

SECONDARY EDUCATION (SCOTLAND)

SENIOR LEAVING CERTIFICATE EXAMINATION

EXAMINATION PAPERS 1948

EDINBURGH: HIS MAJESTY'S STATIONERY OFFICE

1948

SHILLINGS NET

SCOTTISH EDUCATION DEPARTMENT-1948

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Summary Report on Education in Scotland for the year 1946 (Cmd. 7089). 4d. (5d.). Day Schools (Scotland) Code Minute, 1939. S.R. & O., 1939, No. 422, S.35. 4d. (5d.). Code of Regulations for Continuation Classes, 1936. S.R. & O., 1936, No. 791, S.28. 2d. (3d.).

Continuation Classes (Scotland) Consolidation Order, 1943. S.R. & O., 1943, No. 1270, S.42. 1d. (2d.).

Adult Education (Scotland) Regulations, 1934. S.R. & Q., 1934, No. 1343, S.72. 2d. (3d.). Adult Education (Scotland) Regulations (Amendment), 1940. S.R. & O., 1940, No. 742,

S.29. 1d. (2d.).
Circular 29/1945 (Senior Leaving Certificate). (July, 1945.) 1d. (2d.).
Circular 30/1947 (Relating to the Senior Leaving Certificate Examination of 1948).
(September, 1947.) 6d. (7d.).
Senior Leaving Certificate Examination Papers, 1947. 4s. (4s. 3d.).
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, S.R. & O., 1937, No. 1157, S.73, S.R. & O., 1942, No. 1056, S.31, S.R. & O., 1945, No. 787, S.30, and S.R. & O., 1945, No. 1232, S.44. 5d. (6d.).
Amendment (1946) of the Superannuation Scheme for Teachers, 1926. S.R. & O., 1946, No. 1569, S.60. 1d. (2d.).
Teachers' Superannuation Rules (Scotland) 1926. S.R. & O., 1926, No. 356, S.9. 3d. (4d)

Teachers' Superannuation Rules (Scotland), 1926. S.R. & O., 1926, No. 356, S.9. 3d. (4d.). Amendment (1944) of the Teachers' Superannuation Rules (Scotland), 1926. S.R. & O., 1944, No. 1159, S.54. 1d. (2d.).

Amendment (1946) of the Teachers' Superannuation Rules (Scotland), 1926. S.R. & O., 1946, No. 203, S.4. 1d. (2d.).-Education (Scotland) Teachers' Superannuation Grant Regulations, 1928. S.R. & O., 1928, No. 951, S.49. 1d. (2d.). Education Authorities (Scotland) Grant Regulations, 1948. S.L., 1948, No. 961, S.69.

2d. (3d.).

Education (Scotland) Miscellaneous Grants Provisional Regulations, 1946. 2d. (3d.).

Children and Young Persons (Scotland), Care and Training Regulations, 1933. S.R. & 0., 1933, No. 1006, S.55. 4d. (5d.). Children and Young Persons (Scotland). Employment of Children in Entertainments.

S.R. & O., 1939, No. 64, S.5. 2d. (3d.).

Regulations for the Preliminary Education, Training and Certification of Teachers for Various Grades of Schools, 1931. S.R. & O., 1931, No. 180, S.20. 5d. (6d.). Regulations for the Preliminary Education, Training and Certification of Teachers for Various Grades of Schools (Scotland) (Amendment) Minute, 1940. S.R. & O., 1940, No. 1728, S.83. 1d. (2d.).

Regulations for the Preliminary Education, Training and Certification of Teachers for Various Grades of Schools (Scotland) (Amendment) Minute, 1943. S.R. & O., 1943, No. 726, S.26. 1d. (2d.)

Training of Teachers (Scotland) Regulations, 1947. S.R. & O., 1947, No. 128, S.5. 1d. (2d.)

Training of Teachers (Scotland) (No. 1) Order, 1943. S.R. & O., 1943, No. 1503, S.48. 1d. (2d.).

Supply of Teachers (Emergency Arrangements) (Scotland) Regulations, 1947. S.R. & 0., 1947; No. 127, S.4. 2d. (3d.).
Planning for Community Centres, Village Halls and Playing Fields. 9d. (10d.).
The Recruitment and Training of Youth Leaders and Organisers. (1946.) 9d. (10d.).
Circular 56 (The Provision of Facilities for Recreation and Social and Physical Training).
(February, 1946.) 2d. (3d.).
Education (Scotland) Act. 1945. (Appointed Days). S.R. & O. 1045. No. 787, S.³⁰.

Education (Scotland) Act, 1945. (Appointed Days.) S.R. & O., 1945, No. 787, S.30. 1d. (2d.).

The Education (Scotland) Certificates of Births (Requisition) Order, 1945. S.R. & 0., 1945, No. 1109, S.41. 1d. (2d.).

Education (Scotland) Raising of School Age (Appointed Day). S.R. & O., 1945, No. 1335, S.49. 1d. (2d.)

Circular 76 (Education (Meals Service) (Scotland) Regulations). (June, 1946.) 1d. (2d.) Education (Meals Service) (Scotland) Regulations, 1946. S.R. & O., 1946, No. 799, 5.32.

School Health Service (Scotland) Regulations, 1947. S.R. & O., 1947, No. 415, S.I. 1d. (2d.).

Memorandum on Training for Citizenship with a copy of the Department's Circular 23 Training for Citizenship). (February, 1945.) 2d. (3d.).



SECONDARY EDUCATION (SCOTLAND)

SENIOR LEAVING CERTIFICATE EXAMINATION

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APPENDIX-

List of Authorities by whom evidence of success at the Senior Leaving Certificate Examination is conditionally accepted in lieu of Preliminary Examinations

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SENIOR LEAVING CERTIFICATE EXAMINATION

The Senior Leaving Certificate Examination is held annually by the Scottish Education Department. In 1948 it commenced on Tuesday, 9th 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 (1947), dated 18th Sept. 1947. (Price 6d.; post free 7d.)

EXAMINATION PAPERS

1948.

SENIOR LEAVING CERTIFICATE EXAMINATION

ENGLISH

(FIRST PAPER (a)—COMPOSITION)

Wednesday, 10th 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 will be deducted for writing that is difficult to read.

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

- (a) The difficulty of choosing Christmas presents.
- (b) "There is no accounting for tastes." With this proverb in mind, write an essay as if you were one of the following caterers to the public :— a programme official of the B.B.C.; a manager of a cinema; a librarian in a public library; a restaurant keeper.

A 2

- (c) A description (real or imaginary) of one of the following :---a snowstorm, a shipwreck, a destructive fire, a flood.
- (d) What *local* question is causing discussion in your district? State the question at issue clearly and impartially, and give some of the chief arguments on both sides.
- - (i) A boy or girl fond of living things.
 - (ii) A boy or girl living in a remote and lonely place.
 - (iii) A boy or girl who is clever with his or her hands.
 - (iv) A boy or girl with an interest in history or geography. (35)

ENGLISH

(FIRST PAPER (b) INTERPRETATION AND LANGUAGE) Wednesday, 10th March—10.45 A.M. to 12.25 P.M.

Answer Questions 1, 2, and 3.

- The value attached to each question or to each part of 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 will be deducted for writing that is difficult to read.

 The few animals that we now possess in a state of domestication were first reclaimed from wildness in prehistoric times. Our remote barbarian ancestors must be credited with having accomplished a very
 remarkable feat, which no subsequent generation has rivalled. The utmost that we of modern times have succeeded in doing is to improve the races of those animals that we received from our forefathers in an already domesticated condition. The only reasonable

10 explanation of this exceedingly curious fact is that only a few species of animals are fitted by their nature to become domestic, and that these were discovered long ago through the exercise of no higher intelligence than is to be found among barbarous tribes of the present 15 day. The failure of civilized man to add to the number of domesticated species would on this supposition be due to the fact that all the suitable material whence domestic animals could be derived has been long since worked out. I submit that this hypothesis is the correct 20 one for the following reasons. All savages maintain pet animals, many tribes have sacred ones, and kings of ancient states have imported captive animals on a vast scale, for purposes of show, from neighbouring countries. I infer that every animal, of any pretensions, has been 25 tamed over and over again, and has had numerous opportunities of becoming domesticated. But the cases are rare in which these opportunities have led to any result. No animal is fitted for domestication unless it fulfils certain stringent conditions. My conclusion is 30 that all domesticable animals of any note have long ago fallen under the yoke of man : in short, that the animal creation has been pretty thoroughly, though half unconsciously, explored by the everyday habits of rude races and simple civilizations.

Francis Galton (adapted)

A 3

Read through the passage printed above and then answer the following questions on it :---

- (a) Suggest a brief and appropriate title for the passage. (2)
- (b) Into how many sections does the passage naturally fall? Give the first two and the last two words of each section.(3)
- (c) Explain carefully the following phrases as they are used in the passage :--were first reclaimed from wildness (line 2); all the suitable material has been long since worked out (lines 17-19); every animal of any pretensions (line 24); though half unconsciously (lines 32-33).

(d) (i) Give the meaning of the following words as they are used in the passage :--submit (line 19);
 hypothesis (line 19); stringent (line 29).

(84160)

5

- (ii) Write down a word that is opposite in meaning to each of the following words as they are used in the passage :—ancestors (line 3); subsequent (line 5); rude (line 33).
- (iii) Distinguish shades of meaning in the following words: — barbarian, barbarous, barbaric.
 (9)
- (e) (i) Make a general analysis into clauses of the sentence :— The failure . . . worked out (lines 15-19).
 - (ii) What part of the verb is each of these words : doing (line 7); following (line 20).
 - (iii) Write down the singular of species (line 11) and the plural of hypothesis (line 19).
- (f) Name the figure of speech used in the sentence My conclusion . . . man (lines 29-31). Comment on the aptness of its use in this passage. (2)
- (g) Make a summary of the passage, bringing out the main points of the argument as clearly and succinctly as you can. (14)

2. (a) Rewrite, with the addition of all the proper marks of punctuation, the following passage. (Make the punctuation marks large and distinct.)

the curfew tolls the knell of parting day is one of the most familiar lines in english eighteenth century poetry it is as every schoolboy and we hope every schoolgirl knows the opening of grays elegy the poem of which general wolfe 1727 1759 said i would rather have written that than take quebec our authority for this oft quoted remark is john robison professor of natural philosophy in our university but at the time of the assault on the plains of abraham serving as a midshipman in the fleet. (5)

(b) Combine the substance of the following statements into a well-knit paragraph :---

The battle continued very hot on both sides the admiral of Holland, the famous Van Tromp, signally performed the office of a brave commander—he was shot with a bullet in the heart—he fell dead—he did not speak a word—this blow broke the courage of the Dutch—they made all the sail they could towards the Texel—the British were left

victorious—they were obliged to retire to their own coast—they had to repair their damaged ships and refresh their wounded men. (5)

rhythmical; insistent; alloy; parasite; allude; perforate; long-term; recess; gruesome; absorb. (10)

ENGLISH

(SECOND PAPER-LITERATURE)

Wednesday, 10th March-1.30 P.M. to 3.0 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 will be deducted for writing that is difficult to read.

1. (a) What sort of person did Shakespeare mean any one of the following to be :—Falstaff, Richard II, Bassanio, Polonius, Banquo, Edmund, Coriolanus? Is the man you choose good or bad, wise or foolish, likable or unlikable, and so on ?

(b) If in an amateur performance of one of the following plays—Julius Cæsar, As You Like It, Twelfth Night, The Tempest—you were given your choice of a character to play, which would you choose and why would you do so?

(84160)

(c) What supernatural elements (ghosts, portents, etc.) does Shakespeare introduce into any one of the following plays:—A Midsummer Night's Dream, Julius Cæsar, Hamlet, Macbeth, The Tempest? Show to what extent the supernatural is apparent to the human persons in the play. (20)

2. (a) Choose two of the Canterbury Pilgrims and write in prose an account of them based on Chaucer's portraits.

Or

(b) Illustrate from any one of The Canterbury Tales or from The Prologue Chaucer's sly humour. (15)

3. What was the occasion of the writing of *Lycidas* by Milton? Show how the poet clothes the real incident in pastoral imagery. (15)

4. (a) Write a character-sketch and history of Bridget Elia as you have come to know her in *The Essays of Elia*.

Or

(b) Give an account of the oddities of behaviour and opinion of Sir Roger de Coverley. (15)

5. Choose any one of Sir Walter Scott's novels and describe any scene or incident in it that has particularly appealed to you. (15)

6. Explain as intelligibly as possible the story or the situation in any *one* of the following poems :—

Alexander's Feast, The Rape of the Lock, The Bard, The Cotter's Saturday Night, Resolution and Independence, An Ode to the West Wind, The Eve of St. Agnes, Horatius, The Forsaken Merman, The Revenge. (15)

7. Do you know any book (novel or not novel) which describes a district with which you are familiar? Is it successful in catching the character and spirit of the place? (15)

8. Say frankly whether you like Wordsworth's poetry or not, and give your reasons. (15)

9. Choose any *one* of the following :—Lemuel Gulliver, Sam Weller, Elizabeth Bennet, Jos Sedley, Maggie Tulliver, Count Fosco, John Loveday, Dr. Jekyll, Salvation Yeo, Dr. Watson—and describe the chosen one's appearance, character, and rôle in the book in which he or she figures.

(15)

10. Have you ever read a second (third, fourth, etc.) book or poem by an author because you had greatly enjoyed the first of his that you read? What were the books or poems? What qualities in them attracted you? (15)

HISTORY

LOWER GRADE

Thursday, 11th March-9.30 A.M. to 12 NOON

All candidates must attempt *four* questions, viz. Section 1 and *three* other questions selected from those in Sections 2, 3 and 4. At least one of these must be from Section 4.

25 marks are assigned to each question.

N.B.—Write legibly and neatly, and leave a space of half an inch between the lines. Marks will be deducted for writing that is difficult to read.

SECTION 1 (to be attempted by all candidates)

(See separate sheet provided for this section)

SECTION 2 (55 B.C. to A.D. 1485)

1. Trace the successive stages in the conversion of Britain to Christianity.

2. Why did England go to war with France in the fourteenth century? How far was she successful before the death of Edward III ?

3. Write notes on *two* of the following :—Agricola, St. Margaret of Scotland, Thomas Becket, Robert the Bruce, the Peasants' Revolt, markets and fairs in the Middle Ages.

SECTION 3 (1485 to 1763)

4. In what ways did Henry VII increase the power of the Crown ?

5. Describe everyday life in *either* an English town in the reign of Elizabeth *or* a Scottish burgh in the reign of Mary.

6. Explain the causes of the Civil War (1642-1646) and account for the Parliamentary victory.

7. What were the main changes in government and religion in England effected by the Revolution of 1688?

8. Trace the career of the elder Pitt to 1763, showing the special qualities which place him among our greatest statesmen.

SECTION 4 (1763 to the present day)

9. What industries (other than transport) were most affected by the Industrial Revolution, and in what ways?

10. "The hungry forties." How far, and on what grounds, do you agree with this description of the years 1840-1846?

11. Explain the causes of the American Civil War (1861–1865) and show the significance of the result.

12. Trace the steps by which the franchise was extended during the nineteenth and twentieth centuries.

13. Why were Britain and France unfriendly during the last quarter of the nineteenth century, and why did this unfriendliness give place to the Entente of 1904 ?

14. Write notes on *two* of the following :—John Wesley, the Stamp Act, the Duke of Wellington, the Durham Report, the Disruption of the Church of Scotland, the Congress of Berlin, Charles Stewart Parnell, David Lloyd George.

15. (a) Explain the working of cabinet government in Britain.

or (b) Discuss the main economic problems that confront Scotland today.

or (c) Describe the origin and the main features of the United Nations Organization.

HISTORY

HIGHER GRADE

(FIRST PAPER—BRITISH HISTORY)

Thursday, 11th March-9.30 A.M. to 12 NOON

All candidates must attempt *five* questions, viz., Section I and *four* questions selected from any other part of the paper.

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 will be deducted for writing that is difficult to read.

SECTION 1 (to be attempted by all candidates) (See separate sheet provided for this section.)

SECTION 2 (55 B.C. to A.D. 1485)

1. Describe life in Britain during the Roman occupation.

2. What were the problems that faced Henry II on his accession? What measures did he take for dealing with them?

3. Explain the causes of the Scottish War of Independence, and account for the final success of the Scots.

4. Explain the circumstances that led to the break-up of the manorial system.

5. Write notes on *two* of the following :—St. Augustine of Canterbury, Cnut, David I of Scotland, Stephen Langton, the Provisions of Oxford, the Lollards.

SECTION 3 (1485 to 1763)

6. On what grounds can modern English history be said to begin with the reign of Henry VII ?

7. In what respects did the Reformation in Scotland differ in character from the Reformation in England ?

8. Describe English commercial development in the reign of Elizabeth.

SENIOR LEAVING CERTIFICATE EXAMINATION

HIGHER HIST. I

(SECTION I)

1948

HISTORY HIGHER GRADE—I

SECTION |

(To be attempted by all candidates) Thursday, 11th March-9.30 a.m. to 12.0 noon

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

SECTION 1 (a)

On the accompanying map mark the position of *ten* of the following with a cross and add the appropriate number as given below :—

- (1) Acre.
- (2) Dublin.
- (3) Flodden.
- (4) Geneva.
- (5) Hamburg.
- (6) Hastings.
- (7) Kilsyth.
- (8) Malta.
- (9) Norwich.
- (10) Oxford.
- (11) Port Mahon.
- (12) Quiberon Bay.
- (13) Sedgemoor.
- (14) St. Andrews.

(5)

(15) Tangier.



Give the century, B.C. or A.D., of each of the following, indicate who or what each was, and say why each is important in history. Answers must be written in the space provided after each name. (15)

)

)

)

(1) Alfred the Great (century

(2) Anselm (century

(3) Joseph Chamberlain (century)

(4) Thomas Clarkson (century

(5) The Model Parliament (century

(6) The battle of Largs (century)

(7) Robert Owen (century

TURN OVER

(9) Sir James Young Simpson (century)

)

(10) The Peace of Wedmore (century

SECTION 1 (to be attempted by all candidates) (See separate sheet provided for this section)

SECTION 2 (Greek and Roman History to 410 A.D.)

1. Describe and compare the Athenian and Spartan constitutions in the middle of the fifth century B.C.

2. Do you consider that the battle of Mantinea marks a turning point in Greek history ?

3. Compare the services rendered to Rome by Pompey and by Julius Cæsar.

4. Describe the Roman system of provincial administration in the first century A.D.

5. Write notes on *two* of the following : —Themistocles, Alcibiades, the Achæan League, the Twelve Tables, the Gracchi, the Emperor Diocletian.

SECTION 3 (Mediaeval History, 410 to 1453)

6. What do you know of the barbarian invasions of Italy in the fifth century ?

7. Describe the main conquests and settlements of the Norsemen on the continent of Europe in the ninth and tenth centuries.

8. Discuss the view that the mediaeval papacy reached its height under Innocent III.

9. Account for the ultimate victory of France under Charles VII in the Hundred Years War.

10. Write notes on *two* of the following : —Charles Martel, the First Crusade, the Emperor Frederick Barbarossa, Louis IX of France, Cola di Rienzi, the Council of Constance.

SECTION 4 (Modern History (A), 1453 to 1763)

11. Explain the importance of the duchy of Burgundy in the latter half of the fifteenth century.

12. "The success of the Reformation spelt the ruin of the Holy Roman Empire." How far do you agree with this statement ? 13. Trace the rise of Sweden to the rank of a great power and account for its decline.

14. "The reputation of Louis XIV would have been greater if he had died before 1685." How far do you agree?

15. Do you consider that the ambition of Frederick II of Prussia was the sole cause of the War of the Austrian Succession ?

SECTION 5 (Modern History (B), 1763 to 1914)

16. Explain the political and social grievances which led to the French Revolution.

17. Describe the chief stages in the relations between Turkey and the European powers between 1815 and 1839.

18. "Blood and iron." Do you consider this phrase a satisfactory description of the methods of Bismarck?

19. Explain the international rivalries which led to the War of 1914–1918.

20. Write notes on *two* of the following :—The Emperor Joseph II, the Treaty of Tilsit, the Kingdom of the Netherlands (1815–1830), Mazzini, Louis Blanc, the Zollverein.

GEOGRAPHY

Lower Grade

Friday, 12th March-9.30 A.M. to 12 NOON

Candidates should attempt SEVEN questions, viz., the three questions of Section A, together with ONE question from EACH of the other Sections B, C, D and E.

Candidates should read the questions carefully. The answers should be clearly expressed and entirely relevant.

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 will be deducted for writing that is difficult to read.

SECTION A

The whole of this Section should be attempted.

1. On the accompanying map of part of the British Isles :---

- (a) Show and name *four* of the main coalfields of Britain, using a clear *dotted* line to delimit each. (4)
- (b) Delimit, using a continuous pencil line in each case, two fairly extensive areas where the population density is very high (exceeding 500 to the square mile). The areas chosen should not include the coalfields outlined in answer to (a).
- (c) Mark Edinburgh and Leeds, and show the Waverley-Midland Route from the one to the other. (2¹/₂)
- (d) Mark distinctly with a *double line* a limestone ridge which crosses England. $(1\frac{1}{2})$
- (e) Mark two passenger steamship routes between Ireland and Great Britain, naming the terminal ports in each case. (2)

(12)

2. On the accompanying map of the lands surrounding the Indian Ocean :—

- (a) Write DRY over an area with little or no rainfall at any season; WINTER over an area where most of the rain falls in the coolest season; SUMMER over an area where most of the rain falls in the warmest season; ALL over an area where the rainfall is heavy at all seasons; TWO over an area with two monsoonal rainy seasons each year.
- (b) Write OIL over two major oilfields.
- (c) Mark and name four entrepôts.
- (d) Name Tasmania, Sumatra, Madagascar, and Mozambique, stating after each the Empire of which it forms a part.

(12)

(1)

(2)

3. Examine the contour map on page 4 of the map sheet, and answer the following :—

- (a) Write, in 10-15 lines, a broad general description of the *build* of the area shown.
 (6)
- (b) Suggest reasons why a town has developed at S. (4)
- (c) Comment on the position of the road SPQBU. (4)
- (d) If the map measures $5\frac{1}{2}$ inches by 7, what area of territory is shown? (2)

(16)

SECTION B

Only ONE question to be attempted.

4. Distinguish between transhumance and nomadism. Describe, with reference to a specific example in each case, how geographical conditions lead to the movements of the people. (15)

5. What are the conditions necessary for the cultivation and harvesting of cotton or tea? Give a broad account of the world distribution of the crop selected. (15)

6. Explain with the help of diagrams :--

- (a) Why it is warmer at the Equator than at high latitudes, e.g., 60° N.; (7)
- (b) Why, in general, the interval between sunrise and sunset varies with the seasons, but does not do so at the Equator.

(15)

7. Describe, with reference to a specific example in each case, the main characteristics of the build, drainage, and soil of (a) a dissected plateau, and (b) an alluvial plain. Indicate in your answer how the physical characteristics influence human affairs. (15)

SECTION C

Only ONE question to be attempted.

8. Write a short essay showing how a serious deficiency in British coal production tends to bring about (a) restrictions in our food supply, (b) difficulties for our manufacturing industries, and (c) a reduced standard of living. (15)

9. Describe broadly the characteristics of the climate of your home area, mentioning average July and January temperatures, and average rainfall. (6)

Write notes showing how three of the following differ in climate from your home area : -

Cork, Dublin, Lowestoft, Braemar, Lerwick, Southampton.

10. Account for the distribution of people in one of the following areas, illustrating your argument by a sketchmap:—

(a) The Scottish Lowlands from the Highland Fault to the Southern Upland Fault;

- (b) England, north of the Mersey-Humber;
- (c) Wales ;

(d) Ireland (Eire and Northern Ireland).

SECTION D

Only ONE question to be attempted.

11. "Although geographically different, Norway and Denmark are much akin."

Expand and discuss this statement.

12. Write notes on the position and importance (assuming normal times) of *three* of the following :---

Basle; Coblenz; Essen; Hamburg; Istanbul; Madrid; Marseilles; Milan; Vienna. (15)

13. Contrast the climate of *two* of the following areas, and mention the main agricultural products which are grown successfully in the two areas chosen :—

The Plain of Lombardy; The Paris Basin; The Basin of the Vistula; S.W. Spain. (15)

SECTION E

Only ONE question to be attempted.

14. Suppose that you had recently spent a whole year at a farm in *one* of the following areas :—

17

(9) (**15**)

(15)

(15)

SENIOR LEAVING CERTIFICATE

The Lake Peninsula of Canada; Southern Manitoba; a valley of western Nova Scotia; the Australian Riverina; the eastern coastal plain of North Island, New Zealand; the south-western part of Cape Province, South Africa.

Write a geographical essay describing your impressions in regard to the scenery, climate, occupations, farming activities, and population of the area visited. (15)

15. Draw a sketch-map of N. America showing the main physical (*i.e.*, structural) regions, naming each appropriately. Give a general description of the build of one of these regions and write a *brief* note on the build of each of the rest. (15)

16. "Africa remained for long the Dark Continent, so great were the obstacles which impeded exploration of the interior." Mention the kinds of obstacles to which reference is here made; illustrate by examples. (15)

GEOGRAPHY

HIGHER GRADE—(FIRST PAPER) Friday, 12th March—9.30 A.M. to 12 NOON

- Candidates should attempt FIVE questions, viz., the two
- questions of Section A, together with any three questions taken from Section B.
- Candidates should read the questions carefully. The answers should be clearly expressed and entirely relevant.
- 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 will be deducted for writing that is difficult to read.

SECTION A

The two questions of this Section should be attempted.

1. Part of the one-inch Ordnance Survey map of Britain is provided. After studying the map, answer the following :—

- (a) Write (in 12-15 lines) a broad description of the build of the area shown. (11)
- (b) Comment briefly on the position of the routes (rail, etc.) (i) in the Ebbw Valley between Newbridge and Crosskeys, and (ii) in the Rhymney Valley below Maes-y-cwmmer or Hengoed, making any comparison of the valleys (from the point of view of transport) which seems to you to be interesting or important. (7)
- (c) Give an account of the distribution of population in the area, showing how it is related to relief and occupations.
 (9)
- (d) Contrast, in regard to position and lay-out, Crumlin (on the Ebbw, in the north of the map) with Oakdale (about two miles west of Crumlin).
 (6)
- (e) Write a note on the distribution of woodland in the area.(3)

(36)

2. On the accompanying map of North and South America :---

e

y

ts

n

or

- (a) Mark New Orleans, and, in brackets after the name, state the time by the sun at New Orleans when it is noon at Greenwich.
 (3)
- (b) Draw a line or lines joining places where the altitude of the mid-day sun is 70° on 21st December.
 (4)
- (c) Draw a line round the main wheat producing area in Canada. Mark by thick lines the routes by which Canadian wheat for export reaches the sea. (3)
- (d) Draw a *dotted* line round an area of inland drainage. (1)
- (e) Show by a line $(-\cdot \cdot \cdot)$ the 32° F. January isotherm (reduced to sea-level). (2)
- (f) Show by arrows the main direction of the winds over the S. American coastlands in December. (3)

(16)

SENIOR LEAVING CERTIFICATE

SECTION B

THREE questions should be attempted from this Section.

