



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 2012

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 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) Explain how the migration of air masses and the ITCZ (inter tropical convergence zone) can affect tropical climates. [10]

- (b) Fig. 1 shows information concerning the destruction of tropical rainforests.

Describe and explain the effects of the different types of rain forest clearance and suggest ways in which the rainforest ecosystem might be more sustainably managed. [15]

- 2 (a) Explain the different types of weathering that occur in humid tropical environments. [10]

- (b) Describe the landforms found in tropical limestone areas. Explain the influence of climate, vegetation and rock structure upon the formation of these landforms. [15]

Coastal environments

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

- 3 (a) Explain the factors that lead to the deposition of sediment in coastal areas. [10]

- (b) Fig. 2 shows the location of coral reefs that are under threat.

Explain how far the conditions that allow the growth and development of coral reefs are under threat. [15]

- 4 (a) Explain how wave action can produce variations in the cross section and plan forms of beaches. [10]

- (b) Using examples, explain why different stretches of rocky coastline produce different landforms. [15]

Hazardous environments

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

- 5 (a) Fig. 3 shows some methods used to predict and monitor earthquakes. Explain how these methods can be used, and with what success, for earthquake prediction. [10]
- (b) Explain how and where earthquakes occur. Describe their hazardous effects and the extent to which action can be taken to limit these effects. [15]
- 6 (a) Explain the causes of hazardous mass movements. [10]
- (b) Describe the measures that can be taken to limit the hazardous effects of mass movements and evaluate their effectiveness. [15]

Arid and semi-arid environments

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

- 7 (a) Describe and explain the characteristics of the climates of hot arid areas. [10]
- (b) Fig.4 shows some landforms in a hot arid environment.
Describe the landforms and explain their formation. To what extent are the landforms the product of present day geomorphological processes? [15]
- 8 (a) Explain the causes of the degradation of soils and vegetation in semi-arid areas. [10]
- (b) Using an example or examples, explain the extent to which it is possible to sustainably develop and manage **either** hot arid **or** semi-arid areas. [15]

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