεὶ εἰσῆλθον, τὸν μὲν ἀποκτείναντες, τὴν δὲ γυναῖκα φεβήσαντες κατεσιώπησαν. ἐξιόντες δὲ εἶπον τὴν θύραν κεκλεισθαι· εἰ δὲ λήψονται ἀνεωγμένην, ἠπειλήσαν ἀποκτεῖναι ἅπαντας τοὺς ἐν τῇ οἰκίᾳ. ἐπεὶ δὲ ταῦτα ἐπέπρακτο, λαβὼν δύο ὁ Φιλλίδας τῶν ἀνδρῶν ἦλθε πρὸς τὸ ἀνάκειον,⁽¹⁾ καὶ εἶπε τῷ εἰργμοφύλακι ὅτι ἀνδρα ἄγοι παρά τῶν πολεμάρχων ὃν εἶρξαι δέοι. ὡς δὲ ἀνέωξε, τοῦτον μὲν εὐθύς ἀπέκτειναν, τοὺς δὲ δεσμώτας ἔλυσαν. καὶ τούτους μὲν ταχὺ ὥπλισαν, καὶ ἀγαγόντες ἐπὶ τὸ Ἀμφεῖον⁽²⁾ θέσθαι ἐκέλευον τὰ ὄπλα. ἐκ δὲ τούτου εὐθύς ἐκήρυττον ἐξιέναι πάντας Θηβαίους, ἰππέας τε καὶ ὀπλίτας, ὡς τῶν τυράννων τεθνεώτων. οἱ δὲ πολῖται, ἕως μὲν νύξ ἦν, ἀπιστοῦντες ἡσυχίαν εἶχον· ἐπεὶ δ' ἡμέρα τ' ἦν καὶ φανερόν ἦν τὸ γεγενημένον, ταχὺ δὴ καὶ οἱ ὀπλίται καὶ οἱ ἰππεῖς σὺν τοῖς ὄπλοις ἐξεβοήθουν.

(30)

⁽¹⁾ = prison.⁽²⁾ = shrine of Amphion.

2. *This man in a time of danger fled from Athens to Rhodes. It is true that our ancestors left Athens to fight against Xerxes. But there is no comparison between the two cases. Is he not a traitor?*

Ἀγανακτῶ δὲ μάλιστα, ὧ ἄνδρες, ἐπειδὴν ἀκούσω λέγοντός τινος ὡς οὐκ ἔστι τοῦτο προδιδόναι, εἴ τις ἦχετο ἐκ τῆς πόλεως· καὶ γὰρ οἱ πρόγονοί ποθ' ἡμῶν τὴν πόλιν καταλιπόντες, ὅτε πρὸς Ξέρξην ἐπολέμουν, εἰς Σαλαμίνα διέβησαν. καὶ οὕτως ἐστὶν ἀνόητος καὶ παντάπασι νύμων καταπεφρονηκώς, ὥστε τὸ κάλλιστον τῶν ἔργων πρὸς τὸ αἰσχιστον συμβαλεῖν ἠξίωσεν. ποῦ γὰρ οὐ περιβόητος ἐκείνων τῶν ἀνδρῶν ἡ ἀρετὴ γέγονεν; τίς δ' οὕτως φθονερός ἐστιν, ὅς οὐκ ἂν εὖξαιτο τῶν ἐκείνοις πεπραγμένων μετασχεῖν; οὐ γὰρ τὴν πόλιν ἐξέλιπον ἀλλὰ τὸν τόπον μετήλλαξαν, πρὸς τὸν ἐπιόντα κίνδυνον καλῶς βουλευσάμενοι. Ἐτεόνικος μὲν γὰρ ὁ Λακεδαιμόνιος καὶ Ἀδείμαντος ὁ Κορίνθιος καὶ τὸ

Αἰγινήτων ναυτικὸν ὑπὸ νύκτα τὴν σωτηρίαν αὐτοῖς ἔμελλον
 πορίζεσθαι· ἐγκαταλειπόμενοι δὲ οἱ πρόγονοι ὑπὸ πάντων
 τῶν Ἑλλήνων βία καὶ τοὺς ἄλλους ἠλευθέρωσαν, ἀναγκάσαντες
 ἐν Σαλαμῖνι μετ' αὐτῶν πρὸς τοὺς βαρβάρους ναυμαχεῖν.
 μόνοι δὲ ἀμφοτέρων περιγεγόνασι, καὶ τῶν πολεμίων καὶ
 τῶν συμμάχων, τοὺς μὲν εὐεργετοῦντες, τοὺς δὲ μάχη
 νικῶντες. ἄρα γε ὅμοιοι τῷ φεύγοντι τὴν πατρίδα τεττάρων
 ἡμερῶν πλοῦν εἰς Ῥόδον;

(35)

3. Either (a) or (b)

(a) *Priam's sons are reproached for their inaction.*

Τρώας δὲ στίχας⁽¹⁾ οὖλος Ἄρης ὤτρυνε μετελθῶν,
 υἷασι δὲ Πριάμοιο διοτρεφέεσσι κέλευεν,

“ὦ υἱεῖς Πριάμοιο διοτρεφέος βασιλῆος,

ἔς τί ἔτι κτείνεσθαι ἐάσετε λαὸν Ἀχαιοῖς;

ἦ εἰς ὃ κεν ἀμφὶ πύλης εὖ ποιητῆσι μάχωνται;

κεῖται ἀνὴρ ὃν τ' ἴσον ἐτίομεν Ἑκτορι δίῳ,

Αἰνείας υἱὸς μεγαλήτορος Ἀγχίσαο.

ἀλλ' ἄγετ', ἐκ φλοίσβοιο σαώσομεν ἐσθλὸν ἑταῖρον.”

ὡς εἶπὼν ὤτρυνε μένος καὶ θυμὸν ἐκάστου.

ἐνθ' αὖ Σαρπηθῶν μάλα νείκεσεν Ἑκτορα δίον,

“Ἑκτορ, πῆ δὴ τοι μένος οἴχεται ὃ πρὶν ἔχεςκες;

φῆς που ἄτερ λαῶν πόλιν ἔξεμεν ἠδ' ἐπικούρων

οἶος, σὺν γαμβροῖσι κασιγνήτοισί τε σοῖσιν

τῶν νῦν οὐ τιν' ἐγὼ ἰδέειν δύναμι' οὐδὲ νοῆσαι,

ἀλλὰ καταπτώσσουσι, κύνες ὡς ἀμφὶ λέοντα

ἡμεῖς δ' αὖ μαχόμεσθ', οἳ πέρ τ' ἐπικούροι ἐνεῖμεν.”⁽²⁾

(1) acc. pl. = ranks.

(2) = ἐνεσμεν.

Scan the fourth and sixth lines, marking the principal
 caesura in each.

(30)

(b) *Deianeira is told that Heracles, her husband, has returned safe, but is being delayed by the crowd.*

- ΑΓΓΕΛΟΣ δέσποινα Δηάνειρα, πρῶτος ἀγγέλων
ὄκνου σε λύσω· τὸν γὰρ Ἀλκμήνης τόκον
καὶ ζῶντ' ἐπίστω καὶ κρατοῦντα κακῆ μάχης
ἄγοντ' ἀπαρχὰς θεοῖσι τοῖς ἐγχωρίοις.
- ΔΗΙΑΝΕΙΡΑ τίν' εἶπας, ὦ γεραίε, τόνδε μοι λόγον;
ΑΓ. τάχ' ἐς δόμους σοῦς τὸν πολύζηλον πόσιν
ἦξιεν, φανέντα σὺν κράτει νικηφόρῳ.
- ΔΗ. καὶ τοῦ τόδ' ἀστῶν ἢ ξένων μαθὼν λέγεις;
ΑΓ. ἐν βουθερεῖ⁽¹⁾ λειμῶνι πρὸς πολλοὺς θροεῖ
Λίχας ὁ κῆρυξ ταῦτα· τοῦ δ' ἐγὼ κλύων
ἀπῆξ', ὅπως τοι πρῶτος ἀγγείλας τάδε
πρὸς σοῦ τι κερδάναιμι καὶ κτῶμην χάριν.
- ΔΗ. αὐτὸς δὲ πῶς ἄπεστιν, εἶπερ εὐτυχεῖ;
ΑΓ. οὐκ εὐμαρεῖα χρώμενος πολλῇ, γύναι.
κύκλω γὰρ αὐτὸν Μηλιεὺς ἄπας λεῶς
κρίνει⁽²⁾ παραστάς, οὐδ' ἔχει βῆναι πρόσω.

⁽¹⁾ = summer haunt of oxen.

⁽²⁾ = question.

Scan the third and fourth lines, marking the caesura in each.

(30)

GREEK

HIGHER GRADE—(SECOND PAPER)

Friday, 24th March—1.0 P.M. to 3.0 P.M.

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

N.B.—Begin the answer (or fair copy of an answer) to each question on a fresh page. Write legibly and neatly, and leave a space of half an inch between the lines. Marks may be deducted for bad or crowded writing.

1. Translate into Greek :—

The king then called together his generals and said, "My friends, we have already beheld the city. Its walls are so high and strong that, as it seems to me at least, we

ought not to try to assault them. Let us, therefore, prepare to besiege it, for soon the citizens and the soldiers within will consume all the food which they have. If anyone can think of a better plan, let him tell it now, that we may discuss it." One of the generals immediately replied, "Have you not forgotten, O king, that through the city there flows a river which gives it as much strength as do the walls? It supplies water to those within, and their allies outside will easily bring food to them in boats. It is useless to besiege the city unless we first turn the river in some other direction." (35)

2. Translate into Greek :—

- (1) We shall never be safe until that tyrant is driven out of Greece.
- (2) When my children are in Athens, I always allow them to do whatever they wish.
- (3) Never trust those who advise you not to resist Philip.
- (4) I myself refused to be present, for I feared that I might hear bad news.
- (5) If we had told him the whole truth, he would have ordered all of you to be killed. (14)

3. (a) Give the third person plural of the present, and of the imperfect, indicative active of
 ἴημι, οἶδα, κατέχω, ῥέω, ἀνοίγνυμι, ἔω.
- (b) Give the dative, and the accusative, plural of
 ὑός, χεῖρ, οὖς, ἄστν, στάσις, γείτων. (6)
-

FRENCH

LOWER GRADE

Thursday, 23rd March—9.30 A.M. to 12 NOON

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

N.B.—Begin the answer (or fair copy of an answer) to each question on a fresh page. Write legibly and neatly, and leave a space of half an inch between the lines. Marks may be deducted for bad or crowded writing.

1. Translate into English :—

La tirelire.⁽¹⁾

Un grand événement se produisit dans la vie de Joseph : il acheta une tirelire. Dans quel but ? Il n'en avait rien dit à sa grand'mère et sa grand'mère ne lui demanda rien. Mais la vieille dame apprit non sans quelque émotion que Joseph ne dépensait plus qu'un sou par jour et, chaque semaine, en mettait huit dans la tirelire. Que projetait-il donc ? On arrivait au 15 août. Le 15 août était à la fois, pour Joseph, un triste et doux anniversaire. Sa mère était morte et sa grand'mère était née ce jour-là.

Le 15 août, une personne qui aurait suivi Joseph l'aurait vu se diriger, avec grand mystère, vers une vieille armoire, y prendre un paquet enveloppé, aller le placer, sans être vu, sur la table de travail de sa grand'mère, puis courir se cacher dans un coin d'où il pouvait voir sans être vu. La vieille dame arrive. "Qu'est-ce donc que ce paquet ?" se dit-elle à elle-même. Joseph, dans son coin, se mettait la main sur la bouche pour s'empêcher de rire. "Ah ! bon Dieu !" s'écrie la vieille dame après avoir déplié le paquet, "le joli châle ! Qui a pu le mettre là ? Pour qui est-ce ?" Et à un petit rire étouffé qui partit du coin, elle tourna vivement la tête, et, apercevant l'enfant : "Ah ! mon petit Joseph ! c'est toi ! c'est toi qui me fais ce cadeau ! Que tu es donc gentil ! Mais comment as-tu deviné que j'avais envie d'un châle ?" "Est-ce que tu ne te rappelles pas,"

⁽¹⁾ tirelire = money-box.

répondit l'enfant, " qu'il y a six mois, en passant devant un magasin où il y avait beaucoup de châles pareils, tu as dit : ' Oh ! j'aimerais bien un châle comme cela ! ' " " Et tu te l'es rappelé après six mois ! " " Je ne pense qu'à cela depuis six mois ! " *Ernest Legouvé. (30)*

2. Translate into English :—

Retour de promenade.

Il se faisait tard, et ils étaient loin de chez eux.

" J'ai faim," dit petit Jean.

Mais Catherine n'avait pas un morceau de pain à lui donner. Elle amassa ses fleurs sur son bras et, prenant son petit frère par la main, elle lui dit : " Retournons à la maison."

Le soleil descendait lentement à l'horizon. Le soir était venu. Les enfants étaient las et ils craignaient de ne jamais arriver à la maison où leur mère faisait la soupe pour toute la famille. Le petit Jean n'agitait plus son fouet. Catherine laissait tomber une à une ses fleurs sur la route. Elle tirait son petit frère par le bras et tous deux se taisaient.

Enfin, ils virent de loin le toit de leur maison. Alors ils s'arrêtèrent et, frappant ensemble des mains, poussèrent des cris de joie. Quand ils entrèrent dans le village, des femmes qui revenaient des champs leur donnèrent le bonsoir. La mère était sur le seuil, en bonnet blanc, la cuillère à la main.

" Allons, les petits, allons donc ! " leur cria-t-elle.

Ils se jetèrent dans ses bras, puis ils entrèrent dans la salle où fumait la soupe aux choux. Catherine courut embrasser son père et lui raconter les aventures de la journée. Jean, assis sur une chaise, le menton à la hauteur de la table, mangeait déjà sa soupe. *Anatole France. (20)*

3. Translate into French :—

John got up, dressed, and, opening the door without making any noise, went out. There were many white pebbles on the ground. He filled his pockets with them, then he went in again, lay down, and fell asleep. In the morning their mother came and said : " Get up quickly, children. We are all going to the forest. Here is some bread, but don't eat it too quickly, for it is all you will have to eat to-day." Then they set off. John walked behind

the others, and let his pebbles fall on the path. When they arrived at the centre of the forest, their father said : " Stay here and gather some wood. Your mother and I are going to work, but we shall come back in the evening." (20)

4. Translate into French :—

(1) If you go to the park at four o'clock this afternoon, you will see us there.

(2) Leave your book here. I shall use it if I need it.

(3) I woke early this morning, and listened to the birds singing in the garden.

(4) Don't forget to buy matches at the grocer's.

(5) We are very pleased to see that you have not stopped working. (10)

FRENCH

HIGHER GRADE—(FIRST PAPER)

Thursday, 23rd March—9.30 A.M. to 11.30 A.M.

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

N.B.—Begin the answer (or fair copy of an answer) to each question on a fresh page. Write legibly and neatly, and leave a space of half an inch between the lines. Marks may be deducted for bad or crowded writing.

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

1. *My first play.*

Pendant vingt-quatre heures, je vécus dans l'attente fébrile de cette félicité, osant à peine espérer qu'un coup soudain ne viendrait pas la détruire. Le soir de la représentation, je n'avalai pas une bouchée du dîner, qui me parut interminable, et je fus dans des transes mortelles d'arriver en retard.

Enfin, nous arrivâmes; l'ouvreuse⁽¹⁾ nous introduisit dans une loge⁽²⁾ qui s'ouvrait sur le vaste théâtre bourdonnant, d'où partaient les sons inharmonieux des instruments

(1) ouvreuse = attendant.

(2) loge = box.

que les musiciens accordaient. Le lever du rideau fut vraiment pour moi le passage d'un monde à un autre. Et dans quel monde splendide j'entrais ! La vie y était plus grande et plus magnifique que dans le monde où ma naissance m'avait placé, les passions plus terribles, la beauté plus belle. Les costumes, les gestes, les voix charmaient les sens et ravissaient le coeur. Rien n'existait plus pour moi que ce monde enchanté subitement ouvert devant mes yeux. Une irrésistible illusion s'était emparée de moi, et ce qui aurait dû la détruire en me rappelant que j'assistais aux jeux du théâtre, les planches, les bandes de toile peinte qui représentaient le ciel, les rideaux qui encadraient la scène, me retenaient encore plus fortement dans le cercle magique.

Anatole France. (25)

2.

The little singer.

La pauvre enfant, le long des pelouses du bois,
Mendiait ; elle avait des larmes véritables,
Et, d'un air humble et doux, joignant ses petits doigts,
Elle courait après les âmes charitables.

Elle voulait un sou, du pain, — rien qu'un morceau.
Elle avait, je ne sais dans quelle horrible rue,
Des parents sans travail, des frères au berceau,
La famille du pauvre, à peine secourue⁽¹⁾.

Puis, qu'on donnât ou non, elle essuyait ses pleurs,
Et s'en retournant vite aux gazons pleins de mousses,
S'amusait d'un insecte, épluchait quelques fleurs,
Des taillis printaniers brisait les jeunes pousses,

Et chantait ! — Le soleil riait dans sa chanson.
C'était quelque lambeau des refrains populaires ;
Et, pareil au linot⁽²⁾, de buisson en buisson,
Elle lançait au ciel ses notes les plus claires.

Je la regardais vivre et l'entendais de loin.
Comme un fardeau que pose un porteur qui s'arrête,
Elle allégeait son coeur, se croyant sans témoin,
Et les senteurs d'avril lui montaient à la tête !

Eugène Manuel. (25)

(1) secourir, *cf.* le secours.

(2) linot = linnet.

3. *Charms of the countryside, seen from a carriage window.*

Ne vous est-il jamais arrivé de traverser une de ces petites villes assises au penchant d'un coteau, sur le bord d'une rivière, à l'ombre d'un bouquet de bois ? La rue est à peu près déserte, mais vous voyez pourtant çà et là un enfant qui joue, une servante qui tricote, un bourgeois qui ne fait rien. Les maisons ont un air triste et vénérable, elles sont silencieuses, elles semblent faites pour l'étude et pour la prière comme un couvent, et le rebord des fenêtres est chargé de fleurs. Vous longez une promenade plantée de vieux arbres, vous rasez les murs d'un château gothique ; vous sortez enfin de la ville, et ce ne sont que chemins qui se croisent et s'entrecroisent dans les prairies, haies vives, peupliers au bord des rigoles⁽¹⁾, grands chênes sur les côtés de la route. Tout cela est si frais, si paisible, si peuplé d'oiseaux qui chantent, et si profondément semé de belles fleurs qu'on se demande pourquoi on perd son temps à courir le monde, et s'il ne serait pas beaucoup plus sage de rester dans ce petit pays inconnu, tout près de ces vieilles maisons silencieuses, de cette belle promenade tranquille, et de ce placide bourgeois.

Louis Veuillot. (20)

⁽¹⁾ rigole = ditch.

FRENCH

HIGHER GRADE—(SECOND PAPER)

Thursday, 23rd March—1.0 P.M. to 1.30 P.M.

This paper must not be seen by any candidate.

To be read out by the Teacher at 1.0 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. *Inform the candidates that they may not ask for the repetition of any word or phrase.*

2. Read the passage aloud, distinctly and deliberately, but not slowly, in order to bring out the meaning of the whole as clearly as possible. Observe the liaisons as marked.
3. Then dictate the passage slowly, saying each group of words (as indicated by vertical lines) twice, and pronouncing every word very distinctly. The punctuation should be indicated thus :—(,) 'virgule,' (.) 'un point,' (;) 'point virgule.'
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 or phrases at the request of individual candidates.

DICTATION

The Breton character

Le trait caractéristique | de la race bretonne, | à tous ses degrés, | est l'idéalisme, | la poursuite | d'une fin morale ou intellectuelle, | souvent erronée | toujours désintéressée. | Jamais race ne fut | plus impropre à l'industrie, | au commerce. | On obtient tout d'elle | par le sentiment de l'honneur ; | ce qui est lucre | lui paraît peu digne du galant homme ; | l'occupation noble est | à ses yeux | celle par laquelle on ne gagne rien, | par exemple celle du soldat, | celle du marin, | celle du prêtre, | celle du vrai gentilhomme | qui ne tire de sa terre | que le fruit convenu par l'usage | sans chercher à l'augmenter, | celle du magistrat, | celle de l'homme | voué au travail de la pensée. | Au fond de la plupart de ses raisonnements, | il y a cette opinion, | fautive sans doute, | que la fortune ne s'acquiert | qu'en exploitant les autres | et en pressurant les pauvres. | La conséquence | d'une telle manière de voir, | c'est que le riche n'est pas très considéré ; | on estime beaucoup plus | l'homme qui se consacre au bien public | ou qui représente l'esprit du pays. |

FRENCH

HIGHER GRADE—(SECOND PAPER)

Thursday, 23rd March—1.45 p.m. to 3.45 p.m.

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

N.B.—Begin the answer (or fair copy of an answer) to each question on a fresh page. Write legibly and neatly, and leave a space of half an inch between the lines. Marks may be deducted for bad or crowded writing.

1. Translate into French :—

One night poor Tom slept in the wood, on a bed of leaves. Next morning, as he was wakening, he heard someone say : "Here's a heavy load !" He opened his eyes at once, and saw the smallest man he had ever seen in his life. He was filling a sack with small pieces of wood, and he had a cloak over his arm.

"Who are you ?" asked Tom. But he had no sooner spoken than the dwarf put on his cloak, and at once he was gone.

"Dear me, that was quickly done ; but I must see if I cannot catch you, my fine fellow," said Tom.

That night Tom slept again on his bed of leaves. In the morning he wakened early, but he pretended to be still asleep. Then, about the same time as the day before, he suddenly saw the little man again. This time Tom did not say anything ; he waited till the dwarf was very near, and then he quickly snatched his cloak from him.