3. (a) Indicate the main features of the climate which gives rise to the true equatorial forests. (3)

(b) Where precisely are these forests found ? (3)

(c) Describe an equatorial forest, mentioning the types of animal life. (6)

(d) What is the economic importance of such forests, and why is their economic exploitation slow? (4)

(16)

(16)

4. Assuming that you could obtain, in respect of each farm in a particular Scottish county, all the statistical information for a particular year that you would require, describe carefully what you would do in order to translate the statistical information into a map of the county showing the varying intensity of *potato* cultivation. (Assume that you are given an outline map, area about 5 square feet, of the county.) (16)

5. The following table shows the mean temperature and rainfall, month by month, of three places A, B, and C. Select any *two* of the places and indicate where, in your opinion, they are situated, stating clearly but briefly how you have reached your conclusions.

			Jan.	Feb.	Mar.	Apr.	May,	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
A	$\begin{cases} Temp. \\ Rain & I \end{cases}$	F. n.	74 0	75 0	73 1/2	69 1		$ \begin{array}{c} 60 \\ 4\frac{1}{2} \end{array} $	59 3 <u>1</u>	59 3	61 1	64 1	68 1 4	72 0
В	$\begin{cases} Temp. \\ Rain \\ I \end{cases}$	F. n.	31 1 1	33 1½	37 2	46 1 <u>1</u>	55 1 <u>3</u>		$67 \\ 2\frac{3}{4}$	$63 \\ 2\frac{1}{4}$	57 1 <u>3</u>	48 2	38 2	33 2
С	$\begin{cases} \text{Temp.} & \uparrow \\ \text{Rain} & I \end{cases}$	F. n.	78 5	78 4 <u>1</u>	77 5	74 4 <u>1</u>	$71 \\ 3\frac{1}{2}$	68 2	68 1 ¹ / ₂	69 2		71 3	$73 \\ 4\frac{1}{2}$	$75 \\ 5\frac{1}{2}$

6. Answer (a) and (b), illustrating in each case by reference to a suitable example.

- (a) **Either** (i) What is a canyon and why are canyons normally found in dry areas ? (7)
 - or (ii) What is a hanging valley, and why is a waterfall usually found there? (7)
- (b) Describe the characteristics of the coastline of an area which has sunk until parts are submerged. (9)

(16)

(16)

7. "Towns tend to develop where there are easy means of (a) crossing or (b) getting round a barrier."

Comment on this statement, bearing in mind that the barrier may be a sea, river or lake, or a mountainous area. Illustrate your answer by suitable examples.

8. The following table, true for a typical year in the 1930's, provides statistics concerning five countries which produce large amounts of wheat :—

		Area	Population	WHEAT (Millions of tons)				
		(Sq. miles).	(millions).	Production.	Export.			
A	-				:			
Argentine		1,100,000	12	7	3.5			
Canada		3,700,000	11	. 11	5.5			
France		210,000	41	10	[Imports 1.8]			
Hungary		36,000	9	3	0.4			
Rumania		120,000	20	3	0.4			
				· · · · · · · · · · · · · · · · · · ·				

Comment on these figures so far as the production and ^{use} of wheat is concerned. (16)

9. What parts of the world were well known, vaguely known, and unknown to well-informed Europeans about 1530? What had been the great discoveries of the preceding fifty years? (16)

GEOGRAPHY

HIGHER GRADE—(SECOND PAPER)

Friday, 12th March-1.0 P.M. to 3.30 P.M.

Candidates should attempt FIVE questions, viz., ONE question from EACH of the Sections A, B, C and D, and a fifth from any Section.

Candidates should read the questions carefully. The answers should be clearly expressed and entirely relevant.

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 will be deducted for writing that is difficult to read.

SECTION A

1. Write, in a fashion that shows detailed knowledge, explanatory notes on two of the following, all of which refer to Scotland :--

- (a) The development of an "industrial estate," or the recent development of a new industry;
- (b) The tendency within any city or large town for premises of one type (e.g., factories, shops, houses) to be localized;
- (c) The decline, with special reference to one area, of a particular industry;
- (d) The importance as a barrier of one particular river;
- (e) The position and importance of a relatively minor railway junction, e.g., Leuchars, Dingwall, St. Boswells;
- (f) The decline and virtual or total eclipse of a small port;

(g) The declining population of a particular parish or small area;

(h) The cultivation of wheat;

 (i) Fluctuations during the last half-century in the height of the "moorland edge," (the height of the moorland edge being the height at which cultivation gives place to uncultivated pastures or waste land).

2. Describe broadly the scenery (land-forms, drainage, and vegetation) of *two* of the following areas of Britain, showing in each case how the land-forms depend on the nature of the rocks and on the agents that have shaped them :—

South Downs; Peak District; Grampian Highlands; Southern Uplands of Scotland; the Fens.

3. "British industries which depend on the New World tend naturally to be located in the west of the British Isles." Discuss and illustrate.

SECTION B

4. Give an explanatory account of the density-distribution of population in the Great European Plain from the North Sea to the Urals and northward to the Arctic Circle. Illustrate by a sketch-map.

5. Give a brief account of the Alps and of their importance in the geography of Europe, mentioning :—

(a) their build, (b) the nature of land utilization, and

- (c) their importance (i) as a watershed, and
- (ii) as a barrier to communication.

6. Select *two* of the following pairs and show in *each* case how the areas mentioned resemble or differ from one another :---

(a) Finland and the Province of Quebec;

(b) Belgium and Saxony;

r

(c) Portugal and North Island, New Zealand.

SECTION C

7. What are the *geographical* factors that have contributed and will continue to contribute to the rapid growth of the U.S.S.R.? What, on the other hand, are the geographical factors which impede the development of that Union ?

8. Show how the farming activities of the various parts of the Indo-Gangetic Plain are related to climate. Illustrate by a sketch-map.

9. "The capitals, Ottawa, Washington and Canberra, of Canada, U.S.A., and Australia have much in common *in regard to situation*; there is parallelism, too, in regard to the situation and character of the largest towns, Montreal, New York and Sydney." Discuss.

SECTION D

10. What are the main colonial territories of *either* France *or* Holland? Estimate the importance of these territories to the motherland concerned.

11. Draw a map of the western coastland of South America, showing the main climatic regions. Write concise *descriptive* notes on the main *climatic* characteristics of *each* of these regions.

12. Give a concise account of the geography of Japan or Palestine.

ARITHMETIC

Tuesday, 9th March-9.30 A.M. to 10.45 A.M.

Candidates must attempt any FIVE questions.

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.

20 marks are assigned to each question.

Marks will be deducted for careless or badly arranged work.

HIGHER GEOG. I. (O.S. Map)

SENIOR LEAVING CERTIFICATE EXAMINATION, 1948.

GEOGRAPHY HIGHER GRADE (FIRST PAPER)

ORDNANCE SURVEY MAP

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.







1. Find the total cost of the following :—

 $3\frac{1}{2}$ gallons of paraffin oil at $5\frac{1}{2}d$. per quart, 3,500 nails at 2s. 7d. per 1,000,

15^{$\frac{1}{5}$} yards of copper wire at 7^{$\frac{1}{2}d$}. per foot,

 $1\frac{1}{2}$ gross iron brackets at 1s. $4\frac{1}{2}d$. each,

One piece of asbestos sheet, 16 in. by 10 in., at 6s. 9d. per square yard.

2. The net income from an estate is $\pounds 7,565$ 5s. 0d. This sum is secured after deducting from the gross income 20 per cent. for repairs, 3 per cent. for minor expenses and then paying income tax at 8s. in the \pounds on what is left. Find the gross-income.

3. The three items of an account are $\pounds 6$ 7s. 5d.; $\pounds 9$ 10s. 11d.; $\pounds 2$ 8s. 4d. In making out the account a clerk by mistake interchanges the shillings and the pence in the last item. If the other items remain unchanged, find the percentage error in the whole account.

4. A sum of money was invested for $1\frac{1}{2}$ years at simple interest. On £500 of this sum interest was received at $2\frac{1}{2}$ per cent. per annum but on the rest the rate was $1\frac{1}{2}$ per cent. per annum. If in all £26 12s. 6d. was received as interest, what was the total amount invested?

5. A plunge bath is 12 yards long, 3 yards wide and 5 feet deep. Find the cost of covering the bottom and the sides with white square tiles which are 6 inches wide and cost 3s. $1\frac{1}{2}d$. per dozen.

6. Rainwater from a flat roof measuring 18 yards 2 feet by 11 yards is collected in a cylindrical tank of diameter 3 feet 6 inches and height 6 feet. If the water rises in the tank, the circular base of which rests on a horizontal surface, to a point 2 feet from the top, find in inches what depth of rainfall this represents.

$$\left(\text{Take }\pi=\frac{22}{7}\right)$$

7. For the first 7 miles of a journey of 21 miles a boat sailed at 10 miles per hour, but adverse currents reduced its speed to 8 miles per hour for the next 40 minutes. The rest of the journey was completed at 10 miles per hour. How long did the journey take ? 8. A and B were partners in a business, A having 800 shares. The employees received 40 per cent. of the year's profit as a bonus and the remainder of the profit was divided between A and B in the ratio of their shares. If the employees received $\pounds 156$ 5s. and A $\pounds 150$, what was the amount of the year's profit and how many shares did B hold ?

9. British coal was quoted for delivery in France at ± 3 10s. per ton. Calculate the appropriate quotation in france per quintal.

 $(f_1 = 479.92 \text{ francs}, 1 \text{ quintal} = 1,100 \text{ lb.})$

(Answer correct to second decimal place.)

10. In making jam a housewife used 6 lb. of fruit at 1s. $10\frac{1}{2}d$. a lb., 6 lb. of sugar at 3d. a lb., and a quarter of an ounce of tartaric acid at 6d. an oz. She required 25 cubic feet of gas at 4s. 2d. per thousand cubic feet and obtained $11\frac{1}{2}$ lb. of jam. How much per pound, to the nearest tenth of a penny, did the jam cost her?

MATHEMATICS.

LOWER GRADE—(FIRST PAPER)

Monday, 15th 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.

Four-place logarithmic tables are provided.

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 or part of a question is shown in the margin. Marks will be deducted for careless or badly arranged work.

SECTION I

All the questions in this Section should be attempted.

1. Prove that parallelograms on the same base and between the same parallels are equal in area.

2. Prove that, if a straight line touches a circle and from the point of contact a chord is drawn, the angles which this chord makes with the tangent are equal to the angles in the alternate segments.

3. Prove that in an obtuse-angled triangle the square on the side opposite the obtuse angle is greater than the sum of the squares on the sides containing the obtuse angle by twice the rectangle contained by one of these sides and the projection on it of the other.

State, without proof, the corresponding theorem for the square on the side of a triangle opposite to an acute angle.

4. Prove that in equiangular triangles the sides about the equal angles are proportional.

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. In an isosceles triangle ABC, the sides AB and AC are equal. D and E are points on AB and AC respectively such that AD = AE. If BE and CD meet in G, prove that—

- (i) BE = CD;
- (ii) GD = GE;
- (iii) AG bisects angle DGE.

27

10

Marks

11

11

 $\mathbf{2}$

 $\frac{2}{4}$

6

6
6. Two circles intersect at P and Q. The tangent at Pdrawn to the first circle meets the second circle in R and the tangent at Q drawn to the second circle PQR meets the first circle in S. SP produced meets circle PQR in T, and RQ produced meets circle PSQ in W.

Prove that—

(1) angle SPQ = angle PQR;

(2) STRW is a parallelogram.

(Section I, 2.)

7. AB is a diameter of a circle of radius 14 cm. AC and BD are two chords intersecting within the circle at Eand AE and BE measure 20 cm. and 12 cm. respectively. Show that angle AEB is obtuse and calculate the lengths 4,4 of EC and ED.

Find also the length of CD and show that, if O is the centre of the circle, angle $DOC = 60^{\circ}$.

(Section I, 3.)

8. ABCD is a quadrilateral in which \hat{A} and \hat{B} are right angles. AC and BD intersect at E and PEQ is drawn perpendicular to AB to meet AB at P and CD at Q.

Prove that-

(i) $\frac{AP}{PR} = \frac{AD}{RC}$; (ii) PE = EQ.

9. The angle between two radii OA and OB of a circle is 45° and the length of the perpendicular from O to the chord AB is 10 cm. Using your tables, calculate the area of the triangle OAB and hence determine the area of a regular octagon inscribed in the circle.

Find also the length of the radius of the circle.

28

Marks

2

7

9

2

2

3,3

8

8

2

MATHEMATICS

LOWER GRADE—(SECOND PAPER)

Monday, 15th 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 or part of a question is shown in the margin. Marks will be deducted for careless or badly arranged work.

SECTION I

All the questions in this Section should be attempted.

Marks

6.

7

6

7

1. (i) Use logarithmic tables to evaluate—

$$\frac{(0\cdot 2345)^2}{6\cdot 523 \times 0\cdot 0423},$$

giving your answer correct to three significant figures.

(ii) Find, correct to 0.1 inch, the length of the circumference of a circle whose area is 48.5 sq. in.

(Take
$$\pi = 3.142.$$
)

2. (i) Resolve-

$$36 (x^2 - 2)^2 - x^2$$

into four linear factors.

(ii) Solve the equation

$$5x^2 - 5x - 2 = 0$$
,

giving the answers correct to two places of decimals.

3. (i) If I buy x lb. of apples at 6*d*. per lb. and y lb. at 8*d*. per lb., find the average price per lb. 2

(ii) Given that a = 3t and $b = 4t^2$, express b in terms of a.

(iii) If f_x amount to f_y at z per cent. per annum simple interest after t years, prove

$$t = \frac{100 (y - x)}{x z}$$

(iv) Using your tables, find a value of θ if $\tan \theta = 4 \tan 20^{\circ}$.

4. (i) Define sin θ , cos θ and tan θ when θ is an acute angle. 1,1,1

Prove that—

 $\sin^2\theta + \cos^2\theta = 1,$

and deduce that—

$$\frac{1}{1+\tan^2\theta} = \cos^2\theta.$$

(ii) Prove that—

 $\sin^2 A \sin^2 B + \sin^2 A \cos^2 B + \cos^2 A = 1.$

SECTION II

Only THREE questions should be attempted from this Section.

5. (i) If $\frac{a}{x+a^2} = y + \frac{1}{a}$,

express x explicitly in terms of y and a ; hence, or otherwise, $\frac{6}{2}$ find the value of x when y = 3 and a = -2.

(ii) A line AB of length l is divided at a point P so that AP: PB = a: b.

Prove
$$AP = \frac{a l}{a+b}, PB = \frac{b l}{a+b}.$$

If AP and PB are divided at points Q and R respectively so that AQ : QP = a : b and PR : RB = a : b, show that QP = PR.

Marks

3

5

3

2

2

6

6. The following are special cases of the same identity, obtained by giving a variable n different numerical values—

$$3^2 = 2 \times 4 + 1,$$

 $7^2 = 6 \times 8 + 1,$
 $3^2 = 12 \times 14 + 1.$

Find the identity in n, and use it to find the square of 9999. 10, 6

7. If $y = \sin x + \cos x$, tabulate the values of y for values of x of 0°, 10°, 20°, 30°, 40°, 50°, 60°, 70°, 80°, 90°.

Draw a graph to show how y varies with x, taking $\frac{1}{2}$ in.

on the axis of x to represent 10° and 5 in. on the axis of y to represent unity.

From your graph find—

- (i) the greatest value of y and the corresponding value of x, and
- (ii) the values of x for which $y = 1 \cdot 2$.

8. If the length of a room were increased by 2 ft. and the breadth diminished by 1 ft., the area would be increased by 10 sq. ft.; if the length were diminished by 2 ft. and the breadth increased by 2 ft., the area would be increased by 2 sq. ft. Find the length and breadth of the room.

9. A ship steams due west between 6 a.m. and 7 a.m. at 10 miles per hour. At 6 a.m. the bearing of a lighthouse L from the ship is due north and at 7 a.m. the bearing of L is 62° east of north. Find, by using tables, the distances of the ship from L at 6 a.m. and at 7 a.m.

If, at 7 a.m., the ship alters course to due south, find the bearing of L from the ship at 7.30 a.m.

8

4

2 2

16

5, 5

MATHEMATICS

HIGHER GRADE—(FIRST PAPER) Monday, 15th 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 or part of a question is shown in the margin. Marks will be deducted for careless or badly arranged work.

SECTION I

All the questions in this Section should be attempted.

1. Prove that, if a pair of opposite angles of a quadrilateral are supplementary, the quadrilateral is cyclic.

8

11

Deduce that the same is true, if an exterior angle of the quadrilateral is equal to the interior opposite angle.

2. If from a point outside a circle a secant and a tangent be drawn to the circle, prove that the rectangle contained by the whole secant and the part of it outside the circle is equal to the square on the tangent.

3. Prove that, if from the vertex of a triangle a straight line is drawn perpendicular to the base, the rectangle contained by the sides of the triangle is equal to the rectangle contained by the perpendicular and the diameter of the circle circumscribed about the triangle.

Deduce that, if \triangle be the area of the triangle,

$$\triangle = \frac{abc}{4R},$$

where a, b, c and R have the usual meanings.

4. Prove that, if the point (x, y) divides the straight line Marks joining the points (x_1, y_1) and (x_2, y_2) internally in the ratio l: m,

$$x = \frac{lx_2 + mx_1}{l + m},$$
$$y = \frac{ly_2 + my_1}{l + m}.$$

Verify that the point P(-2, 1) lies on the straight line joining the points A(-4, -3) and B(1, 7), and find the ratio in which it divides this line.

Assuming the formula for external division, find the co-ordinates of the point Q dividing the line AB externally in the same ratio.

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 an acute-angled triangle. P, Q, R are points on BC, CA, AB respectively such that the circles passing through R, P, B and through P, Q, C intersect at a point O inside the triangle.

Prove that a third circle can be drawn through A, Q, Oand R. (Section I, 1)

If O is the centre of the circumcircle of the triangle ABC, show that the triangles PQR and ABC are equiangular.

6. AC and BD are the two direct common tangents to two non-intersecting circles; PQ is a transverse common tangent, which, when produced, meets AC and BD at points R and S respectively. The points of contact A, P, B lie on one circle and C, Q, D on the other and AR < RC.

Prove (i)
$$AC = BD$$
;
(ii) $RC - AR = BS - SD = PQ$
(iii) $AR = SD$, $RC = BS$.

(84160)

33

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 $\mathbf{2}$

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5 6 6

в

Marks 7. State without proof what you know about the areas of similar triangles.

1

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9

9

ABC is a triangle whose vertical angle \hat{A} is 45°. E and F are the feet of the perpendiculars from B and C on the opposite sides AC and \overline{AB} , and O is the mid-point of the side BC.

Prove that—

- (i) $AB = \sqrt{2} \cdot AE$;
- (ii) the area of the triangle AEF is half that of the triangle ABC;
- (iii) $F\hat{O}E$ is a right angle.

8. The points A (4, 2), B (-3, 1), C (-2, -6) form the vertices of a triangle.

Find the equations of the perpendicular bisectors of any two sides of the triangle, and hence, or otherwise, obtain 4,4 the co-ordinates of the centre of the circum-circle of the 3 triangle.

Find the radius and the equation of this circle.

9. At a certain instant an aeroplane, which is rising and flying at a constant speed in a straight line making in the direction of flight an angle α with the ground, is exactly above an observer stationed on the ground. After an interval of time the angle of elevation of the aeroplane from the observer is β , and after a further equal interval the angle of elevation is γ .

Prove that—

 $\cos \beta \sin (\gamma - \alpha) = \cos \alpha \sin (\beta - \gamma).$

Deduce that—

 $\tan \gamma = \frac{\sin \left(\alpha + \beta\right)}{2 \cos \alpha \cos \beta}$

MATHEMATICS

HIGHER GRADE-(SECOND PAPER)

Monday, 15th March-1.0 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 or part of a question is shown in the margin. Marks will be deducted for careless or badly arranged work.

SECTION I

All the questions in this Section should be attempted.

1. (i) Express in algebraic symbols the following statement and prove that it is true :---

The cube of the sum of two numbers added to twice the sum of their cubes is equal to three times the sum of the numbers multiplied by the sum of their squares.

(ii) Factorize-

(a) $a^4 + 3a^2 + 4$, (b) $1 - p + q - 20 (p - q)^2$, (c) $x^3 + 4x^2 + x - 6$. 3

2. (i) A ladder 15 ft. long rests with one end on horizontal ground and the other against a vertical wall. When the upper end slips down 3 ft. it is found that the lower end slips 3 ft. along the ground and away from the wall. How far is the top of the ladder from the ground before slipping takes place ?

(ii) Solve-

$$x + y + z = 0,$$

$$x - y + z = 8,$$

$$xyz = 48.$$

(84160)

Marks

6

6

 E_2

Marks 3. (i) If a and b are rational and \sqrt{c} and \sqrt{d} are surds and if $a + \sqrt{c} = b + \sqrt{d}$, prove that a = b and c = d. 2

1

5

4

4

6.6

Write down the roots of the equation $x^2 + px + q = 0$, in which p and q are integers. If one of these roots is equal to $-8 + 3\sqrt{2}$, find the other root and also the values of p and q, explaining each step clearly. 2, 1, 1

(ii) The sum of two numbers is to their mean proportional as 5:2. Prove that one of the numbers must be four times the other.

4. A sum of money, P pounds, is invested at compound interest accruing yearly at γ per cent. per annum. Prove that the amount, A pounds, at the end of n years is given by the formula $A = P \left(1 + \frac{r}{100}\right)^n$, and show that,

if $\frac{A}{P} = k$ and $1 + \frac{r}{100} = R$, then $R = 10^{\frac{1}{n} \log_{10} k}$.

Hence, or otherwise, find the rate per cent. per annum compound interest on a National Savings Certificate which costs 10s. and amounts to 12s. in 7 years.

5. In a triangle ABC the sides are of lengths a, b, c, where a = 6.5 cm., b = 8 cm. and c = 10 cm. Calculate the area of the triangle and the size in degrees of the smallest angle.

6. Assuming the expansions for sin (A - B) and $\cos (A - B)$, derive a formula for $\tan (A - B)$ in terms of $\tan A$ and $\tan B$.

Hence prove that—

- (i) $\tan 15^\circ = 2 \sqrt{3}$:
- (ii) if PQRS is a rectangle in which PO = 2PS, and if T, the mid-point of RS, is joined to P, then

$$\tan RPT = \frac{1}{3}$$

SECTION II

Only TWO questions should be attempted from this Section.

7. In a certain town a circus showman sells all his seats at 1s. 9d. and finds that he makes a profit of f_{27} 10s. on each performance. In another town he sells 250 seats at 4s., half as many at 2s. 6d. and all the rest at 1s.; in so doing his profits for each performance are increased by f_{9} 7s. 6d. Assuming that the expenses incurred for each performance do not alter, find what they amount to and also the number of seats in the circus tent.

8. (i) In a certain progression the *n*th term is 3n - 2; find—

(a) the first three terms,

(b) the sum of the first n terms.

(ii) Two unequal positive numbers p and q form the first two terms of an arithmetical progression and also of a geometrical progression. Find the third term of each 2, 2 progression, and show that the third term of the geometrical progression is the greater of the two. 4

9. Tabulate the values, to two places of decimals, of $3 \cos 3x$ and $\cos x$ for $x = 0^{\circ}$, 15° , 30° , 45° , 60° , 75° , 90° . 3 Draw the graphs of these functions on the same diagram taking one inch on the axis of x to represent 15° and one inch on the axis of y to represent unity.

Find from your diagram the values of x in the above range which satisfy the equation $\cos x = 3 \cos 3x$.

Solve, by any other method, this equation for values of x between 0° and 360°.

10. Assuming the necessary formulae, prove that in any triangle ABC—

(i) sin $A +$	$-\sin B - \sin$	$C = 4 \sin \theta$	$\frac{A}{2}\sin\frac{B}{2}$	$\cos\frac{C}{2}$,-
---------------	------------------	---------------------	------------------------------	----------------------

(ii) $b^2 \sin 2C + c^2 \sin 2B = 4 \triangle$, where \triangle denotes the area of the triangle.

From (i) deduce that the sum of the sines of any two angles of a triangle is always greater than the sine of the third angle.

(84160)

1, 1, 13

14

3, 1

1, 1

1, 1

6

6

3

B 3

SENIOR LEAVING CERTIFICATE

ELEMENTARY ANALYSIS

Additional Mathematical Subject (Higher Grade)

Wednesday, 17th 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 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.

SECTION I

- Not more than FOUR questions should be attempted from this Section.
 - 1. (i) If A, B and C are angles in a triangle, prove that $\tan A + \tan B + \tan C = \tan A \tan B \tan C$.

(ii) If A, B and C are three angles such that

 $\tan B \tan C + \tan C \tan A + \tan A \tan B = 1$, prove that π

 $A + B + C = (2n - 1)\frac{\pi}{2}$, where *n* is an integer. (15)

2. (i) Prove that the sum to *n* terms of the series $1^2 + 2^2 + 3^2 + \ldots$

is $\frac{n (n+1) (2n+1)}{6}$, and find the sum to n terms of the series

$$1.3 + 3.5 + 5.7 + \ldots$$

(ii) Find the sum (a) to n terms, and (b) to infinity, of the series

$$\frac{1}{1.3} + \frac{1}{3.5} + \frac{1}{5.7} + \dots$$
 (15)

3. Solve the equations

(i) $2^{3x+1} \cdot 3^{2x-1} \cdot 6^{x-3} = 5$,

(ii) $\sqrt{(x+1)} - \sqrt{(4x-3)} + 1 = 0$,

in which the *positive* values of the square roots are to be taken. (15)

4. If u and v are functions of x prove that

$$\frac{d}{dx}\left(\frac{u}{v}\right) = \frac{1}{v^2}\left(v\frac{du}{dx} - u\frac{dv}{dx}\right).$$

Differentiate with respect to x the following—

(i)
$$\cot x$$
, (ii) $\frac{1-x^2}{1+x^2}$, (iii) $\frac{e^{2x}}{x^2}$. (15)

5. A variable straight line passes through the point (2, 1) and meets the *positive* axes OX and OY at P and Q respectively. If θ denotes the angle QPO, prove that the area of the triangle OPQ is

$$2+2\tan\theta+\frac{1}{2}\cot\theta$$
.

