OCR
RECOGNISING ACHIEVEMENT

**OXFORD CAMBRIDGE AND RSA EXAMINATIONS**
**Advanced Subsidiary GCE**

# GENERAL STUDIES 2962

The Scientific Domain

Friday **13 JANUARY 2006** Morning 1 hour 15 minutes

Additional materials:
8 Page Answer Booklet

**TIME** 1 hour 15 minutes

## INSTRUCTIONS TO CANDIDATES

- Write your name, Centre number and candidate number in the spaces provided on the answer booklet.
- Write your answers in the answer booklet.
- 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.
- Read each question carefully and make sure you know what you have to do before starting your answer.

## 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 100.
- **Where an answer requires a piece of extended writing, the quality of your written communication will be assessed, including clarity of expression, structure of arguments, presentation of ideas, grammar, punctuation and spelling.**
- You may use an approved calculator.

**This question paper consists of 4 printed pages.**



Registered Charity Number: 1066969
**[Turn over**

Section A

Answer all questions in this section.

1 At age two a child is, on average, half its final height. There is a formula which makes it possible to predict how tall a child at any age will be when adult.

**A table has been removed due to third party copyright restrictions**

Details: A table showing the estimated percentage of the adult height of boys and girls at ages 7-17 years. Data from the CensusAtSchool Project.

Use the table to make the following calculations:

(a) (i) The height of an adult woman today is 160 cm.

How tall (in cm) was she likely to have been when she was 10 years old? [2]

(ii) On his 8th birthday a boy was 135 cm in height.

How tall is he likely to be when he becomes an adult? Give your answer in metres. [3]

(b) Explain why the percentages in Fig. 1 are only estimates. [4]

(c) (i) Draw a sketch graph to show the increasing height of a girl so that her final adult height is 180 cm.

(ii) On the same axes, draw a sketch graph to show the increasing height of a boy so that his final height is 180 cm. [7]

(d) How would you check the accuracy of the percentages in the table? [2]

(e) Why is it important for the medical profession to be able to monitor the height of a young person? [3]

(f) Identify two other groups of people that would find tables like Fig. 1 useful.

Give a reason in each case. [4]

2 Design and evaluate an investigation into how a local river became polluted. [25]

Total [50] marks

## Section B

Answer **one** question from this section. Answers must be in continuous prose.

**3** **(a)** Outline **three** ways in which a family home could be made more energy efficient. [10]

**(b)** In what ways do UK national strategies to save energy benefit the environment? Use at least **three** examples to support your answer. [40]

**4** **(a)** Outline **three** challenges that scientists have to overcome in order to send missions into outer space. [10]

**(b)** The costs of missions to space are high (eg. in 2004 the U.S. space agency was estimated to have spent £235 million on the Messenger probe to Mars).

Using examples, say to what extent you think the technological benefits and knowledge gained by space missions justify the expense. [40]

**5** **(a)** Outline **three** difficulties facing the UK in its attempts to reduce production of greenhouse gases. [10]

**(b)** Assess the possible advantages and disadvantages of global warming for people living in the UK. [40]

**Total [50] marks**