At this, the little man became very excited. He fell on his knees and cried : "Master, you look young and kind ; pray give me back my cloak, for otherwise I shall never be able to get home with my bundle of wood."

"I mean to give it back to you, for it is yours," said Tom, "but, since you have let me catch you, you must first answer three questions."

"Very well," said the dwarf, "I shall answer them if I can."

(40)

2. Translate into French :—

(1) My brother has never written to us since he went abroad four years ago.

- (2) Here you are at last ! You have kept us waiting more than two hours.
- (3) Wherever Scotsmen go, they always think with affection of their native country.
- (4) We are delighted you have come, and we hope you won't have to leave too soon.
- (5) I am in the habit of doing without a thing when I can't get it. (10)

3. Write, in French, a continuous story, based on the following summary. **The story should be about the same length as your answer to question 1.** Failure to comply with this instruction may lead to a loss of marks.

Lovely summer's afternoon—two boys go to play in the country, instead of going to school—wander too far away—lost in wood—night falls—afraid of having to spend night in dark wood. (20)

(Complete the story in your own way.)

GERMAN

LOWER GRADE

Tuesday, 28th March—9.30 A.M. to 12 NOON.

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

N.B.—(1) Begin the answer (or fair copy of an answer) to each question on a fresh page. Write legibly and neatly, and leave a space of half an inch between the lines. Marks may be deducted for bad or crowded writing.
(2) German script must be used in the answer to question 4 ; in question 3 the use of it is optional.

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

Anxious Waiting.

Der Nachmittag verging. Das Forsthaus und die alte Eiche glühten im Abendschein. Dann kam die Dämmerung ; hinter dem Walde stieg der Mond empor und warf seinen bläulichen Schimmer auf den leeren Platz am Haus ; aber Rudolf war noch nicht zurück.

Wieder, wie am Vormittage, saß seine Frau wartend im Wohnzimmer; nur brannte jetzt die Lampe, und es war noch stiller im Hause. Mitunter sprang die Frau auf und, ihre Arbeit hinterversend, trat sie ans Fenster und drückte das Ohr gegen eine der Glasscheiben, dann plötzlich lief sie vor die Haustür; aber nur die Eulen schrien vom Walde herüber; auch einmal im Stalle hinten hatte der Hahn geträumt, und er krächte dreimal in die Nacht hinaus. Und wieder saß sie drinnen bei ihrer Arbeit, der eine Fuß nur auf der Spitze ruhend, das Haupt halb abgewandt, wie in die Ferne lauschend. Da, das war keine Täuschung, scholl es vom Weg herauf; das war der Huffschlag ihres Pferdes, und näher und näher kam es. Sie war nicht aufgesprungen; langsam und vorsichtig, um keinen Laut von draußen zu verlieren, hatte sie sich aufgerichtet. „Rudolf!“ rief sie, und endlich, im dunklen Hausflur, hielt sie ihn umfangen. „Gott sei Dank, daß ich dich wiederhabe!“

(25)

2. Translate into English:—

A Sunny Summer Day.

Die frühe Sommer Sonne lacht,
die Erde ist noch nicht aufgewacht.
Noch liegen die Blumen im Schlafe.

Auf leisen Sohlen kommt geschwind
durch Gras und Kraut der Morgenwind
und weckt die Glockenblumen.

Da tönt ein Klingen durch die Luft,
den Kelchen⁽¹⁾ entsteigt der Blütenduft.
Die Blumen grüßen den Morgen.

Und heißer wird die Sonnenglut.
Die Biene, die sonst niemals ruht,
hält heut' ein Mittagschläfchen.

(1) der Kelch = calyx, flower cup.

Raum träumt sie ein halb Stündelein
da stellen sich Musikanten ein :
ein Duzend lustiger Grillen.⁽²⁾

Die spielen fest das neueste Stück :
ein Lied von Käferlust⁽³⁾ und -glück
bei Sommersonntagwetter.

So geht's, bis kühl der Abend weht
und müd' die Sonne zu Bette geht —
dann hat die Lust ein Ende.

Die Dämmerung breitet die Schwingen⁽⁴⁾ aus.
Leuchtkäferchen erhellt sein Haus,
und still wird's rings im Kreise.

Und langsam kommt aus seinem Tor
rot und rund der Mond hervor.

(2) die Grille = grasshopper.

(3) der Käfer = beetle.

(4) Schwingen = poetical for Flügel. (25)

3. Translate into German :—

- (1) "When did you buy that new coat?" "My mother gave it to me last week."
- (2) Although it was getting late, the children were still playing in the street.
- (3) Her little brother climbed on to the chair to look at the picture.
- (4) Would you please help me to carry this heavy bag?
- (5) I am sorry he has made some mistakes in his exercise. (15)

4. Translate into German :—

Every summer I spend some weeks in a pretty little village. It lies on the bank of a river and is not far from the sea. All the houses in it have white walls and red roofs. Behind each house is a garden with many flowers and fruit-trees. If you saw this village you would say: "What a charming picture!" But one can hardly hope that it will remain so quiet much longer. Many motor-cars visit it now and the peace is disturbed by their noise. (15)

GERMAN

HIGHER GRADE—(FIRST PAPER)

Tuesday, 28th March—9.30 A.M. to 11.30 A.M.

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

N.B.—Begin the answer (or fair copy of an answer) to each question on a fresh page. Write legibly and neatly, and leave a space of half an inch between the lines. Marks may be deducted for bad or crowded writing.

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

1. *The Beginning of a Holiday.*

Am Ende Juni begleitete ich eine alte Verwandte zu ihrem gewöhnlichen Sommeraufenthalt in dem Kurort R—. Wir waren gegen Mittag angekommen. Als ich erfuhr, daß meine gute Tante sich zunächst einem Mittagsschläfschen und darnach dem Auspacken ihrer Koffer und der Einrichtung in dem neuen Quartiere widmen wollte, trieb mich die Langweile ins Freie, wenn auch der Sonnenschein wie Blut herabfiel. Ich nahm den einfachsten Weg und ging auf der den Ort durchschneidenden Straße einige tausend Schritte durch einen Gebirgspaf, der hier nach Tirol hineinführt. Aber der Tag wie der Ort war heute zu heiß; zwischen den engen Felswänden waren selbst die Schatten unerträglich; ichkehrte wieder um und ging den Weg zurück. Am Ausgang des Passes durchschnitt ein rauschender Wasserstrom den Weg; auf der Brücke, die darüber war, stand ich lange und blickte wie zur Kühlung in die unter mir sich vorüberwälzenden Wasser. Dann entschloß ich mich und ging wieder in den unerbittlichen Sonnenschein hinaus; der weiße Staub der Chaussee schimmerte und blendete, daß mir die Augen schmerzten. Als ich wieder im Orte war, bemerkte ich mir zur Rechten eine halb offene Gittertür in einer breiten Laubwand, dahinter einen weiten, mit vielen Bänken und Gartenstühlen besetzten Platz.

(25)

2.

Christmas Trees.

Nun kommen die vielen Weihnachtsbäume
aus dem Wald in die Stadt herein.

Träumen sie ihre Waldesträume
weiter beim Laternenschein ?

Könnten sie sprechen ! Die holden Geschichten
von der Waldfrau, die Märchen webt ;
was wir uns alles erst erdichten,
sie haben das alles wirklich erlebt.

Da stehn sie nun an den Straßen und schauen
wunderlich und fremd darein,
als ob sie der Zukunft nicht recht trauen ;
es muß da was im Werke sein.

Freilich, wenn sie dann in den Stuben
im Schmuck der hellen Kerzen stehn
und den kleinen Mädchen und Buben
in die glänzenden Augen sehn,

dann ist ihnen auf einmal, als hätte
ihnen das alles schon mal geträumt,
als sie noch im Wurzelbette
den stillen Waldweg eingesäumt.⁽¹⁾

Dann stehen sie da, so still und selig,
als wäre ihr heimlichstes Wünschen erfüllt,
als hätte sich ihnen doch allmählich
ihres Lebens Sinn enthüllt.

⁽¹⁾ from Saum = edge, border.

(25)

3.

Transforming Effects of Travel.

Reisen verwandelt die Menschen. Schon auf dem
Bahnhof beginnt diese seltsame Verzauberung, der sich
niemand zu entziehen vermag. Sie beginnt mit dem Lösen
der Fahrkarte. Jeder Mensch benimmt sich, sobald er im
Besitze seines Fahrscheins ist, auf einmal ganz anders als
daheim. Er blickt selbstbewußt um sich, und obgleich er noch
auf dem Boden der Heimat steht, ist er schon unterwegs ;
er sieht die Welt mit andern Augen und wird mit andern
Augen betrachtet. Er ist bereits „Fremder.“ Vollends,

wenn er durch die Sperre geschritten ist, hat er das Gefühl, dem Zuhause meilenweit entrückt zu sein. Die Zuschauer bemerken, wie der Reisende mit einer gewissen Hast und Erregtheit, als sei er ein Dieb, dem die Polizei hart auf den Fersen ist, dem Zug entlang eilt und einsteigt. Allein sobald er den guten Platz gefunden und belegt hat, wird er sich noch etwas auf dem Bahnsteig ergehen, müßig-gängerisch, einen Zug von Freiheit im Gesicht. (20)

GERMAN

HIGHER GRADE—(SECOND PAPER)

Tuesday, 28th March—1.0 P.M. to 1.30 P.M.

This paper must not be seen by any candidate.

To be read out by the Teacher at 1.0 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. *Inform the candidates—*
 - (a) *That they may use either English or German script, as they prefer; and*
 - (b) *That they may not ask for the repetition of any word or phrase.*
2. *Read the passage aloud, distinctly and deliberately, but not slowly, in order to bring out the meaning of the whole as clearly as possible.*
3. *Then dictate the passage slowly, saying each group of words (as indicated by vertical lines) twice, and pronouncing every word very distinctly. The punctuation should be indicated thus—(,) 'Komma', (.) 'Punkt', (;) 'Semikolon'.*
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 or phrases at the request of individual candidates.*

DICTATION

The Nightingale.

Die erste Stelle | unter den Meisterjüngern | gebührt der
Nachtigall. | Wo diese liebliche Sängerin | des Schutzes der
Menschen | sicher sein kann, | siedelt sie sich unmittelbar |
bei seiner Behausung an, | bekundet dann | nicht die geringste
Scheu, | eher eine gewisse Dreistigkeit, | und läßt sich daher
ohne Mühe | in ihrem Tun und Treiben | beobachten. |
Gewöhnlich gewahrt man sie | niedrig über dem Boden |
auf Zweigen sitzend, | den Schwanz erhoben, | die Flügel
tief gesenkt. | Im Gezweig hüpfst sie selten, | wenn es aber
geschieht, | mit großen Sprüngen umher; | auf dem Boden |
trägt sie sich hochaufgerichtet | und springt stolz dahin. | Ihr
Flug ist schnell, | leicht, | in steigenden und fallenden Bogen; |
sie fliegt aber nur kurze Strecken | und am Tage nie über
freie Flächen. (10)

GERMAN

HIGHER GRADE—(SECOND PAPER)

Tuesday, 28th March—1.45 P.M. to 3.45 P.M.

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

N.B.—Begin the answer (or fair copy of an answer) to each question on a fresh page. Write legibly and neatly, and leave a space of half an inch between the lines. Marks may be deducted for bad or crowded writing. German script must be used in the answer to question 1; in the other questions the use of it is optional.

1. Translate into German :—

It was a happy day when at last Charles's birthday arrived. The gardens were gay with flowers and in the great hall hung with flags many people were assembled to do honour to the young duke. To the boy the whole world

seemed marvellous and there was someone else just as glad—an old man, who in spite of his high rank and great wealth had not often known true happiness. He had now found pleasure in doing what the innocent heart of a child had desired. Whenever he looked at his grandson on that day he felt both pleased and proud. He watched him going about among the guests in the garden, bowing charmingly if anyone greeted him and chatting with those he knew. At noon the whole company sat down to lunch. After the meal was finished, speeches were made and greetings and best wishes were offered to the young master. Laying his hand on the boy's shoulder, the grandfather said in a trembling voice: "You must thank these good people for their kindness." (40)

2. (a) Translate into German :—

- (1) As we were about to leave, we learned that he had arrived.
- (2) They returned without my knowing it and came running into the room.
- (3) He insisted on her answering the letter as soon as possible.

(b) Translate into English :—

- (1) Fußgänger! Verkehrszeichen gelten auch für Dich!
- (2) Der Reisende ist verpflichtet der Zollrevision des Gepäcks persönlich beizuwohnen. (10)

3. Write in German a continuous story based on the following summary. The story should be about the same length as your answer to question 1. Failure to comply with this instruction may lead to a loss of marks :—

Ein sonderbarer Umzug (removal).

In der Nähe von Wien—Bauernwagen mit Hausgerät (household goods) beladen—darunter Musikinstrument (n.)—Eigentümer (owner), Beethoven, ging mit—in Gedanken vertieft—blieb zurück—Fuhrmann des Wagens wußte nicht, wo die neue Wohnung war—Was geschah? (20)

GAELIC

LOWER GRADE

Tuesday, 28th March—9.30 A.M. to 12 NOON

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

N.B.—Begin the answer (or fair copy of an answer) to each question on a fresh page. Write legibly and neatly, and leave a space of half an inch between the lines. Marks may be deducted for bad or crowded writing and for bad spelling.

1. Translate into English, paying careful attention to idiom :—

Thug an ceum socrach leis an d'imich iad a dh'ionnsaigh na tràighe gile iad, is choisich iad gu mall mànrnach an cois na tuinne. Bha an làn a' tighinn a steach agus am bàgh cho sàmhach ri leanabh na cìche 'na chadal. An cois na tuinne bha a' ghainmheach thioram agus na sligean a' snàmh air uachdar an uisge, is sheasadh a' chàraid uasal an dràsda is a rithis a ghabhail beachd orra a' dol fodha gu socrach mar a ghabhadh iad an t-uisge an déidh a bhi greis air bhog. Mun cuairt a' chladaich air fad, chìteadh an fheamainn bhuilgneach a' sgaoileadh a mach gu craobhach mar a bha an lìonadh a' tighinn foidhpe, is i gu caisreagach tioram an déidh teas an latha àghmhoir fhoghair. Fada a mach anns a' chaol bha Sgeir nan Ròn 'ga h-imlich leis a' bhoiseig bhig a thog sruth làidir an lìonaidh air broilleach a' chaoil. Bu tric a chuireadh i os a cionn an uair a bhiodh mìothlachd air na siantan agus a dh'éireadh fearg air gnùis Chaol Muile, is a shadadh e tonnan gàireach geala 'nan sradaichean gus a' chladach chreagach far an leumadh iad 'nan sìoban mìn do'n speur gu h-àrd.

Iain Mac Cormaic. (20)

2. Translate into English, paying careful attention to idiom :—

Nach sòlasach an nì an cadal !

Gu ma beannaicht' gun robh thù !

Gur tric a rinn thu féin mo phasgadh

Ann do ghlacaibh coibhneil caomh.

O, thig a nochd ! Na tréig mo chluasag,

Paisg mi ann an suain ro-chiùin ;

O, sgaoil do chùirteinean mun cuairt dhomh ;

Na fan bhuan, thig is dùin mo shùil.

Gur tric a thug thu fois is sìth dhomh,
 'Nuair a bha mi sgìth fo leòn,
 'Nuair bha mo chogais féin 'gam dhìtheadh
 Air son nithean nach bu chòir.
 Is iomadh oidhche le m'uille dhùrachd
 Ghuidh mi air do shaorsa mhór,
 Thu thighinn is fuasgladh bho throm-thùrsa,
 Is mi 'gam lot as ùr le bròn.

Gur tric a thug thu fois is sòlas
 Bho throm-dhòrainn agus cràdh,
 Bho throm-thrioblaid agus tinneas
 Is tric a thug thu rithist slàint'.
 Ged a b'è tom fraoich mo chluasag,
 Mar a thachair uair no dhà,
 Cha d'rinn thu dìmeas orm an uair sin :
 Thug thu suain dhomh mar a bhà.

Donnchadh Mac Nimhein. (20)

3. Translate into Gaelic, paying careful attention to idiom :—

The men stride about in leather fishing-boots, the women sit at the open doors at work with bait-baskets. Two or three boats are moored at the stone-heaped pier. Brown, idle nets, stretched on high poles along the beach flap in the winds. We had tea at the primeval inn, and on our intimating to the landlord that we wished to proceed to Broadford, he went off to engage a boat and crew. In a short time an old sea-dog, red with the keen breeze, and redolent of the fishy brine, entered the apartment with the information that everything was ready.

Alexander Smith (A Summer in Skye). (20)

4. Write in Gaelic a continuous story based on the following summary, and complete it in your own way. Give it a title. **The story should be about the same length as your answer to question 1.** Failure to comply with this instruction may lead to a loss of marks.

An elderly doctor, resident in one of the remote Western Isles, has to make even his most distant calls by means of horse and trap. One snowy winter evening he is called to visit a patient ten miles away. Horse and trap duly prepared; doctor, acting as his own driver, sets off. After travelling a few miles a heavy blizzard of snow comes on—road obliterated—wheel of trap goes into a ditch—doctor

flung out—ankle sprained—unable to move—has to wait patiently sitting on the snow-clad moor—finally discerns a glimmer of light—shouts to attract attention. A woman carrying a lantern recognises the doctor. . . .

(Complete the story in your own way.) (20)

GAELIC

HIGHER GRADE—(FIRST PAPER)

Tuesday, 28th March—9.30 A.M. to 11.30 A.M.

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

N.B.—Begin the answer (or fair copy of an answer) to each question on a fresh page. Write legibly and neatly, and leave a space of half an inch between the lines. Marks may be deducted for bad or crowded writing and for bad spelling.

1. Translate into idiomatic English :—

Oirdheirceas Chuith Fhraing.

An uair a dh'amhairceas neach gu geur air gach sturraig agus binnean, a ta air an suidheachadh air gach taobh, tha an inntinn a' dealbhachadh riochd-chreutairean de gach cumadh gun àireamh, mar gum biodh iad air an gearradh a mach le làimh theòma fir-ealaidh, air aghaidh nan creag. Chìthear mar anns na h-éibhlibh anns a' ghrìosaich, coin, eich, féidh, carbadan, caistealan, laochraidh agus riochdan de gach gnè, gu friotalach frionasach ag casadh an aghaidh a chéile. Dealbhaidh an inntinn, mar sin, aogas bhithéan àraidh agus eugsamhla, mar gum b'ann a' ruith air feadh a chéile. Cha sgithich neach 'sam bith, aig a bheil tlachd ann an oibribh mìorbhuileach a' chruthachaidh, ann a bhith ag amharc air garbh-ghnùisibh nan turaidean agus nan geur-spiricean a ta ag cuairteachadh an ionaid neònaich sin. Is leòir an sealladh chum spiorad an duine a lìonadh, chan e a mhàin le iongantais do-chur an céill, ach mar an ceudna le uamhas agus le eagal diadhaidh. An uair a bhithéas an latha soilleir grianach, chìthear solus na gréine a' dealradh gu lannireach drileanach troimh gach fosgladh agus còs a tha a' dealachadh nan colbh stùcach air gach taobh.

Rev. A. MacGregor. (25)

2. Translate into idiomatic English :—

Bha thu caomh ri fear feumach,
 Bha thu saor ri fear reusant',
 Bha thu aodanach geurach,
 Mar chloich, ri eucoireach, cruaidh.
 Bu tu an tabhairteach maoineach,
 Bu tu an labhairteach saothreach,
 Bu tu an comhairleach tìmeil,
 Is crìoch a' ghaoil ann ad fhuath.
 Tha e 'n a ladarnas gàbhaidh
 Bhith le eagal ag àicheadh
 Nach 'eil stoc aig an Ard-Rìgh
 Nì an àird na chaidh uainn ;
 Ach is fàbhar Freasdail 's is ìongnadh,
 No an nì as faisge do mhìorbhuil
 Am beàrn so th'againn a lìonadh
 Gu blas miannach an t-sluaigh.

An duine thigeadh a suas riut
 Ann an guth 's ann an cluasan,
 Chan fhacas riamh is cha chualas,
 Is e mo smuaintean nach cluinn ;
 Ged bu bheartach do chràbhadh,
 Bha do mheas air gach tàlann ;
 Is tu thuigeadh na dàna,
 Is am fear dhèanadh na rainn.
 A' chuid a b' àirde 's a' bhuaidh sin
 Tha iad air stad dheth o'n uair sin,
 Ach na daiseachan suarach
 Tha mun cuairt duinn a' seinn :
 An uair cheileadh a' ghrian orra,
 Sin 'n uair ghoireas na biastan—
 Cailleach-oidhche agus strianach
 An coilltean fiadhaich 's an glinn.

Rob Donn. (25)

3. Turn carefully into Scottish Gaelic, or translate into English :—

Gidh eadh, tabhair dot aire, an tan bhíos duine ag triall i ló shneachta, 7 grian ag taitneamh air, iar ndol i steach i dteach dhó, nach léir dhó a bheag nó a mhór, ó neimh an tsneachta do bheith 'na shúilibh, agus uime sin nach dleaghair dhó triall roimhe go hobann san teach, go sgaoiltear deallradh an tsneachta bhíos 'na shúilibh,

d'eagla go dtuitfeadh i bhfairthis⁽¹⁾ nó i ndeirc dá mbiadh san árus. Mar an gcéadna an tí bhíos ag triall tré mhacnas agus tré réim aimseardha an tsaoghail go hárus an bháis, bídh deallradh agus lonnradh na loise⁽²⁾ saoghalta ag déanamh sgáile dá shúilibh, go nach léir dhó guais an bháis bhíos roimhe, go ndéin comhnaidhe i n-orsain an bháis, ag machtnadh ar ghuaisibh an bháis, agus nó go dtabhair i ndearmad agus i ndíochuimhne sgáile na sochar saoghalta agus na saidhbhreas fhágbhas dá éis.