Find the minimum value of the area and discuss why it is a minimum value and *not* a maximum value. (15)

SECTION II

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

6. (i) Prove that the roots of the equation

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

 $\operatorname{are} \cos \theta \pm i \sin \theta$. Hence prove that, if

$$\nu + \frac{1}{\nu} = 2\cos\phi,$$

the values of

$$\frac{x^m}{y^n} + \frac{y^n}{x^m}$$

are $2 \cos (m\theta \pm n\phi)$.

(ii) Find the roots of the equation $x^7 - 1 = 0.$ (20) (84160) B4

SENIOR LEAVING CERTIFICATE

7. (i) Express

$$\frac{2+x}{(1-2x)(1+x^2)}$$

in partial fractions. *Hence* obtain the expansion of the given expression in ascending powers of x as far as the term in x^3 . What are the necessary restrictions on the values of x if the expansion is valid ?

(ii) Prove that, if
$$n > 1$$
,
 $2 \log_{e} n - \log_{e} (n + 1) - \log_{e} (n - 1) = \frac{1}{n^{2}} + \frac{1}{2n^{4}} + \frac{1}{3n^{6}} + \dots$
(20)

8. Integrate with respect to x the following—

(i) $1 - \frac{1}{x^2}$, (ii) $\cos^2 x$, (iii) $\sec^2 x \tan^3 x$.

Sketch the graph of the curve $y^2 = 4x$ and find the area contained between the curve and the lines x = 1 and x = 2. (20)

9. Sketch the graph of the curve

$$y^2 = \frac{1}{3}x (3 - x)^2,$$

paying attention to the gradients at the points for which x = 0 and x = 3.

Find the volume of the solid formed by revolving the loop of the curve about the axis of x. (20)

[Volume = $\pi \left[y^2 dx \right]$, between the proper limits.]

DYNAMICS

Additional Mathematical Subject (Higher Grade)

Tuesday, 23rd March—1.45 P.M. to 3.45 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. Draw a velocity-time diagram to represent the motion of a particle which has an initial velocity u and a uniform acceleration f in the same direction, explaining how the distance covered in t seconds can be obtained from the diagram.

A motor car runs from start to stop between two points A and B in 5 minutes. It is uniformly accelerated for the first 150 yards, then runs at constant velocity, and is finally retarded uniformly for 15 seconds, the acceleration and the retardation being numerically equal. Find in yards the distance between the stations. (15)

2. Find the magnitude of the resultant of two forces of 3 and 8 poundals, when the angle between their directions is 120° .

 $\overset{O}{\operatorname{ods}}$ is a point within a triangle ABC; if forces represented in magnitude, direction and line of action by $\overset{O}{\operatorname{ods}}$, $\overset{O}{\operatorname{OB}}$ and $\overset{O}{\operatorname{OC}}$ are in equilibrium, prove that O is the centroid of the triangle. (15) 3. Define Work, Foot-poundal, Foot-pound, and Horsepower.

An engine working at 192 horse-power pulled a train of total weight 300 tons along a level track against a resistance of 12 lb. weight per ton. Calculate in miles per hour the steady speed that could be maintained.

When carriages weighing 100 tons were uncoupled, it was found that the engine, working at the same rate, could maintain against a headwind a speed of 24 miles per hour on the level. What must then have been the resistance per ton? (15)

4. Distinguish between the Density and the Specific Gravity of a body; and explain why, when the centimetre and the gram are taken as units of length and mass, the numerical values of the density and the specific gravity of any substance are the same.

A mass of metal, weighing 100 gm. in air, is observed to weigh 92 gm. in liquid A and 90 gm. in liquid B. Find the ratio of the specific gravities of the two liquids.

If the specific gravity of the liquid B is 1.025, what is the specific gravity of the metal ? (15)

SECTION II

Only TWO questions should be attempted from this Section.

5. State the laws of statical friction.

If a body be placed on a plane which is slowly tilted until the inclination is such that the body is on the point of sliding down, find the relation between this inclination and the coefficient of friction between the body and the plane.

A block of wood of mass m lb. lies on a rough inclined plane which makes an angle α with the horizontal, and the friction between the body and the plane is just sufficient to prevent motion. A force of F poundals is applied horizontally to the block and the angle of inclination of the plane is increased to θ ; it is then found that the force of friction is again just sufficient to prevent the block from sliding down the plane. Prove that

$$\mathbf{F} = mg \, \tan \, (\theta - \alpha). \tag{20}$$

6. State Newton's Third Law of Motion, and from it deduce the principle of conservation of momentum in the case of two bodies colliding directly.

A bullet weighing one ounce, and travelling at 1280 ft. per second, embeds itself in a suspended block of wood weighing 9 lb. 15 oz. How far will this block have risen vertically above its original position when it reaches the end of its swing ?

Determine the loss of energy due to the collision.

7. A uniform rod AB of weight W is freely hinged at A to a vertical wall and is supported in a horizontal position by means of a light string BC attached to the rod at B and to a point C on the wall vertically above A. A weight w is suspended at B.

Prove that the tension in the string is

 $\frac{1}{2}$ (W + 2w) cosec θ ,

where θ is the angle ABC.

If the reaction at A makes an angle $\dot{\phi}$ with AB, prove that

$$\tan \phi = \frac{W \tan \theta}{W + 2w}.$$

8. Distinguish between the *thrust* and the *pressure* of a liquid on a surface, and find a formula for the pressure at a depth h in a liquid of density ρ .

The ends of a horizontal V-shaped trough are vertical and in the shape of equilateral triangles of side 2 feet. The trough measures 6 feet in length and is filled with a liquid of specific gravity 0.9. Given that the density of water at the same temperature is 62.3 lb. per cubic foot, calculate the thrust due to the liquid on each side and on each end of the trough. (20)

(20)

(20)

GEOMETRY

Additional Mathematical Subject (Higher Grade)

Wednesday, 24th March-1.45 P.M. to 3.45 P.M.

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

Not more than FIVE questions should be attempted, of which TWO should be chosen from Section I, TWO from Section II, and a FIFTH from EITHER Section.

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

1. Establish the formula for the length of the perpendicular from the point (h, k) to the line whose equation is ax + by + c = 0.

Find the intersection of the lines given by the equation

 $6x^2 + 5xy - 6y^2 - 29x + 2y + 28 = 0,$

and show that the square of the distance of this point from the point P(-3, 0) is equal to twice the product of the perpendiculars from P on the lines.

2. Find an expression for the length of the tangent from any point (h, k) to the circle

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

How would you determine, without a diagram, whether the point (h, k) is inside or outside the circle?

Find the locus of a point P which moves in such a way that the angle between the tangents from it to the circle

$$x^2 + y^2 - 4x = 0$$

is always equal to the angle between the tangents from it to the circle

 $x^2 + y^2 - 16y + 55 = 0.$

3. If (x_1, y_1) and (x_2, y_2) are inverse points with respect to the circle $x^2 + y^2 = r^2$, prove that

$$x_2 = rac{r^2 x_1}{x_1^2 + y_1^2}, \quad y_2 = rac{r^2 y_1}{x_1^2 + y_1^2}.$$

Deduce the equation of the polar of the point (x_1, y_1) with respect to the circle $x^2 + y^2 = r^2$.

Find the equation of the polar of the point P (1, 5) with respect to the circle $x^2 + y^2 = 13$, and find also the equations of the tangents from P to the circle.

4. Define a parabola and prove that its equation can be put in the form $y^2 = 4ax$.

From a fixed point S a perpendicular SA is drawn to a fixed line AL; M is any point on AL and N is the midpoint of AM. Through M and N lines MP and NP are drawn perpendicular to AM and SN respectively to meet in P. Prove that P lies on the parabola whose focus is S and whose vertex is A, and that NP is the tangent at P.

5. Prove that the equation of the chord joining the points $(ct_1, \frac{c}{t_1})$, $(ct_2, \frac{c}{t_2})$ on the rectangular hyperbola $xy = c^2$ is

$$t_1 t_2 y + x = c(t_1 + t_2),$$

and deduce that the equations of the tangent and the normal at the point $P\left(ct, \frac{c}{t}\right)$ are

$$t^2y + x = 2ct$$

 $t^3x + c = ty + ct^4.$

and

Verify that the normal meets the curve again at the point
$$\mathbb{Q}\left(-\frac{c}{t^3}, -ct^3\right)$$
.

If through these points P and Q straight lines PR and QR are drawn parallel to the y-axis and the x-axis respectively to meet in R, show that R lies on the curve $x^3 + c^2y = 0$.

SECTION II

6. State and prove the characteristic property of the Nine-Point Circle of a triangle, and find its centre and radius.

If H is the orthocentre of the triangle ABC, and O_1 , O_2 , O_3 are the circumcentres of the triangles BHC, CHA, AHB respectively, prove that the triangles ABC and $O_1O_2O_3$ are congruent and that they have the same Nine-Point Circle.

7. A line AB is divided harmonically at C and D. If an external point O is joined to A, B, C and D by straight lines to form the pencil O (AB, CD), prove that any transversal of this pencil is divided harmonically by it.

Show how to find a point in a given straight line such that the straight lines from it to the vertices of a given triangle form with the line a harmonic pencil.

8. Define the power of a point with respect to a circle. Show that the locus of a point whose powers with respect to two given circles are equal is a straight line perpendicular to the line joining the centres.

The line joining the centres of two circles meets the first in P and Q and the second in R and S: L and M are the points of contact of a common tangent. Prove that the triangles LPQ and MRS are similar and that PL and SM meet on the radical axis.

9. Prove that a sphere can be found to pass through four points which do not all lie in the same plane.

If OAB, OCD, OEF are lines which do not lie in one plane, and $OA \cdot OB = OC \cdot OD = OE \cdot OF$, show that the six points A, B, C, D, E, F all lie on a sphere.

LATIN

LOWER GRADE

Friday, 19th 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 will be deducted for writing that is difficult to read.

1. Translate into English :—

(a) Alexander the Great's army, caught in a blizzard, becomes disorganized. His kindness to an exhausted straggler who was only a private soldier.

Ordinibus solutis agmen iter per saltum faciebat. milites multi perierant, multi per silvam dispersi errabant. rex unus tanti mali patiens circumire milites et dispersos contrahere. castra loco idoneo poni iussit, et arbores quam plurimas accendi. mox continenti incendio crederes totum saltum ardere. forte Macedo gregarius miles, se et arma aegre sustentans, vesperi in castra pervenerat. quo viso rex, quamquam ipse tunc maxime admoto igne refovebat⁽¹⁾ corpus, ex sella sua exsiluit torpentemque militem, demptis armis, in sua sede iussit considere. ille diu, nec ubi requiesceret nec a quo esset exceptus, agnovit. tandem recepto calore vitali, ut regiam sedem regemque vidit, territus surgit. quem intuens rex "nonne intelligis, miles," inquit, "quanto meliore sorte vos, quam Persae, sub rege vivatis? illis enim in sella regis consedisse capitale esset, tibi saluti fuit." (35)

⁽¹⁾ refoveo = revive, warm again.

(b) Octavius Caesar's victory at Actium and his clemency to the conquered.

Advenit dies quo Caesar Antoniusque productis classibus dimicavere, alter pro salute, alter in ruinam imperii Romani. ubi initum est certamen, omnia in altera parte fuere, dux, remiges, milites, in altera nihil praeter milites. prima fugit Cleopatra; Antonius fugientis reginae quam pugnantium militum suorum comes esse maluit; imperator, qui in desertores saevire debuerat, desertor exercitus sui factus est. Caesar, quos ferro poterat occidere, verbis movere cupiebat; clamitans et ostendens fugisse Antonium, quaerebat pro quo et cum quo pugnarent; sed illi, cum diu pro absente duce summa virtute dimicassent, armis positis se dedere nolebant; citius vitam veniamque⁽¹⁾ Caesar promisit, quam illis, ut ea precarentur, persuasum est. (28)

47

⁽¹⁾ venia = pardon.

- 2. Translate into Latin :---
 - (1) When you find the money, give it to your sister.
 - (2) That house was so cold that nobody wished to remain in it.
 - (3) The general was afraid that the infantry had already retreated from the top of the mountain.
 - (4) All that day the Germans kept following our legions along the river, but they did not dare to attack.
 - (5) Cannot you tell me what time it was?
 - (6) We had hoped that your daughters would try to save us.
 - (7) With difficulty the consul was persuaded that it would be useless to resist longer.
 - (8) Though you refused to believe him, he had not betrayed his country. (28)
- 3. (a) Give the first person singular of the perfect indicative active, and the first supine, of mordeo, tono, claudo, aufero, uro, vincio.
 - (b) Give the accusative singular of mulier, scelus, lac, senex, quies, linter.
 (9)

LATIN

HIGHER GRADE-(FIRST PAPER)

Friday, 19th 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 will be deducted for writing that is difficult to read.

Translate into English the following passages :-In wars against the Gauls other generals had sought merely to keep them in check. Caesar's policy was different; he aimed at the conquest of the whole of Gaul.

Bellum Gallicum, patres conscripti, a C. Caesare gestum est, antea tantum modo repulsum⁽¹⁾. semper illas nationes nostri imperatores refutandas potius bello quam lacessendas putaverunt. ipse ille C. Marius influentes in Italiam Gallorum maximas copias repressit, non ipse ad eorum urbes sedesque penetravit. modo ille meorum laborum socius, C. Pomptinus, ortum repente bellum Allobrogum proeliis fregit, eosque domuit qui lacessierant, et ea victoria contentus, re publica metu liberata, quievit. C. Caesaris longe aliam video fuisse rationem. non enim sibi solum cum iis, quos iam armatos contra populum Romanum videbat, bellandum esse duxit, sed totam Galliam in nostram dicionem esse redigendam. itaque cum acerrimis nationibus et maximis Germanorum et Helvetiorum proeliis felicissime decertavit, ceteras terruit, domuit, imperio populi Romani parere adsuefecit; quas regiones quasque gentes nullae nobis antea litterae, nulla fama notas fecerat, has noster imperator nosterque exercitus et populi Romani arma peragrarunt. (45)

⁽¹⁾ waged defensively.

2. On the morning after the battle, Aeneas and his allies celebrate funeral rites for their dead. Some of these rites are described in this passage.

Aurora interea miseris mortalibus almam extulerat lucem, referens opera atque labores. iam pater Aeneas, iam curvo in litore Tarchon constituere pyras : huc corpora quisque suorum more tulere patrum ; subiectisque ignibus atris conditur in tenebras altum caligine caelum. ter circum accensos, cincti fulgentibus armis, decurrere rogos⁽¹⁾; ter maestum funeris ignem lustravere⁽²⁾ in equis, ululatusque ore dedere. spargitur et tellus lacrimis, sparguntur et arma. it caelo clamorque virum clangorque tubarum. hinc alii spolia occisis derepta Latinis coniciunt igni, galeas, ensesque decoros, frenaque, ferventesque rotas ; pars munera nota, ipsorum clipeos et non felicia tela.

> ⁽¹⁾ rogus = funeral pile. ⁽²⁾ lustro = I go round, compass.

Scan the last three lines, marking the principal caesura in each. (40)

3. A number of Roman matrons are, on the information of a maidservant, detected in a plot to poison leading citizens.

Insequenti anno primores civitatis similibus morbis moriebantur. cuius rei causam ancilla quaedam ad Quintum Fabium Maximum, aedilem curulem, se indicaturam esse professa est, si ab eo fides data esset se fore tutam. Fabius rem ad consules, consules ad senatum referunt, consensuque patrum fides indici⁽¹⁾ data est. tum patefecit muliebri fraude civitatem premi, matronasque ea venena coquere, et, si se sequi extemplo velint, manifesto deprehendi posse. secuti invenerunt coquentes quasdam medicamenta. ad viginti matronae, apud quas deprehensa erant, ad forum accitae sunt. duae ex eis, cum ea medicamenta salubria esse contenderent, bibere ab indice iussae sunt ut se falsum dixisse arguerent. spatio ad colloquendum sumpto, cum rem ad ceteras retulissent, haud abnuentibus et illis bibere, omnes epoto medicamento suamet ipsae fraude interierunt.

(1) index = informer.

(35)

LATIN

HIGHER GRADE—(SECOND PAPER) Friday, 19th 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 will be deducted for writing that is difficult to read.

1. Translate into Latin :---

Meanwhile the shouting and the uproar round the palace were increasing. At last a rush was made from every side upon the gates. They were so strongly guarded that the assailants were forced to retire. But the attack terrified the Emperor himself and caused much consternation among his friends. In this crisis he summoned them and sought their advice. Most of them urged him to quit the city secretly by sea on a vessel ready for his use. Theodora alone displayed an intrepid courage. She alone, without fear of his hatred or his wrath, spoke the words that saved him from both danger and disgrace. "If flight", she said, "were to be the only means of safety, I at least should refuse to fly. They who have reigned ought never to survive the loss of imperial power. If you, O Cæsar, resolve to fly, you have a store of gold and silver : behold the sea; you have ships. But take care lest, while desiring to live, you meet an ignominious death. For my own part, I believe that a throne⁽¹⁾ is a glorious sepulchre.' (50)

⁽¹⁾ throne = solium, -i, n.

- 2. Translate into Latin :---
 - (1) Can nobody prevent her from telling lies about her neighbours ?
 - (2) Whenever the slave turned round, he saw that the lion was following him.
 - (3) Remember that the greater the danger, the bolder our leader becomes.
 - (4) What you are doing will benefit yourself alone; you will not be blamed, provided you do not harm others.
 - (5) We are very glad that your mother has not been able to arrive here today : even for ourselves we have not enough dinner.
 - (6) Before he made that speech two months ago in defence of these scoundrelly Greeks, all the citizens trusted him. If he were seeking the consulship now, none of us would help him. (23)
- 3. (a) Give the genitive singular of aes, facies, lapis, acus, praeceps, superstes, robur.
 - (b) Give the first person singular of the perfect indicative active of claudo, percello, ardeo, occulo, flecto, diligo, comperio.
 (7)

GREEK

LOWER GRADE

Monday, 22nd 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 will be deducted for writing that is difficult to read.

1. Translate into English :---

(a) By his chivalrous offer Cyrus wins Egyptian troops over to his own side.

Ο δε Κῦρος οἰχτείρει τοὺς Αἰγυπτίους ὅτι ἀγαθοὶ ἀνδρες όντες απώλλυντο πέμπει δε πρός αύτους κήρυκα έρωτῶν πότερον βούλονται απολέσθαι πάντες ύπερ τῶν προδεδωχότων αύτους η σωθηναι άνδρες άγαθοι δοκούντες είναι. οί δ' άπεκρίναντο, "πῶς δ' αν ήμεῖς σωθείημεν άνδρες ἀγαθοί δοκούντες είναι; "ό δε Κύρος πάλιν έλεγεν ότι "ήμεις ύμας όρῶμεν μόνους καὶ μένοντας καὶ μάχεσθαι ἐθέλοντας." άκούσαντες δὲ ταῦτα ἐπήροντο, "ἐἀν δὲ γενώμεθά σοι φίλοι, τί ἡμῖν ἀξιώσεις χρῆσθαι⁽¹⁾;" ἀπεκρίνατο ὁ Κῦρος, "μισθὸν μέν ύμιν δοίην αν πλείονα η νῦν ἐλαμβάνετε ὅσον αν χρόνον πόλεμος η. εἰρήνης δε γενομένης, τῷ βουλομένω ὑμῶν μένειν παρ' έμοι χώραν τε δώσω και πόλεις και γυναϊκας και οίκέτας." ἀκούσαντες δε ταῦτα πάντες ἔδοσαν πίστιν καί έλαβον. και οι τότε καταμείναντες έτι και νῦν βασιλει πιστοί διαμένουσι, Κυρός τε πολείς αὐτοῖς ἔδωκε. ταῦτα δέ διαπραξάμενος σκοταΐος ἀπελθών ἐστρατοπεδεύσατο ἐν (35)Θυμβράροις.

- (b) Charon and Hermes listen to Cræsus and Solon discussing who have been the happiest of mankind.
 - ΧΑΡ. Ο Κροΐσος δὲ ποῦ ἐστιν;
 - EP. ᾿Απόβλεψον εἰς τὴν μεγάλην πόλιν Σάρδεις ἐκεῖναι, καὶ τὸν Κροῖσον αὐτὸν ὁρῷς Σόλωνι τῷ ᾿Αθηναίῳ διαλεγόμενον ἀκούσωμεν αὐτῶν ὅ τι λέγουσιν.
 - ΧΑΡ. πάνυ μεν ούν.
- ΚΡΟΙΣ. ³Ω ξένε Άθηναῖε, εἶδες γάρ μου τὸν πλοῦτον καὶ τοὺς θησαυρούς, εἶπέ μοι, τίνα ἡγεῖ τῶν ἁπάντων ἀνθρώπων εὐδαιμονέστατον εἶναι;
 - ΣΟΛ. ³Ω Κροΐσε, όλίγοι μέν οἱ εὐδαίμονες ἐγὼ δὲ ῶν οἶδα Κλέοβιν καὶ Βίτωνα ἡγοῦμαι εὐδαιμονεστάτους γενέσθαι, οἳ ἅμα ἀπέθανον ἐπεὶ τὴν μητέρα αὐτοὶ εἴλκυσαν⁽¹⁾ ἐπὶ τῆς ἀπήνης⁽²⁾ εἰς τὸν νεών.
- ΚΡΟΙΣ. "Έστω ό δεύτερος δε τίς αν είη;
 - ΣΟΛ. Τέλλος ὁ Ἀθηναῖος, ὃς εὖ τε ἐβίω καὶ ἀπέθανεν ὑπερ τῆς πατρίδος.
- ΚΡΟΙΣ. Ἐγώ δέ, οὕ σοι δοκῶ εὐδαίμων εἶναι;
 - ΣΟΛ. Οὐδέπω οἶδα, ὦ Κροῖσε, ἐἀν μἡ πρὸς τὸ τέλος ἀφίκη τοῦ βίου. ὁ γὰρ θάνατος ἀκριβής ἐστιν ἕλεγχος⁽³⁾ τῶν τοιούτων. (27)
 - $^{(1)}$ = had drawn.
 - $^{(2)}$ = wagon, carriage.
 - $^{(3)} = \text{test.}$
- 2. Translate into Greek :—
 - (1) If the king is killed, who will rule our city?
 - (2) Let us set free this slave, for he saved his master.
 - (3) We never were afraid that the enemy would seize our ships.
 - (4) Did you know that Troy was besieged for ten years?
 - (5) I have left at home all the books which you gave me.
 - (6) We ought to praise those who have treated us well.
 - (7) Those sailors escaped from the camp without being observed by the guards.
 - (8) There are so many dogs in his house that I never go there. (26)

- (a) Give the aorist infinitive active of γιγνώσκω, μανθάνω, φεύγω, τίθημι, γελῶ, ἐλαύνω, φαίνω, ἀπόλλυμι.
 - (b) Give the genitive singular, and the dative plural, of οὖζ, κύων, ὄρνις, ἥρως, ἄστυ.
 (12)

GREEK

HIGHER GRADE—(FIRST PAPER)

Monday, 22nd 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 will be deducted for writing that is difficult to read.

Translate into English :---

1:

Murder.

Ἐπεὶ δ' Ἀλέξανδρος παρέλαβε τὴν ἀρχήν, χαλεπὸς μὲν Θετταλοῖς ταγὸς ἐγένετο, χαλεπὸς δὲ Θηβαίοις καὶ Ἀθηναίοις πολέμιος, ἄδικος δὲ ληστής καὶ κατὰ γὴν καὶ κατὰ θάλατταν. τοιοῦτος δ' ῶν καὶ αὐτὸς ἀποθνήσκει, αὐτοχειρία μὲν ὑπὸ τῶν τῆς γυναικὸς ἀδελφῶν, βουλῆ δὲ ὑπ' αὐτῆς ἐκείνης. τοῖς τε γὰρ ἀδελφοῖς ἐξήγγειλεν ὡς ὁ Ἀλέξανδρος ἐπιβουλεύοι αὐτοῖς, καὶ ἔκρυψεν αὐτοὺς ἐνδον ὅντας ὅλην τὴν ἡμέραν, καὶ δεξαμένη μεθύοντα τὸν Ἀλέξανδρον ἐπεὶ κατεκοίμισεν, τὸ ξίφος αὐτοῦ ἐξήνεγκεν. ὡς δ' ἤσθετο ὀκνοῦντας εἰσιέναι ἐπὶ τὸν Ἀλέξανδρον τοὺς ἀδελφούς, εἶπεν ὡς εἰ μὴ ἤδη πράξοιεν, ἐξεγερεῖ αὐτόν. ὡς δ' εἰσῆλθον, ἐπισπάσασα τὴν θύραν εἴχετο τοῦ ῥόπτρου⁽¹⁾, ἕως ἀπέθανεν ὁ ἀνήρ. ἡ δὲ ἔχθρα λέγεται αὐτῆ πρὸς τὸν ἀνδρα γενέσθαι, ὡς ἐπεὶ ἕδησε νεανίαν τινὰ ὁ Αλέξανδρος, δεηθείσης αὐτῆς λῦσαι, ἐξαγαγῶν αὐτὸν ἀπέσφαξεν· τὰ μὲν οὖν αἴτια τῆς ἐπιβουλῆς ὑπὸ τῆς γυναικὸς οὕτω λέγεται.

⁽¹⁾ $\dot{\rho}\dot{\sigma}\pi\tau\rho\sigma\nu = \text{door knocker.}$

2. A proposal has been made that, for his services to Athens, Demosthenes should receive a golden crown. The speaker argues that great benefactors of the state had hitherto received no personal rewards.

