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**GEOGRAPHY**

**9696/22**

Paper 2 Advanced Physical Options

**May/June 2015**

**1 hour 30 minutes**

No Additional Materials are required.

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**READ THESE INSTRUCTIONS FIRST**

An answer booklet is provided inside this question paper. You should follow the instructions on the front cover of the answer booklet. If you need additional answer paper ask the invigilator for a continuation booklet.

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 Photographs referred to in the questions are contained in the Insert.

The number of marks is given in brackets [ ] at the end of each question or part question.



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This document consists of **3** printed pages, **1** blank page and **2** Inserts.

### Tropical environments

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

- 1 (a) Describe the nature of nutrient cycling within the tropical rainforest ecosystem and within the savanna ecosystem. [10]
- (b) Using examples, explain how human activities have affected vegetation and soils within **either** the tropical rainforest ecosystem **or** the savanna ecosystem. [15]
- 2 (a) Fig. 1 and Photograph A show some climatic data and vegetation for a seasonally humid area.
- Using Fig. 1, explain the nature of the climate and how it might influence the type of vegetation shown in Photograph A. [10]
- (b) Describe the granite landforms that have developed in the humid and seasonally humid tropics. Explain the extent to which the development of these landforms has been influenced by climate and the composition and structure of granite rock. [15]

### Coastal environments

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

- 3 (a) Describe the sources of coastal sediments and explain how waves transport and deposit sediments. [10]
- (b) Explain how areas of coastal deposition can be influenced by human activities. Using examples, describe the extent to which such coastal areas can be protected. [15]
- 4 (a) Fig. 2 shows some methods that can be used to reduce coastal erosion.
- Describe and explain how methods such as those shown in Fig. 2 can be used to reduce coastal erosion. [10]
- (b) Using examples, explain the extent to which marine erosion and sub-aerial processes can influence the development of landforms along a stretch of coastline. [15]

### Hazardous environments

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

- 5 (a) Explain how (i) tsunami and (ii) tropical storms (cyclones) develop. [10]
- (b) Explain how and why tsunami and tropical storms (cyclones) are hazardous to coastal areas. To what extent can their hazardous effects be reduced? [15]
- 6 (a) Fig. 3 shows a hazard map of a volcano.
- Describe the nature of the erupted materials shown in Fig. 3 and explain their hazardous impacts. [10]
- (b) Explain the causes of earthquakes. To what extent are the hazardous effects of earthquakes more difficult to manage than the hazardous effects of volcanoes? [15]

### Arid and semi-arid environments

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

- 7 (a) Describe and explain the similarities and differences between the characteristics of hot arid and semi-arid climates. [10]
- (b) Explain the extent to which the vegetation of arid areas is different from that of semi-arid areas. [15]
- 8 (a) Photograph B shows some desert landforms.
- Using a labelled diagram, describe the landforms shown in Photograph B and explain their development. [10]
- (b) Describe the problems to be overcome in the sustainable development of **either** arid areas **or** semi-arid areas. Using an example or examples, evaluate attempts to overcome these problems. [15]

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