Geoffrey Keating (Three Shafts of Death). (15)

⁽¹⁾ *fairthis* = a pit.

⁽²⁾ *loise* = brilliance.

GAELIC

HIGHER GRADE—(SECOND PAPER)

Tuesday, 28th March—1.0 P.M. to 1.30 P.M.

This paper must not be seen by any candidate.

To be read out by the Teacher at 1.0 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. *Inform the candidates that they may not ask for the repetition of any word or phrase.*
2. *Read the passage aloud distinctly and deliberately, but not slowly, in order to bring out the meaning of the whole as clearly as possible.*
3. *Then dictate the passage slowly, saying each group of words (as indicated by vertical lines) twice, 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 or phrases at the request of individual candidates.*

DICTATION

Mar nach 'eil tarbhaichead | no suilbhireachd | as eugmhais na gréine | an uair a dh'éireas i | gu flathail boillsgeil, | is a sgaoileas i a gathan àigh, | tha i ag ath-bheothachadh subhachais | nach gabh cur an céill. | Tha na mìltean creutair sgiamhach | a' mosgladh suas gu bith | le a teas, | agus 'gan grianadh 'na blàths. | Tha na h-èidin a' dùsgadh | o'n clò-chadal, | is a' taosgadh a mach | an ceilearan ceòlmhor | ann an comh-sheirm bhinn. | Tha a' mheanbh-spréidh | le am mèilich chiùin | ag cur fàilte air an òg-mhaduinn. | Tha am buar le an sruth-gheumnaich | ag cur an céill an ait-shòlais. | Tha na glinn air chrathadh | le canntaireachd ; | tha na h-aonaichean | le am mac-talla | ag aithris an comh-cheilearan. | Tha a' cheòlraidh air fad | ag comh-aontachadh | leis a' chomh-sheirm ; | tha gach nì anns a bheil beatha | ri gairdeachas anns an drùghadh shòlasach.

Leabhar nan Cnoc. (10)

GAELIC

HIGHER GRADE—(SECOND PAPER)

Tuesday, 28th March—1.45 P.M. to 3.45 P.M.

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

N.B.—Begin the answer (or fair copy of an answer) to each question on a fresh page. Write legibly and neatly, and leave a space of half an inch between the lines. Marks may be deducted for bad or crowded writing and for bad spelling.

SECTION I

All the questions in this Section should be attempted.

1. Write an essay in Gaelic, of not more than two pages in length, on any *one* of the following subjects :—
 - (a) “ Is tric mo shùil a' sealltainn siar
Far an laigh a' ghrian 's a' chuan.”
 - (b) “ Is ionmhas prìseil do thìr a h-òrain.”
 - (c) The future of the Highlands.
 - (d) The cultural value of Gaelic studies. (30)

2. Translate into Gaelic :—

Deer came to the hill and belled mournfully, while we ate a frugal meal of oat-bannock and wort.* The Lowlanders—raw lads—became boisterous ; our Gaels, stern with remembrance and eagerness for the coming business, thawed to their geniality, and soon the laugh and song went round the camp. Argyle himself for a time joined in our diversion. He came out of his tent and lay in his plaid among his more immediate followers, and gave his quota to the story or the guess. In the department of his lordship now there was none of the vexatious hesitancy that helped him to a part so poor as he played in his frowning tower at home among the soothing and softening effects of his family's domestic affairs. He was true Diarmaid the Bold, with a calm eye and steadfast, a worthy general for us his children, who sat round in the light of the cheerful fire. So sat his forebears and ours on the close of many a weary march, on the eve of many a perilous enterprise.

* brailis, seòrsa leanna.

Neil Munro (John Splendid). (25)

3. Translate into Gaelic :—

- (a) Had I known this, I should not have done what I did in my ignorance.
- (b) I think very little of those who think only of themselves.
- (c) It is sad to see so much of our country going to waste, when it might, if cultivated, yield good crops. (6)

SECTION II

Two questions should be attempted from this Section. The answers may be either in Gaelic or in English, except when otherwise indicated.

4. Locate the following, giving in each case the anglicised equivalent :—Baile Chloichrigh, Both Chuidir, Calasraid, Drochaid a' Bhannath, Lìte, Loch Ceiteirein, Srath Pheofhair. (7)
5. Write brief notes on any *three* of the following :—An Ciaran Mabach, Eoghan Mac Lachlainn, Eoin Carsuel, Iain Og Ìle, Leabhar Abaid Dhéir, An Leabhar Dearg. (7)

6. Classify Gaelic labour-songs, and name one example of each class. (7)
7. Analyse the formation of *seven* of the following words :—
aimhleas, aimhreit, ainneart, aithghearr, atach, dolabhairt, eutrom, ionmholta, leatrom, uireasbhaidh. (7)

SPANISH

LOWER GRADE

Wednesday, 29th March—9.30 A.M. to 12 NOON

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

N.B.—Begin the answer (or fair copy of an answer) to each question on a fresh page. Write legibly and neatly, and leave a space of half an inch between the lines. Marks may be deducted for bad or crowded writing.

1. Translate into English :—

My first watch.

El primer reloj que yo tuve era un canario. En aquella época era yo funcionario público con un sueldo anual de tres mil reales. A pesar de tan modesta fortuna yo vivía resignado y casi feliz con mi pobreza. Verdad es que era todavía joven. Con todo, entre las privaciones a que me hallaba condenado, había una que me pesaba mucho : el no tener reloj. Inútilmente, para ocultar a mis amigos la triste verdad, compré una cadena que me costó seis reales y que intentaba, sin conseguirlo, parecer de oro. Nada adelanté con ello. Muy al contrario. Desde que usaba cadena yo no me atrevía a dirigir la vista a ningún reloj para mirar la hora, por parecerme que con eso iba la gente a adivinar mi fraude. Y como ni en mi habitación elegantemente desamueblada había reloj, ni desde mi casa se oía el de ninguna torre, yo vivía a tientas, y perdía horas enteras sin saberlo.

Esta falta de reloj, como ya dije, me causaba muchos disgustos. A veces hallábame invitado a comer, y por no saber la hora llegaba al terminar los postres. Lo peor era

para ir a la oficina : todos los días llegaba tarde. Esto me valía terribles reprimendas de mi jefe. Tal situación era insoportable, y a fuerza de buscar el modo de remediarla acabé por observar que todos los días, a la misma hora más o menos, oía desde la cama cantar un pajarito. Luego descubrí que todas las mañanas a las siete se abría en el patio una ventana enfrente de la mía y colgaban al exterior una jaula con un canario.—Ya tengo reloj—me dije lleno de regocijo—por lo menos para saber la hora en que debo saltar de la cama y empieza para mí el día. No es poco.

Lezama. (35)

2. Translate into English :—

Family affection among spiders.

— Papá—dijo una arañita a otra araña—hace mucho tiempo que no se come aquí ; ni un mosquito siquiera pasa por este rincón. Mi madre salió a buscar comida y no vuelve. Déme Vd. su bendición, que voy a correr mundo.

— Espera, hijo, siquiera una noche.

— No espero, papá, que el hambre incita al crimen y anoche tuve malos pensamientos.

— Ya lo vi, hijo mío. Fingiendo que dormía, observé que me mirabas con apetito. Yo aguardaba con la boca abierta que me dieras un pretexto para comerte a ti. Vete, pues, y recibe mi bendición. Acércate, hijo mío.

— Bendígame Vd. de lejos.

— ¿ Cómo, hijo ? ¿ Te irás sin abrazarme ?

— Ya lo creo : aquí reina el hambre y somos comestibles.

— Adiós, pues. No olvides de enviarme noticias tuyas por la primera mosca que encuentres.

Bremón. (15)

3. Translate into Spanish :—

“ The first time I went to London,” said Tom, “ I was resolved not to return home until I had become either rich or famous. So I took a single ticket and said good-bye to my family, telling them not to expect news of me until they saw my name in the papers. In London, unfortunately, I found there were several million people all with the same ambition. One of them robbed me of all I possessed. Nobody would do anything to help me. At last I had to tramp back to Scotland, and now here I stay.”

(20)

4. Translate into Spanish :—

(1) I'm very sorry, but everybody tells me it can't be done.

(2) It is impossible to say when or how the adventure will end.

(3) Write me a long letter as soon as you arrive.

(4) After living some time in Spain he went off to the United States, where he married.

(5) I used to get up before dawn. Now I am satisfied if I can get down for breakfast. (10)

SPANISH

HIGHER GRADE—(FIRST PAPER)

Wednesday, 29th March—9.30 A.M. to 11.30 A.M.

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

N.B.—Begin the answer (or fair copy of an answer) to each question on a fresh page. Write legibly and neatly, and leave a space of half an inch between the lines. Marks may be deducted for bad or crowded writing.

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

1. *Portrait of an Aragonese.*

Ancho, huesoso, atlético, con los hombros robustos, las piernas fuertes y el cuerpo encorvado por la edad, era el tío Roque un campesino aragonés que llevaba con energía sus setenta y cinco años y la administración de sus fincas y propiedades. Recorría a diario sus tierras para inspeccionar y dirigir la siega en agosto, la vendimia en setiembre, la siembra en invierno, la recolección de frutos en otoño, y las múltiples faenas de la agricultura en todo tiempo. Lo mismo le daba que fuese la atmósfera de fuego, cuando el sol abrasaba los campos, o de hielo, cuando la nieve, cayendo de las nubes, se extendía en forma de mancha monótona desde los más hondos repliegues del valle hasta los más altos picachos de la sierra. Su cuerpo duro, lleno de ángulos y nudosidades, asemejábale a una encina⁽¹⁾

⁽¹⁾ encina = evergreen oak.

añosa, dotada por un capricho de la naturaleza de la facultad de moverse. Su rostro, tras tanto exponerse a los vientos y a la lluvia, era del color de la tierra labrada; no parecía sino que un solo arado había hecho los surcos de la una y las arrugas del otro. Hasta su cabeza coronada de cabellos blancos recordaba los picos inaccesibles que se erguían sobre la montaña, cubiertos de nieves perpetuas. El tío Roque era un pedazo del terruño; las raíces de su vida arrancaban de él.

Dicenta. (25)

2.

Story-time.

Junto de la cuna aun no está encendida
 la lámpara tibia que alegra y reposa,
 y se filtra opaca, por entre cortinas,
 de la tarde triste la luz azulosa.

Los niños cansados suspenden sus juegos,
 de la calle vienen extraños ruidos;
 en estos momentos, en todos los cuartos,
 se van despertando los duendes⁽¹⁾ dormidos.

La sombra que sube por los cortinajes,
 para los hermosos oyentes pueriles,
 se puebla y se llena con los personajes
 de los tenebrosos cuentos infantiles.

Del infantil grupo se levanta leve,
 argentada y pura una vocecilla
 que comienza: "Entonces se fueron al baile
 y dejaron sola a Cenicientilla . . ."

Con atento oído las niñas la escuchan,
 las muñecas duermen en la blanca alfombra,
 medio abandonadas, y en el aposento
 la luz disminuye, se aumenta la sombra.

Asunción Silva. (20)

⁽¹⁾ duendes = elves.

3.

Leo laments his country upbringing.

Leo. Esta es la única casa de Moraleda adonde puede uno venir a gusto; se respira otro ambiente. Cuando vengo a esta casa, al salir me parece que salgo más inteligente, vamos, menos burro.

Gonzalo. Pues, según mis noticias, de algún tiempo a esta parte ha dejado Vd. de venir. Genoveva me lo decía.

Leo. ¡ Ah! ¿ Genoveva ha querido que viniera?

Gonz. Ha buscado una explicación a su ausencia. Es natural. Vd., según acaba de decirme, tiene gusto en venir a vernos. Igual gusto tenemos nosotros en verle a Vd. A propósito, todavía sabemos muy poco de su historia. No nos explicamos cómo, a sus años y con sus talentos, no tenga Vd. una carrera. ¿No ha estudiado Vd. nunca?

Leo. Mis primeros exámenes . . . Pero murió mi padre, y ya mi madre no pudo conmigo . . . Y luego, esta vida . . . Aquí no hay estímulos. Si uno no dice más que tonterías, es natural, es uno un tonto. Si quiere uno hablar de algo de sustancia, es uno un pedante, un intelectual . . . Aquí, decir intelectual es como un insulto. Yo, algunas veces, cansado de mí mismo, hubiera querido irme a Madrid, o más lejos, a América; pero mi madre . . . Mi madre es una señora a la antigua española. Hablarle de viajes y aventuras, pensar que yo pudiera pasar trabajos, hasta hambre, no se puede. Y por no disgustarla, aquí seguía y aquí me tiene Vd. a los veintitrés años, sin hacer nada, sin servir para nada, sin saber de nada, nada . . . nada.

Benavente. (20)

SPANISH

HIGHER GRADE—(SECOND PAPER)

Wednesday, 29th March—1.0 P.M. to 1.30 P.M.

This paper must not be seen by any candidate.

To be read out by the Teacher at 1.0 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. *Inform the candidates that they may not ask for the repetition of any word or phrase.*
2. *Read the passage aloud, distinctly and deliberately, but not slowly, in order to bring out the meaning of the whole as clearly as possible.*
3. *Then dictate the passage slowly, saying each group of words (as indicated by vertical lines) twice, and pronouncing every word very distinctly. The punctuation should be indicated thus :—(,) 'coma,' (.) 'punto.'*

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 or phrases at the request of individual candidates.*

DICTATION

En toda la vega | se observaba rigurosamente | la fiesta del domingo, | y como había cosecha reciente | y no poco dinero, | nadie pensaba | en contravenir el precepto. | No se veía un solo hombre | trabajando en los campos | ni una caballería | en los caminos. | Pasaban las viejas | por las sendas | con la reluciente mantilla | sobre los ojos | y la silleta al brazo, | como si tirase de ellas | la campana que volteaba lejos, | muy lejos, | sobre los tejados del pueblo. | En una encrucijada | chillaba persiguiéndose | un numeroso grupo de niños. | Sobre el verde | de los ribazos | destacábanse los pantalones rojos | de algunos soldaditos | que aprovechaban la fiesta | para pasar una hora | en sus casas. | Sonaban a lo lejos | los escopetazos | contra las golondrinas | que volaban | a un lado y a otro | en contradanza caprichosa. | Zumbaban sobre las acequias | las nubes de mosquitos | casi invisibles, | y en una alquería verde, | bajo el añoso emparrado, | tocaban las guitarras | una jota valenciana. (10)

SPANISH

HIGHER GRADE—(SECOND PAPER)

Wednesday, 29th March—1.45 P.M. to 3.45 P.M.

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

N.B.—Begin the answer (or fair copy of an answer) to each question on a fresh page. Write legibly and neatly, and leave a space of half an inch between the lines. Marks may be deducted for bad or crowded writing.

1. Translate into Spanish :—

The house was situated at the top of a hill, from where one could see nothing but woods in every direction. As I drew near it I regretted more and more having accepted a post in such a spot. Anything might happen here,

I realised, and months could pass without its being discovered. Perhaps I had been reading too many detective novels. But it was too late to think of retreating now, for I could see a face peering at me from between the curtains of a window to the left of the door. So, trying hard not to appear nervous, I knocked boldly. At length I heard footsteps, a key turned in the lock, and the door was opened a little way, very cautiously. A man's head appeared. "You are the new secretary?" I nodded. "Come in, sir. Mr. Sampson is expecting you." He locked the door again, and led me along a dark corridor. At the end of it was a room from which came the sound of angry voices. "I tell you we're quite safe," Mr. Sampson was saying. "Outside this house no one knows anything of our plans. Inside, well, life is dear even to a servant." "You forget the new secretary," said a woman's voice. "Do I?" he replied. "I promise you he won't speak."

Hastings. (40)

2. Translate into Spanish :—

- (1) When I asked him to lend me some money he laughed aloud.
- (2) If only I had known this before, I could have helped her.
- (3) It is curious that morning papers should always be more serious than the evening ones.
- (4) She lived to be a hundred, and boasted that she had never lost a friend.
- (5) Most people are annoyed when you tell them their country isn't the best in the world. (15)

3. Write in Spanish a continuous story based on the following summary. **The story should be about the same length as your answer to question 1.** Failure to comply with this instruction may lead to a loss of marks.

Juan, aficionado a excursiones solitarias, se aventura por un bosque espeso—anda todo el día—varios incidentes menores—completamente perdido ya, da con un campamento de gitanos (*gipsies*)—enemistados éstos con la policía, no quieren que se escape y los denuncie. (20)

(Complete the story in your own way.)

ITALIAN

LOWER GRADE

Wednesday, 29th March—9.30 A.M. to 12 NOON

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

N.B.—Begin the answer (or fair copy of an answer) to each question on a fresh page. Write legibly and neatly, and leave a space of half an inch between the lines. Marks may be deducted for bad or crowded writing.

1. Translate into English :—

Le due sorelle.

C'era una volta una vedova che aveva due figlie. La maggiore era superba e sgarbata⁽¹⁾; la minore era bella, buona, e gentile. Tutti volevano bene alla minore.

La madre però voleva bene alla maggiore. La maggiore non faceva nulla ed era trattata da signorina, mentre l'altra doveva lavorare ed era sempre maltrattata dalla madre.

Un giorno la minore prendeva acqua d'un pozzo vicino. Una povera vecchia passò e le chiese da bere.

— Subito, buona donna, — disse la ragazza. — Pull bene la brocca⁽²⁾, la empi, e gliela presentò con garbo.

La vecchia era una fata. Quando ebbe bevuto la fata disse :

— Grazie, cara, grazie. E siccome vedo che sei così buona e garbata voglio farti un bel regalo. Questo è il dono che ti faccio : ogni volta che apri la bocca per parlare, ti uscirà fuori dalle labbra o un fiore, o una gemma, o dell'oro, o delle perle. — E così dicendo sparì. (25)

⁽¹⁾ sgarbata = rude, ill-mannered. ⁽²⁾ brocca = jug.

2. Translate into English :—

Una cena veneziana

MILORD RUNEBIF, MONSIEUR LE BLAU,
DON ALVARO, il CONTE di BOSCO NERO

Mon. Evviva l'allegria.

Tutti. Evviva.

Con. Questo nostro locandiere ci ha veramente dato una buona cena.

Mon. È stata passabile ; ma voi altri Italiani non avete nel mangiare il buon gusto di Francia.

Con. Abbiamo anche noi de' cuochi francesi.

Mon. Eh sì, ma quando vengono in Italia, perdono la buona maniera di cuocere. Oh se sentiste come si mangia a Parigi ! Là è dove si raffinan le cose.

Mil. Voi altri Francesi avete questa malinconia in capo, che non vi sia altro mondo che Parigi. Io sono un buon Inglese, ma di Londra non parlo mai.

Alv. Io rido, quando sento esaltar Parigi. Madrid è la reggia⁽¹⁾ del mondo.

Con. Signori miei, io vi parlerò da vero italiano. Tutto il mondo è paese, e per tutto si sta bene, quando s'ha dei quattrini in tasca e dell'allegria in cuore.

Mon. Bravo, camerata, viva l'allegria !

Goldoni. (25)

⁽¹⁾ reggia = palace.

3. Translate into Italian :—

(a) In autumn the days are shorter than the nights.

(b) We go back to school at one o'clock and begin our lessons immediately.

(c) Do you know whom we are expecting next week ?

(d) What is the name of your French teacher ?

(e) He is learning to speak Italian with a friend who was in Italy last year.

(f) If you explain it to me, I shall understand it better.

(g) This room does not suit me : it has only one small window.

(h) To-morrow we shall be in our new house.

(15)

4. **Either** (a) Write a letter in Italian (of about the length of the passage in Question 1) thanking a friend for some gift from abroad ;

Or (b) Write an Essay in Italian (of similar length) on "My Favourite Animal." (15)

ITALIAN

HIGHER GRADE—(FIRST PAPER)

Wednesday, 29th March—9.30 A.M. to 11.30 A.M.

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

N.B.—Begin the answer (or fair copy of an answer) to each question on a fresh page. Write legibly and neatly, and leave a space of half an inch between the lines. Marks may be deducted for bad or crowded writing.

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

(a) *Sera nell'isola di Skye.*

Una sera ch'io sedevo come al solito sull'alta riva erbosa dell'isola di Skye, nell'alta Scozia, presso la tomba di Flora Macdonald, guardando i lontani profili delle Ebridi sfumare azzurri all'orizzonte, il vento mi portò all'improvviso dal largo un odore forte e inebriante, quell'odore di primavera e di mare, aspro e dolce, che sa d'alga⁽¹⁾ e di miele.

Era l'annuncio della luna di maggio, e il cuore mi tremò. Dai prati intorno subito si levò un vasto mormorio, quasi un crepitare⁽²⁾ d'erba in fiamme. Una lieve nuvola gialla s'alzò pigra dall'immenso tappeto d'erica che copriva i fianchi delle colline, risalì scintillando il declivio, sparì dietro il ciglio della prima altura, riapparve lontanissima contro lo sfondo purpureo dei monti. L'aria era tiepida e trasparente, il cielo pallido, d'un verde chiaro sull'isola, venato di rosa sul mare. Le onde morivano sugli scogli con un lamento che pareva una voce d'arpa, lungo e vibrante. Era vicina la mezzanotte, il sole era calato da un pezzo, ma l'orizzonte all'estremo occaso, sugli alti dossi ad arco delle isole Ebridi, balenava ancora dei riflessi di rame del tramonto. . . . Una caligine argentea si diffuse sul mare, l'erba si tinse di un oscuro splendore metallico, il cielo si allontanò incurvandosi, trasparente come una carta velina,⁽³⁾ e cominciò il lento, interminabile crepuscolo del settentrione.