Πότερον ύμιν ἀμείνων ἀνήρ εἶναι δοκεί Θεμιστοκλης, ὁ στρατηγήσας, ὅτ' ἐν τῆ περὶ Σαλαμῖνα ναυμαχία τὸν Πέρσην ένιχατε, η Δημοσθένης, ό τὰς τάξεις λιπών; Μιλτιάδης δέ, ό την έν Μαραθῶνι μάχην τοὺς βαρβάρους νικήσας, η οὗτος; έτι δ' οἱ ἀπὸ Φυλῆς φεύγοντα τὸν δῆμον καταγαγόντες; Άριστείδης δ', ό Δίκαιος ἐπικαλούμενος, ό τὴν ἀνόμοιον ἔχων έπωνυμίαν Δημοσθένει; έπιδειξάτω Δημοσθένης έν τῷ αύτοῦ λόγω εί που γέγραπταί τινα τούτων τῶν ἀνδρῶν στεφανῶσαι. άχάριστος ἄρ' ήν ο δήμος; ούκ, άλλὰ μεγαλόφρων, κάκεινοί γε οί μή ούτω τετιμημένοι της πόλεως άξιοι. ού γαρ ώοντο δεῖν ἐν τοῖς γράμμασι τιμᾶσθαι, ἀλλ' ἐν τῇ μνήμῃ τῶν εὖ πεπονθότων, η απ' έκείνου του χρόνου μέχρι τησδε της ήμέρας άθάνατος οὖσα διαμένει. δωρεὰς δὲ τίνας ἐλάμβανον ἄξιόν ἐστι μνησθήναι. ἦσάν τινες κατά τους τότε καιρούς, οι πολλούς και μεγάλους κινδύνους ύπομείναντες ἐπὶ τῷ Στρυμόνι ποταμῷ ένίκων μαχόμενοι Μήδους. οὗτοι δεῦρο ἀφικόμενοι τὸν δῆμον ήτησαν δωρεάν, και έδωκεν αύτοις ό δήμος τιμάς μεγάλας, ώς τότ' έδόκει, τρεῖς λιθίνους Έρμᾶς στῆσαι ἐν τῆ στοặ τῆ τῶν Έρμῶν, ἐφ' ἦ τε μὴ ἐπιγράφειν τὰ ὀνόματα τὰ ἑαυτῶν, ἶνα μή τῶν στρατηγῶν ἀλλὰ τοῦ δήμου δοκῆ εἶναι τὸ ἐπίγραμμα. (45)

3. Either (a) or (b).

(a) Zeus has sent Iris to bid Priam go to the Greek camp and offer ransom for Hector's body. Hecuba urges him not to go, for Achilles will have no pity or respect for him.

Ή μεν άρ' ώς είποῦσ' ἀπέβη πόδας ὠκέα Ἱρις αὐτὸς⁽¹⁾ δ' ἐς θάλαμον κατεβήσετο κηώεντα, ἐς δ' ἄλοχον Ἐκάβην ἐκαλέσσατο φώνησέν τε[·] ''δαιμονίη, Διόθεν μοι 'Ολύμπιος ἄγγελος ἦλθε λύσασθαι φίλον υἱὸν ἰόντ' ἐπὶ νῆας 'Αχαιῶν, δῶρα δ' 'Αχιλλῆι φερέμεν, τά κε θυμὸν ἰήνῃ. ἀλλ' ἄγε μοι τόδε εἰπέ, τί τοι φρεσὶν εἴδεται εἶναι; αἰνῶς γάρ μ' αὐτόν γε μένος καὶ θυμὸς ἄνωγε κεῖσ' ἰέναι ἐπὶ νῆας ἔσω στρατὸν εὐρὺν 'Αχαιῶν."

ώς φάτο, κώκυσεν δὲ γυνὴ καὶ ἀμείβετο μύθω. " ὥ μοι, πῆ δή τοι φρένες οἴχονθ', ἦς τὸ πάρος περ ἔκλε'⁽²⁾ ἐπ' ἀνθρώπους ξείνους ἠδ' οἶσιν ἀνάσσεις; πῶς ἐθέλεις ἐπὶ νῆας ᾿Αχαιῶν ἐλθέμεν οἶος, ἀνδρὸς ἐς ὀφθαλμοὺς ὅς τοι πολέας τε καὶ ἐσθλοὺς υἱέας ἐξενάριξε· σιδήρειόν νύ τοι ἦτορ. εἰ γάρ σ' αἰρήσει καὶ ἐσόψεται ὀφθαλμοῖσιν, ὡμηστὴς καὶ ἀπιστος ἀνὴρ ὅ γε, οὕ σ' ἐλεήσει, οὐδέ τί σ' αἰδέσεται. νῦν δὲ κλαίωμεν ἀνευθεν ἕμμενοι ἐν μεγάρω."

> ⁽¹⁾ αὐτός i.e. Priam. ⁽²⁾ ἕχλε' = ἕχλεο, were famous.

Scan the first two lines, marking the principal caesura (40)

(b) Teiresias the prophet tells Creon that the only way of saving the state is by the sacrifice of Menoiceus, his son.

Φράσον πολίταις και πόλει σωτηρίαν. Kρ. βούλει σύ μέντοι κούχὶ βουλήσει τάχα. Tε. Ko. καὶ πῶς πατρώαν γαῖαν οὐ σῷσαι θέλω; θέλεις ακούσαι δήτα και σπουδήν έχεις; Tε. Κρ. ἐς γὰρ τί μαλλον δεῖ προθυμίαν ἔχειν; κλύοις αν ήδη των έμων θεσπισμάτων. Tε. πρώτον δ' έκεινο βούλομαι σαφώς μαθείν, ποῦ 'στιν Μενοικεύς, ὅς με δεῦρ' ἐπήγαγεν; όδ' ού μακράν άπεστι, πλησίον δε σοῦ. Kρ. άπελθέτω νυν θεσφάτων έμῶν έκάς. Tε. Ko. έμος πεφυκώς παις ά δει σιγήσεται. βούλει παρόντος δητά σοι τούτου φράσω; Tε. Κρ. κλύων γάρ αν τέρποιτο της σωτηρίας. Τε. άχουε δή νυν θεσφάτων έμῶν όδόν. σφάξαι Μενοικέα τόνδε δει σ' ύπερ πάτρας, σόν παιδ', έπειδή την τύγην αὐτὸς καλείς. Κρ. τί φής; τίν εἶπας τόνδε μῦθον, ὦ γέρον; Tε. άπερ πέφυκε, ταῦτα κἀνάγκη σὲ δρᾶν.

Scan the last two lines, marking the principal caesura in each. (40)

GREEK

HIGHER GRADE-(SECOND PAPER) Monday, 22nd 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 will be deducted for writing that is difficult to read.

1. Translate into Greek :----

Before the generals left the city the Athenians despatched a herald to Sparta. He ran so fast that he arrived there in a day and a night. Coming into the presence of the magistrates he said, "Lacedæmonians, the host of the Persians has captured Eretria, burned the temples, and enslaved the citizens. Now it has sailed for Attica; they hope to treat the Athenians as they have treated the Eretrians. The Athenians are in extreme peril, for their army is small; they entreat you to assist them and not to allow the most ancient city of Greece to be destroyed by barbarians." When they heard the message the magistrates considered what ought to be done. At last they resolved to send help to the Athenians, but not immediately. The Athenian generals were in doubt what to do until the Spartans should arrive. Some urged that they ought to engage the Persians as soon as possible; others that their soldiers were too few to engage so large a force. (48)

- 2. Translate into Greek :---
 - (1) The money will be given him on condition that he never makes war on us or our allies.
 - (2) Whenever your slaves are told to work harder, they laugh and immediately stop working.
 - (3) Our general swore that he would attack the Persians till he had driven them from Greece.
 - (4) You knew well that you had often tried to do us an injustice.
 - (5) The prophet's words were so strange that nobody could understand what he meant. (20)
- (a) Give the first person plural of the aorist indicative active, and the aorist infinitive passive, of ἀφίημι, ἐγείρω, ἀφαιρῶ, δάκνω, τείνω, πίμπρημι, ἐπαινῶ.

(b) Give the genitive singular, and the nominative plural,
 of λεώς, μήν, πέλεκυς, υίός, οὖς, δόρυ, χάρις. (?)

FRENCH

LOWER GRADE

Tuesday, 16th 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 will be deducted for writing that is difficult to read.

1. Translate into English :---

The little gipsy and the sheep.

En sortant de l'épicerie du village, le petit bohémien courut après des moutons que leur berger ramenait à la ferme. Il ne dit rien à ce berger, mais il suivit le troupeau et s'en occupa, de loin, comme un second berger.

A la porte de la bergerie il fut sérieusement utile. Les agneaux nouveau-nés, qui n'avaient pas vu leurs mères de la soirée, se précipitaient dehors. Il les aida à retrouver chacun la sienne. Il en sépara deux qui couraient vers la même mère ; il en rattrapa un autre qui, joyeux d'être libre, bondissait imprudemment vers la mare.

Puis, pour sa récompense, le petit bohémien voulut pénétrer dans la bergerie. Il se croyait chez lui. Mais le berger lui ferma au nez le bas de la porte divisée en deux parties. Le petit bohémien se pendit à la porte basse, et regarda par-dessus. Mais bientôt le berger, sa besogne terminée, ressortit, ferma cette fois la porte tout entière, le haut et le bas, et s'en alla du côté de la soupe, avec son chien. Le petit bohémien, qui le suivait encore, le vit entrer dans la maison et s'asseoir près des autres domestiques. Il resta seul au milieu de la cour.

Personne ne faisait attention à lui, et la fermière ne se dérangea pas pour le chasser.

Il renifla⁽¹⁾ fortement et revint à la bergerie coller son oreille à la porte. Les agneaux calmés se taisaient un à un. Il s'assura que le verrou extérieur était bien poussé, et par précaution il chercha une grosse pierre afin de caler⁽²⁾ la porte. Cela fait, n'imaginant plus rien à faire, il se décida à quitter la ferme. (35)

> ⁽¹⁾ renifier = to sniff. ⁽²⁾ caler = to wedge.

2. Translate into English : -

My first day at a new school.

Je me dépouillai de mon manteau dans le couloir, comme les autres élèves, et j'entrai dans la classe. Le maître, M. Joliclerc, venait de s'asseoir en chaire.

La journée commença par une leçon de calcul. Nous devions étudier la division à un chiffre. Plusieurs de ces petites opérations étaient écrites au tableau. Les élèves, à tour de rôle, se levaient, croisaient les bras et interprétaient les chiffres de la façon habituelle. " En vingt-huit, combien de fois cinq? Cela signifie que si j'ai vingt-huit billes à partager". Chaque élève devait, de lui-même, changer l'exemple. Vint le tour de mon ami Désiré Wasselin. Il croisa les bras, fronça les sourcils et commença: "En trente-sept, combien de fois sept ? " Il parlait lentement, avec peine, sa grosse tête inclinée de côté. Il était fort en retard dans ses études et le plus âgé de la classe. Il choisit pour exemple les cerises et ne se tira pas trop mal de sa chantante récitation. "Cela signifie que mes camarades recevront chacun cinq cerises et qu'il ne m'en restera que deux." Toute la classe dressa l'oreille. La phrase normale était : "Il m'en restera deux." Il y eut un silence et Désiré poursuivit d'une voix funèbre : "Mais ça m'est bien égal."

M. Joliclerc leva les bras au ciel. Il renversa la tête en arrière avec un air d'embarras comique et dit : "Toujours martyr, alors, mon pauvre Wasselin ? Allons, rassiedstoi ! Tu auras quand même une bonne note." Et Désiré se rassit, l'air sombre.

C'était maintenant le tour de Gabourin. Il prit les fraises pour exemple et lorsqu'il eut terminé M. Joliclerc s'écria : "Des fraises, oui ! Il t'en reste cinq. Lesquelles prends-tu ?" Gabourin répondit : "Les grosses." M. Joliclerc se mit à rire. (35)

3. Translate into French : --

Edinburgh, 1st September, 1947.

Dear Robert,

I want to tell you what we did during the holidays. On the 14th of July we went to the seaside. The weather was very warm, and we bathed twice a day. At the beginning of August we returned home, and two French boys came to spend a few days with us. We played together and went for walks, and many of our friends invited the boys to visit them. We all enjoyed ourselves very much. Next year we hope to go to France and to see our French friends again.

Write to me soon and tell me what you have been doing.

Yours sincerely,

Tom.

- - (1) Mary has very white teeth; have you noticed them?
 - (2) Do you not prefer this game to the one we played last week ?
 - (3) I wonder why he has not answered my last letter.
 - (4) When my sister was born I was four years old; now she is bigger than I.
 - (5) We are always told to be good when we are young.

(10)

(20)

FRENCH

HIGHER GRADE-(FIRST PAPER)

Tuesday, 16th 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 will be deducted for writing that is difficult to read.

SENIOR LEAVING CERTIFICATE

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

2.

Promenade matinale après la pluie.

Nous longeâmes la haie, et, prenant à gauche, nous entrâmes dans le bois. Nous l'aimions tant, notre cher bois ! Il était silencieux à cette heure. La mousse, gonflée par l'eau, cédait sous le pied comme une éponge qu'on presse, et à chaque feuille des branches trop pesantes se balançait une goutte transparente toute prête à tomber.

Rien au monde n'est joli comme la forêt humide, à cette heure du jour surtout où tout se tait, où le vent est calme, où les oiseaux eux-mêmes commencent à s'endormir et songent à se sécher. J'aimais cela, parce qu'il y a un charme à se sentir bien seul et à marcher sous les grandes voûtes vertes, à respirer l'odeur pénétrante du bois humide, à frapper de sa canne sur les gros troncs de chêne qui rendent un bruit sonore et long, que tous les autres troncs répètent à la file; à s'arrêter tout court au cri d'une branchette qui se brise, au murmure de gouttes d'eau qui de temps en temps chuchotent en tombant de feuille en feuille, à respirer à pleins poumons l'air pur qu'a lavé la pluie.

Nous cheminions sous des bouleaux, lorsqu'un petit vent bien doux passa au-dessus de nos têtes en caressant le sommet des arbres qui, aussitôt, se mirent à bruire et, se secouant comme un oiseau mouillé, laissèrent tomber sur nous un déluge de beaux diamants humides. (30)

Les chevaux de labour.

Tout en sueur, voici les bêtes de labour Qui reviennent, traînant la herse et la charrue; Ét leurs pas réguliers résonnent dans la rue Comme ceux des soldats qu'anime le tambour.

Voyez-les s'avancer, les serviteurs des hommes, Eux qui se réservaient le plus dur du travail : Percherons⁽¹⁾ accouplés, par le large portail Ils rentrent au logis des fermiers économes.

^{1.}

Le robuste garçon qui s'assied sur leur dos, Les cinglant de son fouet, souvent les importune, Quoiqu'ils aient tout le jour creusé la terre brune, Ét bien gagné le foin, l'avoine et le repos.

Ils ont de bons regards, à défaut de paroles, Pour saluer de loin le gros chien aboyeur. Les tout petits enfants les touchent sans frayeur ; Et le couchant vermeil leur fait des auréoles.⁽²⁾

(1) Le percheron = draught horse (bred in Perche).
 (2) Une auréole = a halo.

De l'utilité de la lecture.

3.

La lecture n'est pas la science universelle, ce n'est pas non plus la sagesse universelle; mais un homme qui a pris l'habitude de lire peut toujours consulter sur chaque question donnée une expérience plus grande que la sienne, et une expérience désintéressée.

Voilà l'avantage de la lecture. Savez-vous, en effet, ce que sont les populations qui n'ont pas de livres, par exemple les populations indiennes de l'Amérique? Les Indiens n'ont pas de passé, ils n'ont que les souvenirs vagues conservés par leurs vieillards. Aussi chez eux l'expérience ne fonde-t-elle jamais rien. Si l'un d'eux invente une arme plus parfaite que celle dont ils se servent habituellement, quand elle est détruite il n'en reste plus même le souvenir. La civilisation n'a pas prise sur⁽¹⁾ des gens qui ne peuvent s'appuyer sur le passé; ils sont comme des hommes sans mémoire, et c'est pour cela qu'ils restent sauvages. C'est notre grand avantage à nous que d'avoir un passé; nous vivons, nous pensons avec l'expérience de trois ou quatre mille ans accumulés, et ^{cela} grâce aux livres. Au contraire, ces populations-là vivent au jour le jour.

Le livre est donc l'expérience du passé. C'est mieux encore: un livre est quelque chose de vivant, c'est une âme qui revit en quelque sorte, et qui nous répond chaque fois que nous voulons l'interroger. (35)

⁽¹⁾ avoir prise sur = to have a hold on.

63

(25)
FRENCH

HIGHER GRADE—(SECOND PAPER)

Tuesday, 16th 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 will be deducted for writing that is difficult to read.

1. Translate into French :---

I spent the next hour in showing the photographs to Miss Spenser and in talking to her about the countries I had visited. She listened to me with $rapt^{(1)}$ attention.

" "Have you been very long in foreign lands ?" she asked at last, after I had ceased talking.

"Many years," I said.

"And have you travelled everywhere?"

"I have travelled a great deal. I am very fond of it; and, happily, I have been able to do so."

"And can you speak the foreign languages?"

"Enough to make myself understood."

" Is it hard to speak them ?"

"I don't believe you would find it hard," I gallantly responded.

She looked at two or three photographs in silence. "What a pity it's so dear," she said at length, "to go to Europe and to travel. I have very little money. I have laid something by⁽²⁾ and I am always adding to it. But I have waited so long and I haven't enough yet. There is a lady who is a great friend of mine; I see her every week, and I always talk to her about it. But *she* doesn't want to go, and she told me once she didn't know what would become of me. I should go crazy⁽³⁾ if I did not go to Europe, and I should certainly go crazy if I did."

"Well," I said, "you have not gone yet, and nevertheless you are not crazy." (50)

(1) rapt = profond.

⁽²⁾ to lay by = mettre de côté.

 $^{(3)}$ to go crazy = devenir fou.

2. Translate into French :---

- (1) If you were asked which was the most interesting book you had ever read, what would you reply ?
 - (2) I shall take my friends to see the new Zoo as soon as I am free.
 - (3) Last summer we suffered a great deal before we became accustomed to the heat.
 - (4) At what time is Mr. Brown to arrive ? Someone should go to meet him at the station.
 - (5) I need a new suit. Come with me to the tailor's and help me to choose one. (15)

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.

Vous passez les vacances chez un ami au bord de la mer—un jour vous allez tous les deux explorer une caverne —un bruit étrange—vous èn cherchez la cause—un passage souterrain—des contrebandiers (*smugglers*)—que faire ? avertir la police ?—trop tard—un des contrebandiers vous a vus—

(Complete the story in your own way). (25)

FRENCH

HIGHER GRADE-(SECOND PAPER)

Tuesday, 16th 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.

(84160)

C

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,' (:) 'deuxpoints,' (;) ' 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

Une auberge anglaise.

Rien ne ressemble moins au cabaret français | que l'auberge anglaise. | Imaginez une maison propre | et bien tenue, | aux murs peints de couleurs vives, | ou blanchis à la chaux, | dont la porte est couverte | de lierre et de rosiers | qui fleurissent au printemps. | Elle se trouve sur la grande route, | à l'endroit | où jadis s'arrêtaient les diligences | pour changer de chevaux | ou prendre des voyageurs. | Aujourd'hui, | l'automobile a remplacé l'ancienne voiture, | mais, | comme au temps passé, | l'aubergiste attend les clients | sur le seuil de sa porte: | c'est un personnage considérable | et connu de tout le village, | où son autorité est grande. | Entrons avec lui dans la salle commune ; | un grand feu brûle dans l'âtre, | les chaises et les tables sont aussi bien polies que les pots de cuivre | qui ornent la cheminée. Dans un coin, | une demi-douzaine de paysans causent tranquillement des affaires du village, | tout est tranquille et presque familial, | et si quelque ivrogne, | parfois, | vient troubler la paix générale, | il est vite expulsé par le propriétaire | ou par ses compagnons indignés. |

GERMAN

LOWER GRADE

Thursday, 18th 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 will be deducted for writing that is difficult to read.

(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 :—

" Faithful "-friend of my childhood.

Soweit ich mich in meine Kindheit zurückerinnern kann, war Treu, unser großer, schöner, wenn auch nicht rassen= reiner Wolfshund, ein Junkt, um den sich die meisten meiner Gedanken bewegten. Für mich war er, der seinen Namen mit vollem Recht trug, etwas wie ein Inbegriff von Treue, an deren Wahrheit nicht gezweifelt werden konnte. War es nun dieje, im Unterbewußtsein⁽¹⁾ schlummernde Vorstellung von Treue, die in mir beim Anblick des Hundes aufstieg, oder sonst irgend ein Grund, der mich veranlaßte, alles, was eßbar war, mit Treu zu teilen? Ich weiß es nicht. Auf alle fälle war Treu fast immer dabei, wenn Leckerbissen⁽²⁾ vor= handen waren, und wartete geduldig, bis ich ihm seinen Teil in seine feuchte, warme Schnauze steckte. War es Gemüse jeder Art, Obst, Schokolade, oder was es auch immer sein mochte, Treu fraß alles, wenn ich es ihm gab. Hatte Treu etwas von mir erhalten, so zögerte er nicht, mir seine Dankbarkeit zu zeigen. Er wedelte mit dem Schwanz, an dem ich in kindlichem Abermut so manches Mal gezerrt, ohne daß er auch nur daran gedacht hätte, diese Mißhandlung seines Hundestolzes mit einem Knurren oder mit dem Fletschen der Zähne zu bestrafen. Während er wedelte, (84160) C 2

schaute mich Treu mit seinen dunklen, vertrauensvollen Augen so an, als wollte er mir dadurch seine Ergebenheit sichtbar zum Ausdruck bringen. Treu und ich waren bis an sein Ende glücklich, wie man nur glücklich sein kann, und während unseres Zusammenseins erlebten wir manch buntes Abenteuer.

(1) das Unterbewußtsein : the subconsciousness.

(35)

(2) der Leckerbissen: the titbit.

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

An unexpected visitor.

Es war in der ersten Hälfte des August. Schwül waren die Tage, aber desto schöner waren die Nächte mit ihrer erquickenden Kühle. Draußen im Waldwasser, wo vordem die Fris blühten, spiegelten sich jetzt die schönsten Sterne; im Nordosten des nächtlichen Himmels ergoß die Milchstraße ihre breiten, leuchtenden Ströme.

Richard hatte während einiger Tage den nächsten Umtreis des Forsthauses nicht verlassen: ein Körperleiden aus den Jahren seines Heeresdienstes war wieder aufgetaucht und hatte sich wie eine lähmende Hand auf ihn gelegt. Jest saß er, die linde Nacht erwartend, auf einer Holzbank, welche vor der Mauer angebracht war; an seiner Seite lag sein löwengelber Hund. Das Tal entlang begann ein fühler Hauch zu wehen: er hätte wohl nicht dort in der Abendlust siten sollen.

Da schlug der Hund an und richtete sich auf. Gegenüber aus den Tannen ließen sich Schritte vernehmen, und bald erschien die schlanke Gestalt eines Mannes, auf dem Fußsteige hinschreitend. "Ruhig, Leo !" sagte Richard, und der Hund legte sich gehorsam wieder an seine Seite.

Der Fremde war unterdessen näher gekommen, und Richard erkannte einen jungen Mann in herkömmlicher⁽¹⁾ Jägertracht, mit dunklem, krausem Haar und kecken Gesichtszügen; sehr weiße Zähne blinkten unter seinem spitzen Schnurrbärtchen,

als er, jetzt leicht die Mütze rückend, "Guten Abend" bot. Richard erwiderte höflich den Gruß und wartete ruhig die Erklärung dieses unerwarteten Besuchs ab.

(1) herkömmlich : traditional.

3. Translate into German :—

- (1) What time is it ? Unfortunately I have no watch, but I think it is about half-past one.
- (2) Peter has invited me to tea at his house tomorrow, for it is his birthday.
- (3) If you had put on a warmer coat last night, you would not have caught cold.
- (4) Would you please tell me the way to the railway station? Yes, take the first street on the right.
- (5) Since you are so fond of fruit, you should ask the gardener to give you some pears.

(15)

4. Translate into German :---

Freiburg,

21st July, 1947.

Dear Charles,

(84160)

The weather has been so fine that we have spent nearly all the time in the open air. Today, however, it is raining, and I am sending postcards to all my friends. The picture on the other side of this card shows the lake which we visited yesterday. We went there by bus and had a bathe before lunch. I hope you are enjoying yourself at the seaside.

Yours sincerely,

John.

(15)

C 3

(35)

GERMAN

HIGHER GRADE—(FIRST PAPER) Thursday, 18th 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 will be deducted for writing that is difficult to read.

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

Rain interrupts a walking tour.

Die Wanderer schlugen im Nebel die zähe und hartnädig steigende Alpenstraße ein. Die Straße wand sich hin und her, dem Gelände nur geringe Steigungen ablistend. Die steilen Wiesen waren von den Trittpfaden des Weideviehs gerunzelt. Immer wieder gab es Brücken über höchst eilige weiße Wasser; tief unten in der Schlucht brauste der Rhein.

Fe höher man stieg, um so mehr ging das Nebelwetter in Regen über. Bedecter Himmel in den untern Landschaften bedeutet Nebelwetter in den höheren, in den höchsten Negen. Fest regnete es regelrecht, und bald wurde dieser Berg, bald jener vom Regengrau hinweggenommen: man wanderte wie auf einer geneigten vernebelten Ebene hinauf!

Der Regen hatte sich allmählich verstärkt, im gleichen Maße wie der Weg stieg. Er knisterte im Gras, plätscherte auf dem Buchenlaube und klopste auf den großen Unkrautblättern. Die starken Schuhe der Ausschreitenden klappten gleichmäßig auf der Straße. Da es nicht mehr zu überschen war, daß der Regen noch lange dauern würde, ergab man sich und kehrte ein. Von allen Seiten der Verz= und Tallandschaft traten nasse Wanderer in die holzgetässelte Wirtsstube und schickten sich mit Geduld in die Lage. Alle wußten zu erzählen, wie schön es heute in der Frühe beim Morgenrot gewesen war, und es gab einen fröhlichen Austausch von guten Räten.

1.

The Happy Isle.

Eine Infel der Infeln weiß ich, auf Felsen gegründet im Meer,
Sie hat keine füßen Quellen und ist von Menschen leer.
Bu ihr hat mich einst gerettet auf schwankender Barke die Flucht,
Es schlagen die Wogen rollend in eine verzauberte Bucht.

Wie zu Beginn der Zeiten,

so ist es noch heute dort, Die Wasser in rauschender Brandung ertönen immerfort. Es schwimmen die weidenden Rinder, zu trinken am anderen Strand,

Beim dunkelnden Abend hinüber und steigen schnaubend⁽¹⁾ an Land.

Kein Dach, das birgt den Schläfer, fein Deich, der die Woge dämmt, Das Holz zerbrochener Schiffe fommt mit der Flut geschwemmt, Mit ihm wird das Feuer entzündet, der Fisch geröstet am Stein, Du ißt die gebotene Speise und trinkst den geretteten Wein.

