



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

**GEOGRAPHY**

**9696/22**

Paper 2 Advanced Physical Options

**May/June 2010**

**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 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 Figs 1A and 1B show some weathering in a tropical environment.
  - (a) Explain the processes of weathering shown in Figs 1A and 1B and suggest what landforms might be produced. [10]
  - (b) With the use of an example or examples, discuss the extent to which the continued existence of **one** tropical ecosystem is threatened by human activities. [15]
- 2 (a) Explain the influence of the inter tropical convergence zone (ITCZ) on the weather experienced in tropical areas. [10]  
  
(b) To what extent can the nature of vegetation in the tropics be attributed to climate? [15]

### Coastal environments

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

- 3 Fig. 2 shows one theory of the formation of coral reefs.
  - (a) Explain the theory shown in Fig. 2 and outline **one** other theory of coral reef formation. [10]
  - (b) Describe the processes of marine erosion. To what extent are these processes responsible for the landforms of rocky coastlines? [15]
- 4 (a) Describe the sources of coastal sediment and explain how sediment is transported along coasts. [10]  
  
(b) Using diagrams, explain how spits and saltmarshes are formed. To what extent are they threatened by human activities? [15]

**Hazardous environments**

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

**5** Figs 3A and 3B show two types of snow avalanche.

- (a)** Explain how such avalanches occur and describe **one** of the methods employed to limit their hazardous effects. [10]
- (b)** To what extent are the hazards produced by mass movements on slopes the result of human activities? [15]

**6** **(a)** Explain the hazardous nature of the materials ejected from volcanoes. [10]

- (b)** Describe the methods used to predict volcanic eruptions. How effective are such predictions in saving lives? [15]

**Arid and semi-arid environments**

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

**7** Fig. 4 shows areas at high risk from desertification.

- (a)** Describe and explain the distribution of areas at high risk from desertification shown on Fig. 4. [10]
- (b)** Using examples, discuss the extent to which desertification results from natural causes or from human activities. [15]

**8** **(a)** Using diagrams, describe the different types of sand dune found in arid environments and explain their development. [10]

- (b)** To what extent have hot arid areas been shaped by present day processes of erosion? [15]

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*Copyright Acknowledgements:*

Question 1           © R J Small; *Geomorphology and Hydrology*; Longman Group; 1989.

Question 3           © A J Reading, R D Thompson, A C Millington; *Humid Tropical Environments*; Blackwells; 1995.

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