Curzio Malaparte. (25)

⁽¹⁾ alga = seaweed.

⁽²⁾ crepitare = crackling.

⁽³⁾ carta velina = tissue paper.

(b)

*Dialogo.**Il giovane sottile.* Ma che ne pensa lei ?*Il vecchio.* Che ne penso !*(Pausa.)*

Non saprei.

(Pausa.)

Che cosa ne dicono gli altri ?

Il giovane sottile. Mah ! Chi una cosa e chi un'altra.*Il vecchio.* S'intende ! Ciascuno ha le sue opinioni.*Il giovane sottile.* Ma nessuno, per dir la verità, par che ci s'attenga sicuro, se tutti come lei, prima di manifestarle, vogliono sapere che cosa ne dicono gli altri.*Il vecchio.* Io alle mie mi attengo sicurissimo ; ma certo la prudenza, non volendo parlare a caso, mi consiglia di conoscere se gli altri sanno qualche cosa che io non so e che potrebbe in parte modificare la mia opinione.*Il giovane sottile.* Ma per quello che sa ?*Il vecchio.* Caro amico, non si sa mai tutto !*Il giovane sottile.* E allora, le opinioni ?*Il vecchio.* Oh Dio mio, mi tengo la mia ma—ecco—fino a prova contraria !*Il giovane sottile.* No, mi scusi ; con l'ammettere che non si sa mai tutto, lei già presuppone che ci siano codeste prove contrarie.*Il vecchio (lo guarderà un po', riflettendo, sorriderà e domanderà).* E con questo lei vorrebbe concludere che non ho nessuna opinione ?*Il giovane sottile.* Perchè a stare a quello che dice, nessuno potrebbe mai averne !*Pirandello. (25)*

2. Translate into English :—

Ritorno all'Italia.

Bella Italia, amate sponde,

pur vi torno a riveder.

Trema in petto, e si confonde

l'alma oppressa dal piacer.

Tua bellezza, che di pianti
 fonte amara ognor ti fu,
 di stranieri e crudi amanti
 t'avea posta in servitù.

Ma bugiarda e mal sicura
 la speranza fia de' re.
 Il giardino di natura,
 no, pei barbari non è.

Vincenzo Monti. (10)

ITALIAN

HIGHER GRADE—(SECOND PAPER)

Wednesday, 29th March—1 P.M. to 1.30 P.M.

This paper must not be seen by any candidate.

To be read out by the Teacher at 1 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 Italian Paper is distributed.

DIRECTIONS FOR TEACHER

1. *Inform the candidates that they may not ask for the repetition of any word or phrase.*
2. *Read the passage aloud, distinctly and deliberately, but not slowly, in order to bring out the meaning of the whole as clearly as possible. Observe the liaisons as marked.*
3. *Then dictate the passage slowly, saying each group of words (as indicated by vertical lines) twice, and pronouncing every word very distinctly. The punctuation should be indicated thus :—(.) 'punto fermo,' (,) 'virgola.'*
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 or phrases at the request of individual candidates.*

DICTATION

Lo sviluppo della situazione europea | dopo Monaco e Vienna | ha permesso di affermare | che una schiarita si è prodotta | all'orizzonte politico. | Il Fascismo | che ha documentato coi fatti | la sua inimitabile calma nelle ore della tempesta, | non muta il suo atteggiamento | anche quando si riconoscono nell'aria | segni non trascurabili | di miglioramento. | Come non ci lasciamo scuotere | dalle crisi paniche del pessimismo, | così rifuggiamo | dai pericolosi abbandoni ottimistici, | senza che questo ci impedisca | d'altro canto | di prendere atto con soddisfazione | di ogni effettiva realizzazione | feconda e pacifica. | Tra esse ricordiamo, | in primo luogo, | la recente messa in vigore dei Patti di Pasqua, | che porta le relazioni politiche | dell'Italia e della Gran Bretagna | su un piano | di solida e amichevole collaborazione. (10)

ITALIAN

HIGHER GRADE—(SECOND PAPER)

Wednesday, 29th March—1.45 P.M. to 3.45 P.M.

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

N.B.—Begin the answer (or fair copy of an answer) to each question on a fresh page. Write legibly and neatly, and leave a space of half an inch between the lines. Marks may be deducted for bad or crowded writing.

1. Translate into Italian :—

The Foundling

One night, about a year ago, when the boy was returning home, he saw her sleeping all alone in the portico of a church. If it had been a boy he would have passed on without taking any notice, but that wasn't a proper place for little girls to sleep in, so he wakened her, and asked her where her home was, that he might take her there. It was a long way off, she said; she didn't know where, but a long, long way. At length, in answer to many questions and a

good deal of coaxing,⁽¹⁾ she told him she lived alone with her mother, who, as soon as she had had her breakfast, used to give her a hunch⁽²⁾ of bread, turn her into the street, lock the door, and go to her work, from which she did not return till after dark. But one morning some time ago her mother was tired and would not get up. The child had nothing to eat that day, but in the evening her mother gave her the key of the cupboard where the bread was, and told her where to find some money. Mariannina had a good time of it for several days, as her mother took no notice of her, and would not eat anything; but when the money was all spent she told her she had no more, and that she must get her breakfast how she could. She went out to play as usual, and a neighbour gave her something to eat.

(40)

⁽¹⁾ a good deal of coaxing = dopo molte moine. ⁽²⁾ hunch = pezzo.

2. Translate into idiomatic Italian :—

- (a) I should like to know why you went away.
- (b) Although she has studied for a year, she has made little progress.
- (c) By this time he ought to be back.
- (d) He was delighted to be of service to them.
- (e) I wish to settle my account.
- (f) Now that the holidays are over he will shortly begin work.

(15)

3. Write an essay, in Italian, on *one* of the following subjects. **The answer to this question should be about the same length as your answer to Question 1.** Failure to comply with this instruction may lead to a loss of marks.

- (a) The life of a fisherman.
- (b) The pleasures of winter.
- (c) The uses of electricity.

(25)

MATHEMATICS

LOWER GRADE—(FIRST PAPER)

Tuesday, 21st March—9.30 A.M. to 11.30 A.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.

All the figures should be neatly drawn, and, where it is necessary to turn over a page during the answer to a question, a rough copy of the figure MUST be drawn on the fresh page. 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. Where geometrical references are necessary in written proofs, care should be taken to ensure that such references are clear and intelligible. Text-book reference numbers, apart from those of Euclid, should NOT be used.

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 line joining the middle points of two sides of a triangle is parallel to the third side and equal to half of it. (11)

2. Show how to inscribe a circle in a given triangle and prove your construction. (11)

3. If two chords of a circle intersect within the circle, prove that the rectangle contained by the segments of one is equal to the rectangle contained by the segments of the other. (12)

4. Explain what is meant by similar triangles. Prove that, if two triangles are equiangular, they are similar. (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. $ABCD$ is a quadrilateral, having AB parallel to and less than DC . P, S, Q, R , are the mid-points of the sides AD, BC , and of the diagonals BD, AC , respectively. Prove that—

- (i) $PQ = RS$;
- (ii) P, Q, R and S lie on one straight line ;
- (iii) $PS = \frac{1}{2}(DC + AB)$;
- (iv) $QR = \frac{1}{2}(DC - AB)$. (Section I, 1.) (18)

6. Water is flowing in a horizontal pipe of circular section whose radius is r inches. The width of the stream at its surface is w inches and the depth at its middle point d inches. Prove that $w^2 + 4d^2 - 8rd = 0$.

If the diameter of the pipe is 10 inches and the width of the surface of the stream 8 inches, show that there are two possible depths of the stream. Find them, and illustrate by a sketch the meaning of the two solutions. (Section I, 3.) (18)

7. $PQRS$ is a rectangle in which the side QR is double the side PQ . It is folded flat in such a way that the point P lies on the diagonally opposite point R , the resulting crease cutting QR and PS in points M and N respectively. If O is the point of intersection of the diagonals of the rectangle, prove that—

- (i) M, O and N are collinear ;
- (ii) triangles MOR, PQR are similar ;
- (iii) $MN = OR$. (Section I, 4.) (18)

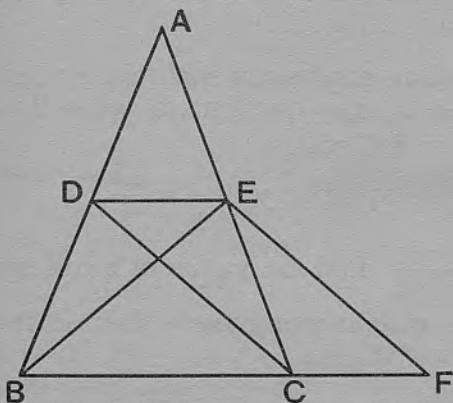
8. ABC is a triangle inscribed in a circle, and the perpendicular from A to BC meets BC in D . Through D a line is drawn parallel to CA to meet the tangent at A to the circle in E . Prove that—

$$\angle BDE = \angle BAE.$$

Hence show that the straight line BE is perpendicular to the line AE . (18)

9. In the accompanying diagram (which need not be copied in your examination book) ABC is a triangle having two medians BE and CD equal. EF is parallel to DC and meets BC produced in F . Prove that—

- (i) $DEFC$ is a parallelogram ;
- (ii) $\angle EBF = \angle EFB$;
- (iii) the triangles DBC and ECB are congruent ;
- (iv) $\triangle ABC$ is isosceles. (18)



MATHEMATICS

LOWER GRADE—(SECOND PAPER)

Tuesday, 21st 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 clearly indicated.

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. Find the price of 7 tons 13 cwt. 1 qr. of coal at £1 16s. 8d. per ton. (Logarithmic tables must not be used.) (10)

2. A regular hexagon has a side of a inches. Prove (by dividing it up into six triangles) that its area is $3\sqrt{3} \cdot a^2/2$ sq. in.

Find the area when $a = 1.875$, and the value of a when the area is 20 sq. in. (14)

3. (a) Find an expression such that, when it is divided by $(x^2 - 2x + 3)$, the quotient is $(x^2 + 2x + 1)$ and the remainder is $-4(x + 1)$.

(b) Solve the equation $y + \frac{1}{y} = \frac{17}{4}$.

If $y = \frac{2x + 1}{x + 3}$, find the values of x corresponding to the values of y , which you have obtained from the above equation. (14)

4. In a triangle ABC, AD is the perpendicular from A on BC. If AB is 8.6 cm. long, the angle ABC is $43^\circ 30'$ and the angle DAC is $35^\circ 12'$, calculate the lengths of the sides AC and BC of the triangle as accurately as your tables allow. (14)

SECTION II

Only THREE questions should be attempted from this Section.

5. (a) Factorise completely

(i) $x^6 - 64y^6$,

(ii) $3x^2(x - 2) - (4x - 1)(x - 2)$.

(b) If $x = (a + b)/(a - b)$ and $y = (a - b)/(a + b)$, express $x + 2y + 3$ in terms of a and b in its simplest form. (16)

6. At an entertainment the prices of admission were 2s. 6d. and 1s. Half of the dearer and five-sixths of the cheaper seats were occupied, the hall being seven-tenths full. If the takings amounted to £30, find how many occupied each type of seat. (16)

7. When are four numbers said to be in proportion ?

(i) a men do in $(b + c)$ days a piece of work that $(a + d)$ men can do in b days, working at the same rate. Prove that

$$a : b = d : c.$$

(ii) If $\frac{5x^2 + xy - 17y^2}{x^2 - 3xy - 2y^2} = 1$, find the possible values for the ratio $x : y$. (16)

8. An observer on board ship notes that the angle which the line from his eye to the top of a lighthouse makes with the horizontal is $5^\circ 48'$. If the height of the lighthouse is known to be 130 ft. and the point of observation is 20 ft. above sea level, find the observer's distance from the lighthouse.

If, at the time of observation, the ship's course makes an angle of $37^\circ 33'$ with the direction of the lighthouse from the ship, find how near to the lighthouse the ship will pass. (16)

9. The triangle ABC is such that the side BC is 2 inches longer than the side AB, while the side CA is one quarter of the sum of the other two. If BC is x inches long, obtain the lengths of AB and AC in terms of x .

If the triangle has a right angle at A, find the length of the three sides. (16)

MATHEMATICS

HIGHER GRADE—(FIRST PAPER)

Tuesday, 21st March—9.30 A.M. to 11.30 A.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.

All the figures should be neatly drawn, and, where it is necessary to turn over a page during the answer to a question, a rough copy of the figure MUST be drawn on the fresh page. 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. Where geometrical references are necessary in written proofs;

care should be taken to ensure that such references are clear and intelligible. Text-book reference numbers, apart from those of Euclid, should NOT be used.

Four-place logarithmic tables are 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. In a cyclic quadrilateral prove that both pairs of opposite angles are supplementary, and deduce that any exterior angle is equal to the interior opposite angle. (10)

2. Construct a direct common tangent to two non-intersecting circles, and prove your construction. (12)

3. In a triangle ABC , CD is the altitude from C and CE the diameter through C of the circumcircle of the triangle. Prove that

$$CA \cdot CB = CD \cdot CE.$$

Show that this result is equivalent to the relation $a = 2R \sin A$. (13)

4. Find the equations of the straight lines through the point (a, b) one of which is parallel to and the other perpendicular to the straight line

$$y = mx + c.$$

Show that the three points $(-2, 4)$, $(1, 0)$ and $(5, 3)$ form three corners of a square and find the co-ordinates of the fourth corner. (A solution by drawing only will not be accepted.) (14)

SECTION II

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

5. ABC is a triangle inscribed in a circle; the exterior bisector of the angle A meets the circle again at E and the side BC (or CB) produced in D . Prove that E is the mid-point of the arc BAC and that the triangles EAC and ECD are similar. (Section I, 1.)

Hence show that the straight line CE is the tangent at C to the circumcircle of the triangle ACD . (17)

6. Two parallel straight lines are cut by a transversal in the points P and Q , and two circles are drawn each to touch the three straight lines. Prove that the straight line joining the centres of the circles (i) bisects PQ , and (ii) is equal to PQ . (17)

7. State without proof the theorem regarding the ratio of the areas of two triangles of equal altitude.

X, Y, Z are points on the sides MN, NL, LM respectively of the triangle LMN , such that $MX = MN/3$, $NY = NL/3$, and $LZ = LM/3$. Prove that in area the triangles LYZ, MZX and NXY are all two-ninths and the triangle XYZ is one-third of the triangle LMN . (17)

8. Prove that the equation of the tangent at the point (x', y') on the circle whose equation is

$$x^2 + y^2 = r^2$$

$$xx' + yy' = r^2.$$

If the tangents at the points $(4, 3)$ and $(3, -4)$ on the circle whose equation is

$$x^2 + y^2 = 25$$

meet the tangent at the point $(-5, 0)$ in the points P and Q , calculate the length of PQ . (17)

9. From a tower the angles of depression of the top and bottom of a flagstaff standing on the same horizontal plane as the tower are found to be β and α respectively. If h is the height of the flagstaff and k the height of the point of observation above the ground, show that

$$h = k \sin(\alpha - \beta) / \sin \alpha \cos \beta.$$

If $k = 148$ feet, $\alpha = 65^\circ 27'$, $\beta = 42^\circ 3'$, find h . (17)

MATHEMATICS

HIGHER GRADE—(SECOND PAPER)

Tuesday, 21st 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 clearly indicated.

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. An investor buys £500 of shares in company A and £300 of shares in company B. In both cases the interest is paid half-yearly. The total interest received by him from the two companies at the end of six months is £10 10s., income tax having been deducted at the rate of 6s. in the pound. If company A pays interest at the rate of 3 per cent. per annum, what rate of interest per annum is paid by company B? (12)

2. A boiler is in the form of a right circular cylinder with hemi-spherical convex ends, and it is of uniform thickness. The external diameter of the cylinder is 4 feet, the extreme outside length of the boiler is 12 feet, and the boiler is 3 inches thick. Find to the nearest cubic foot the volume of metal used in constructing the boiler.

$$[\pi = 3.1416; \text{volume of sphere of radius } r = \frac{4}{3}\pi r^3.] \quad (12)$$

3. Solve the equations

$$(i) \quad x + y + z = 2,$$

$$2x - y + z = 7,$$

$$3x + 2y + 2z = 5;$$

$$(ii) \quad \frac{1}{3+x} + \frac{2}{1+x} = \frac{2}{x}. \quad (12)$$

4. (i) Factorize

$$x^2 (2x + 7y)^2 - (x + 8y)^2 y^2;$$

(ii) Simplify the product

$$(x^{\frac{1}{2}} + x^{\frac{1}{4}} y^{\frac{1}{4}} + y^{\frac{1}{2}}) (x^{\frac{1}{2}} - x^{\frac{1}{4}} y^{\frac{1}{4}} + y^{\frac{1}{2}}) (x - x^{\frac{1}{2}} y^{\frac{1}{2}} + y). \quad (12)$$

5. With the usual notation for the sides and angles of a triangle ABC , and assuming the formula

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

prove that

$$\sin \frac{1}{2}A = \sqrt{\left\{ \frac{(s-b)(s-c)}{bc} \right\}}.$$

If the sides of a triangle are of lengths 11, 13, 16, calculate the size of the smallest angle. (12)

6. Define $\sin x$ and $\cos x$ (i) when x is acute, (ii) when x is obtuse; and show that in either case

$$\sin^2 x + \cos^2 x = 1.$$

Prove the identities

$$(i) (\sin x + \cos x) (\tan x + \cot x) = \sec x + \operatorname{cosec} x;$$

$$(ii) \frac{1 - \cos x + \cos 2x}{\sin 2x - \sin x} = \cot x. \quad (12)$$

SECTION II

Only two questions should be attempted from this Section.

7. Without quoting a formula, find the roots of the equation $ax^2 + bx + c = 0$, showing clearly how these roots are obtained.

If these roots are p and q , prove that

$$(i) p + q = -\frac{b}{a}, \quad (ii) pq = \frac{c}{a};$$

and find the equation whose roots are

$$p + \frac{b}{a}, \quad q + \frac{b}{a}. \quad (14)$$

8. Tabulate the values of

$$\frac{x^2 + 4}{x + 4}$$

to two places of decimals for x equal to -2 , $-1\frac{1}{2}$, -1 , $-\frac{1}{2}$, 0 , $\frac{1}{2}$, up to $x = 3$, and use these values to draw the graph of the function from $x = -2$ to $x = 3$, taking one inch as unit on each axis. Draw also on the same diagram the line $y = 1\frac{1}{2}$.

Explain how the points of intersection of the two graphs determine the roots of the equation

$$2(x^2 + 4) = 3(x + 4)$$

and from your figure write down these roots to two places of decimals. (14)

9. Assuming the expressions for $\sin(P + Q)$ and $\sin(P - Q)$, show that

$$(i) 2 \sin P \cos Q = \sin(P + Q) + \sin(P - Q),$$

$$(ii) 2 \cos P \sin Q = \sin(P + Q) - \sin(P - Q).$$

Write down the expression for $\sin A + \sin B$ as a product.

Express $2 \sin 22^\circ \cos 11^\circ$ as a sum and $2 \cos 48^\circ \sin 37^\circ$ as a difference of sines, and hence show that—

$$\sin 22^\circ \cos 11^\circ + \cos 48^\circ \sin 37^\circ = \sin 59^\circ \cos 26^\circ.$$

Find all the values of x between 0° and 180° which satisfy the equation

$$\sin 3x + \sin x = \sin 2x. \quad (14)$$

10. (a) Explain what is meant by $\log_a x$, and prove that

$$(i) \log_a x + \log_a y = \log_a xy,$$

$$(ii) \log_a \frac{1}{x} = -\log_a x.$$

(b) Find, without using tables, the values of

$$(i) \log_{10}\{\sqrt{(10)} \times 100 \div \sqrt[3]{(10)}\},$$

$$(ii) \log_8 2. \quad (14)$$

ARITHMETIC

Tuesday, 21st March—9.30 A.M. to 11.30 A.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.

All the working must be legible and shown in its proper position in the answer, and, when necessary, the different steps should be clearly indicated.

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

1. Find a number which when divided by 856 will give the same answer and remainder as when 598,676 is divided by 748. (8)

2. Stamped envelopes ($1\frac{1}{2}d.$ stamps) are sold at the Post Office in packets of 11 for 1s. 6d. Making allowance for the stamps, estimate the charge for envelopes per dozen.

(9)

3. A man who owned and occupied a house with a yearly value of £37 was assessed at the rate of 3s. 4·645d. in the £ as owner and at the rate of 5s. 2·804d. in the £ as occupier. He had to pay in addition a water-rate of $4\frac{1}{2}d.$ in the £. Find, to the nearest penny, the total amount payable per annum.

(11)

4. A British motorist in France, wishing to have the pressures of his tyres adjusted to 30 lb. per sq. in., finds that the tyre pressure-gauge in use is graduated in kg. per sq. cm. Given 1 lb. = 453·6 gm. and 1 cm. = 0·3937 in., find, to two decimal places, the reading he will require on the gauge for this pressure.

(13)

5. A rectangular table measures 6 ft. 9 in. by 3 ft. 4 in. A rectangular cloth (or table-runner) 6 ft. 0 in. by 2 ft. 3 in. is spread completely across the table so that the longer sides of the cloth and the shorter sides of the table are parallel. Find (i) the area of the table which is uncovered, and (ii) what fraction of the cloth hangs over the table.

(13)

6. The average temperature for Monday, Tuesday, Wednesday and Thursday of a certain week was 55° . The average for Tuesday, Wednesday, Thursday and Friday of that week was 59° , that for Friday being 60° . Find (i) the average for the five days, and (ii) the temperature on Monday.