Du stehft auf den Klippen und Riffen, von heißer Sonne beglüht,
Du wirst wie der erste Schiffer vom salzigen Wasser umsprüht,
Du wirsst dich hinab in die Wellen und rührst die rudernde Hand,
Du schwimmst wie der erste Schwimmer hinüber zum sesten Land.

(1) jchnauben : to snort.

(25)

C'4

The old Teutons.

Um die Zeit, in welcher Alexander der Große Indien für die griechische Wissenschaft aufschloß, segelte ein griechischer Gelehrter durch die Straße von Gibraltar und entdeckte an der Mündung des Rheines die Teutonen.

Dieselben Teutonen wurden zu Ende des zweiten Jahrhunderts vor Christi Geburt den Römern furchtbar. Der große Cäsar hat mit ihnen gekämpft, sie besiegt und doch in ihrem Lande nichts ausgerichtet. Er entwarf eine Schilderung der barbarischen Gegner, worin er aber über ihr gesptiges Leben nur unvolltommen zu berichten wußte.

Beiterer Verkehr, friedlicher und kriegerischer, machten die Germanen den Römern bald genauer bekannt, und endlich faßte der Geschichtschreiber Tacitus alles, was man von ihnen wußte, in seiner berühmten "Germania" zusammen. Tacitus versügt augenscheinlich über einen reichen Stoff, der aus unmittelbarer Beobachtung geschöpft ist. Das Leben der Germanen ist ihm nach allen Seiten hin bekannt; er entwirst die Grundzüge ihrer Bersassung, ihrer Religion und ihrer Sitte. Er verschweigt nicht ihre Fehler: ihre Trägheit, wo es nicht Rampf gilt, ihre Unlust zur Arbeit, ihre maßlose Trunk=, Spiel=, und Streitsucht. Kurz, er liefert ein im großen und ganzen unzweiselt treues Bild, worin sich schöne und widrige Züge mischen, und er übergibt der Nachwelt eine überaus wertvolle Runde, wertvoll insbesondere sür uns, die wir von diesen Bölfern abstammen.

• GERMAN

HIGHER GRADE-(SECOND PAPER) Thursday, 18th 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 will be deducted for writing that is difficult to read. 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 :----

"I think we should have something to eat now," said grandfather, "but first you must have a stool⁽¹⁾ to sit on." Thereupon the old man went outside to the shed; the child followed him. He cut three long round sticks and a little round board. In this he bored three holes into which he thrust the sticks, and there, as if by magic, was a stool, just like his own, but higher. Mary looked at it, speechless with admiration.

"Now we are ready," said grandfather, and they went back together into the house. The old man then took a large piece of cheese and held it on an iron fork over the fire, turning it round until it was a beautiful golden yellow colour on each side. Then he filled a bowl with milk and placed it, along with the cheese and a slice of bread, on the table in front of the child, who was already sitting proudly on her new stool. "Eat, my child," said the old man, "you must be very hungry." And so she was, for she had eaten nothing since she had started on her journey in the early morning. Therefore, without saying a word, Mary lifted the bowl in both hands and emptied it at a draught. Then she took a deep breath and laid down the bowl.

"Was it nice ?" asked grandfather.

"I never tasted such lovely milk before," answered the child, smiling.

"Then you shall have some more," said the old man, and he once more filled the bowl to the brim and handed it to the child. (50)

(1) the stool : use here der Stuhl.

2. Translate into German :---

- I am sorry that I cannot accept your kind invitation. I have been unwell for some time, and I have been advised to stay at home.
- (2) At what hotel will you put up when you go to Munich? I have not decided yet. Can you recommend one?
- (3) But for the excellent map which their friends had lent them, the travellers could never have found their way over the hills.

SENIOR LEAVING CERTIFICATE

- (4) In these difficult times we have all become accustomed to doing without many things which we would like to have.
- (5) On seeing the accident, he immediately telephoned the police and sent for a doctor, who arrived with all haste in his car.
 (15)
- Write in German a continuous story based on the following summary, completing it in your own way.
 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 :---

Junger Engländer auf der Reise in Deutschland-sährt eines Abends im Kahne auf dem Rhein-nähert sich dem Loreleiselsen-hört plözlich schöne Mädchenstimme singendenkt an das Gedicht "die Lorelei"—erschrocken läßt er die Ruder ins Wasser fallen-Rahn wird von der Strömung hinweggerissen-Schluß. (25)

GERMAN

HIGHER GRADE—(SECOND PAPER)

Thursday, 18th 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—(,) 'Romma', (.) 'Buntt'.
- 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 River.

Immerfort fließt der Rhein | an der aufgemauerten | und von Efeugerank überwucherten Schloßterrasse hin. | Da und dort spielen, | vor aufragenden silbergrauen Pfählen, | kleine sich rastlos erneuernde Wellchen | und dahinter | kurze spize Basserfurchen. | An dem steinernen Rand | gleitet er ein wenig säumiger | als die schneller, | geschlossener ziehende Flußmitte, | und ab und zu | freiselt er in kleinen Wirbeln, | auf denen alle Blätter, | Holzstücke oder Schaumflocken | sich einmal wie im Tanze drehen müssen, | ehe sie ihren Weg | flußabwärts fortsetzen können. | Drüben am andern flachen Ufer | streift das Wasser | durch helles, wehendes Schilf, | durch dunkle, gebogene Binsenspeere, | und steht im braunen verbrannten Riedgras | am Wiesenpfad, | der weit von Rebenhügeln, | Dörfern | und einer manchmal aufstäubenden Landstraße | an das Schilfufer herüberkommt. (20)

GAELIC

LOWER GRADE

Tuesday, 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 will be deducted for writing that is difficult to read.

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

Aig gach am de'n bhliadhna tha obair a'chìobair a'dol air a h-aghaidh. Tha i mar an cuan mór—gun stad gun fhois.

Anns a'gheamhradh feumaidh an cìobair a bhith a muigh ri fuachd is ri gaillinn, agus a bhith gu furachail an tòir air an spréidh. Aig an am ud de'n bhliadhna is àbhaist sneachdannan móra a bhith ag còmhdach gach bealaich.

Bithidh na caoraich mar sin ann an cunnart mór a bhith air an slugadh suas anns na cuitheachan sneachda, agus is iomadh latha fuar, reòta a dh'fheumas an cìobair bochd a bhith a muigh air an lorg.

Ach an uair a dh'fhalbhas an geamhradh agus a thig an t-earrach le frasan ciùine, agus am Màrt le a ghaothan sgaiteach togaidh iad an sneachda bhàrr nan sliabh, agus cuiridh iad na sruthain bheaga 'n an deann-ruith gu tràigh.

Tha gach nì, mar sin, a'tabhairt fiughair gu bheil a'ghrian chòir air tilleadh bho a turus do'n Airde Deas; tha gach nì beò a'feitheamh air teachd an t-samhraidh, agus an sin is aoibhneach da rìreadh beatha a'chìobair.

Seirbhis a'Chrùin. (25)

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

Sealladh air Oisean

Air feasgar ciùin, sàmhach, 's an earrach,

'S mi teàrnadh bho bhearradh nam mór-bheann, An smeòrach a'seinn air gach bealach,

'S na h-uillt a'dol thairis le'n crònan, Gun d'fhuair mi 's an àite sin sealladh

Rinn m'inntinn is m'anam ro bhrònach ; 'S ma dh'fhaodas mi cuibhrionn dheth aithris, Na measaibh an ealain so gòrach.

'Na shìneadh fo spògan na daraig

Bha laoch a bha fearail 'na chòmhradh,

Bha fhiasag 's a ghruag mar an canach

Mu ghuaillean 's mu bhroilleach 'gan còmhdach ; Bha chlàrsach ri thaobh air a'charraig

'S a teudan 'gan tarruing fo mheòirean ; Is sheinn e na rainn so a leanas,

Nam b'eòl domh an aithris air dòigh dhuibh :—

"Thig làmh rium, a chlàrsach mo sheanar,

Bu bhinn leam thu'n earrach na h-òige,

'Nuair bhuailinn do theudan le deannal

• An am a bhi tional nan còmhlan ;

An talla na h-uaill is na caithreim,

'S an cluinnte mar aingil na h-òighean, Toirt ciùil dhuinn air cliù an cuid leannan

'S air euchd an cuid lannan 's a'chòmhstri...

Niall MacLeòid. (25)

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

The happiest time of my boyhood was at that early period, a little past the age of six, when I had my own pony to ride on and was allowed to stay on his back as long as I liked. Those early days soon ended when my mother took me on my first visit to the town. The streets were too much for me at the start and I remember that I got lost. In despair I began to cry. Then a man came up, with bright buttons on his blue coat, and taking me by the arm, asked me in a loud voice, where I lived.

I could not tell him.

(25)

SENIOR LEAVING CERTIFICATE

Write in Gaelic 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.

At night a Highland girl crept out of the stone hut where she lived with her mother. In her hand she carried the horn with which she scared the deer. Skirting round the oatfield she entered the forest, where suddenly she saw a shadow among the trees. She blew her horn. It wailed through the night, but no deer went rushing into the darkness.

"If the deer eat the oats tonight we shall have no porridge this winter," she thought. "What shall I do?"

(Complete the story in your own way.) (25)

GAELIC

HIGHER GRADE-(FIRST PAPER)

Tuesday, 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 will be deducted for writing that is difficult to read.

1. Translate into idiomatic English :----

Ma's ann no nach ann o'n chraoibh-dharaich an sgeul, no o sheanairean a'bhaile, no o bhruadar na h-ionndrainn, tha an clachan mar a bha e o chian ag itheadh is ag òl, ag gleachd is ag obair, ag canntaireachd is a'tuireadh, an iomadh cridhe an diugh—theagamh gu bheil is an clachan mar a bhitheas e fhathast. Chan 'eil uair a dhùnas mi féin mo dhà shùil, is mi am aonar anns an oidhche, nach 'eil, mar gum b'eadh, loch fìor-ghlan, air nach ruig gaoth, a'sgaoileadh a mach fa mo chomhair, is anns an uisge chì mi faileas a'chlachain o thùs eachdraidh gus an là an

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diugh, is e sìor chaochladh o linn gu linn. Chì mi ceall air tolman os cionn a'chladaich, canntail nam manach is gàir na mara ag iarraidh suas le chéile gus na neoil, fir is mnathan ag greasad a mach á bothanan sgratha a dh'éisdeachd ris a'cho-sheirm bhinn. Chì mi na longa Lochlannach anns a'chaladh, an clachan 'na smùid; na tha beò de luchd na Gàidhlige 'g am falach féin air feadh chreag is chnoc, is dà mhanach ag èaladh a mach á uaimh, a mhallachadh nan coimheach an diugh, a sheinn an tuiridh am màireach.

An t-Urr. Coinneach MacLeòid, D.D. (32)

2. Translate into idiomatic English :-

Alasdair a Gleanna Garadh,

Thug thu an diugh gal air mó shùilean ; Is beag iongnadh mi bhi trom chreuchdach : Gur tric 'gar reubadh as ùr sinn.

Is deacair dhomhsa bhith gun osnaich

Meud an dosgaich th'air mo chàirdibh ; Gur tric an t-eug oirnn ag gearradh

Taghadh nan darag as àirde.

Chaill sinn ionann agus còmhla

Sir Domhnall a mhac 's a bhràthair ; Ciod e am fàth dhuinn bhith 'gar gearan ?

Dh'fhan Mac Mhic Ailein 's a' bhlàr uainn. Chaill sinn darag làidir liathghlas

Bha cungbhail dìon air a chàirdibh, Capull-coille bharr na giùthsaich,

Seabhag sùlghorm lùthmhor làidir.

Dh'fhalbh ceann na céille is na comhairl' Anns gach gnothuch am bi cùram;

Aghaidh shoilleir sholta thaitneach, Cridhe fial farsuing mu'n chùinneadh.

Bu tu tagha nan sàr-ghaisgeach

Mo ghuala thaice is mo dhiùbhail ; Smiorail fearail foinnidh treubhach Ceann feachda chaill Seumas Stiùbhart.

Silis Nighean MhicRaghnaill.

(32)

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

An tan fá clos do Cholam Chille i nAlbain cruinniughadh na comhdhála soin ocus na trí hadhbhair fár tionóileadh í, mar atá aithríoghadh Sgannláin, díbirt na bhfileadh, ocus cor buin-chíosa ar Dhál Riada, do thriall féin a hI go hÉirinn, mar aon ré coimhthionól naoimh-chléire, ocus is é líon cléire do bhí 'n a fhochair ag teacht fá thuairim na comhdhála soin, dá fhichid sagart, fiche easbog, caoga deochan ocus tríochad maiccléireach.

Do féadfaidhe go mbiadh díchreideamh ag an léaghthóir ar an ní churthar síos ann so, mar atá go mbeidís easbuig i gcoimhdeacht⁽¹⁾ abbadh; gidh eadh dá léaghthar Stair na Sagsan, do sgríobh Beda, is follus go mbídís easbuig na hAlban umhal d'abbaidh I anall-ód.

Fá gnáth, ar sé, leis an oiléan so do shíor uachtarán do bheith air do bhiadh 'na abbaidh ocus 'na shagart, agá mbiadh an chríoch uile fána smacht ocus fána dhlighe, ocus fós fá dlightheach dona heasbogaibh féin, gér nós neamhghnáthach é, bheith umhal dó, do réir shompla an chéaddoctúra do bhí ar an oiléan, nach raibhe 'na easbog, acht 'na shagart ocus 'na mhanach.

Sgéalaigheacht Chéitinn. (20

(1) i gcoimhdeacht = in attendance on.

GAELIC

HIGHER GRADE-(SECOND PAPER)

Tuesday, 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 will be deducted for writing that is difficult to read.

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) "Là dhomh 's mi falbh nan àrd."
 - (b) Cha do chuir a ghualainn ris nach do chuir tùr thairis.
 - (c) A'chéilidh mar mheadhon fiosrachaidh is oilein.
 - (d) Feum an radio do'n Ghàidheal is do'n Ghàidhlig.

(40)

2. Translate into Gaelic :---

I was never in any house of the islands where I did not find books in more languages than one, if I stayed long enough to want them, except one from which the family was removed. Literature is not neglected by the higher rank of the Hebridians. It need not, I suppose, be mentioned that in countries so little frequented as the islands there are no houses where travellers are entertained for money. He that wanders about these wilds either procures recommendations to those whose habitations lie near his way, or, when night and weariness come upon him, takes the chance of general hospitality. If he finds only a cottage, he can expect little more than shelter; for the cottagers have little more for themselves: but if his good fortune brings him to the residence of a gentleman, he will be glad of a storm to prolong his stay.

Johnson: A Journey to the Western Isles.

(30)

(6)

- 3. Give Gaelic equivalents for :-
 - (a) Don't worry !
 - (b) If you dare !
 - (c) Do you not admire him?
 - (d) That is not to the point.
 - (e) He was accused of theft.
 - (f) He got no encouragement.
 - (g) Introduce me to the stranger.
 - (h) Regardless of expense.

SENIOR LEAVING CERTIFICATE

SECTION II

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

 Analyse the formation of any *five* of the following : fòirneart, a nuas, uidh air n-uidh, teaghlach, os cionn, ni h-eadh, an dràsda, làn di beatha, uireasbhuidh.

(10)

5. Give, with explanations, five examples of Gaelic idioms or constructions in the spoken English of your district. (10)

6. Comment briefly on any *four* of the following, mentioning in each case the author and approximate date :---

Long mhór nan Eilthireach, Luinneag MhicLeòid, Oran na Comhachaig, Latha Inbhir Lòchaidh, An Claigeann, Smeòrach Chlann Dòmhnaill, An t-ogha mór. (10)

7. Illustrate with appropriate quotations from the author's works the descriptive powers of Uilleam Ros, or Alasdair Mac Mhaighstir Alasdair, or Màiri Nighean Iain Bhàin. (10)

GAELIC

HIGHER GRADE-(SECOND PAPER)

Tuesday, 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 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

Tha cor na Gàidhlig | 'n ar latha | ag agradh dian shaothair | o a luchd dàimh gu léir | gu bhith a' brosnachadh | sluagh na Gàidhealtachd | agus nan Eilean | chum suim dhligheach a ghabhail | do chainnt am màthar | air eagal gun tig an t-am | anns nach bi leasachadh oirre. | Is e call gun teagamh a bhiodh an sin. |

Chan 'eil sgaradh comasach | eadar dùthchas agus cànain. | Seasaidh no tuitidh iad le chéile. | Ma chailleas an Gàidheal a Ghàidhlig | caillidh e saoibhreas beulaithris | nan ginealach a dh'fhalbh, | nì nach ceannaichear le òr; | caillidh e a'mhaoin | a tha taisgte am bàrdachd | is an eachdraidh a dhùthcha; | caillidh e a chòir-bhreith, | an dìleab a bu chòir dha a dhleasadh | is a dhìon le fuil a chridhe; | caillidh e spiorad a' Ghàidheil; | agus ma bhios e a dh'easbhaidh nan nithean sin | ciod a bhios aige?

Seumas MacThómais. (20)

SPANISH

LOWER GRADE

Tuesday, 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 will be deducted for writing that is difficult to read.

1. Translate into English :----

The excitement of a first flight.

La única emoción de mi primer viaje aéreo fué la emoción de la salida. Dentro de breves segundos yo iba a alejarme de esta tierra donde había pasado toda la vida. Iba a lanzarme a una aventura, vulgar para muchas gentes, pero que tenía para mí un carácter completamente nuevo: iba a romper, por media hora, esta ley terrible de la gravitación universal, de cuyos preceptos no me había sido posible escaparme nunca.

-O mi vida no ha de revestir jamás solemnidad alguna, o éste es uno de sus momentos solemnes-pensé yo entonces.

Y por eso estreché con tanta efusión la mano de unos amigos a quienes sólo conocía desde hacía cinco minutos. En ellos me despedía nada menos que de la madre tierra.

Pero comenzamos a volar. Debajo de nosotros el paisaje se extendía como un mapa, con sólo los detalles principales : pueblos, ríos, colinas, ferrocarriles. En general el paisaje no oscilaba casi nada, ya que el día era magnífico, el piloto diestro y el aparato seguro. Y, aunque yo no había contemplado nunca un espectáculo tan maravilloso, debo confesar que no lograba extraer de él toda la emoción esperada. La experiencia, nueva para mí, me producía el efecto de una experiencia antigua, acaso porque la intentaba demasiado tarde, cuando ya millares de hombres la habían, a su vez, realizado y descrito.

La verdadera sensación de volar yo sólo la tuve a la llegada al aeródromo, precisamente cuando el areoplano descendía y se acercaba a tierra. Otros aparatos volaban también por allí, unos altos y otros más bajos que nosotros, y estos aparatos, en unión de las casas, los caminos y los árboles, nos servían de puntos de referencia, por los cuales pude darme cuenta de que en efecto estábamos volando por el aire.

(35)

2. Translate into English :---

Instruction in the basic arts.

Las lecciones que dió aquel día Pío Cid eran sobre el tema tan útil como poco estudiado de la elaboración del pan, comenzando desde que se siembra el trigo, hasta que sale el pan cocido del horno.

Estas lecciones se las había sugerido al maestro la noticia que le dió la duquesa de que Jaime había construído un molino de juguete. Los duques tenían en una de sus posesiones varios molinos, y el niño gustaba de ir a jugar con los hijos de los molineros, y se había aficionado a sus entretenimientos y habilidades. A las primeras palabras notó Pío Cid el interés del discípulo, y decidió explicarle a fondo estas artes útiles, cuyo conocimiento da al hombre una idea más grave, noble y humana de la vida; porque, le decía, hay hombres que viven sin saber los esfuerzos y sudores que cuesta el pedazo de pan de que diariamente se nutren, y estos hombres no pueden comprender la verdadera fraternidad, que consiste en considerarnos ligados a los otros hombres, altos y bajos, pobres y ricos, de tal suerte, que nuestra existencia sea imposible e infecunda sin la de los demás.

Quiso Jaime enterarse también de la producción del trigo, sobre la que tenía ideas muy equivocadas. El maestro le explicó un compendio de cosas agrícolas en términos tan expresivos, que Jaime oía todo aquello con mayor atención que si fuera un cuento de hadas. 3. Translate into Spanish :---

On returning home I found that my brother had just arrived: I had not seen him for two years, and he was now so tall that I should not have known him. As it was already late we sat down to dinner immediately, and how surprised we all were when, without letting us ask him about his life in the army, he told us that he wanted to get married. "But you have not yet chosen a profession!" said my father. "How can you marry without money? I can never consent to that." (20)

4. Translate into Spanish :---

- (1) He left the room without letting anyone reply.
- (2) It was six o'clock before they told us to go.
- (3) I do not think she is as ill as she imagines.
- (4) The children washed their faces but forgot to clean their teeth.
- (5) If I had enough money I should buy myself a car.

(10)

SPANISH

HIGHER GRADE-(FIRST PAPER)

Tuesday, 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 will be deducted for writing that is difficult to read.
- Translate into English, with due attention to form and expression :---

1.

Natural talent will reveal itself.

Cada cual ha de dedicarse a la profesión para que se siente con más aptitud. Los padres y los maestros deben fijar mucho la atención en este punto, para impedir la pérdida de un talento que, bien empleado, podría dar los más preciosos frutos, y para evitar que se le haga consumir en una tarea para la cual no ha nacido.

Sería muy conveniente que se ofreciesen a la vista de los niños objetos muy variados, conduciéndolos a visitar establecimientos donde la disposición particular de cada uno pudiese ser excitada con la presencia de lo que mejor se le adapta. Entonces, dejándolos abandonados a sus instintos, un observador inteligente formaría desde luego diferentes clasificaciones. Exponed la máquina de un reloj a la vista de una reunión de niños de diez a doce años, y es bien seguro que, si entre ellos hay alguno de genio mecánico muy aventajado, se dará a conocer al punto por la curiosidad de examinar, por la discreción de las preguntas y la facilidad en comprender la construcción que está contemplando. Siendo niño Pascal, le llamó un día la atención el fenómeno del diverso sonido de un plato herido con un cuchillo, según se le aplicaba el dedo o se le retiraba ; después de reflexionar mucho sobre la causa de esta diferencia escribió un pequeño tratado sobre ella. Este espíritu observador en tan tierna edad, ¿no anunciaba ya al ilustre físico que había de confirmar las ideas de Galileo ? (30)

The fleeting joy of springtime.

Era una mañana y abril sonreía. Frente al horizonte dorado moría la luna, muy blanca y opaca ; tras ella, cual tenue ligera quimera, corría la nube que apenas enturbia una estrella.

2.

Como sonreía la rosa mañana al sol del oriente abrí mi ventana ; y en mi triste alcoba penetró el oriente en canto de alondras,⁽¹⁾ en risa de fuente y en suave perfume de flora temprana.

Fué una clara tarde de melancolía. Abril sonreía. Yo abrí las ventanas de mi casa al viento. . . El viento traía perfume de rosas, doblar de campanas . .

Doblar de campanas lejanas, llorosas, suave de rosas aromado aliento . . . ¿Dónde están los huertos floridos de rosas? ¿Qué dicen las dulces campanas al viento?

SENIOR LEAVING CERTIFICATE

Pregunté a la tarde de abril que moría : ''¿Al fin la alegría se acerca a mi casa ? '' La tarde de abril sonrió : '' La alegría pasó por tu puerta '' — y luego, sombría : '' Pasó por tu puerta. Dos veces no pasa.''

⁽¹⁾ alondra = lark.

Ambushed by bandits.

Siempre distraído el doctor en sus meditaciones, no vió ni oyó que de repente salieron de la arboleda cinco hombres a caballo, y con inaudita rapidez se le pusieron delante. No lo advirtió, o no tuvo tiempo para advertirlo, tan ligera fué la maniobra, hasta que uno de ellos gritó "¡ Alto ahí!"

Entonces vió el doctor que cuatro de los cinco le apuntaban con los fusilès. Quiso volver atrás para escapar, dando un rodeo, y notó que otros tres hombres a pie, armados también de fusiles, se le venían encima. Estaba completamente cercado, y en tan estrecho círculo, que ni para revolverse le quedaba tiempo ni espacio.

- ; Ríndete o mueres ! - gritó otro de los de a caballo.

Hallábanse los enemigos tan cerca, y era tan apremiante la situación, que todo lo que no fuese rendirse era una temeridad; pero nuestro héroe, desesperado de que en medio de su viaje le detuviesen, tomó una resolución tremenda. Cogió su pistola, y apuntando al de a caballo que tenía más cerca, le dijo:

— Abre paso o te mato —. Al mismo tiempo hirió fuertemente con las espuelas a su caballo, a fin de salir escapado, rompiendo por entre la cuadrilla de bandidos.

Éstos hubieran sin duda disparado, dejándole muerto, si la voz del capitán no se hubiera oído a tiempo, diciendo:

- ; No le matéis, no le matéis!

El doctor vaciló un instante en tirar, viendo la generosidad que con él se usaba, pero no había ya tiempo de explicaciones, porque el caballo, excitado por los espolazos, iba ya a abrirse camino. Sin duda hubiera habido alguna muerte si de pronto no se hubiese sentido el doctor asido fuertemente de uno y otro brazo por dos de los de a pie, bastante robustos ambos para arrancarle de la silla y dar con él en el suelo por detrás del caballo. (30)

3.

(30)

SPANISH

HIGHER GRADE—(SECOND PAPER)

Tuesday, 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 will be deducted for writing that is difficult to read.

1. Translate into Spanish :--

For the first time in my life I felt completely lost, because there was nobody with whom I could talk. The only foreign language I knew was French. With French I had been able to travel happily through Spain and Italy; not that I had understood everything I had heard or that others had always understood what I had said to them, but the languages we had used had been similar -the sounds were alike and the order of the words was the same. But now I was to spend many days among a people who made strange and often ugly noises, and who put their verbs at the end of their sentences. I could not sit at table with them and fill the air with the stories of my adventures. I could not ask them questions about their lives, nor even talk about the weather (although, indeed, this would not have lent itself to much conversation, since it never varied). It seemed as if I was going to live among deaf men, compelled to converse only with signs. And yet my fears were exaggerated, for I soon found that even deaf and dumb men can be content in each other's company. Kindness and courtesy need not be expressed in words, and I was at once made happy by the friendly smiles that greeted me everywhere.

