

OXFORD CAMBRIDGE AND RSA EXAMINATIONS
ADVANCED SUBSIDIARY GCE
F732
GENERAL STUDIES
The Scientific Domain

WEDNESDAY 25 MAY 2011: Afternoon
DURATION: 1 hour

SUITABLE FOR VISUALLY IMPAIRED CANDIDATES

Candidates answer on the answer booklet.

OCR SUPPLIED MATERIALS:

8 page answer booklet (sent with general stationery)

OTHER MATERIALS REQUIRED:

An electronic calculator

**A calculator may be
used for this paper.**

READ INSTRUCTIONS OVERLEAF

INSTRUCTIONS TO CANDIDATES

- Write your name, centre number and candidate number in the spaces provided on the answer booklet. Please write clearly and in capital letters.
- Use black ink. Pencil may be used for graphs and diagrams only.
- Read each question carefully. Make sure you know what you have to do before starting your answer.
- If you use additional sheets of paper, fasten the sheets to the answer booklet.
- Answer **ALL** the questions in Section A and **ONE** question in Section B.

INFORMATION FOR CANDIDATES

- The number of marks is given in brackets [] at the end of each question or part question.
- The total number of marks for this paper is **60**.
- You are advised to divide your time equally between Sections A and B.
- **THE QUALITY OF YOUR WRITTEN COMMUNICATION WILL BE ASSESSED, INCLUDING CLARITY OF EXPRESSION, STRUCTURE OF ARGUMENTS, PRESENTATION OF IDEAS, GRAMMAR, PUNCTUATION AND SPELLING.**

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SECTION A

Answer ALL the questions in this section.

- 1 A student was asked to submit a first draft for an investigation into the attitudes of people in the UK to further expenditure on space exploration.**

FIRST DRAFT (SUBMITTED BY THE STUDENT)

TITLE: An investigation into the attitudes of people in the UK to further expenditure on space exploration.

OUTLINE: I intend to use a questionnaire and ask people about their attitudes to further space exploration. I will collect data and draw conclusions based upon the replies I receive.

THE TUTOR WROTE THE FOLLOWING COMMENTS ON THIS FIRST DRAFT:

this is a promising start with potential

you will need a representative sample for your questionnaire

at the moment the term 'attitudes of people' is rather broad

do you intend to use open or closed questions in the questionnaire?

once your data is collected how will you analyse it in order to reach conclusions?

the issue of expenditure appears to have been lost in your first outline.

- (a) Why does the tutor suggest that the student should use a 'representative sample'? [3]**
- (b) How could the student refine the term 'attitudes of people'? [3]**
- (c) Explain the difference between 'open' and 'closed' questions. [3]**
- (d) Why does the tutor comment about the issue of expenditure? [3]**
- (e) Write a revised draft of this proposal [use about 100 words]. [6]**

- 2 (a) Calculate the value of EACH of the following.
What do you notice about EACH total calculated?

(i) $12^2 + 33^2$ [2]

(ii) $8^2 - 4^2$ [2]

- (b) In the three equations shown in Fig. 1 each shape represents a number between 5 and 10.

Fig. 1 shows three equations using shapes to represent numbers. The first equation is a rectangle multiplied by a triangle equals 60. The second equation is a diamond plus a triangle plus a diamond equals 16. The third equation is a rectangle minus a diamond equals 5.

Fig. 1

Find the three numbers, between 5 and 10, that are represented by the shapes in the three equations shown. Show clearly how you came to your answer. [5]

- (c) Advertisements and retail stores often promote the offer 'Buy one get one free'.
Outline TWO ways in which customers should be suspicious of this offer. [3]

[Section A Total: 30]

SECTION B

Answer ONE question from this section. Answers should be in continuous prose.

- 3 Explain how, by considering different time scales (e.g. short term, medium term and long term), different solutions might be proposed to the same scientific problem. [30]**

- 4 What is meant by the term ‘genetic engineering’? Describe TWO successful outcomes of genetic engineering. Explain ONE concern that people have about genetic engineering. [30]**

- 5 Scientists have contributed to developments related to birth rates. Describe TWO advantages and TWO disadvantages of these developments. [30]**

[Section B Total: 30]



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