(13)

7. A manufacturer was offered 275 tons of coal at 23s. 9d. a ton. Believing that the cost of coal would become lower, he deferred buying for 15 months, by which time the price had risen to 25s. a ton. If, during that period, the money necessary for the first purchase had been earning 8 per cent. per annum, how much did the manufacturer gain or lose by not buying the coal at the cheaper price?

(13)

ELEMENTARY ANALYSIS

ADDITIONAL MATHEMATICAL SUBJECT
(Higher Grade)

Wednesday, 22nd March—9.30 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.

Not more than FOUR questions should be attempted from Section I, and not more than TWO 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. Obtain the expansion of $(1 + x)^n$ in ascending powers of x , when n is a positive integer.

If $c_0, c_1, c_2, \dots, c_n$ denote the coefficients of x^0, x^1, \dots, x^n in this expansion, prove that

$$(i) \quad c_0 + c_1 + \dots + c_n = 2^n;$$

$$(ii) \quad c_0^2 + c_1^2 + \dots + c_n^2 = \frac{(2n)!}{n! n!}. \quad (15)$$

2. Eliminate x, y, z from the equations

$$x + y + z = a, \quad x^2 + y^2 + z^2 = b^2, \quad x^3 + y^3 + z^3 = c^3, \\ xyz = d^3.$$

Express $x^{-2} + y^{-2} + z^{-2}$ in terms of a, b , and d . (15)

3. Prove by De Moivre's Theorem, or otherwise, that

$$\cos 8\theta = \cos^8 \theta \{ 1 - 28 \tan^2 \theta + 70 \tan^4 \theta - 28 \tan^6 \theta + \tan^8 \theta \},$$

and that

$$\tan \frac{\pi}{16} \tan \frac{5\pi}{16} \tan \frac{9\pi}{16} \tan \frac{13\pi}{16} = 1. \quad (15)$$

4. Differentiate x^{-1} from first principles.

If $y = x^3 \sin 3x$, find the value of $\frac{d^2y}{dx^2}$.

If $y = xe^{2x}$, prove that $\frac{d^2y}{dx^2} - 4\frac{dy}{dx} + 4y = 0$. (15)

5. Express $\frac{1 + 7x + x^2 + 3x^3}{1 - x^4}$ in the form

$$\frac{a + bx}{1 + x^2} + \frac{c}{1 + x} + \frac{d}{1 - x},$$

and hence integrate the expression with respect to x . (15)

SECTION II

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

6. If c is the geometric mean between two unequal positive numbers a and e , and if b is the geometric mean between a and c , and d that between c and e , prove that a, b, c, d, e are in geometrical progression.

If C is the harmonic mean between a and e , B the harmonic mean between a and C , and D that between C and e , prove that a, B, C, D, e are in harmonic progression. (20)

7. Give an example of a divergent series whose n^{th} term tends to zero as n tends to infinity.

Prove that the series $\frac{1}{1.2} + \frac{1}{3.4} + \frac{1}{5.6} + \dots$ converges.

Solve carefully the equation

$$1 + 5x + 25x^2 + 125x^3 + \dots = -1 + 2x^2 - 4x^4 + 8x^6 - \dots \quad (20)$$

8. Prove that

$$1 - \cos \theta + \frac{\cos 2\theta}{2!} - \frac{\cos 3\theta}{3!} + \dots = e^{-\cos \theta} \cos(\sin \theta)$$

and sum the series

$$\sin \theta - \frac{\sin 2\theta}{2!} + \frac{\sin 3\theta}{3!} - \dots \quad (20)$$

9. Find the minimum area of the triangle formed by two co-ordinate axes at right angles and a straight line which must pass through the point whose co-ordinates are (3, 4).

(20)

GEOMETRY

ADDITIONAL MATHEMATICAL SUBJECT (Higher Grade)

Wednesday, 29th March—9.30 A.M. to 11.30 A.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 THREE questions should be attempted from **Section I**, and not more than **TWO** questions from **Section II**.

Where geometrical references are necessary in written proofs, care should be taken to ensure that such references are clear and intelligible. Text-book reference numbers, apart from those of Euclid, should NOT be used.

Square-ruled paper is provided.

20 marks are assigned to each question.

Marks will be deducted for careless or badly arranged work.

SECTION I

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

1. Find the equations of the two lines bisecting the angles between the straight lines

$$ax + by + c = 0,$$

$$a'x + b'y + c' = 0.$$

Show that the tangent and the normal at the point $(at^2, 2at)$ on the parabola $y^2 = 4ax$ are the bisectors of the angles between the line through the point parallel to the axis of x and the line joining the point to the point $(a, 0)$.

2. Prove that the line $y = mx$ bisects all chords of the ellipse

$$x^2/a^2 + y^2/b^2 = 1$$

drawn parallel to the line $y = m'x$, and vice-versa, if

$$mm' = -b^2/a^2.$$

The ellipse cuts the axis of x at the points A and A' , and P' and Q' are any two points on the circle having AA' as diameter, such that the angle $P'OQ'$ is a right angle. If the ordinates from P' and Q' cut the ellipse at P and Q , prove that OP and OQ are two lines having the above property. (O is the origin of co-ordinates.)

3. Prove that the two circles

$$x^2 + y^2 + 2gx + 2fy + c = 0,$$

$$x^2 + y^2 + 2g'x + 2f'y + c' = 0$$

cut orthogonally, if $2gg' + 2ff' = c + c'$.

Find the equation of the circle, whose centre is the point $(-1, 4)$, orthogonal to the circle

$$x^2 + y^2 - 10x - 6y + 18 = 0,$$

and verify that the above condition is satisfied.

4. Show that the tangents to the rectangular hyperbola $xy = a^2$ at the points $(at_1, a/t_1)$ and $(at_2, a/t_2)$ meet at the point whose co-ordinates are

$$x = 2at_1 t_2 / (t_1 + t_2),$$

$$y = 2a / (t_1 + t_2).$$

Find the condition that the chord joining the two given points passes through the point $(2a, 2a)$, and hence (or otherwise) prove that the pairs of tangents at the ends of all chords passing through the point $(2a, 2a)$ meet on the line

$$x + y = a.$$

5. A line AB of constant length d moves with its ends A and B on the axes of x and y respectively, and P is a point dividing AB so that $AP : PB = l : m$. Prove that the locus of the point P is the ellipse

$$x^2/m^2 + y^2/l^2 = d^2/(l + m)^2.$$

SECTION II

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

6. Prove that, if a point P be taken on the circumcircle of a triangle, the feet of the perpendiculars from P on the three sides of the triangle are collinear.

ABD and ACE are two straight lines intersected by two other straight lines BCF and DEF . Show how to find a point, the feet of the perpendiculars from which to all four lines are collinear.

7. Prove that, if two conjugate lines of a harmonic pencil are at right angles to each other, they must be the bisectors of the angles included by the other conjugate pair.

Two circles have centres C and C' and radii r and r' . The line CC' is divided internally and externally in the ratio $r : r'$ at the points I and E , and P is any point on the circle with IE as diameter. Prove that, if PM and PN be tangents from P to the given circles,

$$PM : PN = r : r'.$$

8. Show that the locus of a point which moves so that the tangents from it to two circles are equal is a straight line (the radical axis).

Prove that the polars of the centre of each circle with respect to the other are equidistant from the radical axis.

9. $ABCD$ and $EFGH$ are the top and bottom faces of a cube, the corners A, B, C, D being vertically above the corners E, F, G, H respectively. P and Q are the mid-points of the edges FG and HG , and the plane APQ cuts the cube in the pentagon $ARPQS$.

Prove that $RF = \frac{1}{3}AE$, and that, if the edge of the cube is unity,

$$PQ = 1/\sqrt{2},$$

$$AR = \sqrt{13}/3,$$

$$RP = \sqrt{13}/6.$$

DYNAMICS

ADDITIONAL MATHEMATICAL SUBJECT
(Higher Grade)

Friday, 24th March—1.0 P.M. to 3.0 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.

Candidates should, where necessary, illustrate their solutions by suitable diagrams.

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

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

In the answers to arithmetical examples units must be stated.
 $g = 32 \text{ ft./sec.}^2$

SECTION I

All the questions in this Section should be attempted.

1. A body moves from rest in a straight line with uniform acceleration f . Obtain an expression for its velocity v after moving a distance s .

A particle slides from rest down a smooth inclined plane which is 288 feet long and 64 feet high. What is its velocity when it reaches the ground, and how long does it take? Show how to divide the plane into three parts so that the particle may describe the portions in equal times. (15)

2. State Newton's Laws of Motion and show how the second law serves to define a unit of force.

A train weighing 88 tons travels at a uniform rate of 45 miles per hour on a level track. Find, in tons weight, the force required to stop it (i) in one minute, (ii) in one mile. (15)

3. In a block-and-tackle system of pulleys there are two sheaves in the upper block and two sheaves in the lower block which weighs 12 lb. The standing part of the rope is fixed to the upper block. What load can be raised by an effort of 36 lb. weight? Find the mechanical advantage, the velocity ratio and the efficiency of the system, assuming that there is no friction.

By this system of pulleys a man weighing 12 stone raises a weight of 13 stone 2 lb. What will be his thrust on the ground when he pulls vertically downwards? (15)

4. State and explain the Principle of Archimedes.

A vessel is partly filled with liquid of density 2.40 gm. per c.c. and partly with water. The liquids do not mix. A solid object of density 1.42 gm. per c.c. floats with part of its volume in the water and the remainder in the liquid. Find, in percentage form, what fraction of the solid is immersed in water. (15)

SECTION II

Only TWO questions should be attempted from this Section.

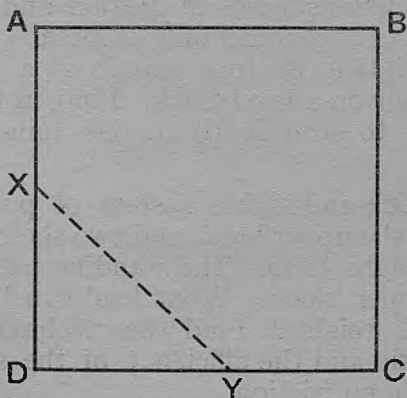
5. Show that the kinetic energy of a body of mass m moving with a velocity v is measured by $\frac{1}{2}mv^2$.

A railway truck weighing 10 tons moves up an incline of 1 in 200. At a certain point on the incline the truck has a velocity sufficient to take it a further distance of three-quarters of a mile before coming to rest. Find the velocity at this point if the uniform frictional resistance is 14 lb. per ton.

Find also what fraction of the initial kinetic energy is converted into heat. (20)

6. ABCD is a square lamina of side 4 feet resting in a vertical plane upon a horizontal table DC. X is the mid-point of AD and Y, a point on DC, is s feet distant from D. If, when the triangle XDY is removed, the lamina is found to be just in equilibrium, prove that

$$24s = 48 + s^2. \quad (20)$$



7. How is the height of the mercury in a barometer affected by (a) tilting the tube (b) increasing the diameter of the tube? Give reasons.

A tube of uniform bore, stopped at one end and of length equal to the height of the barometer, is placed vertically with its open end downwards and lowered into mercury until the mercury fills one-quarter of the tube. Show that the depth of the open end of the tube below the surface of the mercury is then seven-twelfths of the length of the tube. (20)

8. Define the coefficient of friction.

The vertical section of a rough inclined plane along its line of greatest slope is a right-angled triangle, the hypotenuse, base and height of which measure l , b and h units respectively. A body weighing w units is pushed the complete distance, l units, up the plane by a force parallel to it and just sufficient to cause sliding. If μ is the coefficient of friction, find the work done.

Find also, and compare with the former case, the work done when the same body is pushed along a horizontal plane, of the same roughness as the given plane and of length b units, by a horizontal force just sufficient to cause sliding, and then raised through a vertical height of h units. (20)

BOOKKEEPING

Friday, 24th March—1.0 P.M. to 4.0 P.M.

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

1. Explain—Bill of Exchange, Account Sales. (10)

2. On 2nd January, 1939, A. Archer and B. Brooks commenced business in partnership, the former paying £4,000 into the bank as his capital and the latter £2,000. They purchased the business of R. Roberts on the same date for £3,000. Assets and liabilities taken over were:—freehold premises, £1,500; stock, £793; debtors, C. Cotton, £181 17s. 8d. and E. Edwards, £298 8s. 2d.; creditor, H. Hands, £273 5s. 10d.

Open the necessary books of account and record therein the above and the following transactions ; bill books should be kept. Post to ledger and extract a trial balance. All receipts were banked the same day.

1939.

- Jan. 3. Paid R. Roberts by cheque, £2,000, and gave him our acceptances at 3 months and 6 months respectively for £500 each.
5. Sold goods to W. Brown, £173 6s. 4d. Received his bill for £150 at 2 months.
7. E. Edwards paid amount of his account by cheque.
9. Sold goods to C. Cotton, £79 2s. 4d., and received his cheque for £61 with his acceptance at 1 month for the balance due on his account.
11. Sent goods value £350 17s. 3d. on consignment to S. Smith, London, to be sold on our account. Paid freight, by cheque, £5 10s. 8d.
14. Bought goods of G. Williams, £175 14s. 10d., and gave him our acceptance for £150 at 1 month, and cheque for balance after deducting discount, £1 1s. 2d.
17. W. Brown paid balance of his account by cheque ; discount allowed him, 17s. 5d.
19. Received goods value £192 1s. 8d. on consignment from E. Jones of Manchester.
23. Sold to C. Cotton for £164 9s. 10d. part of consignment from E. Jones.
25. Drew cheque for cash, £20, and paid petty expenses, £5 4s. 2d.
27. Received account sales from S. Smith showing that our consignment had realised £480 10s. 9d. after deducting his expenses and commission, £29 8s. 5d. Received his cheque for amount due us.
28. Sold to E. Edwards for £97 8s. 8d. remainder of consignment from E. Jones.
31. Sent E. Jones account sales showing amount due him, £236 15s. 1d. (after deducting our commission, £25 3s. 5d.). Enclosed cheque for amount due.
- Paid wages by cheque, £37 10s.

3. From the following balances taken from the books of Messrs. Smith & Son on 31st December, 1938, make up a trial balance and prepare trading account, profit and loss account and balance sheet.

Cash at bank, £1,467; machinery and plant, £2,000; additions to machinery and plant during the year, £150; purchases, £5,321; bad debts, £243; returns (purchases), £137; returns (sales), £374; sundry debtors, £3,082; sundry creditors, £1,436; loose tools, £500; freehold factory, £4,000; sales, £14,627; goodwill, £1,000; rates, taxes and insurance — (factory) £863, (office) £133; legal expenses, £110; stock (at 1st January, 1938), £1,549; fuel and power, £497; office furniture and fixtures, £250; carriage—(on purchases) £137, (on sales) £191; discounts allowed, £198; manufacturing wages, £2,618; office salaries and expenses, £1,767; reserve for bad debts (at 31st December, 1937), £250; capital, John Smith, £6,000, Robert Smith, £4,000.

Stock at 31st December, 1938, was valued at £1,731. At the close of the accounts there was due for manufacturing wages a sum of £298, and for office salaries and expenses £37.

Provide for depreciation of machinery and plant (including additions) at 15 per cent., and for factory at 5 per cent. Loose tools were valued at £478 at the end of the year. Bad debts reserve of £300 is to be carried forward. Profits and losses are divided in proportion to the capital. (35)

COMMERCIAL ARITHMETIC

(FIRST PAPER)

Friday, 24th March—9.30 A.M. to 10.0 A.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. 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.

1. Add, down and across :—

£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.				
239	:	4	:	5	3,139	:	10	:	10	967	:	4	:	7	
1,577	:	19	:	7	957	:	1	:	9	3,654	:	7	:	6	
864	:	3	:	9	746	:	7	:	4	712	:	15	:	5	
919	:	17	:	4	374	:	9	:	3	1,917	:	9	:	4	
237	:	6	:	9	1,585	:	16	:	2	568	:	3	:	11	
3,355	:	9	:	3	973	:	4	:	8	2,232	:	17	:	9	
922	:	14	:	2	2,769	:	3	:	7	676	:	2	:	2	
1,315	:	8	:	8	843	:	8	:	5	453	:	9	:	5	
2,535	:	3	:	7	432	:	9	:	9	837	:	18	:	7	

(8)

2. Subtract :—

£	s.	d.	£	s.	d.	£	s.	d.						
53,477	:	4	:	8	87,323	:	15	:	6	38,459	:	19	:	2
25,738	:	5	:	9	53,754	:	19	:	9	29,595	:	7	:	11

(3)

3. Express :—

2s. 5d. as a decimal of a £.....

1 stone as a decimal of a ton.....

57·35 decagrammes in kilogrammes.....

(5)

COMMERCIAL ARITHMETIC

(SECOND PAPER)

Friday, 24th March—10.0 A.M. to 11.30 A.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. Marks will be deducted for careless or badly arranged work.

1. Find in English money, to the nearest penny, the cost of 7·5 kilogrammes at 2 francs 5 centimes per milligramme. (172·5 francs = £1.) (6)

2. A bankrupt's assets realised £373 17s. 3d. His liabilities amounted to £25,636. What dividend in the £ could he pay? (8)

3. The £1 share of a company was reduced to 17s. 6d.; the dividend, however, was raised from 1 per cent. to $2\frac{1}{2}$ per cent. In how many years will the loss of capital be recovered in the increased dividend? (8)

4. The profit for the year on the sales of an article sold at 5s., which cost 3s. 6d. to manufacture, was £702. If the price were reduced to 4s. 6d. and the cost of manufacture remained the same, how many more articles would have to be sold in the year to make the same profit? (8)

5. A bill dated 7th July, 1938, for £416 13s. 4d., due 3 months hence, was discounted on 29th July, 1938, for £412 1s. 8d. What was the rate of discount? (10)

6. A greengrocer bought 2 cases of apples at 6s. 6d. and 8s. 6d. respectively, each case containing 40 lbs. of good apples. He sold the best from both boxes at 6d. per lb. and the remainder at 4d. per lb. If he realised 100 per cent. profit on his outlay, how many lbs. did he sell at each price? (12)

7. What is the amount of the difference between the simple interest and the compound interest on £7,359 at $4\frac{1}{2}$ per cent. per annum, for 7 years? (12)

SCIENCE

HIGHER GRADE—(BOTANY)

Wednesday, 29th March—9.30 A.M. to 11.30 A.M.

FIVE questions in all should be attempted.

Answers should, wherever possible, be illustrated by diagrams.

20 marks are assigned to each question.

N.B.—Write legibly and neatly, and leave a space of half an inch between the lines. Marks may be deducted for bad or crowded writing.

1. Compare and contrast the method of *sexual* reproduction in Spirogyra and the Fern.

2. Describe and illustrate by fully-labelled diagrams the tissues seen in

(a) a young Dicotyledon stem,

(b) a Dicotyledon stem in which secondary growth has taken place.

Mention the function of each tissue.

3. Why is nitrogen essential for the growth of plants? State from what external source and in what form the green plant normally obtains nitrogen, and describe any *one* abnormal method by which a green plant obtains nitrogen.

4. How would you determine the weight of water transpired by a cut branch with leaves in a given time? Show by means of fully-labelled drawings the apparatus you would use, and state (giving your reasons) whether you would expect to get the same results by carrying out the experiment in a dark-room instead of in the laboratory.

5. In what regions of the stem and root of a Dicotyledon does growth in length take place? How could you show this experimentally? Explain the connexion of these growing regions with the plant's response to gravity.

6. Name five species of plants which depend upon animals for the distribution of their fruits or seeds. In each case state and describe briefly (a) the nature of the plant structure actually distributed, (b) the part played by the animal.

7. **Either** (a) What do you understand by the term "Cross-pollination"?

Name five flowers, each from a different Natural Order, which are adapted for cross-pollination, and show by labelled diagrams the pollination mechanism in each case.

Or (b) Explain the following terms, and give one named example of each:—Protogyny, perigynous insertion, syncarpous ovary, pericarp, endosperm.

Illustrate each with a fully-labelled diagram.

SCIENCE

HIGHER GRADE—(CHEMISTRY)

Wednesday, 29th March—1.45 P.M. to 3.45 P.M.

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

C = 12, O = 16, Na = 23, Cl = 35.5.

20 marks are assigned to each question.

Mathematical tables will be supplied to those who desire them.

N.B.—Write legibly and neatly, and leave a space of half an inch between the lines. Marks may be deducted for bad or crowded writing.

1. Give the meaning of *five* of the following terms, illustrating your answer by one example in each case:—

- (i) allotropy,
- (ii) dissociation,
- (iii) efflorescence,
- (iv) reversible reaction,
- (v) double decomposition,
- (vi) catalysis.

2. State the law of multiple proportions and outline the procedure you would adopt to illustrate it experimentally.

(a) 0.524 gm. of tin when acted upon by excess of hydrochloric acid gave 98.5 c.c. of hydrogen at N.T.P.

(b) 0.201 gm. of the same metal united with 0.240 gm. of chlorine to form a chloride.

Use each of these results to find the equivalent of tin, and write a note on the results obtained.

The specific heat of tin is 0.055. Calculate the atomic weight of tin and state the formulae for stannous and stannic chlorides.

3. You are provided with sodium bicarbonate ; describe in detail the method you would employ to prepare a normal solution of sodium carbonate.

3.20 gm. of washing soda are dissolved in water to give 250 c.c. of solution. If 25 c.c. of this solution are exactly neutralised by 22.6 c.c. of $\frac{N}{10}$ hydrochloric acid, calculate (a) the percentage of water of crystallisation, and (b) the number of molecules of water of crystallisation in washing soda.

4. Sketch the apparatus and describe the method you would employ to prepare a dry specimen of chlorine. What is the action of chlorine on (a) water, (b) quick lime, (c) sodium bromide, (d) sulphur dioxide, (e) turpentine ($C_{10}H_{16}$) ? Write the equation in each case.

