



UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS
General Certificate of Education Advanced Subsidiary Level and Advanced Level

GEOGRAPHY

9696/21

Paper 2 Advanced Physical Options

October/November 2011

1 hour 30 minutes

Additional Materials: Answer Booklet/Paper

* 2 4 5 6 4 0 3 0 1 8 *

READ THESE INSTRUCTIONS FIRST

- If you have been given an Answer Booklet, follow the instructions on the front cover of the Booklet.
- Write your Centre number, candidate number and name on all the work you hand in.
- Write in dark blue or black pen.
- You may use a soft pencil for any diagrams, graphs or rough working.
- Do not use staples, paper clips, highlighters, glue or correction fluid.

Answer **two** questions only. Each question answered **must** be from a different topic.
Sketch maps and diagrams should be drawn whenever they serve to illustrate an answer.
You should make reference to appropriate examples studied in the field or the classroom, even where such examples are not specifically requested by the question.
All the Figures and the Photograph referred to in the questions are contained in the Insert.

At the end of the examination, fasten all your work securely together.
The number of marks is given in brackets [] at the end of each question or part question.

This document consists of **3** printed pages, **1** blank page and **1** Insert.



Tropical environments

Only **one** question may be answered from this topic.

- 1 (a) Photograph A is a granite landform in South Africa.

Draw an annotated diagram identifying and describing the main features of the landforms and explain their formation. [10]

- (b) Describe the nature of savanna vegetation. To what extent does such vegetation represent a response to climate and soils and how much to human interference? [15]

- 2 (a) Describe and explain the characteristics of monsoon and seasonally humid climates in tropical areas. [10]

- (b) Explain how the nature of the vegetation in the tropical rainforest has been influenced by climate and human activities. [15]

Coastal environments

Only **one** question may be answered from this topic.

- 3 (a) Fig. 1 shows three types of cliff profile (i.e. cross section form).

Using Fig. 1, explain the three cliff profiles in terms of possible rock types, structure and erosional and weathering processes. [10]

- (b) With reference to examples, describe and explain how human activities have impacted on landforms along coastlines. [15]

- 4 (a) Explain how sediment is transported and deposited along coastal areas. Illustrate your answer with reference to the formation of two coastal landforms. [10]

- (b) Using examples, describe and explain the major threats to the continued existence of coral reefs. [15]

Hazardous environments

Only **one** question may be answered from this topic.

- 5 (a) Fig. 2 shows the global distribution of volcanic hot spots.

Explain the nature of volcanic hot spots and describe how their distribution differs from that of other types of volcano. [10]

- (b) To what extent and why are earthquakes more hazardous to human life than volcanoes? [15]

- 6 (a) Explain how hazardous mass movements occur. [10]

- (b) To what extent can such mass movement events be prevented from occurring and their hazardous effects limited? [15]

Arid and semi-arid environments

Only **one** question may be answered from this topic.

- 7 (a) Fig. 3 shows the location of some coastal deserts.

Outline the characteristics of hot arid climates and explain how pressure systems and ocean currents play a part in the distribution of the deserts shown in Fig. 3. [10]

- (b) Explain the factors that can lead to desertification in semi-arid areas. Evaluate the attempted or possible solutions to the problem of desertification for the sustainability of such areas. [15]

- 8 (a) Explain the operation of weathering and wind erosion in deserts. What impact do they have upon desert landforms? [10]

- (b) To what extent do climate, biodiversity, nutrient cycling and soils in hot arid areas limit the possibilities for their development? [15]

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Copyright Acknowledgements:

Question 1 Photograph A J Hamshere © UCLES.
Question 5 Fig. 2 B Skinner et al; *Dynamic Earth*; p.470; John Wiley; 2000; 0471 101187.
Question 7 Fig. 3 C Donald Ahrens; *Meteorology Today*; p.524; West Publishing Co.; 1994; 0314 027793.

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