



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

GEOGRAPHY

9696/21

Paper 2 Advanced Physical Options

May/June 2011

1 hour 30 minutes

Additional Materials: Answer Booklet/Paper

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) Using Fig. 1 describe and explain the movement of nutrients in a tropical rainforest ecosystem. [10]
- (b) Describe the nature of the vegetation in tropical rainforests. To what extent is this influenced by climate? [15]
- 2 (a) Describe the factors that lead to the development of deep weathering profiles on granite in tropical environments. [10]
- (b) To what extent do the nature of soils and climate cause problems for development of tropical savanna ecosystems? [15]

Coastal environments

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

- 3 Photograph A shows an area of coral reef off the coast of Antigua.
- (a) Describe the distribution of coral reefs shown in Photograph A and explain the conditions needed for such coral growth. [10]
- (b) Using examples, explain the factors that can produce variations in cliff profiles (cross section form). [15]
- 4 (a) Describe the formation and natural characteristics of **either** a coastal saltmarsh **or** a coastal sand dune complex. [10]
- (b) To what extent are the landforms found along a stretch of coastline the result of the characteristics of the waves present? [15]

Hazardous environments

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

- 5 Fig. 2 shows the distribution of areas affected by hurricane (tropical storm) activity.
- (a) Describe and explain the distribution of areas at risk of hurricanes. [10]
 - (b) To what extent is it possible to manage the hazards posed by hurricanes? [15]
- 6 (a) Explain the causes and distribution of earthquakes. [10]
- (b) To what extent do physical factors and human factors influence the hazardous impact of earthquakes? [15]

Arid and semi-arid environments

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

- 7 (a) Describe the nature of weathering of rocks in arid and semi-arid environments. [10]
- (b) Fig. 3 shows the formation of a desert piedmont zone.
Assess the roles of weathering and water action in producing the distinctive landforms of the desert piedmont zone shown in Fig. 3. [15]
- 8 (a) Outline the possible causes and consequences of desertification. [10]
- (b) Using examples, assess the extent to which it is possible to manage an arid or semi-arid environment. [15]

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