5. Starting from ammonium nitrate in each case, how would you prepare (a) ammonia, (b) nitric acid, (c) an oxide of nitrogen ?

In each case sketch the apparatus which you would use, write an equation for the reaction, and give a chemical test by which you would identify the product.

6. Sketch the apparatus and describe the method of preparing in the laboratory (a) a dry specimen of hydrogen chloride, (b) a concentrated solution of the gas in water.

Describe the experiment by which you would determine the composition of hydrogen chloride by volume. State any assumptions you make in your argument.

7. **Either** (a) Name a common ore of mercury, state its chemical composition, and describe briefly the process by which the metal is obtained from the ore.

How would you illustrate the process in the laboratory ?

Mention three uses to which the metal is put and show how its special properties make it suitable for these uses.

Or (b) Mention, with reasons, the precautions you would take to prevent accidents when carrying out the following operations :—

(i) diluting concentrated sulphuric acid,

(ii) preparing oxygen by heating a mixture of potassium chlorate and manganese dioxide,

- (iii) reducing copper oxide in a stream of hydrogen,
- (iv) preparing nitrogen peroxide,
- (v) cutting yellow phosphorus,
- (vi) cutting sodium.

SCIENCE

HIGHER GRADE—(ENGINEERING) (TECHNICAL SUBJECTS)

Friday, 24th March—9.30 A.M. to 11.30 A.M.

ENGINEERING. Candidates should attempt **FIVE** questions, viz., **THREE** questions from Section A, and at least **ONE** question from Section B. The fifth question may be taken from either Section B or Section C.

TECHNICAL SUBJECTS. Candidates should attempt **FIVE** questions, viz., **THREE** questions from Section A, and **TWO** questions from Section D.

20 marks are assigned to each question.

*When candidates use a formula they must explain each symbol.
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 space of half an inch between the lines. Marks may be deducted for bad or crowded writing.

SECTION A (FOR ALL CANDIDATES)

Only THREE questions should be attempted from this Section.

1. Define a machine, mechanical advantage, efficiency of a machine.

Figure 1 shows the gearing for an electric overhead crane to take a maximum load of 5 tons. If the electric motor runs at a speed of 400 revs. per minute and delivers 12 horse-power, determine—

(a) the hoisting speed of the load in feet per minute ;

- (b) the efficiency of the gearing when lifting the maximum load of 5 tons.

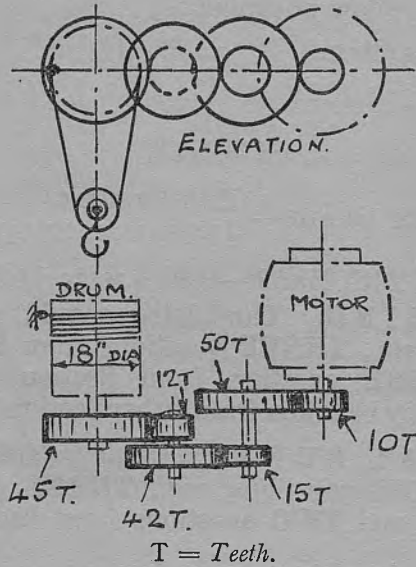


FIGURE 1.

2. Explain the terms *strut* and *tie*.

Figure 2 shows a roof truss which has to carry the loads given.

Determine—

- (a) the reactions at the supports A and B ;
- (b) the load taken by each member of the structure ;
- (c) the members that are struts and those that are ties.

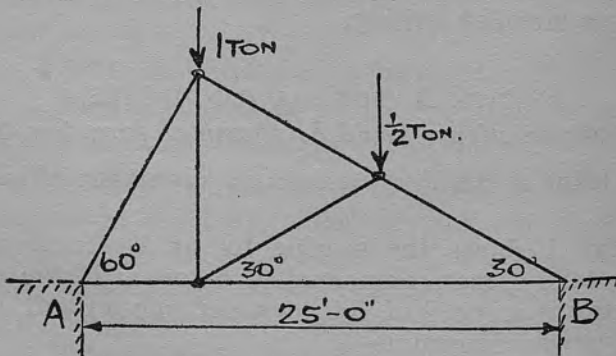


FIGURE 2.

3. The following data were noted during a tensile test of a steel bar :—

Original diameter of test piece, 0·82 inch.

Original length under test, 8 inches.

load (tons) ..	1	3	5	7	9	11	12	12·5	13
extension ($\frac{1}{1000}$ ")	0·6	2·7	5	7·3	9·5	11·7	13·9	40	60

Plot the load-extension diagram and on it mark the points of elastic limit and yield.

Determine Young's modulus for the material.

Determine the ultimate stress if the maximum load was 17·5 tons.

4. An aeroplane with its passengers and freight weighs 2 tons 300 lb. On starting from rest it travels along the ground with uniform acceleration and when it has covered 300 yards its speed is 30 miles per hour. It then rises and climbs uniformly for two minutes to a height of 3,000 feet when its speed reaches 150 miles per hour.

Determine—

(a) the acceleration before rising into the air ;

(b) the horse-power expended in climbing. (Neglect frictional and wind resistances.)

SECTION B (FOR ENGINEERING CANDIDATES ONLY)

Not more than TWO questions may be attempted from this Section. (See General Instructions at the head of the paper.)

5. Describe briefly, with sketches, the cycle of operations of a gas engine working on the four-stroke cycle.

Sketch an indicator card for a gas engine working on (a) the four-stroke cycle, (b) the two-stroke cycle. Indicate on each sketch the various strokes of the piston.

A gas engine consumes 952 cubic feet of gas per hour. The calorific value of the gas is 450 B.Th.U. per cubic foot.

If the thermal efficiency of the engine is 24 per cent., calculate the horse-power developed.

6. Define the terms, *liquid heat*, *latent heat*, *superheat*, *calorific value*.

Indicate by a graph how the liquid heat, latent heat, and total heat per lb. of fluid vary as the pressure is raised from atmospheric pressure to pressures greater than atmospheric.

A laundry has a gas-heated boiler for generating steam at 212°F . The following particulars are given :—

- steam generated per hour, 500 lb. ;
- feed water temperature, 60°F . ;
- calorific value of the gas, 450 B.Th.U. per cu. ft.

If 30 per cent. of the heat produced is lost in the flue gases, determine—

- (a) the B.Th.U. received by the water per hour ;
 - (b) the gas consumption in cu. ft. per hour.
- (Latent heat at 212°F . is 970 B.Th.U. per lb.)

7. A water pump is driven by a double-acting steam engine. Given the following particulars :—

- | | | |
|-------------------------|-------|---|
| steam cylinder | .. | 7 in. dia. \times 12 in. stroke ; |
| water cylinder | .. | 5 in. dia. \times 12 in. stroke ; |
| steam supply | | 200 lb. per sq. inch abs. for
the whole stroke ; |
| exhaust | | 16 lb. per sq. inch abs. ; |
| water suction pressure | | 14 lb. per sq. inch abs. ; |
| water delivery pressure | | 350 lb. per sq. inch abs. ; |
| speed of both | | 30 strokes per minute ; |

determine—

- (a) the I.H.P. of the steam end of the pump ;
- (b) the steam consumption in lb. per hour ; (Allow for a 5 per cent. leakage loss.)
- (c) the power of the water end of the pump ;
- (d) the mechanical efficiency of the pump.

(Specific volume of steam at 200 lb. per sq. inch abs. is 2.29 cu. ft.)

SECTION C (FOR ENGINEERING CANDIDATES ONLY)

Only ONE question may be attempted from this Section. (See General Instructions at the head of the paper.)

8. Explain, with illustrative sketches, the essential difference between series and shunt wound dynamos.

For a shunt wound dynamo the following particulars are given :—

- P.D. between the terminals, 220 volts ;
- current in external circuit, 130 amperes ;
- resistance of the armature, 0.08 ohm ;
- resistance of the field coils, 45 ohms.

Determine—

- (a) the current in the field circuit ;
- (b) the armature current ;
- (c) the watts loss in the field coils ;
- (d) the watts loss in the armature coils ;
- (e) the total K.W. generated by the dynamo.

9. State Fleming's left-hand rule for motors and state also how this rule differs from the right-hand rule.

In a coal mine a motor-driven pump is to be installed at a depth of 900 feet to raise 16,000 gallons of water per hour to the surface. The current is supplied at 500 volts ; the efficiency of the motor and pump together is 65 per cent. and a loss of 10 per cent. of the work of the motor due to friction of the water in the pipes is expected.

Determine—

- (a) the work to be done in ft. lb. per minute ;
- (b) the power in watts ;
- (c) the K.W. to be supplied to the motor ;
- (d) the current to be supplied to the motor ;
- (e) the cost of the current for an 8-hour shift at 6d. per B.O.T. unit.

(A gallon of water weighs 10 lb.)

SECTION D (FOR TECHNICAL SUBJECTS CANDIDATES ONLY)

Not more than TWO questions may be attempted from this Section. (See General Instructions at the head of the paper.)

10. Define the *moment of a force* about a given point.

A hand screw press is shown in Figure 3. The screw has 3 threads to the inch. To press a block of 4 inch diameter requires a force of 60 lb. on each end of the handle. The efficiency of the press is 40 per cent.

Determine—

- (a) the moment produced when pressing the block ;
- (b) the total load exerted on the block ;
- (c) the pressure in lb. per sq. inch exerted on the block.

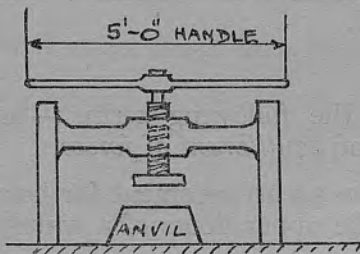


FIGURE 3.

11. On a road test of a new model of a motor car weighing 22 cwt. the following observations were made:—

- (a) to accelerate uniformly from 10 to 30 miles per hour in second gear took 6·4 seconds ;
- (b) to accelerate uniformly from 10 to 40 miles per hour in third gear took 18 seconds ;
- (c) to pull up uniformly from 30 miles per hour to rest required 31 feet.

Determine—

- (i) the acceleration in (a) and (b) ;
- (ii) the deceleration in (c) ;
- (iii) the accelerating force required in (b) ;
- (iv) the braking force required in (c).

12. Define *coefficient of friction* and *limiting friction*.

Describe briefly an experiment to determine the coefficient of friction.

Pads of fabric are held against the rim of a flywheel to form a braking control on the rotation of the shaft. The flywheel is 6 feet in diameter and the pads are held against the rim by a radial force of 150 lb. If the coefficient of friction is 0·2 for a speed of 200 revs. per minute, determine—

- (a) the braking torque on the shaft ;
- (b) the horse-power expended on frictional resistance.

If the shaft has a diameter of 8 inches and revolves in two bearings each taking a load of 540 lb., determine the horse-power expended on shaft friction, when the coefficient of friction is 0·02.

13. Explain the following terms:—*vector*, *triangle of forces*, *resultant* and *equilibrant of forces*.

Figure 4 shows an arrangement for hoisting goods from ground level to the upper floors of a warehouse.

Determine graphically—

- the hoisting pull ;
- the pull in the guy rope ;
- the magnitude and direction of the resultant force on the pulley.

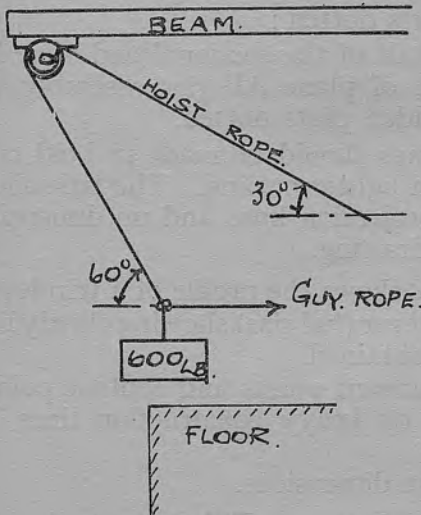


FIGURE 4.

SCIENCE

HIGHER GRADE—(TECHNICAL DRAWING)

Wednesday, 29th March—9.30 A.M. to 12 NOON

Questions 1 and 2 should be attempted, and *either* Question 3 or Question 4. The Figures are on a separate paper.

Both sides of the drawing paper may be used.

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

- Figure 1 shows the component parts of a hand vice, also an assembly view of the vice.

Make a full-size drawing showing the various parts assembled together. The following views are to be drawn :—

- (a) an elevation, as shown in the assembly view, with the spindle in outside view but the other parts in section on the longitudinal centre line; (hidden parts need not be shown);
- (b) a plan omitting the spindle but showing hidden parts dotted;
- (c) one half of the sectional end view looking to the left of plane AB (*see* assembly view) showing hidden parts dotted.

The drawings should be made in bold outline and the section lining in lighter outline. The title should be neatly printed. No projection lines and no dimensions should be shown on the drawing. (50)

2. Figure 2 shows the profile of a trip lever.

Draw this lever (full size) showing clearly how the centres of all arcs are obtained.

Mark all tangent points and contact points by a heavy dot and show by heavy construction lines how they are obtained.

Do not give dimensions. (10)

Either

3. Figure 3 shows a 3-inch diameter pipe connected to the bottom of a tank by a 2-inch diameter pipe.

Draw (full size) :—

- (a) the elevation given showing the curve of interpenetration of the two pipes;
- (b) a plan, showing the curve of interpenetration of the 2-inch pipe and the bottom of the tank;
- (c) a development of the surface of the 2-inch pipe. (40)

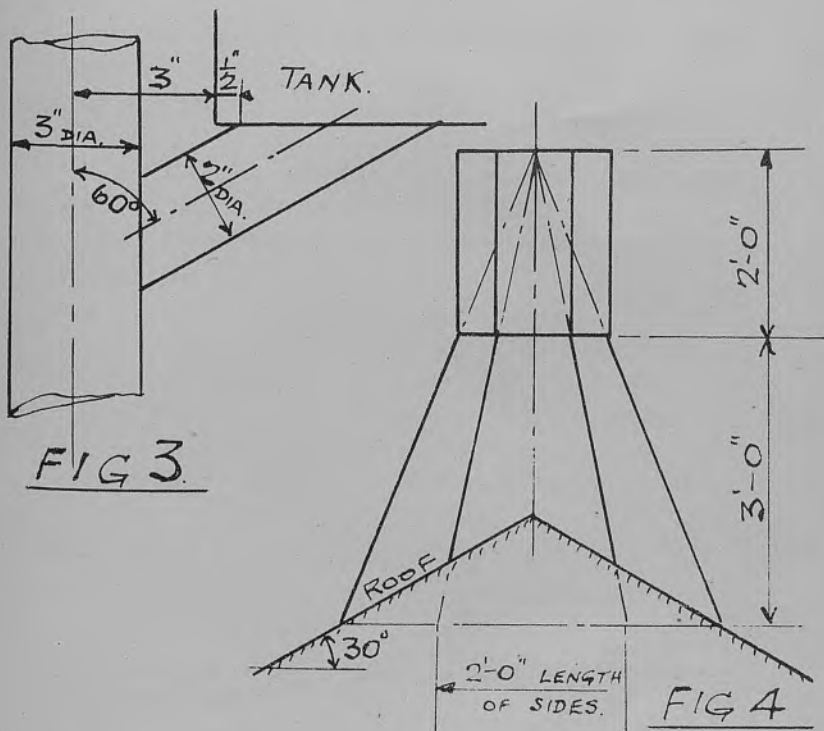
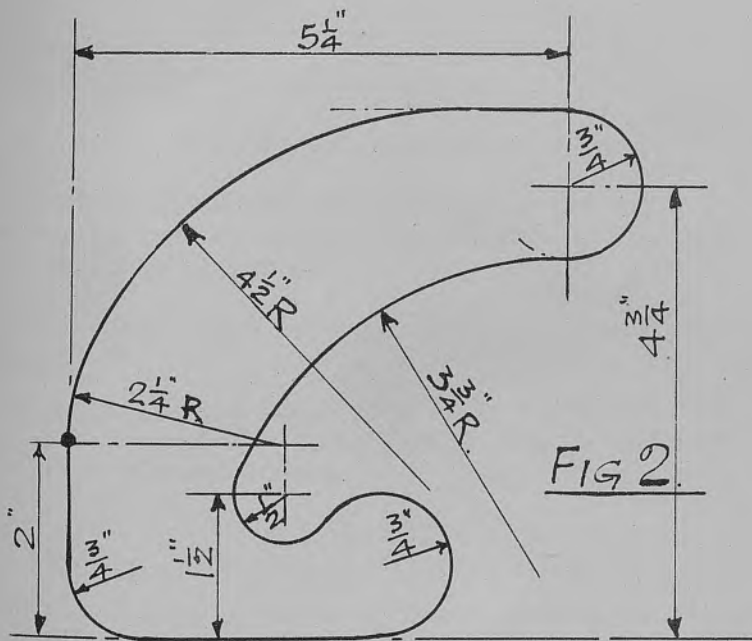
Or

4. Figure 4 shows a sheet-metal ventilator in the form of a hexagonal pyramid having a hexagonal prism top.

Draw (to a scale of 1 inch represents 1 foot) :—

- (a) the elevation given;
- (b) a plan;
- (c) an end elevation;
- (d) a development of the surface of the metal required to form the pyramidal part of the ventilator. (40)

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SCIENCE

LOWER GRADE—(GEOGRAPHY)

Wednesday, 22nd March—9.30 A.M. to 12 NOON

Seven 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 space of half an inch between the lines. Marks may be deducted for bad or crowded writing.

SECTION A

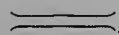
The whole of this Section should be attempted.

N.B.—Section A consists of THREE questions.

1. On the accompanying map of part of the British Isles—

(a) Name Fife, Wigtownshire, Anglesey and the Lake District.

(b) Name the rivers Mersey, Nith, Trent, Tees and Tweed.

(c) Mark with a *clear* double line, , and name each of the following railway gaps:—

The Tyne Gap, the Aire Gap, the Barrhead Gap, Shap, and Beattock.

(d) Draw *bold* lines round THREE English coalfields and mark and name one great industrial town dependent on each.

(e) Mark and name two well known holiday resorts on the west coast of England, one on the west coast of Scotland, and two on the east coast of Great Britain. Insert (H) after each.

(f) Write CHALK along a chalk escarpment.

(g) Write WHEAT over a part of Scotland where wheat is extensively grown.

(h) Write CATTLE over a part of England noted for cattle rearing.

2. On the accompanying map of the lands bordering the Atlantic Ocean—

- (a) Name Uruguay, Sardinia and British Guiana.
- (b) Insert *boldly* the boundary between Canada and U.S.A.
- (c) Show broadly, by properly directed arrows over the ocean, the position of the trade-wind belt of the Southern Hemisphere.
- (d) Show, by arrows, the main currents and drifts of the Atlantic Ocean *north* of the Equator.
- (e) Shade and name ALL the hot desert areas which appear on the map.
- (f) Write, in their appropriate places, Selvas, Prairies, Pampas, Tundra.
- (g) Draw a line through all places whose time, by the sun, is one hour ahead of London's, *i.e.*, places whose time is 1 p.m. when it is noon at London. (15)

3. A map of a small island is shown on the reverse side of the map sheet. The scale is 1 inch = 100 yards, and the contour interval is 50 feet.

Write a short general description of the shape, size and relief of the island and describe, in a few words, the appearance of its sky-line as seen from A and B respectively. (10)

SECTION B

Two questions should be attempted from this Section.

4. Describe, in relation to an actual Scottish example in each case, three features of land surface which are the result of former glaciation. (15)

5. Select one area, from any continent, in which agriculture is successful in spite of insufficient rainfall. Briefly (a) explain why rainfall is scanty; (b) describe how agriculture is carried on; and (c) name the main crops raised. (15)

6. Text-books often speak of a "Mediterranean type of climate."

- (a) State, without explanation, the characteristic features of temperature and rainfall of lands with a Mediterranean type of climate.

(b) Indicate, briefly but carefully, all the regions which have such a climate.

(c) Name the main economic plants of such places. (15)

7. "The two greatest forests of the world, the Siberian and the Amazonian, are, so far, but little utilised."

What are the obstacles which stand in the way of the commercial development of these forests? (15)

8. Account briefly for *five* of the following names:—
Liberia, Virginia, West Indies, Natal, Cape of Good Hope, Ecuador, Czechoslovakia, Australia. (15)

SECTION C

Two questions should be attempted from this Section.

9. Compare the advantages and drawbacks of any *two* of the following as centres for the shipbuilding industry:—

The Clyde; the Tyne; the Mersey; Belfast Lough. (15)

10. Select *three* of the following and compare and contrast their positions as *capitals* of their respective countries:—

London, Dublin, Paris, Madrid, Ottawa, Canberra. (15)

11. Choose *one* of the following and show how far the main occupations of the people are dependent on geographical circumstances:—

California, the Indo-Gangetic Plain, Malaya, Holland, Sweden. (15)

12. Discuss how far configuration and climate have influenced the distribution of the population of Canada *or* Australia. (15)

13. Estimate the importance of the Panama Canal, (a) to British trade, and (b) to the trade of the U.S.A. (15)

SCIENCE

HIGHER GRADE—(GEOGRAPHY)

Wednesday, 22nd March—9.30 A.M. to 12 NOON

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 space of half an inch between the lines. Marks may be deducted for bad or crowded writing.

SECTION A

The whole of this Section should be attempted.

1. The accompanying map is part of the one-inch Ordnance Survey map of England. After studying the map, answer the following :—

- (a) Describe, *in a few lines*, the general build of the area shown. (6)
- (b) Give a careful description of the River Dove and its valley *below* Rocester, (E.5.). Why are there so few houses on the valley floor? (12)
- (c) Suggest why settlements have arisen at Uttoxeter, (G.4-5.), Rocester, (E.5.), and Marston Montgomery, (F.6.), and why Uttoxeter has become the most important settlement of the three. (9)
- (d) Comment carefully on the route followed by the railway from Alton, in the north-west of the area, to Marchington in the south-east. (9)

SECTION B

Two questions should be attempted from this Section.