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- 2. Translate into Spanish :---
 - (1) You may think him stupid, but you will soon realize he is more intelligent than he seems.
 - (2) I didn't believe that anyone could have been capable of such folly, but I quickly found I was wrong.
 - (3) I began by asking him whether he would consent to undertake the journey if I bought him his ticket.
 - (4) On returning home he found the door open, although he was certain it had been shut when he left.
 - (5) It is late, we are tired, the hotel is a good one and it is empty; so let us stop here. (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.

José y Enrique hacen una excursión al campo—José se cae—le duele tanto la pierna que no puede andar más— Enrique trata de llevarle a cuestas (= on his back), pero se cansa pronto—le deja y va a buscar ayuda—el pueblo está lejos—Enrique tarda mucho—cuando vuelve con un carro José no está donde le dejó.

(Complete the story in your own way.) (25)

SPANISH

HIGHER GRADE-(SECOND PAPER)

Tuesday, 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 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,' (;) 'punto y coma.'
- 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

Una vez que me encontré con fuerzas para moverme, sin esperar más | me embarqué con destino a España, deseoso de volver al seno de mi familia, | que debía darme ya por muerto | después de tantos años de ausencia. Mi pensamiento no cesaba de formar conjeturas, | y a veces mi corazón se angustiaba | con tristes pensamientos ; pero no quise hacer preguntas | ni averiguaciones, sino verlo todo por mis propios ojos, | presentándome de improviso | por las puertas de mi casa. | Y quizás si me hubiese estado en Canarias | hasta recibir noticias de los míos, | y hubiera sabido allí | el cruel desencanto que me aguardaba, | en vez de seguir hasta Europa, | ^{regresara} a África. | La noticia de mi desaparición | y de mi muerte, | desfigurada al principio | y confirmada después por varios conductos fidedignos, | había costado la vida a mi padre, | que se culpaba a sí mismo de lo ocurrido | por el empeño con que me había apartado | de la casa | y lanzado voluntariamente | en mi peligrosa vida aventurera ; | y poco después a mi madre, | herida en su más entrañable afecto. | Sólo sobrevivía mi hermana menor y única, | y aun ésta había sufrido todo género de infortunios.

(20)

SENIOR LEAVING CERTIFICATE

RUSSIAN

LOWER GRADE

Monday, 22nd 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 will be deducted for writing that is difficult to read.
- 1. Translate into English :---

Moonlit sea and a noisy crowd

На десятки вёрст протянулась(1) широкая серебряная полоса лунного света; остальное море было чёрно; до Василия Петровича стоявшего на высоте доходил правильный глухой шум волн раскатывавшихся⁽²⁾ по песчаному берегу. Ещё более чёрны, чем самое море, были силуэты кораблей. Один огромный пароход, вероятно английский, находился в светлой полосе луны и шипел⁽³⁾ своими парами. Василий Петрович, до сих пор не видавший ничего подобного, с удовольствием смотрел на море, лунный свет, пароходы, корабли, и радостно, в первый раз в жизни, он вдыхал морской воздух. Он долго наслаждался новыми для него ощущениями,⁽⁴⁾ повернувшись спиной к⁽⁵⁾ городу, в который приехал только сегодня и в котором должен был жить многие и многие годы. За ним толпа публики гуляла по бульвару; слышалась то русская, то нерусская речь, то тихие голоса местных почтенных особ,⁽⁶⁾ то щебетание девушек, ^{то} громкие и весёлые голоса взрослых гимназистов(7), ходивших около двух или трёх из них. Взрыв хохота в одной из таких групп заставил Василия Петровича обернуться. Весёлая толпа шла мимо; один из юношей говорил что-то молодой гимназистке; товарищи шумели и перебивали его речь.

— Не верьте, Нина Петровна! Всё врёт!

— Да право же, Н. П., я нисколько не виноват!(8)

Конца разговора Василий Петрович не дослышал, потому что гурьба [толпа, группа] прошла мимо. Чрез полминуты из темноты вновь послышался взрыв смеха. (35)

(1) stretched, extended.
(2) rolling.
(3) was hissing.
(4) feelings.

⁽⁵⁾ turning his back on.
⁽⁶⁾ very respectable local people.
⁽⁷⁾ high-school boys.
⁽⁸⁾ to blame.

2. Translate into English :---

Thrift is not avarice

В одном городе два товарища хотели оказать помощь бедному семейству. Но так как сами они были люди небогатые, то стали обращаться с просьбою о помощи к людям более достаточным и описывали⁽¹⁾ им крайнюю нужду бедного семейства.

Таким образом они пошли к одному богатому купцу, от которого надеялись получить пособие. Но, вошедши к нему на двор, они услышали, как купец <u>бранил⁽²⁾</u> своего работника за то, что работник забыл положить в сарай верёвки⁽³⁾ и оставил их на целую ночь под дождём. "Разве ты не знаешь," говорил купец, "что верёвки стоят денег, которые заработать не так легко, как ты думаешь!"

— "О, этот купец ничего не даст," сказал один из товарищей, "когда он за такую ничтожную вещь так сердится и бранится. Пойдём лучше в другой дом." — "Можно попробовать," ответил другой товарищ, "пойдём к нему и скажем, зачем пришли." Между тем, купец, побранивши своего работника, вежливо подошёл к пришедшим и пригласил их в свою комнату.

Узнав, зачем пришли эти добрые люди, купец дал им несколько рублей и, сверх того, обещал ещё прислать бедному семейству мешок⁽⁴⁾ муки. Такая щедрость удивила⁽⁵⁾ просителей, и они не могли не сказать ему о том дурном мнении, которое они составили о нём, слыша его брань за такую ничтожную вещь. "Оттого-то я и могу иногда помогать бедным," ответил купец, "что был всегда бережлив — бережливость не скупость."

⁽¹⁾ described.
 ⁽⁴⁾ sack.
 ⁽²⁾ was scolding.
 ⁽⁵⁾ surprised.
 ⁽³⁾ ropes.

(35)

- (1) I should like to see your young friend today.
- (2) Unfortunately he is not at home just now. He has gone for a walk.
- (3) Do you know when he will be back? Perhaps for lunch, at half-past twelve.
- (4) Usually we get up at seven o'clock, but yesterday morning we got up at a quarter past six.
- (5) She has brought you the new Russian book that you wished to read.
- (6) Give me my old hat and that black overcoat, please. I must be off. Good-bye ! (12)

4. Translate into Russian :---

For people in this town living⁽¹⁾ is very dear and not very pleasant. It is not easy to buy, and even more difficult to rent⁽²⁾, a flat or even a small room. Food and clothing cost more than before the war. It is true that working men do not need to leave home so early and do not work all day long, as they did when I was young. But some of them cannot work at all, for one of the big factories⁽³⁾ was destroyed⁽⁴⁾ during the war. On the other hand⁽⁵⁾ some folk who were formerly fairly well-to-do [say rich] and did not need to work very hard, now have to go to the office every day. (18)

(1) житьё.

(3) завод.

(2) нанимать, нанять.

(4) чничтожен.

(5) С другой стороны.

ITALIAN

LOWER GRADE

Wednesday, 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 will be deducted for writing that is difficult to read.

1. Translate into English :---

How Italy was formerly described.

La regione che ora si chiama Italia ha avuto, lungo i secoli, diversi altri nomi. Il nome d'Italia le venne, secondo alcuni, da un certo re Italo che nel tempo antico vi signoreggiò; ma secondo altri le venne dalla quantità grande che produceva di vitelli, i quali in lingua antica erano detti Dai Greci che l'avevano a ponente, l'Italia fu vituli. denominata Grande Esperia, cioè gran terra del tramonto. E con questo nome la invocarono molti poeti latini, tra i quali anche Virgilio, che cantò le bellezze dei suoi campi e pastori e le prime origini dell'impero di Roma per opera di Enea, figlio della dea Venere, profugo dalle coste dell'Asia Minore dopo la presa e l'incendio di Troia. Altri nomi dell'Italia, derivati da singoli popoli suoi abitatori furono Ausonia ed Enotria. E fu detta anche Saturnia, cioè terra di Saturno, il quale resse gli aborigeni e sotto il cui governo, dicono, per la molta giustizia, nessun uomo era servo e ogni cosa era comune a tutti con la migliore pace e quiete del mondo. (30)

2. Translate into English :---

The Landscape of Romagna.

Come beatamente l'occhio si riposa su questa dolce terra di Romagna ! Ella è ancora intorno a me tutta bruna e nuda in una chiara aria d'inverno; ma l'orizzonte è spazzato fino agli ultimi confini dal vento aspro di marzo e nella pianura pulita le case paiono piú bianche, gli alberi e le siepi piú nere; la striscia del mare turchino ride al sole nuovo.

Il colore di queste cose nuove parla al mio cuore.

Io ne cerco il senso, e vago con l'occhio sul gran ventaglio aperto del piano; guardo i colli magri e puri, le terre lavorate che spiccano nel fulvo crudo dell'ombra, e il dolce vecchio verde delle coste piene di luce; guardo i monti che s'affollano piú lontani, ondeggiando come vapori, e in fondo, alte e sole, quasi ritagliate sul cielo, le tre punte celestine.

Il noto profilo pare che renda a tutte le linee dei monti e del piano il senso delle cose domestiche e care. Non è questo dunque il paese del mio poeta?

Il paese ove, andando, ci accompagna

l'azzurra vision di San Marino.

Ecco l'Emilia, bianca dura e pulita fra le sue gracili siepi, co' suoi ponticelli, sotto cui passano i rii dal bel nome romano e mormora l'acqua che oggi è cosí trasparente e lucente fra le ripe calve⁽¹⁾ sul fondo terroso. La vecchia grande strada ci invita alle ville ben conosciute, a Savignano dalle cui selci sonanti fino alla Torre e al cimitero di S. Mauro è cosí breve il cammino . . . Ma da ogni sasso e da ogni siepe lungo quel cammino pare che le canzoni del poeta debbano volar via con frullo⁽²⁾ rapido e vario, come uccelli Renato Serra (40) dal nido.

(1) calve, bald, bare. (2) frullo, beating of wings.

3. Translate into Italian :---

Dear Carlo.

We arrived home last night, and I should like to thank you again for your kindness during the month we spent in Milan. Although the weather was hot, we enjoyed every moment of our stay,⁽¹⁾ and you were an excellent guide to all the interesting places in the city. We shall always remember, too, the delightful excursion⁽²⁾ we made to Como. I am sorry that we were not able to see more of the mountains, but hope that this will be possible on our next visit. Give my kind regards to your father and mother, and, with our best remembrances to you and Bianca,

Believe me

Yours sincerely,

Henry.

(1) stay, soggiorno. (2) excursion, gita.

4. Translate into Italian :----

(a) His eyes see everything.

(b) How many persons do you know? I do not know many.

(c) The others were there, but we were late.

(d) Have you given those books to my brother? Yes, I have given them to him. (10)

(e) We have been in Scotland for ten years.

(20)

MUSIC

LOWER GRADE

Tuesday, 9th March-1.0 P.M. to 3.0 P.M.

- N.B.—Candidates must write in ink, legibly and neatly, and they must leave a space of half an inch between the lines. Marks will be deducted for writing that is difficult to read. 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 the questions in this section should be attempted.

1. (a) Transpose the following passage a perfect fifth higher, writing your answer in the treble clef. (10)



(b) Write the sol-fa syllables below the appropriate notes in the given passage. (6)

D

SENIOR LEAVING CERTIFICATE

2. (a) Write the ascending scale of B minor (harmonic form) in the bass clef, beginning on the supertonic. Insert the key signature. (4)

(b) Using only notes contained in the scale you have written, write a diminished triad and an augmented triad. (4)

3. Write in staff notation the first four bars of any *three* of the following songs. At least one of those chosen must be in 6-8 time.

"The blue bells of Scotland" (E major);

"Polly Oliver" (E flat major);

"Bonnie Dundee" (F major);

" My love's an arbutus " (A flat major);

"The hundred pipers" (G major);

"Auld lang syne" (G major);

" All through the night " (A major);

" Drink to me only with thine eyes" (F major).

(15)

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4. Two of the following should be attempted: (a) must be one, the other should be either (b) or (c). (a)

(a) Complete this melody making eight bars in all. Add phrasing and expression marks throughout in the style of the opening.



Write a melody in staff notation suitable to and expressive of the poetic rhythms of *one* of the following stanzas. Add a musical term to indicate the tempo or mood, and insert expression marks. Place each syllable of the words below the note or notes to which it is intended to be sung. Words or phrases may be repeated if desired.

 (b) "Her eyes the glow-worm lend thee, The shooting stars attend thee; And the elves also, Whose little eyes glow
 Like the sparks of fire, befriend thee."

Herrick.

D2

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(84160)
OR

 (c) "They hadna ridden a mile, a mile, A mile but barely ten, When Donald came branking down the brae Wi' twenty thousand men."

Scott.

(16)

SECTION II

Two questions should be attempted from this section.

5. Write brief but comprehensive notes on any *three* of the following. Mention examples where possible.

Compound time; clarinet; the C clef; conductor; bagpipes; recitative; cantata. (15)

6. State what you know of any *two* of the following, giving some account of their style. Name the composer of each of the works you select and mention any other of his compositions. Quote a few bars from *one* of the selected works.

The "48" Preludes and Fugues; Songs without Words (Lieder ohne Worte); The Water Music.

7. Name four outstanding composers of opera. State the period (within 50 years) when each lived and mention at least one opera by each. Write a paragraph on the operatic style of *one* of the composers you have named.

(15)

(15)

8. Write a short account of the first movement of Mozart's Symphony No. 40 in G minor. Discuss briefly the form, general characteristics and mood of the movement. Quote a bar or two of the principal themes. (15)

OR^{-}

Identify *three* of the following themes: name the work (indicating the movement, if it contains more than one), the composer and the period (within 50 years) in which it was written. Taking *two* of the themes chosen, either continue the given quotation for two bars or quote another theme from the same work. **Be careful to letter your answers correctly.** (15)

(84160)

D 3





MUSIC HIGHER GRADE Tuesday, 9th March—1.0 P.M. to 3.30 P.M.

N.B.—Candidates must write in ink, legibly and neatly, and they must leave a space of half an inch between the lines. Marks will be deducted for writing that is difficult to read. Care must be taken to make the notation clear ; notes indistinctly placed will be regarded as wrong. (84160)

D 4

- 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.
- In order to obtain a pass in this paper, candidates must satisfy the examiners in Section I.
- 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. Complete the following, adding alto, tenor and bass throughout; passing notes should be used in the added parts to match the style of the given part :---

Con moto.

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2. Write a melody in staff notation suitable to the poetic rhythm and mood of *one* of the following verses. Add a musical term to indicate the tempo or mood, and insert expression marks. Place each syllable of the words below the note or notes to which it is intended to be sung. Words or phrases may be repeated if desired. Indicate the cadences by placing, in the bass clef, the two notes necessary to define them.

> "Give a man a horse he can ride, Give a man a boat he can sail; And his rank and wealth, his strength and health,

On sea nor shore shall fail."

James Thomson (1834-1882)

Or

Down, down, down ! Down to the depths of the sea ! She sits at her wheel in the humming town, Singing most joyfully."

Matthew Arnold



3. Add an interesting melody to this bass. The melody should begin after the rests with a point of imitation, and with the bass make satisfactory two part counterpoint.



4. Write a melody of not less than 16 bars based on the given phrase; introduce two modulations, of which one should be the dominant major, before returning to the tonic key. Insert phrasing and expression marks. Develop the shapes and rhythms given and make one climax point in your melody. The note in brackets may be of any duration.

Begin thus :---

Allegretto grazioso.



SECTION II

Only TWO questions from this section should be attempted. 5.

A false relation

II II

A discord and its resolution A suspension An overlap A cadence

T

A minuet and trio A canon A fugue A sonata A nocturne

Write brief but comprehensive notes on four of the above. Choose two from column I, and two from column II. To illustrate the answers in I, examples in staff notation should be given. To illustrate the answers in II, reference should be made to specific works naming the composer.

6. Explain the term "Chamber Music," as briefly as possible. Give three examples, one each by an 18th, a 19th and a 20th century composer. Quote a theme from at least one of the works you mention. (16)

7..

8.

Purcell J. S. Bach Haydn Beethoven

Ι

II

Schubert Chopin Brahms Elgar

Choose two composers, one from each column of the above lists. Write a short account of the music of each, and quote one or two themes from the works you mention. (16)

Either

(a) Write a programme note on Brahms' "Academic Overture." Include a short biographical sketch of the composer and a description of the form and style of the work.

Quote in staff notation a few bars of each of the principal themes, describing how each is used and developed in the course of the work.

(16)

(b) Identify *four* of the following. Name the work (and the movement if it contains more than one), the composer and the period to within half a century.

Either continue *two* of the quotations selected for two bars (melody only) or quote another theme from the same work. (16)

Be sure to letter your answers correctly.





Allegro vivace.



p dolce



Allegro non troppo.







Allegro.















BOOKKEEPING

LOWER GRADE

Monday, 22nd 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—Debit Note; Bank Reconciliation Statement; Promissory Note. (12)

2. When G. Crabb, a fruit vendor, commenced business on Monday, 25th August, 1947, he had in stock 6 dozen grapefruit valued at 2s. 6d. per dozen and 40 lb. apples at 7d. per lb. During the week ending Saturday, 30th August, 1947, he bought 40 dozen grapefruit at 3s. per dozen, 600 lb. apples at 7d. per lb., 450 lb. plums at 1s. per lb., and 30 pineapples at 3s. each. 25 lb. plums and 6 pineapples, which were over-ripe when delivered, were returned to the suppliers. His sales during the week were :—34 dozen grapefruit at 4s. 6d. per dozen ; 560 lb. apples at 10d. per lb.; 400 lb. plums at 1s. 6d. per lb. ; and 20 pineapples at 6s. each. His expenses for the week were as follows : wages of assistants, f_{c} 6 15s. 8d. ; rent of stall, f_{1} 5s. ; lighting, 7s. 6d. ; postages and telephone calls, 4s. 9d. ; 8 gross paper bags, f_{c} 1 16s. At the close of business on Saturday, 30th August, 1947, he had in stock 12 dozen grapefruit valued at 3s. per dozen and 80 lb. apples at 7d. per lb. The plums and pineapples which were unsold had become worthless. As only 6 gross paper bags had been used, the balance was carried forward to the following week.

Make up G. Crabb's trading account and profit and loss account for the week ending 30th August, 1947.

(Note.—Journal entries are not required.) (15)

3. On 2nd January, 1948, D. Baird and W. Craig entered into partnership with capitals of $f_{1,200}$ and f_{800} respectively: these sums were paid into the firm's banking account.

On the same day they took over, as a going concern, the business of P. Russell at a price of $\pm 1,500$, of which one half was to be paid forthwith and the other half at the end of two months.

The balances in the books of P. Russell were as follows : stock in hand, $\pounds 535$; bill receivable (No. 63, on W. Millar, due 15th January, 1948), $\pounds 58$; bill payable (No. 45, to A. Devlin, due 12th January, 1948), $\pounds 135$; office furniture, $\pounds 175$; sundry debtors : D. Todd, $\pounds 64$; P. Bonar, $\pounds 108$; creditor, R. Rae, $\pounds 205$; motor vehicles, $\pounds 650$; capital, $\pounds 1,250$.

According to the terms of the partnership deed, interest is to be allowed on capital at the rate of 6 per cent. per annum and W. Craig is to receive a salary of ± 25 per month for managing the firm's business.

Open the necessary books of account and record therein the above and the following transactions. Post to ledger and extract a trial balance. Bills books should be kept. All receipts were paid into bank on the day they were received.

Do not make out trading and profit and loss accounts and a balance sheet, but indicate, in a separate column in your trial balance, which of the items would appear in each of these final accounts and on which side. Use the following contractions :—" P. & L." for " Profit and Loss Account "; "Tr." for " Trading Account "; " B.S." for " Balance Sheet "; " Dr." for " Debit Side "; " Cr." for " Credit

Side "; "A." for "Assets Side "; "L." for "Liabilities Side." For example, if the balance owing by D. Todd were f_{35} , this item would appear as follows in your trial balance :—

Dr.

£35

Cr.

D. Todd B.S., A.

where "B.S., A." means that in the final accounts this item would be entered on the assets side of the balance sheet.

- 1948.
- Jan.
- 2. Paid by cheque instalment of purchase price now due and accepted bill at two months for the other instalment.
- Jan. 2. Drew from bank for office cash £50.
 - 3. Bought goods value f_{128} from D. Ireland and gave him acceptance at 60 days in payment.
 - 5. Sold goods to D. Todd ± 123 .
 - 6. Bought goods for cash ± 15 12s. 6d.
 - 7. Paid by cheque solicitor's account for charges in connection with purchase of business $\pounds 25$ 12s. 6d.
 - 8. Made D. Todd allowance on goods £3 10s. and received his acceptance for £120 at one month and his cheque for £60 in full settlement.
 - 12. Met at bank bill due today.
 - 12. Discounted at bank D. Todd's bill: amount received £119 7s. 6d.
 - 15. Bill No. 63 due today, dishonoured by nonpayment : paid noting charges in cash 15s.
 - 17. Sent R. Rae cheque for amount owing, less 5 per cent. cash discount.
 - 20. Sold to P. Bonar goods value £60, less 20 per cent. trade discount.
 - 22. Received letter from R. Rae stating that he was unable to allow the discount deducted on 17th January, since the amount was long overdue : sent cheque to settle the account.
 - 23. Purchased on credit from Motor Suppliers, Ltd., new van for £327 10s.
 - 24. P. Bonar returned goods value £7 10s. gross and sent cheque in payment of his account, less 2¹/₂ per cent. cash discount.

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1948.

- Jan. 27. W. Millar became bankrupt ; agreed to accept composition of 15s. in the \oint in full settlement : cheque in payment of dividend duly received.
 - 30. D. Baird drew by cheque for his own use f_{30} .
 - 31. Paid, in cash, wages £25 7s. 6d. and office expenses £6 18s. 9d.
 - 31. Cash sales for month f_{183} 14s. 5d.
 - 31. Provide for interest on partners' capital for month and for salary due to W. Craig. (73).

BOOKKEEPING

HIGHER GRADE

Monday, 22nd 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—Composition in bankruptcy; Contingent liability. (8)

2. At 31st December, 1947, the following balances appear in the books of the firm of Bruce & Young.

Make up a trial balance and prepare trading account, profit and loss account, and balance sheet.

Cash in hand, $\pounds 25$; bills receivable, $\pounds 483$; bills payable, $\pounds 1,697$; manufacturing wages, $\pounds 1,874$; office salaries, $\pounds 655$; purchases, $\pounds 2,784$; investments, $\pounds 4,253$; dividends on investments, $\pounds 107$; sundry debtors, $\pounds 1,376$; sundry creditors, $\pounds 1,678$; profit on consignments, $\pounds 98$; drawings, Bruce, $\pounds 240$; drawings, Young, $\pounds 180$; sales, $\pounds 7,414$; sales returns, $\pounds 157$; bad debts reserve, $\pounds 100$; office expenses, $\pounds 173$; stock in hand at 1st July, 1947, $\pounds 1,152$; loose tools, $\pounds 567$; carriage on sales, $\pounds 74$; discounts received, $\pounds 32$; discounts allowed, $\pounds 166$; advertising, $\pounds 114$; rent received, $\pounds 72$; buildings, $\pounds 3,800$; capital, Bruce, $\pounds 5,000$; capital, Young, $\pounds 3,500$. The difference between the totals of the debit and credit balances represents the balance at bank on 31st December, 1947.

Stock in hand at 31st December, 1947, was valued at \pounds 1,363 and loose tools at \pounds 384. Of the sundry debtors \pounds 126 are irrecoverable and are to be written off as bad. A bad debts reserve of 4 per cent. on debtors is to be carried forward. \pounds 400 are to be written off the book value of investments. Wages due and unpaid amount to \pounds 33. After interest at the rate of 5 per cent. per annum has been allowed on the partners' capitals, profits and losses are shared equally. (44)

3. On 1st December, 1947, the balances in the books of W. Smart, who is in business as a coffee merchant, were as follows:—cash in hand, f22; bank overdraft, f483; stock of goods, f508; furniture and fittings, f260; bills receivable (No. 24, on P. Smith, due 9th December, 1947, f62; No. 27, on W. Duncan, due 23rd December, 1947, f115), f177; bill payable (No. 13, to R. Mackie, due 17th December, 1947), f245; motor vehicles, f463; debtor, J. Brown, f45; sundry creditors: B. Green, f133, D. Murdoch, f74; reserve for rent, f40; goodwill, f1,000; capital, f1,500.

On this date Smart agreed to admit into partnership his assistant, J. Taylor, who provided $\pounds 600$ as his share of capital: this money was duly paid into the firm's banking account. The partnership deed stated, *inter alia*, that Taylor was to receive a salary of $\pounds 30$ a month for his services to the firm.

Open the necessary books of account and record therein the above and the following transactions. Post to ledger and extract a trial balance. Bill books should be kept. All receipts were paid into bank on the day they were received.

1947.

Dec. 1. Sold old motor van for cash, £128 10s.

- 2. Paid rent due by cheque, $\pounds 40$.
- 3. Sold to J. Brown coffee value £7615s. and received his bill for £120 at one month in full settlement of his indebtedness.

1947.

(84160)

- Dec. 4. Received from F. Peck and Sons for sale on consignment coffee invoiced at $\pounds 270$. Paid delivery charges in cash, $\pounds 7$ 12s. 6d. Accepted consignor's bill for $\pounds 200$ at fifteen days sight.
 - 6. Discounted at bank J. Brown's bill: proceeds were £119 9s. 6d.
 - 9. Bill No. 24 duly met at bank.
 - 11. Sold on credit to P. Smith part of F. Peck and Sons' consignment for f_183 5s.
 - 12. Purchased coffee from B. Green, £64 10s.
 - 16. Sold for cash balance of F. Peck and Sons' consignment, £211 15s.
 - 17. Met at bank bill No. 13 due today.
 - 17. Paid by cheque selling expenses of consignment, f_{14} 10s.
 - 18. Charged F. Peck and Sons agent's commission at the rate of 3 per cent. on the gross proceeds of the consignment and sent them account sales and cheque for balance owing.
 - 22. Met at bank bill due today.
 - 23. W. Duncan, whose bill for £115 became due today, was unable to meet it. Agreed to extend half for one month, including 15s. interest, provided the other half was paid in cash forthwith. Cheque and acceptance were duly received.
 - 29. Drew from bank for office cash, £50.
 - 30. Bought National Health Insurance stamps for cash 17s. 8d. and paid wages for month, also in cash, ± 37 11s. 4d.
 - 30. Smart drew by cheque for his own use, f_{40} .
 - 30. Paid by cheque amount owing to B. Green, less 5 per cent. cash discount.
 - 31. Cash sales for month, f_{215} 10s.
 - 31. Provide for salary due to Taylor for month.

