OXFORD CAMBRIDGE AND RSA EXAMINATIONS

AS GCE

F732/01

GENERAL STUDIES

The Scientific Domain

FRIDAY 22 MAY 2015: Afternoon
DURATION: 1 hour
plus your additional time allowance
MODIFIED ENLARGED 24pt

Candidate forename		Candidate surname	
Centre number		Candidate number	

Candidates answer on the Question Paper.

OCR SUPPLIED MATERIALS:
None

OTHER MATERIALS REQUIRED:
Scientific 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 boxes on the first page. Please write clearly and in capital letters.

Use black ink. HB pencil may be used for graphs and diagrams only.

Answer ALL the questions in Section A and ONE question in Section B.

Read each question carefully. Make sure you know what you have to do before starting your answer.

Write your answer to each question in the space provided. If additional space is required, you should use the lined pages on pages 22–24 of this booklet. The question number(s) must be clearly shown.

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.

Any blank pages are indicated.

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SECTION A

Answer ALL the questions in this section.

1   TABLE 1 below shows the net number of people migrating into and out of regions in England and Wales (June 2011).

TABLE 1

Region	Number of people migrating	
	out of the region	into the region
North East	2724	
North West	7071	
Yorkshire and Humberside	5676	
East Midlands		3889
West Midlands	7182	
East of England		14 620
London	40 351	
South East		20 684
South West		19 216
Wales		2532
TOTALS	63 004	60 941

(a) (i) Identify TWO trends shown in TABLE 1.

_____

_____5_____

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_____ **[2]**

(ii) Explain THREE other pieces of information which would be useful to include in TABLE 1 to produce an analysis of regional migration. [9]

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7

FIG. 1 opposite shows regions with their population density divided in three categories: densely, moderately, and sparsely populated.
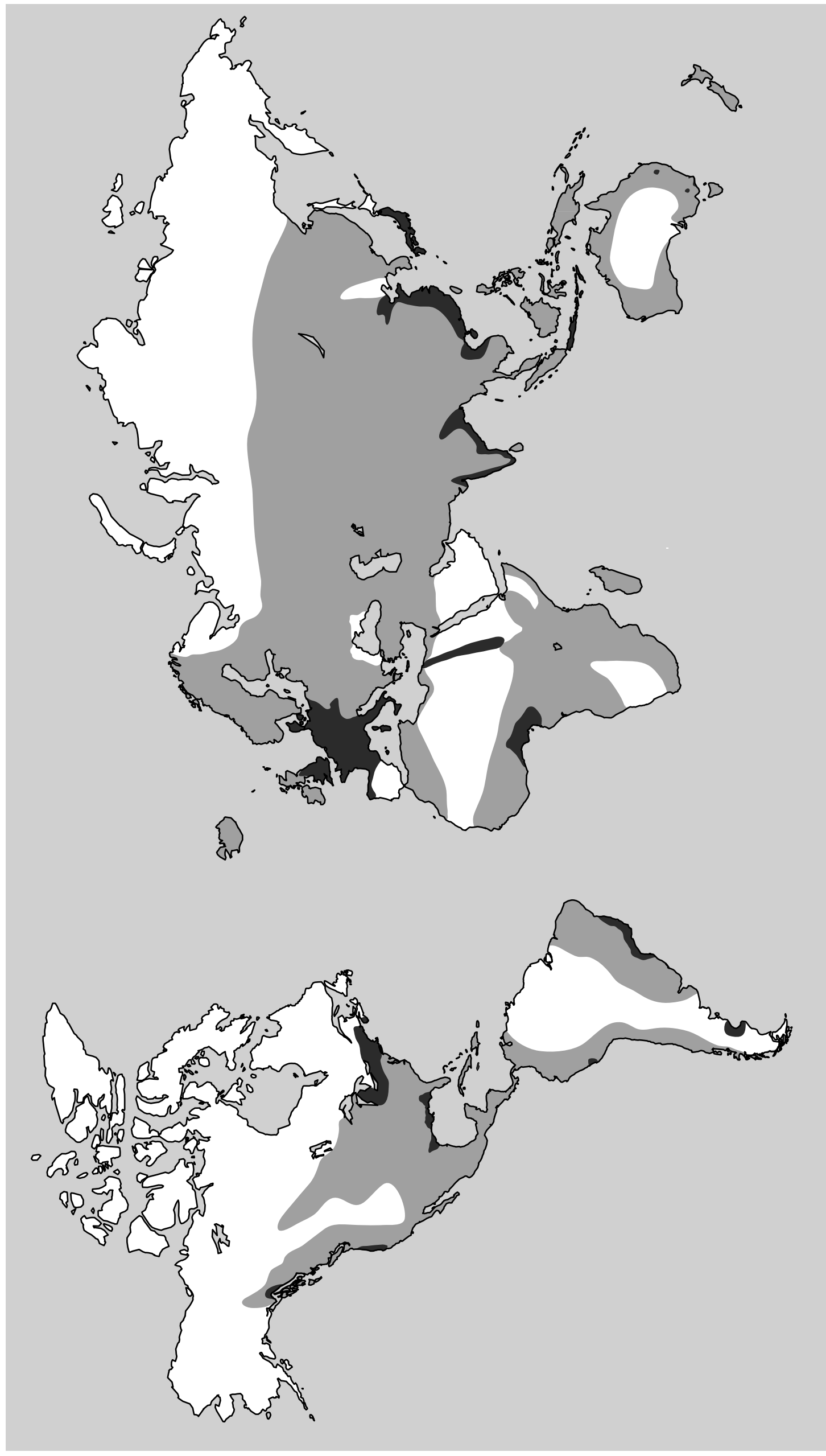
(b) Explain THREE environmental reasons why some regions are sparsely populated. [9]