2. What are loess, boulder-clay and alluvium? Name, for *each* of these, *one* region in which it is important and discuss its effect upon the agriculture of the region. (16)

3. Describe the Mercator and Mollweide maps of the world so as to show the merits and defects of each. (16)

4. The Mississippi and the Nile are subject to floods. Select *one* of these rivers and account for its seasonal fluctuations. How has this seasonal fluctuation (a) helped and (b) handicapped the life of man? (16)

5. Compare and contrast the characteristics of equatorial and monsoonal forests. How are the differences which you note related to differences in seasonal distribution of rainfall? (16)

6. During the 18th century many trading vessels regularly followed a triangular course—from Britain to West Africa, then to the West Indies and finally back to Britain.

(a) Explain how far winds and currents favoured such a triangular voyage and (b) account for the likely nature of the cargo on each part of the course. (16)

7. "The motives which have prompted the discovery and exploration of North and Central America have been the desire for spices, for treasure, for settlement with religious and political freedom, and for mineral wealth."

Elaborate this statement giving some account of the expansion of geographical knowledge which resulted from each of the motives indicated. (16)

SECTION C

Two questions should be attempted from this Section.

8. "A major natural region exhibits certain broad geographical uniformities almost throughout its entire large area. It may be divided into minor natural regions. In each of these, important uniformities may be recognised and each is different, in some essential respect, from its neighbours."

Accepting this statement, would you feel justified in regarding the Central Lowlands as a major natural region of Scotland? Into what minor regions would you divide it? Justify the division which you adopt and illustrate by a diagrammatic sketch-map. (16)

9. What do you know of the distribution of iron-ore in any *two* of the following countries? Illustrate your answers by sketch-maps.

England, France, Spain, Sweden, U.S.S.R. (16)

10. What do you understand by *entrepôt trade* ?

By examining the position of *two* of the following, deduce the geographical circumstances which favour the growth of an *entrepôt*. What is the nature of the trade of the two ports selected ?

London, Antwerp, Singapore, Hong-Kong. (16)

11. Show carefully, on a sketch-map, the main climatic regions of Europe *or* Australia *or* Africa, south of the Equator. Indicate briefly the main characteristics of the temperature and rainfall of each region. (16)

12. Discuss the social and economic importance of *two* of the following :—

(a) The presence of a coloured population in the southern states of the U.S.A. *or* in the Union of South Africa ;

(b) The absence of a large coloured population in tropical Australia ;

(c) Overpopulation in Japan ;

(d) The settlement of Jews in Palestine. (16)

13. A geographer, in describing South America, uses the following terms :—Pampas, Gran Chaco, Llanos, Andean Plateaus, Tropical Desert.

State the position and give an account of the characteristic features of any *three* of the regions so described. (16)

SCIENCE

HIGHER GRADE—(PHYSICS)

Wednesday, 22nd March—1.0 P.M. to 3.30 P.M.

Not more than SIX questions should be attempted. Two, but not more than two, of these must be taken from Section I (Mechanics), and the remainder from not fewer than two other sections.

Answers should, wherever possible, be illustrated by carefully drawn diagrams of reasonable size.

16 marks are assigned to each question in Section I, and 17 to each question in Sections II, III and IV.

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 space of half an inch between the lines. Marks may be deducted for bad or crowded writing.

SECTION I (MECHANICS)

Two, but not more than two, questions from this Section must be attempted.

1. State the laws of limiting friction and indicate briefly the experiments you would perform to illustrate these laws.

A body of weight 10 lb., resting on a rough plane inclined to the horizon at 60° , is just prevented from slipping down the plane by a force equal to 5 lb. weight acting parallel to the plane. Find the coefficient of friction between the body and the plane.

2. State the minimum conditions that must be fulfilled to ensure that a body under the action of three non-parallel, coplanar forces is in equilibrium.

A uniform heavy ladder rests in an inclined position with the lower end on the ground and the upper end against a vertical wall.

Show by diagrams the forces acting on the ladder when

- (a) both wall and ground are smooth,
- (b) the wall is smooth and the ground rough,
- (c) the wall is rough and the ground smooth,
- (d) both wall and ground are rough.

State, with reasons, in which of the four cases equilibrium is impossible.

3. Distinguish between work and power. Define in each case a unit of measurement.

A man, using a system of pulleys (efficiency 75%), wishes to raise a weight of 9 cwt. by applying a force equal to the weight of 2 cwt. Draw a sketch of the system of pulleys he would use, and calculate the work he would perform in raising the weight through a vertical distance of 3 ft.



4. In an experiment with a simple pendulum, the length of which varied, the following results were obtained :—

l length in centimetres	25	50	75	100	125
T time in seconds	1.00	1.42	1.74	2.01	2.24

Describe this experiment, and note any precautions you would take to ensure accuracy.

Use the results to verify the relationship between l and T .

Calculate g from any one of the results.

SECTION II (HEAT AND HYDROSTATICS)

5. Distinguish between specific gravity and density.

When equal masses of alcohol (S.G. 0.80) and water are mixed there is a contraction equal to 0.03 of their total volume. Calculate the specific gravity of the mixture.

Give concise directions for carrying out the experiments you would perform to verify that the S.G. of the alcohol is 0.80 and that a contraction equal to 0.03 of the total volume takes place on mixing.

6. What do you understand by (a) the temperature coefficient of increase of volume at constant pressure, and (b) the temperature coefficient of increase of pressure at constant volume, as applied to gases? State the coefficient in each case.

Indicate briefly how you would determine (b) experimentally. At a temperature of 7° C., a gauge showed that the pressure of the air in a motor tyre was 28 lb. per sq. in. The car was left standing in the sun and the pressure of air in the tyre rose to 32.3 lb. per sq. in. What is the temperature of the air in the tyre? Assume that the cover maintained a constant volume.

7. Sketch the apparatus you would use to determine the latent heat of vaporisation of water. What sources of error must be guarded against in this experiment? How are they met by the apparatus you use?

In an experiment, a copper calorimeter weighing 260 gm. contained 150 gm. of water at 10°C . The steam from a flask of boiling water was passed through a simple delivery tube into the water in the calorimeter. When the temperature of the water had reached 25°C . the calorimeter and its contents were removed and found to weigh 416.6 gm.

Calculate the weight of water carried over by the steam during the experiment.

(Specific heat of copper, 0.1. Latent heat of vaporisation of water, 540.)

8. A piece of ice at -3°C . was slowly heated until it was converted to steam at 100°C .

State the changes in volume that take place and show roughly the form of a graph that would represent these changes.

How would you demonstrate experimentally the changes in volume that take place on heating ice at 0°C . to water at 10°C . ?

SECTION III (SOUND AND LIGHT)

9. Distinguish carefully between *longitudinal* and *transverse* waves. To which kind do sound waves belong ?

Explain the terms wave-length and frequency, and show how the velocity of sound may be found when these two are known.

Describe briefly an experiment by which the frequency of a musical note may be determined.

A siren has fifty holes. When rotating uniformly one thousand times in $2\frac{1}{2}$ minutes, the siren gives a note of the same frequency as a tuning fork. If the velocity of sound in air is 1,100 ft. per sec., find the frequency of the fork and the wave-length of the note.

10. State the laws of the vibration of stretched strings. Write a short description of a sonometer and show how you would use it to verify *one* of these laws.

The string of a sonometer sounds C (frequency 256). It is required to cause the string to sound G (frequency 384) by altering (a) its tension only, (b) its length only. *In each case* calculate the ratio in which the quantity must be altered.

11. State the laws of reflection of light and describe an experiment to demonstrate them.

Show on an accurately drawn diagram the positions of the images formed when an object is placed between two mirrors inclined at an angle of 60° to one another. How many images would be formed if the mirrors were inclined to each other at 30° ?

Write a note on the case where the mirrors are parallel to each other.

12. State the formula connecting the focal length of a lens with the distances of the image and the object from the lens. Explain the rule of signs which makes the formula applicable to both convex and concave lenses.

How would you verify the formula experimentally for a convex lens?

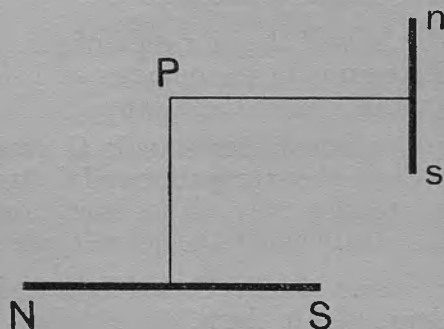
An object is placed at a distance of 15 cm. from a concave lens of focal length 10 cm. A convex lens of focal length 4 cm. is placed beyond the concave lens at a distance of 17 cm. from the object, the lenses having a common principal axis. Find the position of the image formed by this combination of lenses.

SECTION IV (MAGNETISM AND ELECTRICITY)

13. Define unit magnetic pole.

Explain why the term "moment" is applied to the quantity obtained by multiplying the length of a magnet by its pole strength.

Two magnets NS and ns are placed as shown in the figure. NS is 10 cm. long, pole strength 80; ns is 5 cm. long, pole strength 50. P is a point on the right bisector of each magnet, such that PS is 8 cm. and Ps is 10 cm. Find the force at P due to each magnet alone. Hence find the direction in which a small compass needle would set if placed at the point P and acted on by the two magnets simultaneously. Neglect the effect of the earth's magnetism.



14. Mention three factors which determine the electrical resistance of a wire of a given material.

Outline briefly the experiments you would perform to illustrate the effect of varying each of these factors, and indicate the conclusions you would draw from the experiments.

A coil marked 0.5 ohm is found to have a resistance of 0.53 ohm. Find the resistance of a shunt which, when added to the coil, will make the combined resistance of the coil and shunt equal to 0.5 ohm.

15. Two cells, each of E.M.F. 1.5 volts and internal resistance 0.6 ohm, are connected (*a*) in parallel, (*b*) in series. In each case state the E.M.F. and the resistance of the combination of cells.

Describe in detail, giving a diagram of the circuits you would set up, the procedure you would adopt to prove your statements with regard to the E.M.F.

16. Describe and explain clearly the action of any *two* of the following :—

solenoid, accumulator, voltmeter, induction coil.

Illustrate your answers by diagrams.

SCIENCE

HIGHER GRADE—(PURE ZOOLOGY)

Friday, 24th March—1.0 P.M. to 3.0 P.M.

FIVE questions in all should be attempted.

Answers should, wherever possible, be illustrated by diagrams of reasonable size.

20 marks are assigned to each question.

N.B.—Write legibly and neatly, and leave a space of half an inch between the lines. Marks may be deducted for bad or crowded writing.

1. Describe the structure of Hydra as seen under a low-power lens. (Details of microscopic structure are not required.) In its appearance and mode of life, specify the ways in which it (*a*) resembles a plant and (*b*) differs from a plant.

2. Explain how the earthworm, a fish, and the rabbit obtain their supply of oxygen.

Give a brief description of the structures involved in each animal.

3. Write an account of the life history of **either** (a) the eel ; **or** (b) the butterfly (or silkworm).

4. What do you understand by "variation" among animals? Give two examples showing how man has taken advantage of this phenomenon.

5. State, for each of the following animals, the group of the animal kingdom to which it belongs, and describe the features of each animal that determine the group in which you have placed it :—amoeba ; crayfish *or* lobster ; snail.

6. Write clear explanatory notes on *four* of the following organs as they are found in the frog :—kidney, testis, brain, heart, gall bladder.

Your notes should refer to the position and function of those you select.

7. **Either** (a) Explain how the changing seasons emphasize the dependence of animals upon plants.

Or (b) Name two examples of animals that man recognises as his *friends*, and two examples of those he recognises as his *foes*. Explain why you regard them in this way.

SCIENCE

HIGHER GRADE—(ZOOLOGY AND HUMAN PHYSIOLOGY)

Friday, 24th March—1.0 P.M. to 3.0 P.M.

FIVE questions in all should be attempted.

Answers should, wherever possible, be illustrated by diagrams of reasonable size.

20 marks are assigned to each question.

N.B.—Write legibly and neatly, and leave a space of half an inch between the lines. Marks may be deducted for bad or crowded writing.

SECTION I—ZOOLOGY

1. Describe the structure of Hydra as seen under a low-power lens. (Details of microscopic structure are not required.) In its appearance and mode of life, specify the ways in which it (a) resembles a plant and (b) differs from a plant.

2. Explain how the earthworm, a fish, and the rabbit obtain their supply of oxygen. Give a brief description of the structures involved in each animal.

3. Write an account of the life history of **either** (a) the eel ; **or** (b) the butterfly (or silkworm).

4. What do you understand by "variation" among animals? Give two examples showing how man has taken advantage of this phenomenon.

SECTION II—HUMAN PHYSIOLOGY

5. What is the normal temperature of the human body and how is this temperature maintained constant in health?

6. Describe the alimentary canal and its associated glands. State briefly the function of each part or organ you have mentioned.

7. **Either** (a) What physiological reasons would you give in justification of holidays?

Or (b) What do you understand by the pulse? Describe in detail how it is produced. What can we learn by feeling the pulse?

MUSIC

LOWER GRADE

Friday, 24th March—9.30 A.M. to 11 A.M.

N.B.—Candidates must write in ink, neatly and legibly, and they must leave a space of half an inch between the lines. Marks may be deducted for bad or crowded writing. Care must be taken to make the notation clear; notes indistinctly placed will be regarded as wrong.

The answers to Section I must be written in the space provided on this examination paper, which must be given up with the examination book. The ruled pages in the examination book may be used for rough work on these questions.

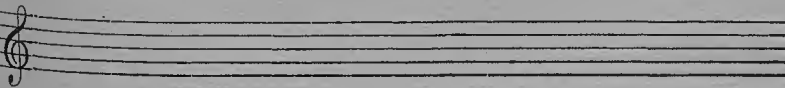
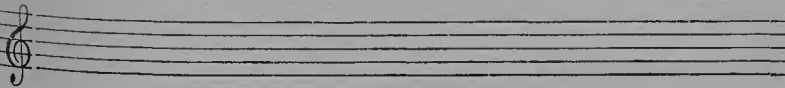
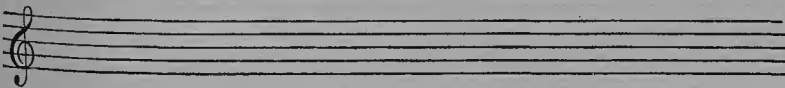
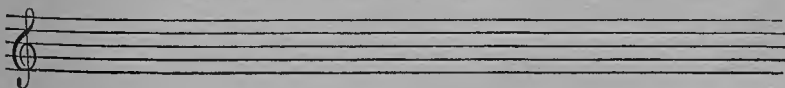
The answers to Section II are to be written in the separate book provided.

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

2. Write the first four bars of three folk songs, noting the following points when making your selection :—

- (a) Choose one from Scotland, one from England and one from the folk melodies of any other nation. Place the name of the country of origin above the melody.
- (b) Choose examples in different times, one in $2/4$ or $4/4$, one in $3/4$, and the remaining one in $6/8$ time.
- (c) Choose examples with interesting rhythmic patterns.

(18)

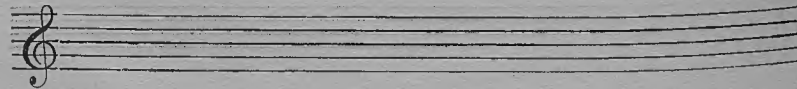
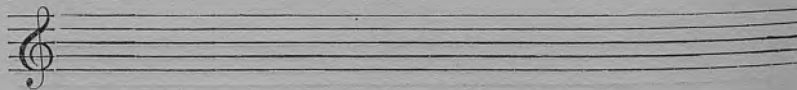
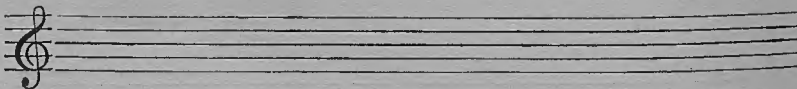


3. Any TWO of the following three alternatives to be attempted.

Write a melody in Staff Notation suitable to and expressive of the poetic rhythms of the following lines. Key-signatures, time-signatures, bar-lines, and musical terms indicating the "pace" or "speed" at which the music is intended to be sung *must* be added and each syllable placed under the note or notes belonging to that syllable. In both extracts words or phrases may be repeated if desired.

- (a) "Let us seek a tiny fairy dell
Where the elves and pixies hide ;
Where swaying bluebells ring a chime
And fairy horsemen ride."

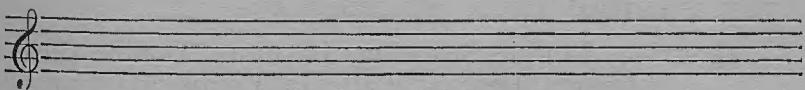
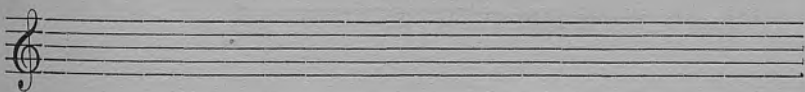
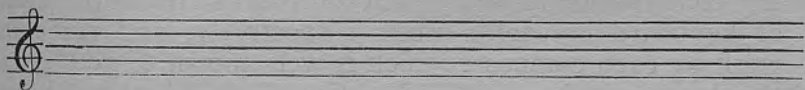
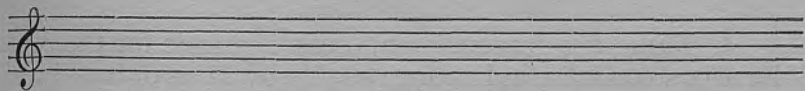
Anon.



(b) "Yo-ho, heave-ho !

A pirate's life is the life for me,
A life so rollicking, full of glee,
A life on the open sea."

"*Rhymes and Fancies*" (Anon.).



(c) Complete this melody, making eight bars in all.

Fairly Quick.



SECTION II

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

4. Name *two* famous composers of music for the piano-forte or solo violin, indicating roughly by dates or by reference to contemporaries the period at which each lived; mention any contribution made by each composer to the development of keyboard or violin music respectively, and name *one* work by each composer which is well known to you, giving the key and the tempo direction (i.e., whether Allegro, Adagio, etc.) at the beginning of each work. Quote a theme from the work you select for comment. (10)

5. Choose *five* of the following terms and state briefly what is implied by the term selected:—

G string, Double Stopping, Baritone, Double Quartet, Libretto, Descant, Cadenza, Compound Time. (10)

6. What is meant by the term aria? Name any *two* composers who have written famous arias; mention one aria by *each* composer. Quote the first four bars of *one* of the arias to which you refer. (10)

7. Choose any *four* of the following themes and state from what work each is taken and by whom (unless the theme is from a folk melody) it was composed. **Be careful to letter your answers correctly.** (10)

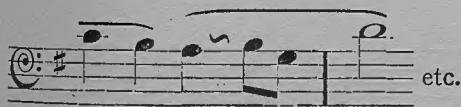
Andantino.



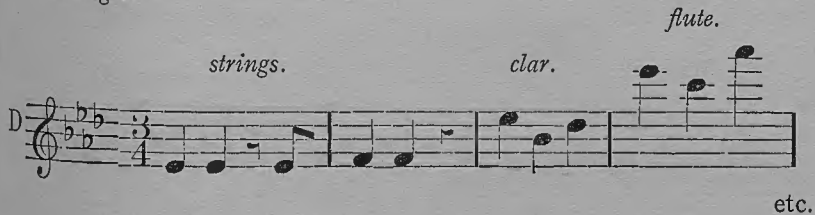
Andante.



Poco adagio cantabile.



Allegro.



Allegro.



Molto vivace.

Flute (F) part, *Molto vivace*. The notation is in 4/4 time with a key signature of one sharp (F#). The first staff shows a triplet of eighth notes (F4, G4, A4) followed by a dotted quarter note (B4), a quarter note (C5), and a dotted quarter note (D5). The second staff continues with a quarter note (E5), a dotted quarter note (F5), a quarter note (G5), and a dotted quarter note (A5). The third staff shows a quarter note (B5), a dotted quarter note (C6), a quarter note (D6), and a dotted quarter note (E6). The fourth staff shows a quarter note (F6), a dotted quarter note (G6), a quarter note (A6), and a dotted quarter note (B6). The fifth staff shows a quarter note (C7), a dotted quarter note (D7), a quarter note (E7), and a dotted quarter note (F7). The sixth staff shows a quarter note (G7), a dotted quarter note (A7), a quarter note (B7), and a dotted quarter note (C8). The seventh staff shows a quarter note (D8), a dotted quarter note (E8), a quarter note (F8), and a dotted quarter note (G8). The eighth staff shows a quarter note (A8), a dotted quarter note (B8), a quarter note (C9), and a dotted quarter note (D9). The ninth staff shows a quarter note (E9), a dotted quarter note (F9), a quarter note (G9), and a dotted quarter note (A9). The tenth staff shows a quarter note (B9), a dotted quarter note (C10), a quarter note (D10), and a dotted quarter note (E10). The piece ends with a double bar line and the word "etc."

Allegro moderato.