(48)

D*

COMMERCIAL ARITHMETIC

(FIRST PAPER)

Monday, 22nd 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 :----

f_{c} s. d .	£ s. d.	£, s. d.	f_{z} s. d.
235:12:8	463:14:5	1,730 : 11 : 7	
2,189 : 7 : 6	3,057 : 19 : 9	922:5:4	
766:14:2	1,454 : 2 : 11	2,377 : 16 : 6	:
5,081 : 15 : 5	672 : 7 : 9	328:12:1	: :
2,654 : 3 : 10	88:12:3	1,479 : 16 : 5	: :
68:11:8	4,495 : 1 : 10	2,326 : 8 : 8	:
6,407 : 9 : 8	2,134 : 15 : 2	49:17:6	:
258:18:4	1,877 : 6 : 6	4,652 : 10 : 9	: :
1,256 : 6 : 9	3,563 : 13 : 4	583 : 4 : 11	: :
f : : f		£ : :	

(10)

(10)

2. (a) From £687 14s. 7d. take £394 15s. 9d.

(b) Express 15s. 3d. as an exact decimal of f_1

(c) What is the simple interest on $\pounds 70$ for four months at 6 per cent. per annum?

(d) A grocer mixes 3 lb. coffee costing 2s. 6d. per-lb. with 2 lb. chicory costing 5d. per lb. At what price per lb. must he sell the mixture in order to make a profit of 25 per cent. on cost ?.....

(e) Find the cost of 25 hectolitres of wine at 64 francs per litre.....

(f) What is the net annual dividend received on $\pounds 400$ of $3\frac{1}{2}$ per cent. stock, if income tax at the rate of 9s. in the \pounds is deducted at the source ?.....

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COMMERCIAL ARITHMETIC

(SECOND PAPER)

Monday, 22nd 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. Calculate the amount received for a bill for ± 395 16s. which was drawn on 24th October, 1947, at two months and discounted on 1st November, 1947, at the rate of $3\frac{1}{2}$ per cent. per annum. (10)

2. The paid-up capital of a company consists of 20,000 $4\frac{1}{2}$ per cent. Preference shares of $\pounds 1$ each, 15,000 8 per cent. Preferred Ordinary shares of 10s. each, and 10,000 Deferred shares of 2s. each. If the available profits are $\pounds 3,462$, of which $\pounds 1,512$ are carried forward, at what rate per cent. is a dividend paid on the Deferred shares? (10)

3. (a) A bankrupt's liabilities amount to $\pounds 4,814$ 15s., of which $\pounds 687$ 10s. are preferential and have to be paid in full. If his assets realize $\pounds 2,761$ 11s. 6d. and the expenses of winding up his estate are $\pounds 285$ 12s., what dividend in the \pounds will be paid to the ordinary creditors ?

(b) How much will be paid to an ordinary creditor to whom the bankrupt owes $\pounds 84$ 12s. 6d. ? (12)

4. What was the original cost of an engine which, after an allowance for depreciation has been made for 18 years at a rate of 15 per cent. per annum, is valued at $\pounds 153$ 6s.? (12)

5. (a) An alloy is made by melting together 966 grams of silver and 712 grams of copper. If one cubic centimetre of silver weighs 10.5 grams and one cubic centimetre of copper weighs 8.9 grams, what volume of alloy will be obtained?

(b) The alloy is cast in the form of a cylinder of diameter 4 centimetres: what is the height in centimetres (correct to one place of decimals) of this cylinder? $(\pi = 3.14)$ (12)

6. (a) What is the difference in yield between (A) a $3\frac{1}{2}$ per cent. stock at $109\frac{3}{8}$ and (B) a $5\frac{1}{2}$ per cent. stock at 160? (Neglect brokerage.)

(b) What sum of money must be invested, one-third in A and two-thirds in B, to produce a gross annual income of f_{403} ? (12)

7. In 1939 the costs of production of a group of articles were divided between raw materials, labour and overhead expenses in the ratio of 5:3:4, and the list prices of these articles were fixed to give the maker a profit of 25 per cent. on selling price. By 1947 the costs of raw materials had risen by 100 per cent., of labour by 80 per cent, and of overheads by 60 per cent. By what percentage must the manufacturer raise his list prices so that he may recover his additional costs and still make a profit of 25 per cent. on selling price? (12)

SCIENCE

LOWER GRADE

Wednesday, 17th March-1.45 P.M. to 4.15 P.M.

Not more than SIX questions should be attempted. Three, but not more than three, of these must be taken from Part I (General Science). The remaining three questions must be taken from the two sections in Part II dealing with the branches studied in the later stages, at least one question being taken from each of the two sections.

H = 1, 0 = 16, Na = 23, S = 32.

Mathematical tables will be supplied to those who desire them.

16 marks are assigned to each question in Part I, and 17 to each question in Part II.

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 will be deducted for writing that is difficult to read.

PART I.-General Science.

Only THREE questions from this part should be attempted.

1. Name the four chief constituents of air. Describe an experiment which you have performed in the laboratory to determine the proportion by volume in which the two most abundant constituents are present.

Mention three methods commonly used to prevent iron from rusting.

2. How would you make a hydrometer, using a testtube and lead shot? Describe fully how you would graduate it for use with liquids of specific gravity between 0.8 and 1.2.

A hydrometer floats in cold water to a certain mark. It is transferred (i) to hot water, and (ii) to salt water. In each case state, with reasons, whether the mark would be above or below the surface of the liquid.

3. Describe briefly the flower of a named plant, and state the functions of the parts. Make a labelled drawing of the flower cut lengthwise through the centre.

What do you understand by the terms pollination and fertilization ? How is the seed dispersed in the case of the plant which you named above ?

4. Write a short account of the life history of the frog. How does the frog breathe and feed at each stage of its life ?

PART II.

Only THREE questions from this part should be attempted —see instructions on page 1 of this paper.

Section 1.—Physics

5. What do you understand by the statement that R is the resultant of the two forces P and Q? What is the relation between the equilibrant and the resultant of the two forces? How would you determine experimentally the magnitude and the line of action of the resultant of two like parallel forces?

A uniform plank, 12 ft. long and weighing 20 lb., is supported by trestles at each end. A man weighing 180 lb. stands on the plank 2 ft. from one end. Find the reactions at the trestles.

6. The coefficient of linear expansion of iron is 0.000012 per centigrade degree. Explain the meaning of this statement and describe an experiment by which you could verify it.

The Forth Bridge is made of iron and is $1\frac{1}{2}$ miles long. The total allowance for expansion is 6 ft. Calculate the range of temperature for which allowance has been made.

7. State the relationship that exists between the focal length of a bi-convex lens and the distances of the object and image from the lens. How would you verify this experimentally?

A bi-convex lens has a focal length of 5 cm. Find by drawing or calculation the nature, position, and size of the images formed when an object 2 cm. high is placed (i) 10 cm. and (ii) 2 cm. from the lens.

8. Draw a labelled diagram of a Leclanché cell. What is the depolarizing agent and what is its action ?

Make a labelled diagram of the circuit you would use to measure the resistance of a given wire. State the measurements you would make and show how you would use them to calculate the resistance.

Section 2.—Chemistry

9. State what happens when heat is applied to the following :---

(i) a mixture of slaked lime and ammonium chloride,

(ii) a mixture of common salt and concentrated sulphuric acid,

(iii) temporarily hard water.

Write the equations for the above reactions.

How would you identify *one* of the products of each of the reactions (i) and (ii) above ?

10. Define "equivalent" as applied to an acid. Use your definition to calculate the equivalent of sulphuric acid.

What do you understand by " neutralization "?

In a titration, 20 c.c. of a 0.5N solution of sulphuric acid were exactly neutralized by 15 c.c. of a given solution of caustic soda. Calculate

- (i) the normality of the caustic soda solution,
- (ii) the number of grams of caustic soda contained in a litre of the given solution,
- (iii) the number of grams of sulphuric acid contained in a litre of the 0.5N solution.

11. How would you prepare several jars of sulphuretted hydrogen ?

What is the action of sulphuretted hydrogen on (i) lead nitrate, (ii) sulphurous acid, (iii) chlorine ?

Section 3.—Botany

12. What conditions are necessary for the germination of seeds ? Describe what you would expect to happen

- (i) to a seedling grown for several weeks in distilled water,
- (ii) to a seedling grown in the dark,
- (iii) to a seedling with its root immersed in brine.

Give reasons for your answers.

13. Write notes on *four* of the following :— saprophyte, endosperm, stoma, annual ring, xerophyte.

saprophyte, endosperni, stoma, annuar ring, xerophyte.

14. Make large-scale labelled drawings of a vascular bundle in a young stem of a dicotyledon. (Transverse and longitudinal sections are required.)

How are the tissues of the bundle adapted to their functions? Describe *one* experiment which gives information about one of these functions.

Section 4.—Zoology

15. Draw and describe briefly the alimentary canal of the earthworm. State what happens to the earthworm's food in its passage through the canal.

16. Write notes on *four* of the following :--

(i) reproduction in Amoeba,

(ii) the structure of a quill feather,

(iii) the gills of a fish,

(iv) the structure and function of tracheae in insects,

(v) the stinging cells of Hydra.

Either

17. (a) (For candidates professing Zoology only.)

Write an account of the life history of any fish which you have studied. Make a large, labelled sketch illustrating the external features of this fish.

Explain how the fish moves (i) forwards, (ii) upwards and downwards.

Or

17. (b) (For candidates professing Zoology and Human Physiology.)

State what you know of the position and function of four of the following in the human body :---

gall-bladder, thyroid gland, diaphragm, tibia, duodenum.

SCIENCE

HIGHER GRADE -(PHYSICS)

Wednesday, 17th March. -1.45 P.M. to 4.15 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 will be deducted for writing that is difficult to read.

SECTION I (MECHANICS)

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

1. Three non-parallel co-planar forces act on a body. State two essential conditions of equilibrium and describe the experiment you would carry out to verify these statements.

A uniform rod AB, 10 ft. long and weighing 24 lb., hangs downward from a hinge at A. A string, which is attached to a point C on the rod 2 ft. from B, is pulled horizontally until the rod makes an angle of 30° with the vertical. Find graphically the direction and magnitude of the reaction of the hinge at A.

2. What factors determine the direction and magnitude of the force of friction between two surfaces? Describe an experiment to find as accurately as possible the coefficient of static friction between two surfaces.

A uniform rectangular block, standing on the floor, weighs 240 lb. Its height is 3 ft. and its base is a square of side 2 ft. The coefficient of static friction between the block and the floor is $\frac{3}{8}$. A gradually increasing horizontal push is applied to the centre of a top edge of the block in a direction at right angles to that edge. Will the block tilt or slide first?

3. Define the efficiency of a machine in terms of work and explain in detail how you would determine experimentally the variation of efficiency with load for *either* a block and tackle *or* an inclined plane. State with reasons what you would expect to find.

By means of a wheel and axle a man can raise a load of 112 lb. at a constant speed of 1 ft. per second. What horse-power is he exerting if the efficiency of the machine is 50 per cent. ?

4. State Newton's second law and derive from it a definition of the foot-pound-second unit of force. Describe an experiment by which you could determine the value of "g" as accurately as possible.

A stone dropped from the top of a tower takes $2\frac{1}{2}$ seconds to reach the ground. Calculate (i) the height of the tower and (ii) the speed of the stone as it passes a point 50 feet from the top of the tower.

SECTION II (HEAT AND HYDROSTATICS)

5. Show how the Principle of Archimedes may be deduced from a consideration of pressure in a liquid and how the law of flotation may be derived as a special case of the Principle. Outline the experiments you would perform to verify the general statement of the Principle of Archimedes as it applies to liquids.

The envelope and attachments of a balloon weigh 40 lb. When the balloon is filled with hydrogen it can raise an additional 30 lb. What could it raise when filled with helium ?

(Density of helium = $2 \times \text{density of hydrogen}$

Density of air = $14 \cdot 4 \times \text{density of hydrogen.}$)

6. Give an account of a laboratory method of determining the latent heat of vaporization of water and explain how the result is calculated. Discuss possible sources of experimental error, stating how each error would affect the final result and what precautions you would take to minimize that error.

A piece of copper, mass 100 gm., was heated for some time in a bunsen flame then transferred to a copper calorimeter, mass 200 gm., containing 200 gm. of water. The temperature of the calorimeter and contents rose from 15° C. to 45° C. and, on re-weighing, it was found that $1\cdot 2$ gm. of water had evaporated. Calculate the approximate temperature of the flame.

(Specific heat of copper = 0.09.

Latent heat of vaporization of water = 536 cal. per gm.)

7. What is the relationship between the temperature, volume, and pressure of a given mass of gas when all three vary? How would you verify experimentally the relationship between temperature and pressure when volume is kept constant?

When exploded, 1 gm. of gunpowder produces 360 c.c. of gases, measured at N.T.P. A cavity of capacity 2 c.c. contains 3 gm. of gunpowder. If the temperature of the explosion is 2,200° C., what pressure is exerted ?

8. Define the coefficient of linear expansion of a substance and state how it is related to the coefficient of cubical expansion of the same substance. Give a detailed account of an experiment to determine the coefficient of linear expansion of a metal.

An aluminium sphere of diameter 7.996 cm. rolls in an iron cylinder of internal diameter 8.000 cm. (Both diameters were measured at 0° C.) At what temperature will the sphere stick in the cylinder ?

(Coefficient of linear expansion of aluminium=0.000025. Coefficient of linear expansion of iron=0.000011.)

SECTION III (SOUND AND LIGHT)

9. Explain the "Doppler effect" and show how the change in frequency may be calculated (i) when the source of the sound is moving past a stationary listener, and (ii) when a listener is moving past a stationary source of sound.

A railway engine, passing through a station at 45 m.p.h., emits a note of frequency 1,200. What is the frequency of the note heard by a man standing on the station platform

(i) as the engine approaches the station,

(ii) when the engine has passed the station?

(Velocity of sound = 1,100 ft. per second.)

10. Describe the experiment you would perform to find the velocity of sound in carbon dioxide.

A person notices that his watch is at exactly 1 p.m. when he hears the sound from the gun fired in Edinburgh Castle at 1 p.m. If he is one mile from the gun, and the temperature is 59° F., what will be the error of the reading on his watch ?

(Velocity of sound at 32° F. = 1,100 ft. per second.)

11. What do you understand by "minimum deviation"? For any prism establish the relation between the angle of minimum deviation, the angle of the prism, and the refractive index.

Detail the experiment which you would carry out in using the above relation to determine the refractive index of the glass of a given prism.

12. How would you determine experimentally the focal length of a given *convex* mirror? Explain the theory underlying the method which you adopt.

How far must an object be placed in front of a *concave* mirror of focal length 6 in. to give (i) a real image, (ii) a virtual image, each image being four times the size of the object ?

SECTION IV (MAGNETISM AND ELECTRICITY)

13. Define (i) unit magnetic pole and (ii) a neutral point. Describe an experiment to verify the inverse square law in magnetism.

A long magnet is held in a vertical position with its north pole flush with a horizontal sheet of cardboard. How would you plot the lines of force on the cardboard? Sketch the diagram you would obtain assuming that the south pole of the magnet is sufficiently far away to make its effect negligible. If a neutral point is found on the cardboard 6 cm. from the north pole what is the pole strength of the magnet?

(H = 0.18 c.g.s. unit.)

14. Explain what is meant by the reduction factor of a tangent galvanometer and show how the value $\frac{10 \text{ Hr}}{2\pi n}$ is derived. Describe an experiment to show that the reduction factor is proportional to the radius of the coil.

A particular tangent galvanometer can be used with either 2 or 50 turns of the same coil of wire. When a certain potential difference is applied to 2 turns of the coil the deflection is 40° . What will the deflection be if the same potential difference is applied to 50 turns of the coil ?

15. Give details of an experiment to measure the internal resistance of a Daniell cell and explain the theory underlying the calculation.

A cell of E.M.F. 2 volts and internal resistance 2 ohms is in circuit with resistances of 4 ohms and 6 ohms which are placed (i) in series and (ii) in parallel. Calculate the potential difference across the 6-ohm resistance in each case.

16. State Faraday's laws of electrolysis. How would you verify experimentally the relationship between the given chemical equivalents of two elements and the masses of these elements deposited by the same quantity of electricity?

To calibrate an ammeter it is connected in series with a battery and a copper voltameter. A current, recorded by the ammeter as $2 \cdot 0$ amp., is passed for 30 minutes. If $1 \cdot 21$ gm. of copper is deposited in this time what information can you give about the ammeter reading? If the current for the experiment was obtained from a battery of Daniell cells what weight of zinc would be consumed during the experiment ?

(Electro-chemical equivalent of copper = 0.00033 gm. per coulomb.

Electro-chemical equivalent of zinc = 0.00034 gm. per coulomb.)

SCIENCE

HIGHER GRADE-(ZOOLOGY AND HUMAN PHYSIOLOGY)

Monday, 22nd March—1.0 Р.м. to 3.0 Р.м.

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 will be deducted for writing that is difficult to read.

SECTION I-ZOOLOGY

1. What is a larva? Describe fully the larval stage of three animals from different classes and trace in each case the relationship between the structure of the larva and its environment.

2. Give a brief account of the structure of the humerus of a mammal. Make labelled diagrams of the fore-limb of a named mammal and of a bird. Mention features of the wing which are related to flight and describe the action of the wing.

3. Why must organisms respire ? Explain how each of the animals, amoeba, fish, and adult frog respire.

4. What do you understand by excretion? Give a complete and fully illustrated account of excretion in a mammal.

SECTION II—HUMAN PHYSIOLOGY

5. How were vitamins discovered ?

Discuss the part played by each of four vitamins in maintaining good health, and mention the principal sources of these vitamins.

6. Write notes on the following :----

(i) the cause of the pulse,

(ii) cretinism,

(iii) lymph,

(iv) the functions of the small intestine.

7. Either (a) Make a large, labelled diagram to show the structure of the eye, and state briefly the functions of the parts.

Or (b) Draw and describe (i) a transverse section of the spinal cord, (ii) a typical nerve cell.

What is meant by reflex action ? Give an example.

SCIENCE

HIGHER GRADE - (PURE ZOOLOGY)

Monday, 22nd 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 will be deducted for writing that is difficult to read.

1. What is a larva ? Describe fully the larval stage of three animals from different classes and trace in each case the relationship between the structure of the larva and its environment.

2. Give a brief account of the structure of the humerus of a mammal. Make labelled diagrams of the fore-limb of a named mammal and of a bird. Mention features of the wing which are related to flight, and describe the action of the wing.

3. Why must organisms respire ? Explain how each of the animals, amoeba, fish, and adult frog respire.

4. What do you understand by excretion? Give a complete and fully illustrated account of excretion in a mammal.

5. To which phylum does Hydra belong? State the characters which place it in this phylum.

Write an account of (i) nutrition, and (ii) reproduction in Hydra.

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6. Discuss the evidence which supports the theory of evolution.

7. Either (a) Describe the animal associations of a habitat familiar to you. Choose one invertebrate and one vertebrate member of this fauna, and trace the food chain of each to its ultimate origin.

or (b) Describe how you would set up, and keep in good condition, a fresh water or marine aquarium. Make a list of six animals with which you might stock it, and give an account of the appearance and habits of *one* of them.

SCIENCE

HIGHER GRADE—(BOTANY)

Wednesday, 24th March -1.45 P.M. to 3.45 P.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 will be deducted for writing that is difficult to read.

1. Draw and describe the stem structure of a young Dicotyledon, and state how the tissues are specialized in relation to their functions.

2. Give an account of the changes which occur during the germination of *either* wheat or maize. Make drawings to illustrate the development of the seedling up to the appearance of the first green leaf.

What tests would you use to determine the nature of the food substances in the germinating seed ?

3. Describe in detail the gametophyte of any fern which you have studied.

To which group of plants does Fern belong? What features are common to Fern and Spirogyra? Why is Fern regarded as the higher plant?

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4. How would you distinguish between the natural orders Ranunculaceae and Rosaceae? Draw a named flower from each order. What characters have these flowers in common? Describe their fruits and their methods of seed dispersal.

5. Describe experiments : —

- (i) to show the effect of light upon the direction of growth of a shoot,
- (ii) to discover the most actively growing region of a stem,
- (iii) to measure the rate of growth of a shoot.

From the results of experiments (i) and (ii), what conclusions do you draw regarding growth?

6. Write an account of what occurs during photosynthesis, and indicate the importance of this process to man.

Describe experiments which demonstrate *two* conditions necessary for photosynthesis.

7. Either (a) Name eight hedgerow plants or eight plants which form part of the undergrowth of a wood. Choose two perennial plants from your list and describe briefly the appearance of each throughout the course of a year. Mention any features of these two plants which are of advantage in that environment.

Or (b) Name three native aquatic plants and describe one fully. In what respects does this plant differ in structure from a land plant ?

SCIENCE

HIGHER GRADE—(CHEMISTRY)

Wednesday, 24th March-9.30 A.M. to 11.30 A.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.

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C = 12, N = 14, O = 16, Na = 23, S = 32.

A litre of hydrogen at N.T.P. weighs 0.09 gm.

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 will be deducted for writing that is difficult to read.

1. State (a) the law of multiple proportions,

(b) the law of reciprocal proportions.

Select two oxides of a metal and show how you would use them to verify law (a) experimentally.

Two oxides of nitrogen contain respectively $63 \cdot 6$ and $30 \cdot 4$ per cent. of nitrogen. Show that these figures illustrate law (a).

2. You are given the following pairs of substances:-

- (i) potassium bromide and potassium iodide,
- (ii) ammonium chloride and sodium chloride,
- (iii) calcium carbonate and sodium bicarbonate,
- (iv) manganese dioxide and powdered charcoal,
 - (v) bromine vapour and nitrogen peroxide.

Show how you would distinguish the one member of each pair from the other.

3. Detail the experiment you would perform to collect several jars of carbon monoxide.

20 c.c. of carbon monoxide are mixed with 20 c.c. of oxygen and an electric spark is passed through the mixture. What is the volume and composition of the residual gas, measured at the same temperature and pressure as the original gases ?

Indicate briefly how you would verify your answer experimentally.

4. You are given pure anhydrous sodium carbonate and concentrated sulphuric acid. Detail the method you would adopt to prepare and standardize a litre of approximately normal sulphuric acid.

1.07 gm. of an ammonium salt are boiled with 50 c.c. of a normal solution of caustic soda until the issuing steam is free from ammonia. The residual liquid is made up to 250 c.c. with water, and it is found that 25 c.c. of this solution are neutralized by 30 c.c. of a decinormal solution of sulphuric acid. Find the percentage of ammonia in the given ammonium salt.

5. Starting in each case with concentrated nitric acid and any other chemical which you may require, outline the experiments you would perform to prepare specimens of :--

(i) oxygen, (ii) nitrous oxide, (iii) nitric oxide.

Indicate the tests you would apply to identify each of these gases.

6. Describe the experiment which you would perform in the laboratory to illustrate the contact process for the manufacture of sulphuric acid. What is the action of concentrated sulphuric acid on (i) copper, (ii) carbon, (iii) potassium iodide, (iv) sulphuretted hydrogen ? How would you demonstrate experimentally the truth of your statement in (ii) ?

7. Either (a) What do you understand by the term

Describe the experiment which you would perform to study the electrolysis of sodium sulphate solution. Explain how the various products arise, and how you would show their presence.

 \mathbf{Or} (b) The elements mercury and bromine are liquid at ordinary temperatures. Give reasons for the classification of the one as a metal and the other as a non-metal. Describe the methods you would employ to isolate each of these elements from a compound in which it occurs in nature.
ART

HIGHER GRADE-(FIRST PAPER)

Wednesday, 17th March—9.30 A.M. to 10.30 A.M.

All candidates must attempt ONE question from this paper. 40 marks are assigned to each question.

N.B.—Write legibly and neatly, and leave a space of half an inch between the lines. Marks will be deducted for writing that is difficult to read.

1. Write an appreciation of the works of Van Gogh and Gauguin. How did these two artists differ from the Impressionist School of painting ?

2. Give an account of the work of the early English landscape painters, and discuss the differences in their approach to landscape.

3. (a) Tell briefly what you know of the Florentine School of painting and show, in a broad way, how it differed from the Venetian School.

OR

(b) What are the characteristics of the Modern School of painting? Illustrate your answer by reference to the work of at least *two* painters.

4. In what way did geographical and cultural factors influence the development of architecture in Greece and Ancient Egypt? Add sketches to supplement your answer.

5. Imagine you approach, and then enter, a typical mediaeval city or town. Mention the kind of buildings you would see, and describe as fully as you can (with the aid of sketches) its cathedral or church.

6. (a) Discuss the development of the arch as an architectural feature. Illustrate your answer with sketches.

OR

(b) Show how the development of wall openings (doors and windows) has produced different types of architecture through the ages.

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ART

HIGHER GRADE—(SECOND PAPER) Wednesday, 17th March—10.45 A.M. to 12.45 P.M. Both questions should be attempted.

30 marks are assigned to each question.

SECTION I—Composition

1. Make within a rectangle (7 inches by $5\frac{1}{2}$ inches, horizontal or upright) a sketch in colour for a figure composition illustrating *one* of the following subjects :—

- (a) Hallowe'en.
- (b) Village Dance Band.
- (c) The Fish Market.
- (d) Tinkers' Camp.

Due credit will be given for preliminary rough sketches.

SECTION II—Design

2. Illustrate by a sketch a design suitable for *one* of the following, and state clearly by what process and in what materials your design would be carried out :---

(a) An all-over pattern for a summer frock for a girl with auburn hair.

OR

A decorative paper to be used for wrapping presentation packages of *one* of the following articles :—Toys; Books; Gloves.

(Four repeats, suitable size, to be drawn and sufficient colour shown to explain the colour scheme.)

(b) A paper book-jacket for "Circus Lore." Size 7 inches by 5 inches.

OR

A menu card for "Zoo Café." Size $7\frac{1}{2}$ inches by $4\frac{1}{2}$ inches, long side upright.

 (c) Tea-cosy cover (embroidery or appliqué). Design your own shape and make your sketch 7 inches (base), 4¹/₂ inches (height).

OR

Embroidered tray cloth. Size of sketch 8 inches by 6 inches.

(84160)

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TECHNICAL SUBJECTS—GROUP I HIGHER GRADE—(APPLIED MECHANICS)

Monday, 22nd March—9.30 A.M. to 11.30 A.M. Not more than FIVE questions should be attempted. 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 will be deducted for writing that is difficult to read.