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FIG. 1

■ Densely populated ▨ Moderately populated □ Sparsely populated

9

10

2 **(a)** **(i)** The distance between the goal posts on a football pitch is 8 yards and the height is 8 feet.

Convert BOTH of these measurements to metres using the following:

1 yard = 0.9144 metres
3 feet = 1 yard

_____

_____

_____

_____ **[2]**

(ii) What level of accuracy do you think your answers should be rounded to and why?

_____

_____

_____

_____ **[2]**

(b) A football manager wants to arrange three players in a line.

They are labelled X, Y, and Z.

Show the different ways that the players can be arranged.
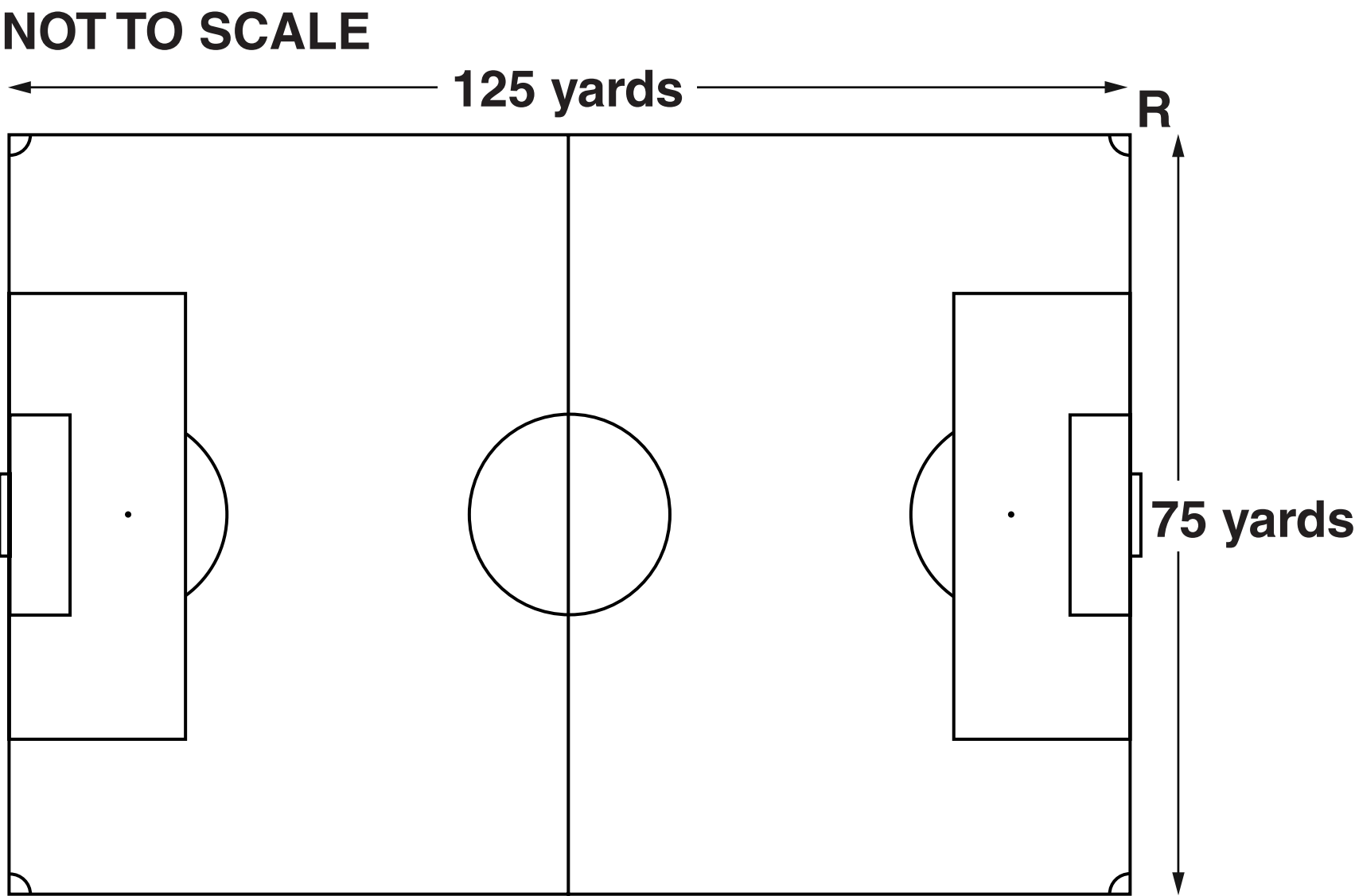
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_____ **[2]**

(c) Pythagoras' Theorem can be used to check if a triangle has a right angle.

The formula is $A^2 = B^2 + C^2$

where A is the length of hypotenuse (the longest side) and B and C are the lengths of the two shorter sides.

FIG. 2 shows some measurements of a football pitch. A groundsman uses these when he marks out a football pitch. When he has finished, he measures the length of a diagonal to check whether the corners are right angles.

FIG. 2

NOT TO SCALE

125 yards

R

75 yards

He measured the diagonal to be 146 yards. Is the corner, marked R on the diagram, a right angle? Explain your conclusion.

_____

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_____

_____ [4]

SECTION B

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

Answer in the space provided on pages 16 to 21.

3   A data logger is a small, portable electronic device that collects data from sensors. The following are examples of different types of data that could be collected:

Heat	pH
Movement	Sound
Light	Oxygen levels
Wind speed	Radiation

Outline and discuss the **ADVANTAGES** to scientists of using data loggers. [30]

4   The following needs may arise as the world's population increases:

management of air pollution

disease control

fertility control.

Consider how the use of different timescales (short, medium and long term) might offer different solutions to ONE of these needs. [30]

5   FIG. 5 Location of National Parks in the UK

Consider the environmental problems that the UK's National Parks face and discuss ways in which EACH of these problems might be managed. [30]

Write the number of the question answered in the margin.

17

18

19

20

21

END OF QUESTION PAPER

ADDITIONAL ANSWER SPACE

If additional answer space is required, you should use the following lined page(s). The question number(s) must be clearly shown in the margin.

23

24