Guitar (G) part, *Allegro moderato*. The notation is in 4/4 time with a key signature of one sharp (F#). The first staff shows a quarter note (F4), a dotted quarter note (G4), a quarter note (A4), and a dotted quarter note (B4). The second staff shows a quarter note (C5), a dotted quarter note (D5), a quarter note (E5), and a dotted quarter note (F5). The third staff shows a quarter note (G5), a dotted quarter note (A5), a quarter note (B5), and a dotted quarter note (C6). The fourth staff shows a quarter note (D6), a dotted quarter note (E6), a quarter note (F6), and a dotted quarter note (G6). The fifth staff shows a quarter note (A6), a dotted quarter note (B6), a quarter note (C7), and a dotted quarter note (D7). The sixth staff shows a quarter note (E7), a dotted quarter note (F7), a quarter note (G7), and a dotted quarter note (A7). The seventh staff shows a quarter note (B7), a dotted quarter note (C8), a quarter note (D8), and a dotted quarter note (E8). The eighth staff shows a quarter note (F8), a dotted quarter note (G8), a quarter note (A8), and a dotted quarter note (B8). The ninth staff shows a quarter note (C9), a dotted quarter note (D9), a quarter note (E9), and a dotted quarter note (F9). The tenth staff shows a quarter note (G9), a dotted quarter note (A9), a quarter note (B9), and a dotted quarter note (C10). The piece ends with a double bar line and the word "etc."

Moderato.

Horn (H) part, *Moderato*. The notation is in 4/4 time with a key signature of two flats (Bb, Eb). The first staff shows a quarter note (Bb3), a dotted quarter note (Cb4), a quarter note (Db4), and a dotted quarter note (Eb4). The second staff shows a quarter note (Fb4), a dotted quarter note (Gb4), a quarter note (Ab4), and a dotted quarter note (Bb4). The third staff shows a quarter note (Cb5), a dotted quarter note (Db5), a quarter note (Eb5), and a dotted quarter note (Fb5). The fourth staff shows a quarter note (Gb5), a dotted quarter note (Ab5), a quarter note (Bb5), and a dotted quarter note (Cb6). The fifth staff shows a quarter note (Db6), a dotted quarter note (Eb6), a quarter note (Fb6), and a dotted quarter note (Gb6). The sixth staff shows a quarter note (Ab6), a dotted quarter note (Bb6), a quarter note (Cb7), and a dotted quarter note (Db7). The seventh staff shows a quarter note (Eb7), a dotted quarter note (Fb7), a quarter note (Gb7), and a dotted quarter note (Ab7). The eighth staff shows a quarter note (Bb7), a dotted quarter note (Cb8), a quarter note (Db8), and a dotted quarter note (Eb8). The ninth staff shows a quarter note (Fb8), a dotted quarter note (Gb8), a quarter note (Ab8), and a dotted quarter note (Bb8). The tenth staff shows a quarter note (Cb9), a dotted quarter note (Db9), a quarter note (Eb9), and a dotted quarter note (Fb9). The piece ends with a double bar line and the word "etc."

Allegro.

Trumpet (I) part, *Allegro*. The notation is in 4/4 time with a key signature of two flats (Bb, Eb). The first staff shows a quarter note (Bb3), a dotted quarter note (Cb4), a quarter note (Db4), and a dotted quarter note (Eb4). The second staff shows a quarter note (Fb4), a dotted quarter note (Gb4), a quarter note (Ab4), and a dotted quarter note (Bb4). The third staff shows a quarter note (Cb5), a dotted quarter note (Db5), a quarter note (Eb5), and a dotted quarter note (Fb5). The fourth staff shows a quarter note (Gb5), a dotted quarter note (Ab5), a quarter note (Bb5), and a dotted quarter note (Cb6). The fifth staff shows a quarter note (Db6), a dotted quarter note (Eb6), a quarter note (Fb6), and a dotted quarter note (Gb6). The sixth staff shows a quarter note (Ab6), a dotted quarter note (Bb6), a quarter note (Cb7), and a dotted quarter note (Db7). The seventh staff shows a quarter note (Eb7), a dotted quarter note (Fb7), a quarter note (Gb7), and a dotted quarter note (Ab7). The eighth staff shows a quarter note (Bb7), a dotted quarter note (Cb8), a quarter note (Db8), and a dotted quarter note (Eb8). The ninth staff shows a quarter note (Fb8), a dotted quarter note (Gb8), a quarter note (Ab8), and a dotted quarter note (Bb8). The tenth staff shows a quarter note (Cb9), a dotted quarter note (Db9), a quarter note (Eb9), and a dotted quarter note (Fb9). The piece ends with a double bar line and the word "etc."

MUSIC

HIGHER GRADE

Friday, 24th March—9.30 A.M. to 12 NOON.

N.B.—Candidates must write in ink, neatly and legibly, and they must leave a space of half an inch between the lines. Marks may be deducted for bad or crowded writing. Care must be taken to make the notation clear; notes indistinctly placed will be regarded as wrong.

The answers to Section I must be written in the space provided on this examination paper, which must be given up with the examination book. The ruled pages in the examination book may be used for rough work on these questions.

The answers to Section II are to be written in the separate book provided.

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

SECTION I

All candidates should attempt THREE questions from this section, and three only, of which numbers 1 and 2 are compulsory.

1. Harmonise this melody in four vocal parts for Soprano, Alto, Tenor and Bass :—

Moderato.

2. Write a melody in Staff Notation suitable to the poetic rhythm and atmosphere of *either* of the following verses. A key-signature, time-signature and bar-lines must be added, and a musical term to indicate the tempo. Place each syllable under the note or notes to which the melody is to be sung. **Indicate the cadences by placing, in the bass clef, the two notes necessary to define these.**

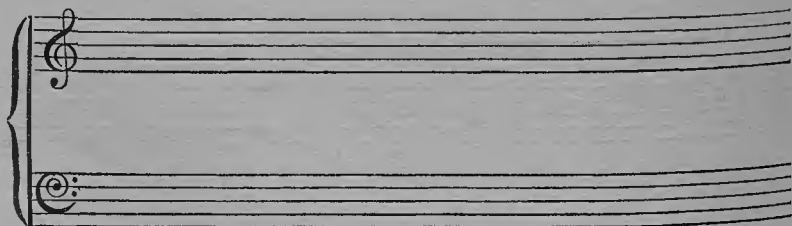
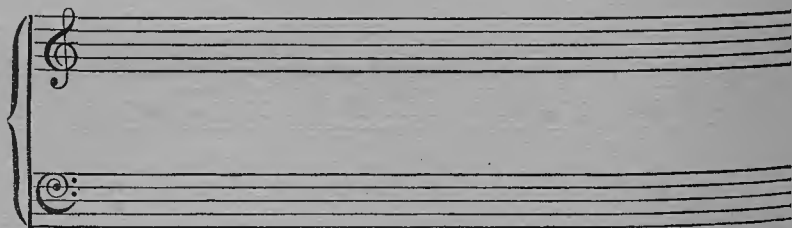
“Old Man o’ Dreams is a fiddler,
 And he fiddles the whole night through—
 A sad tune here, a gay tune there,
 A mad fiddle-diddle for a wild nightmare ;
 And four strings quiver in the midnight air
 Till the stars seem to quiver too !”

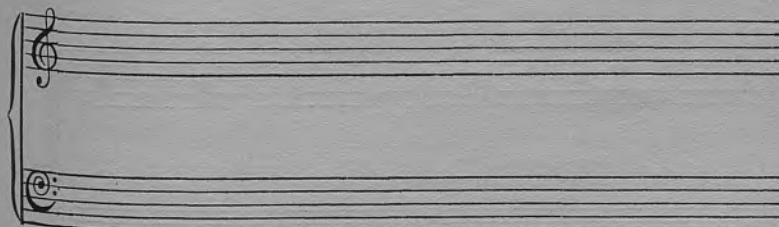
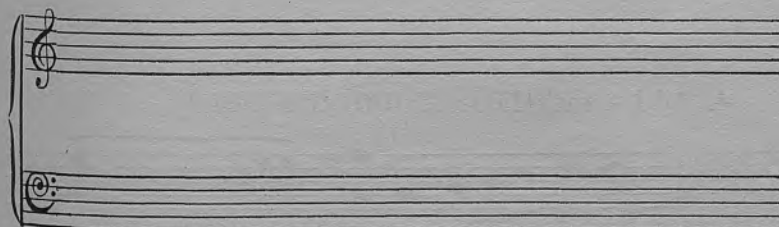
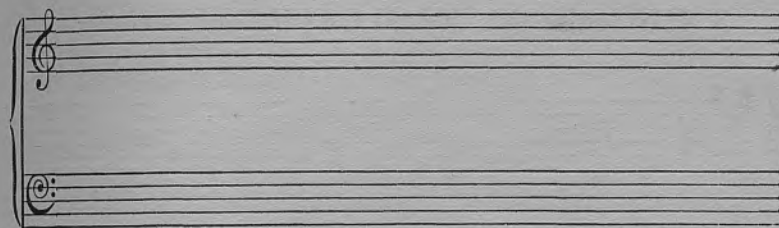
Melfin W. Jones.

Alternatively :—

“ Slowly, silently, now the moon
 Walks the night in her silver shoon ;
 This way and that, she peers, and sees
 Silver fruit upon silver trees ;
 One by one the casements catch
 Her beams beneath the silvery thatch.”

Walter de la Mare.





3. Harmonise this figured bass in four parts.

The first system of the exercise shows the following figured bass notation in the bass clef staff:

6 6 6 6 6 6 4 5-

The second system shows the following figured bass notation:

6 6 5 6- 6 6 5

(20)

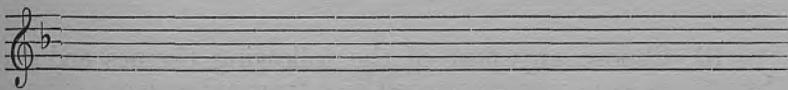
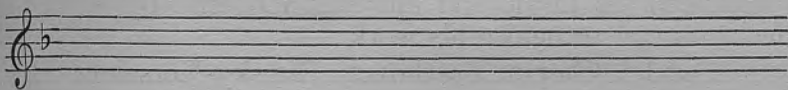
4. Add a melodious Alto to this melody.

The first system of the exercise shows the following melody in the treble clef staff:

The second system shows the following melody in the treble clef staff:

(20)

5. Commencing with the given bars, continue and complete this melody in not less than sixteen bars. Introduce sequence and modulation. Phrase your melody.



(20)

SECTION II

Only two questions from this Section should be attempted.

6. Distinguish between "Grand Opera" and "Light Opera." Name *two* composers of grand opera and *one* famous composer of light opera; name *one* opera by *each* of the three composers you mention and quote a theme from *one* of the operas. (16)

7. What is meant by any *four* of the following?

Recorder, Pipe and Tabor, Harmonics on the Violin, Full Score, Polyphonic, Bridge Passage, Key of a Composition. (16)

8. Choose a symphony in four movements which is well known to you; name the composer and mention one of his contemporaries. State the form, tempo, and general mood (i.e., whether happy, reflective, etc.) of each of the

four movements, and name the key in which each movement begins. Quote *one* important theme from the symphony. (16)

9. Choose *two* of the following composers, indicating roughly by dates or by reference to his contemporaries the period at which each lived. Mention anything in his life-history or environment which you think may have influenced his music and any characteristic by which you feel you can recognise his work :—

Handel, Chopin, Beethoven, Rimsky-Korsakoff, Elgar,
Schumann. (16)

10. Choose any *four* of the following themes and state by whom each was composed and from what work it comes. **Be careful to letter your answers correctly.** (16)

Allegro affetuoso.

A

etc.

Andante con moto.

B

etc.

Vivacissimo.

G

sf *sf* *sf*

sf

Andante.

H

etc.

Allegro.

I

etc.

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.

Examiners of the General Council of Solicitors.

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 Corporation of Accountants, Limited.

*The London Association of Certified Accountants.

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

The Institute of Company Accountants, Limited.

The Faculty of Actuaries in Scotland.

The Institute of Actuaries.

The Chartered Insurance Institute.

The Institute of Bankers.

The Institute of Bankers in Scotland.

The Chartered Institute of Secretaries.

The Royal Sanitary Institute and Sanitary Inspectors'
Examination Joint Board.

*The Royal Sanitary Association of Scotland.

The Poor Law Examination Board for Scotland.

The Chartered Surveyors' Institution.

The Auctioneers' and Estate Agents' Institute of the
United Kingdom.

The Royal Institute of British Architects.

* 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.

The Institution of Civil Engineers.
*The Institute of Cost and Works Accountants.
The Institution of Mechanical Engineers.
The Institution of Municipal and County Engineers.
The Institute of Chemistry of Great Britain and Ireland.
The National Froebel Union.
The Institute of Physics.
The Royal College of Veterinary Surgeons.
The British Optical Association.
The Chartered Institute of Patent Agents.
The Library Association.
The Textile Institute.
*The Institute of Transport.
*The Chartered Society of Massage and Medical Gymnastics.
The Building Societies Institute.

* See footnote on page 124.



Regulations for the Preliminary Education, Training, and Certification of Teachers for Various Grades of Schools, 1931. S.R. & O., 1931, No. 180, S. 20. Price 5*d.*; post free, 6*d.*

Leaving Certificate Examination Papers, including Day School Certificate (Higher) General Paper, 1938. Price 3*s.*; post free, 3*s.* 2*d.*

Circular 62 (Senior Leaving Certificate). (June, 1939.) Price 2*d.*; post free, 2½*d.*

Circular 30, relating to the Senior Leaving Certificate Examination of 1940 (June, 1939.) Price 6*d.*

Circular 111 (The Leaving Certificate). (December, 1937.) Price 4*d.*; post free, 5*d.*

Circular 95 (Award of Day School Certificate (Higher) to Leaving Certificate failures). (December, 1935.) Price 1*d.*; post free, 1½*d.*

Circular 113 (Day School Certificate (Higher): Junior Leaving Certificate). (January, 1938.) Price 1*d.*; post free, 1½*d.*

Circular 120 (Junior Leaving Certificate). (June, 1939.) Price 1*d.*; post free 1½*d.*

Superannuation Scheme for Teachers (Scotland), 1926. S.R. & O., 1926, No. 363, S. 13, as amended by S.R. & O., 1928, No. 1044, S. 55, S.R. & O., 1929, No. 1179, S. 76, S.R. & O., 1932, No. 1073, S. 54, S.R. & O., 1933, No. 1169, S. 67, S.R. & O., 1936, No. 715, S. 23, and S.R. & O., 1937, No. 1157, S. 73. Price 4*d.*; post free, 5*d.*

Teachers' Superannuation Rules (Scotland), 1926. S.R. & O., 1926, No. 356, S. 9. Price 3*d.*; post free, 3½*d.*

Superannuation Scheme for Teachers (Scotland), 1926, Allocation of Pension. Explanatory Memorandum; Teachers' Superannuation (Allocation of Pension) Rules (Scotland), 1937; Tables prepared by the Government Actuary. Price 4*d.*; post free 5*d.*

Education (Scotland) Teachers' Superannuation Grant Regulations, 1928. S.R. & O., 1928, No. 951, S. 49. Price 1*d.*; post free, 1½*d.*

Conditions as to Minimum National Scales of Salaries for Teachers in Scotland, 1935. S.R. & O., 1935, No. 568, S. 25. Price 2*d.*; post free, 2½*d.*

Education Authorities (Scotland) Grant Regulations, 1938. S.R. & O., 1938, No. 803, S. 50. Price 2*d.*; post free, 2½*d.*

Central Institutions (Scotland) Grant Regulations, 1923. S.R. & O., 1923, No. 927, S. 57. Price 1*d.*; post free, 1½*d.*

Education (Scotland) Miscellaneous Grants Regulations, 1936. S.R. & O., 1936, No. 1289, S. 44. Price 2*d.*; post free, 2½*d.*

Education (Scotland) Agricultural Colleges Additional Grant Regulations, 1938. S.R. & O., 1938, No. 472, S. 23. Price 1*d.*; post free, 1½*d.*

List of Approved Schools, 1936 (*revised issue*). Price 2*d.*; post free, 2½*d.*

Children and Young Persons (Scotland) Care and Training Regulations, 1933. S.R. & O., 1933, No. 1006, S. 55. Price 4*d.*; post free, 5*d.*

Circular 110 (Children and Young Persons (Scotland) Act, 1937. Employment of Children—Byelaws). (December, 1937.) Price 1*d.*; post free, 1½*d.*

Circular 83 (Advisory Committees for Juvenile Employment). (October, 1930.) Price 1*d.*; post free, 1½*d.*

M.4. (1938).—Educational Appointments Overseas. Price 2*d.*; post free, 2½*d.*

M.123. Air Raid Precautions in Schools. Price 1*d.*; post free, 1½*d.*

M.136. Air Raid Precautions in Schools. Price 2*d.*; post free 2½*d.*

Circular 118 (Teachers and National Service). (February, 1939.) Price 1*d.*; post free 1½*d.*

Circular 119 (Men Teachers and National Service). (June, 1939.) Price 1*d.*; post free 1½*d.*

Circular 121 (Government Evacuation Scheme: Educational Provision). Price 2*d.*; post free 2½*d.*

Circular 116 (Bursary Schemes). (January, 1939.) Price 1*d.*; post free, 1½*d.*

Children and Young Persons, Scotland. Employment of Children in Entertainments. S.R. & O., 1939, No. 64, S. 5. Price 2*d.*; post free, 2½*d.*

M.129. Road Safety among School Children. Memorandum for the use of Teachers. Price 1*d.*; post free 1½*d.*

LOWER GEOG.

(MAPS).

LEAVING CERTIFICATE EXAMINATION, 1939.

SCIENCE.
LOWER GRADE—(GEOGRAPHY).

MAPS.

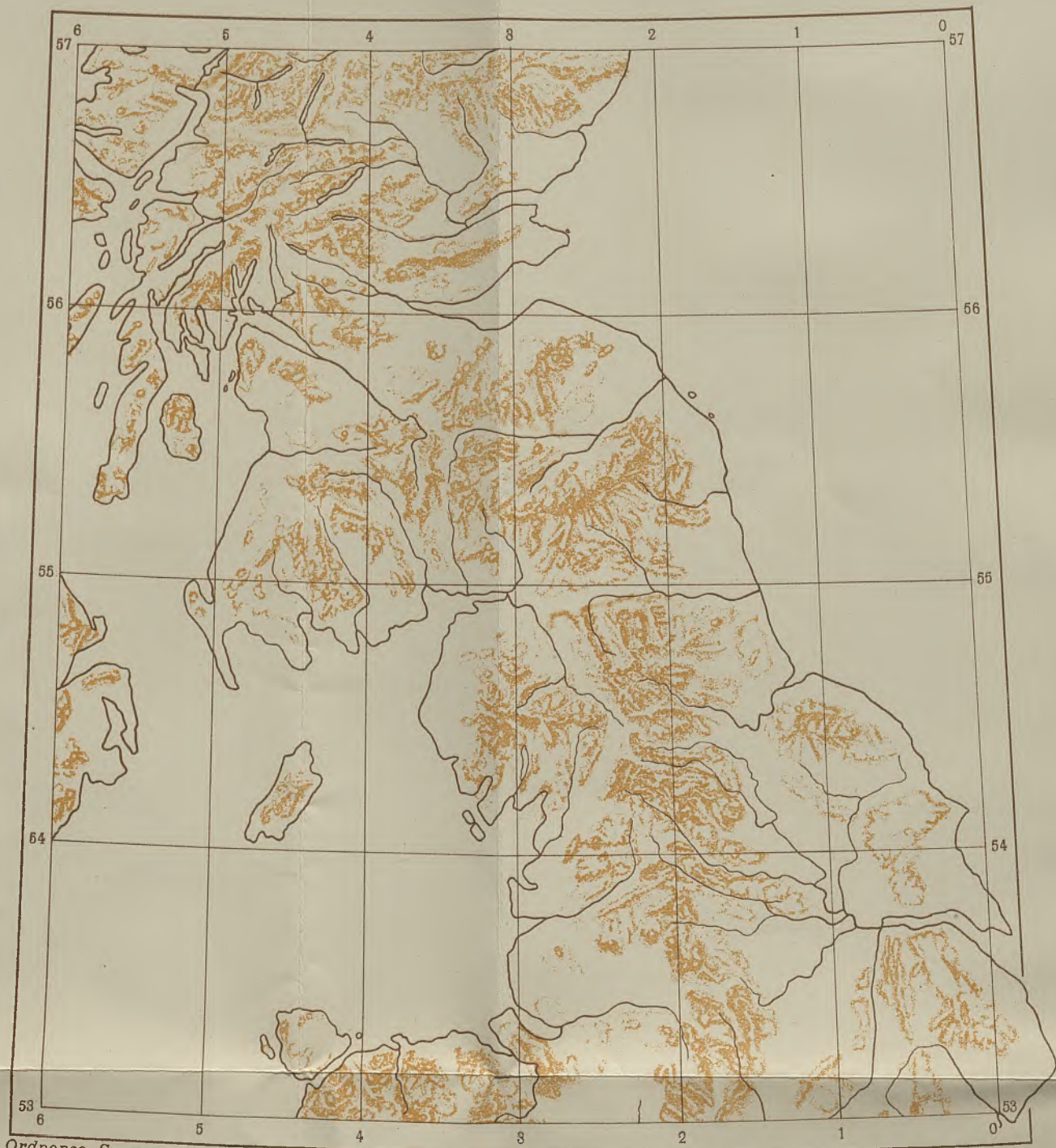
FILL THIS IN FIRST.

Name of School.....

Name of Pupil.....

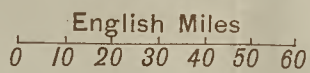
TO BE PINNED INSIDE THE CANDIDATE'S BOOK OF ANSWERS
AND THUS SENT TO THE DEPARTMENT.

[OVER.]

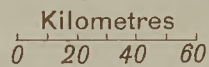


Ordnance Survey 1938.

C.R. 2944/1. 1380/39.



Scale 1:2,500,000



Projection: Conical.





Ordnance Survey 1938.

MAP OF A SMALL ISLAND



A

B

Scale: 1 Inch = 100 yds.
Contour Interval, 50ft.

HIGHER GEOG.
(MAP.)

LEAVING CERTIFICATE EXAMINATION, 1939.

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.

[OVER