1. State the conditions that must exist so that three coplanar non-parallel forces acting on a body may be in equilibrium.

Figure 1 shows a structure supported by a roller bearing on a vertical wall at C and by a pin-jointed bearing at B. A load of 5 tons acts vertically downwards at A.

Reproduce the given diagram to a scale of $\frac{1}{4}$ in. represents 1 ft.

Draw the force diagram to a scale of 1 in. represents 1 ton, and find-

- (a) the magnitude of the reaction at C;
- (b) the direction and magnitude of the reaction at B;
- (c) the magnitude and nature of the forces in the members AB, BC, CA.

EXAMINATION PAPERS, 1948



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SENIOR LEAVING CERTIFICATE

2. Define the terms shear stress, elastic limit, factor of safety.

Figure 2 represents the cotter joint of an engine piston rod and crosshead. The steam pressure on the piston is 200 lb. per sq. in. and the piston diameter is 30 in.

The length of the 4-in. diameter portion of the rod is 40 in.; the cotter is $4\frac{1}{2}$ in. broad, 1 in. thick; Young's modulus for the material is 12,000 tons per sq. in.

Determine-

- (a) the compressive stress in the piston rod in lb. per sq. in.;
- (b) the shear stress in the cotter in lb. per sq. in.;
- (c) the contraction of the 4-in. diameter portion of the rod;
- (d) the factor of safety of the joint if the material has an ultimate compressive stress of 90,000 lb. per sq. in. and an ultimate shear stress of 55,000 lb. per sq. in.

= 216



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3. Define moment of a force about a point.

The mechanism of a weighing machine is shown diagrammatically in Figure 3. The platform rests on knifeedges at A and B. The main lever CD is 52 in. long and is pivoted at C. Lever EF is 16 in. long, is pivoted at F, and rests on the main lever at E. The steelyard is pivoted at G.

 (a) A load is placed centrally on the platform and its weight is recorded on the steelyard when the small weight w of 2 lb. is 30 in. from G.

Determine the weight on the platform.

(b) Determine the position of w on the steelyard if a weight of 624 lb. were placed on the platform over knife-edge A.

4. A lorry, weighing 3 tons, is proceeding up an incline of 1 in 150 at a speed of 20 miles per hour. In order to pass a slower moving vehicle the lorry accelerates to a speed of 30 miles per hour at a uniform rate, and, in so doing it covers a distance of 300 yards. The frictional resistance is 20 lb. per ton.

Determine-

- (a) the acceleration ;
- (b) the time that elapses during the period of acceleration;
- (c) the force acting on the lorry during that period.

5. Explain what is meant by the *efficiency of a machine*. Show that the efficiency at a given load is the ratio of the mechanical advantage at that load to the velocity ratio of the machine.

Deduce an expression for the limiting efficiency of the machine,

In an experiment on a machine the following results were obtained :---

Load (lb.) 10 40 100 150 200 300 Effort (lb.) $12 \cdot 5$ 18 30 $40 \cdot 5$ $50 \cdot 9$ 70 The velocity ratio was known to be 8.

Plot a graph of effort against load and determine-

- (a) the law of the machine;
- (b) the effort at no load;
- (c) the efficiency at a load of 250 lb.;

(d) the limiting efficiency of the machine.

6. Define the terms work and power.

In the underground haulage of a coal mine a train of 20 trucks, each weighing 10 cwt., is being hauled on the level at a uniform speed of one mile in three minutes; the frictional resistance of the trucks is 25 lb. per ton.

The haulage rope weighs 5 lb. per yard and is half a mile long; it has a frictional resistance of 15 per cent. of its weight.

Determine-

- (a) the work done in the half-mile haul;
- (b) the rate of working in horse-power;
- (c) the horse-power input to the motor driving the haulage if the efficiency of the driving gear is 75 per cent. and the efficiency of the motor is 80 per cent.

7. Explain the terms pressure and centre of pressure.

A canal lock gate is 15 ft. wide. The water on one side is 12 ft. deep and on the other side it is 4 ft. deep. Determine-

- (a) the total thrust of the water on each side of the gate;
- (b) the point at which each thrust may be assumed to act ;
- (c) the resultant thrust;
- (d) the overturning moment about the bottom of the gate ;
- (e) the point at which the resultant thrust may be said to act.

(The density of the water is $62 \cdot 5$ lb. per cu. ft.)

SCIENCE—ENGINEERING

TECHNICAL SUBJECTS-GROUP II

HIGHER GRADE—(APPLIED MECHANICS AND HEAT ENGINES)

Monday, 22nd March-9.30 A.M. to 11.30 A.M.

Candidates should attempt FIVE questions, viz., THREE questions from Section I and TWO questions from Section II.

EXAMINATION PAPERS, 1948



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 will be deducted for writing that is difficult to read.

SECTION I

1. State the conditions that must exist so that three coplanar non-parallel forces acting on a body may be in equilibrium.

Figure 1 shows a structure supported by a roller bearing on a vertical wall at C and by a pin-jointed bearing at B. A load of 5 tons acts vertically downwards at A.

Reproduce the given diagram to a scale of $\frac{1}{4}$ in. represents 1 ft.

Draw the force diagram to a scale of 1 in. represents 1 ton, and find—

- (a) the magnitude of the reaction at C;
- (b) the direction and magnitude of the reaction at B;
- (c) the magnitude and nature of the forces in the members AB, BC, CA.

2. Define the terms shear stress, elastic limit, factor of safety.

Figure 2 represents the cotter joint of an engine piston rod and crosshead. The steam pressure on the piston is 200 lb. per sq. in. and the piston diameter is 30 in.

The length of the 4-in. diameter portion of the rod is 40 in.; the cotter is $4\frac{1}{2}$ in. broad, 1 in. thick; Young's modulus for the material is 12,000 tons per sq. in.

Determine-

- (a) the compressive stress in the piston rod in lb. per sq. in.;
- (b) the shear stress in the cotter in lb. per sq. in.;
- (c) the contraction of the 4-in. diameter portion of the rod :
- (d) the factor of safety of the joint if the material has an ultimate compressive stress of 90,000 lb. per sq. in. and an ultimate shear stress of 55,000 lb. per sq. in.

3. Define moment of a force about a point.

The mechanism of a weighing machine is shown diagrammatically in Figure 3. The platform rests on knife-edges at A and B. The main lever CD is 52 in. long and is pivoted at C. Lever EF is 16 in. long, is pivoted at F, and rests on the main lever at E. The steelyard is pivoted at G.

- (a) A load is placed centrally on the platform and its weight is recorded on the steelyard when the small weight w of 2 lb. is 30 in. from G. Determine the weight on the platform.
- (b) Determine the position of w on the steelyard if a weight of 624 lb. were placed on the platform over knife-edge A.



FIGURE 3.



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4. A lorry, weighing 3 tons, is proceeding up an incline of 1 in 150 at a speed of 20 miles per hour. In order to pass a slower moving vehicle the lorry accelerates to a speed of 30 miles per hour at a uniform rate, and, in so doing it covers a distance of 300 yards. The frictional resistance is 20 lb. per ton.

Determine-

- (a) the acceleration;
- (b) the time that elapses during the period of acceleration;

(c) the force acting on the lorry during that period.

SECTION II

5. Define calorific value of a solid, calorific value of a gas, a therm.

What is meant by the term *thermal efficiencv* with reference to a gas-fired water boiler ?

A domestic gas-heated geyser is used 40 times a day for an average of $1\frac{1}{2}$ minutes each time. The temperature of the water is raised from 40° F. to 120° F. when the water is passing through at the rate of three-quarters of a gallon per minute.

The gas has a calorific value of 450 B.Th.U. per cu. ft. and costs $10\frac{1}{2}d$. per therm. The geyser operates at an efficiency of 80 per cent.

Calculate-

(a) the volume of gas supplied per day;

(b) the cost of this quantity of gas.

(A gallon of water weighs 10 lb.)

6. Explain the terms wet steam, superheated steam.

Steam at 300 lb. per sq. in. and with 100° F. of superheat is supplied to a high-pressure turbine, and after doing work there it is exhausted to a low-pressure turbine at 50 lb. per sq. in. and 0.98 dry.

In the low-pressure turbine the steam does further work and is exhausted therefrom at 2 lb. per sq. in. and 0.92 dry.

EXAMINATION PAPERS, 1948

Determine—

- (a) the total heat in one lb. of the steam on entering the high-pressure turbine, and on entering and on leaving the low-pressure turbine;
- (b) the work done in ft. lb. by one lb. of steam in each turbine;
- (c) the theoretical horse-power developed by the combination when supplied with 24,000 lb. of steam per hour.

Use the following data from Steam Tables-

Þ	h	Ĺ
lb. per sq. in.	B.Th.U.	B.Th.U.
300	394	815
50	250	926
. 2	94	1,020 -

Take the specific heat of superheated steam as 0.5.

7. In most reciprocating steam engines the valve gear cuts off the steam at some part of the stroke. Explain why this practice is adopted.

A river steamer of 5,000 tons has a steam engine consisting of two double-acting cylinders, each of 48 in. diameter and 60 in. stroke.

On a trial run the following data were noted—

Steam inlet pressure		180 lb. per sq. in.
Exhaust pressure		2 lb. per sq. in.
Revs. per minute		60
Mean effective pressur	e	120 lb. per sq. in.

Calculate-

- (a) the greatest force on the piston;
- (b) the I.H.P. developed;
- (c) the B.H.P. if the mechanical efficiency is 80 per cent.;
- (d) the resistance per ton to the motion of the ship when moving at 12 knots.

(A knot is $1\frac{1}{3}$ miles an hour.)

SENIOR LEAVING CERTIFICATE

TECHNICAL SUBJECTS

HIGHER GRADE—(TECHNICAL DRAWING)

Wednesday, 24th March-1.45 P.M. to 4.45 P.M.

Question 1 should be attempted, and *either* Question 2 or Question 3. 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.

1. Figure 1 shows the various parts of a bench vice for holding pipes. The parts are the body casting, the vee block, the screw and the handle.

The vee block forms the top half of the vee for holding the pipes. It is pushed up into the body casting through the opening in the base.

Draw, full size :---

- (a) an elevation in the direction of arrow A with all parts assembled and showing hidden parts dotted. Show the vees holding a 2-inch diameter pipe. (The pipe should be shown in this view only and not in the other two views.);
- (b) a half plan of the assembly showing hidden parts dotted;
- (c) a sectional end view (looking in the direction of arrow B) of the part to the left of the centre line. Omit the handle and screw; show all hidden parts dotted.

Print a title but do not give any dimensions. (55)

N.B.—The dimensions 8" and $11\frac{1}{4}$ " refer respectively to the distances from the side (short edge) and top (long edge) of your drawing paper, and determine the position of your drawing on the paper.

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Either

2. Figure 2 is an incomplete view of the body and spout of an oil can.

Draw, full size :---

- (a) an elevation of the body showing the curve of entry of the spout;
- (b) a plan of the body showing the curve of entry of the spout;
- (c) a development of half of the body surface showing the hole for the spout. (45)

Or

3. Figure 3 shows incomplete the elevation and plan of the body of a screw jack.

Draw, full size :---

- (a) the elevation complete showing the curve of the base and of the recess ;
- (b) the plan complete.

On the elevation show clearly how the centres for the arcs are obtained; mark clearly the points of tangency and show how they are obtained. (45)

SENIOR LEAVING CERTIFICATE



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EXAMINATION PAPERS, 1948



SENIOR LEAVING CERTIFICATE

AGRICULTURE

LOWER GRADE

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

Not more than **FIVE** questions should be attempted.

H = 1, N = 14, O = 16, Na = 23, S = 32.

Answers should, wherever possible, be illustrated by suitable diagrams.

Mathematical tables are supplied. 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 will be deducted for writing that is difficult to read.

1. Explain what is meant, as applied to a soil, by (a) sand, (b) clay, and (c) humus.

Describe a method to determine the percentage of coarse sand in a sample of soil.

What percentages of sand, clay, and humus would you expect to find in a medium loam ?

2. Write short notes on *four* of the following in their relation to agriculture :---

(a) Calcium bicarbonate.

(b) Mechanical advantage.

(c) Capillarity.

(d) Xylem.

(e) Rodents.

3. Name two artificial fertilizers which contain phosphate, and two which contain potash.

What manurial constituents are present in bones?

Calculate from their chemical formulae the unit prices of the manurial constituents in the following :---

- (a) Pure nitrate of soda, at f_{10} per ton.
- (b) Sulphate of ammonia, 96 per cent. pure, at \pounds^{10} per ton.

4. How would you determine (a) the percentage of germination of a sample of clover seed, and (b) the percentage of purity?

Describe how germination is affected by temperature.

Which is the better, and why—a sample of clover seed which germinates quickly, or one which germinates slowly ?

What is meant by the '' real value '' of a sample of clover seed ?

5. Make a sketch of a single-furrow horse-drawn plough. Label the parts and indicate the purpose of each.

6. Describe *two* of the following, outlining their life histories and the harm they do :--turnip flea beetle, wireworm, brown rat.

7. Make a labelled sketch of the reproductive system of **either** the cow **or** the mare; write notes on the functions of the different parts, and state the period of gestation.

AGRICULTURE

HIGHER GRADE—(FIRST PAPER) Tuesday, 23rd March—9.30 A.M. to 11.30 A.M.

Not more than FIVE questions should be attempted.

H = 1, N = 14, O = 16, P = 31, Ca = 40.

Answers should, wherever possible, be illustrated by suitable diagrams.

Mathematical tables are supplied.

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 will be deducted for writing that is difficult to read. 1. (a) Describe tests to show whether the following are present in a sample of soil :---(i) organic nitrogen, and (ii) phosphate.

(b) Describe and explain any method of estimating the lime requirement of a soil.

2. What do you understand by (a) fat, (b) protein, and (c) carbohydrate?

Describe a method of determining the percentage of fat in a feeding stuff.

- 3. Write notes on *four* of the following :--(a) Flocculation of clay.
 (b) The manufacture of superphosphate.
 (c) Weathering agencies.
 (d) Anticyclone.
 (e) The nature and purpose of fuses in electrical circuitte. circuits.

4. (a) Write the chemical formulae for (i) tri-calcic phosphate, and (ii) mono-ammonium phosphate; calculate from your formulae the percentage of phosphoric acid in each.

(b) Upon what properties does the value of basic slag as a fertilizer depend?

5. Write an essay on "Soil Temperature," giving in detail the sources and losses of soil heat, the conditions upon which soil temperature depends, and the importance of soil temperature in the growing of crops.

6. Describe, with suitable sketches four of the following, and explain their use :---

- (a) A force pump.
 (b) The differential gear of a tractor.
 (c) A horse hoe.
 (d) A disc harrow.

(e) The drum of a threshing machine.

7. Explain, with suitable sketches, the four-stroke cycle in a tractor engine and show how the valves are operated. (No description of the ignition system is required.) What are the possible orders of firing in a four-cylinder

engine ?

AGRICULTURE

HIGHER GRADE—(SECOND PAPER)

Tuesday, 23rd March-1.45 P.M. to 3.45 P.M.

Not more than FIVE questions should be attempted.

Answers should, wherever possible, be illustrated by suitable diagrams.

Mathematical tables are supplied. 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 will be deducted for writing that is difficult to read.

1. State the uses to which water is put by growing plants.

What are the conditions upon which the amount of water used by a growing crop depends?

If a crop requires 300 tons of water to produce a ton of dry matter, calculate the number of inches of rainfall used by a crop of oats containing 2 tons of dry matter per acre. (1 cubic foot of water weighs $62\frac{1}{2}$ lb.)

2. Discuss the four-course rotation—wheat (autumn sown), turnips, barley (spring sown), clover (sown with barley)—from the following aspects :—

- (a) Conservation of soil fertility.
- (b) Freedom from weeds, pests, and diseases.
- (c) Suitability for different types of soil.

3. Describe, under the following headings, how to lay down a two-years' lea, either with or without a nurse crop :

- (a) Uses to which the lea will be put.
- (b) Place in the rotation.
- (c) Suitable soil conditions, and time of sowing.
- (d) Manurial treatment.
- (e) Selection of seed mixture, with reasons for your choice.

SENIOR LEAVING CERTIFICATE

4. Give a descriptive account of **either** "The good and the harm that birds do to agriculture," **or** "Cleanliness in milk production."

5. Select *four* of the following organs; state their position and function, and name the classes of farm livestock which possess them :—diaphragm, cloaca, ovary, gizzard, pancreas.

6. Name *two* popular breeds of cattle common in Scotland; state the characteristics of each and give reasons for their respective success.

7. Describe the life history of the crane-fly, making sketches of the insect at each stage of its development.

Mention the circumstances favourable to a severe attack by this pest, and suggest suitable control measures.

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APPENDIX

LIST OF AUTHORITIES BY WHOM EVIDENCE OF SUCCESS AT THE SENIOR 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. The Medical School, King's College, Newcastle-upon-Tyne. 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 in Scotland. The Law Society.

The General Council of Medical Education and 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 Association of Certified and Corporate 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.

The Institution of Civil Engineers.

 \ast 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 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 Foundation.
The Institute of Physics.
The Royal College of Veterinary Surgeons.
The British Optical Association.
The Chartered Institute of Patent Agents.
The Library Association.
The Institute of Transport.
*The Institute of Transport.
*The Chartered Society of Massage and Medical Gymnastics.
The Building Societies Institute.
The Chartered Society of Physiotherapy.
The Institute of Brewing.

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SCOTTISH EDUCATION DEPARTMENT-1948

Circular 59 (Education (Scotland) Act, 1945. Travelling and Boarding Arrangements for Pupils attending Schools and other Educational Establishments). (March, 1946.)

Educational Development, Research and Services (Scotland) Grant Regulations, 1946. S.R. & O., 1946, No. 1267, S.53. 1d. (2d.).

S.K. & O., 1946, No. 1207, S.35. 12. (2a.).
Circular 78 (Bursaries for Persons Over School Age). (June, 1946.) 1d. (2d.).
The Education (Scotland) Social and Physical Training Grant Regulations, 1946.
S.R. & O., 1946, No. 864, S.37. 1d. (2d.).
Gircular 85 (Education (Scotland) Act, 1945. Schemes for the Provision of Primary and Secondary Education). (August, 1946.) 2d. (3d.).
Circular 93 (Education (Scotland) Act, 1946). (December, 1946.) 6d. (7d.).
Circular 95 (Children and Young Persons (Scotland) Act, 1937. Employment of Children Brelaw. (Jouwer, 1947). 2d. (3d.)

-Byelaws). (January, 1947.) 2d. (3d.).

Educational Conferences (Scotland) Regulations, 1947. S.R. & O., 1947, No. 119, S.2.

Incidental Expenses (Scotland) Regulations, 1947. S.R. & O., 1947, No. 120, S.3. 1d. (2d.).

Circular 98 (Salaries and Conditions of Service in Approved Schools). (February, 1947.) 3d. (4d.).

Circular 100 (Raising of the School Leaving Age. Organisation and Curriculum).

(February, 1947.) 1d. (2d.). Children and Young Persons, Scotland. The Approved Schools (Contributions by Education Authorities) (Scotland) Regulations, 1948, S.I. 1948, No. 475, S.30. 1d. (2d.). Education, Scotland. The Miscellaneous Grants (Glasgow School of Nautical Cookery) Provisional Regulations, 1947. 1d. (2d.). Final Mark 105 (Science & Accepting Education Authorities) (May, 1947).

Circular 105 (Selected Enactments Affecting Education Authorities) (May, 1947).

Education Authority Bursaries (Scotland) Regulations, 1947. S.R. & O. 1947, No. 948,

S. 27. 2d. (3d.). Circular 106 (The Education Authority Bursaries (Scotland) Regulations, 1947). (May, 1947.) 2d. (3d.). Circular 107 (The Supelemental Allowances (Scotlish Scholars at English Universities)

Circular 107 (The Supplemental Allowances (Scottish Scholars at English Universities)

Provisional Regulations, 1947.) (June, 1947.) 1d. (2d.). Education Scotland. (The Supplemental Allowances (Scotlish Scholars at English Universities) Provisional Regulations, 1947). 1d. (2d.). Circular 108 (Promotion Schemes). (July, 1947.) 2d. (3d.). Circular 109 (Education (Scotland) Act, 1946. Education Estimates (Scotland) Order, 1947). (July, 1947.) 2d. (3d.)

1947). (July, 1947.) 2d.

[947]. (July, 1947.) 2d. (3d.). Education Estimates (Scotland) Order, 1947. S.R. & O., 1947 No. 1400, S.58. 2d. (3d.). Circular 110 (Education (Scotland) Act, 1946. Reports on Handicapped Children (Scotland) Order). (July, 1947.) 1d. (2d.). Education, Scotland. Reports on Handicapped Children (Scotland) Order, 1947.
S.R. & O., 1947, No. 1576, S.62. 2d. (3d.). Children and Young Persons (Scotland). Employment of Children in Entertainments. S.R. & O., 1947, No. 1660, S.67. 2d. (3d.). The Exemptions (Potato Lifting) (Scotland) Provisional Regulations, 1947. 1d. (2d.). Circular 114 (Regional Advisory Council for Technical Education). (September, 1947).
1d. (2d.).

Education, Scotland. The Regional Advisory Council (Scotland) Grant Regulations,

Education, Scotland. The Regional Advisory Council (Scotland) Grant Regulations, 1948. S.I. 1948, No. 569, S.35. 1d. (2d.).
Education, Scotland. The Regional Advisory Council (Technical Education in Dundee and District) Order, 1948. S.I. 1948, No. 570, S.36. 1d. (2d.).
Education, Scotland. The Regional Advisory Council (Technical Education in the Highlands and Islands) Order, 1948. S.I. 1948, No. 571, S.37. 1d. (2d.).
Education, Scotland. The Regional Advisory Council (Technical Education in North-East Scotland). The Regional Advisory Council (Technical Education in North-East Scotland). The Regional Advisory Council (Technical Education in South-East Scotland). Order, 1948. S.I. 1948, No. 572, S.38. 2d. (3d.).
Education, Scotland. The Regional Advisory Council (Technical Education in South-East Scotland). Order, 1948. S.I. 1948, No. 573, S.39. 2d. (3d.).
Education, Scotland. The Regional Advisory Council (Technical Education in South-East Scotland). The Regional Advisory Council (Technical Education in South-East Scotland). The Regional Advisory Council (Technical Education in West Scotland). The Regional Advisory Council (Technical Education in West Scotland). The Regional Advisory Council (Technical Education in West Scotland). In Page 1948. S.I. 1948, No. 574, S.40. 2d. (3d.).
Circular 115 (Sub-Committees for the Management of Educational Establishments).
(September, 1947.) 1d. (2d.).

(September, 1947.) 1d. (2d.). Circular 119 (The Central Institutions (Scotland) Grant Regulations, 1947. (October, The Central Institutions (Scotland) Grant Regulations, 1947. S.R. & O., 1947, No 2221 S 78 24 (24)

The Central Institutions (Scotland) Grant Regulation, No. 2221, S.78. 2d. (3d.). Circular 122 (The Report on Primary Education by the Advisory Council on Education in Scotland). (December, 1947.) 2d. (3d.). Circular 126. Senior Leaving Certificate Examination. Proposed Changes in the Examinations in Modern Languages (including Gaelic). (April, 1948). 6d. (7d.). Circular 130 (Education Authorities (Scotland) Grant Regulations, 1948). (May, 1948).

The Teachers' Salaries (Scotland) Regulations, 1948, S.I. 1948, No. 611, S.43. 6d. (7d.). The Teachers' Pensions (National Insurance Modifications) (Scotland) Regulations, 1948. S.I. 1948, No. 944, S.67. 3d. (4d.).

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LOWER HIST. (Section I)

[OVER

SENIOR LEAVING CERTIFICATE EXAMINATION 1948

HISTORY LOWER GRADE

SECTION |

(To be attempted by all candidates)

Thursday, 11th March-9.30 a.m. to 12.0 noon

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.

On the accompanying map mark the position of each of the following with a cross and add the appropriate number as given below :--(1) Acre. (2) Inverness. (3) Limerick. (4) Plymouth. (5) Sparta. (6) Scapa Flow. (7) Toulon. (8) Warsaw. (9) Whithorn. (5) York. (5)



SECTION 1 (a)

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SECTION 1 (b)

Give the century, B.C. or A.D., of each of the following, indicate who or what each was, and say why each is important in history. Answers must be written in the space provided after each name. (20)

)

)

(1) Alexander the Great (century)

(2) William Caxton (century

(3) Julius Caesar (century)

(4) Captain Cook (century)

(5) The capture of the Bastille (century

)

(6) Magna Carta (century

(7) Galileo (century

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(8) Vasco da Gama (century)

(9) The battle of Hastings (century)

(10) The Hampton Court Conference (century

(11) The marriage of James IV (century)

(12) John Knox (century)

(13) Karl Marx (century

(14) Sir James Young Simpson (century)

*

(15) Adam Smith (century)

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To face page 18.]

LOWER GEOG. (MAPS)

SENIOR LEAVING CERTIFICATE EXAMINATION 1948

GEOGRAPHY LOWER GRADE

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.

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SENIOR LEAVING CERTIFICATE EXAMINATION 1948

GEOGRAPHY HIGHER GRADE (FIRST PAPER)

MAP

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.

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TICRAL LIBRARY

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SENIOR LEAVING CERTIFICATE EXAMINATION 1948

HISTORY HIGHER GRADE—II

SECTION 1

(To be attempted by all candidates)

Thursday, 11th March-1.0 p.m. to 3.30 p.m.

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

On the accompanying map mark the position of *ten* of the following with a cross and add the appropriate number as given below :— (16) Venice. (14) Munich. (12) Marengo. (11) La Rochelle. (10) Jerusalem. (13) Moscow. (15) Utrecht. (2) Aix-la-Chapelle (Aachen). (4) Barcelona. (9) Cracow. (8) Copenhagen. (7) Cologne. (5) Basle. (3) Athens. (1) Adrianople. (6) Carthage. SECTION 1 (a)



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SECTION 1 (b)

Give the century, B.C. or A.D., of each of the following, indicate who or what each was, and say why each is important in history. Answers must be written in the space provided after each name. (15)

(1) Aristotle (century

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SECTION 1 (a)

(2) Hugh Capet (century

(3) Marcus Tullius Cicero (century

(4) St. Francis of Assisi (century)

(5) The Golden Bull (

century

)

(6) Fernando Cortez (century)

(7) Mahomet (century)

[TURN OVER

(8) Cardinal Mazarin (century)

(9) The Edict of Nantes (century)

(10) John Sobieski (century)