

GEOGRAPHY

9696/22

Paper 2 Advanced Physical Options

May/June 2014

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 an HB pencil for any diagrams or graphs.

Do not use staples, paper clips, glue or correction fluid.

DO NOT WRITE IN ANY BARCODES.

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 Table 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) Fig. 1 shows the monsoons of South-east Asia and Australia.

Explain how the monsoons shown in Fig. 1 occur and describe the weather they produce.

[10]

- (b) Explain the operation of nutrient cycling in tropical rainforest and savanna ecosystems. How might nutrient cycling affect attempts at sustainable management in **either** the tropical rainforest **or** savanna ecosystems? [15]

- 2 (a) Explain the development of deep weathering profiles in humid tropical areas. [10]

- (b) Describe the weathering processes that occur in areas of tropical limestone. Explain the extent to which these processes have shaped the landforms in tropical limestone areas. [15]

Coastal environments

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

- 3 (a) Fig. 2 shows the operation of some marine processes along a coastal area.

Describe the processes shown in Fig. 2 and explain how these processes contribute to the formation of coastal landforms. [10]

- (b) Describe the characteristics and distribution of coral reefs and atolls. To what extent are the conditions in which coral develops threatened by natural stresses and human actions? [15]

- 4 (a) Explain how rock type and rock structure can affect the formation of coastal landforms. [10]

- (b) Describe the main types of management strategy that can be used to protect coastlines. Using an example or examples of coastline management, assess the effectiveness of such strategies. [15]

Hazardous environments

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

- 5 Table 1 shows a classification of hurricanes (tropical cyclones).
- (a) Describe the ways in which hurricanes have been classified in Table 1. Explain the types of hazard produced by different categories of hurricane. [10]
- (b) Explain how hurricanes form and where they most frequently occur. To what extent is it possible to predict the path of hurricanes and to limit their hazardous effects? [15]
- 6 (a) Explain how and where volcanic eruptions occur. [10]
- (b) Why are some earthquakes more hazardous than others? To what extent is it possible to prevent the loss of life from earthquakes? [15]

Arid and semi-arid environments

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

- 7 (a) Fig. 3 shows how soil erosion and degradation may occur in semi-arid environments. Using Fig. 3, explain the development of desertification in semi-arid areas. [10]
- (b) Describe the nature of soils and vegetation in hot arid areas. To what extent do soils and vegetation in hot arid areas differ from those in semi-arid areas? [15]
- 8 (a) Describe the processes of erosion, transportation and deposition by wind in the development of desert landforms. [10]
- (b) With the aid of diagrams, describe and explain the formation of wadis, alluvial fans and rock pediments. Assess the contribution of processes operating in the present and the past to their development. [15]

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Question 3 Fig. 2 © Michael Raw; *AS/A-level Geography Exam Revision Notes*; Philip Allan; 2000; ISBN 0860034267.

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