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**GEOGRAPHY**

**9696/21**

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 the Photograph 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) Explain the similarities and differences between the climate of the humid tropics and the climate of the seasonally humid tropics. [10]
- (b) Using an example or examples, describe the problems that may limit the human exploitation of **either** the tropical rainforest ecosystem **or** the savanna ecosystem. To what extent have these problems been overcome? [15]
- 2 (a) Fig. 1 shows vegetation structure, soil profile and biomass of the tropical rainforest.  
Using Fig. 1, explain the relationships between the vegetation structure, soil profile and biomass. [10]
- (b) Describe the limestone landforms that are developed in tropical areas. Explain the extent to which the development of these landforms has been influenced by climate and vegetation. [15]

### Coastal environments

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

- 3 (a) Explain how waves are generated and describe the different types of wave that are produced. [10]
- (b) Explain how coastal sediment cells operate. To what extent can the disruption of sediment cells affect coastal landforms? [15]
- 4 (a) Photograph A shows some landforms along a stretch of coastline.  
Using a labelled diagram, describe the landforms shown in Photograph A and explain how they developed. [10]
- (b) Using an example or examples, explain the problems of management of a stretch of coastline. Evaluate attempts to solve these management problems. [15]

### Hazardous environments

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

- 5 (a) Explain how avalanches and landslides occur and describe their hazardous effects. [10]
- (b) To what extent can the hazardous effects of tropical storm surges be restricted and managed as compared to the hazardous effects of avalanches? [15]
- 6 (a) Fig. 2 shows materials that are erupted from a volcano.  
Describe the nature of the erupted materials and explain how they might be hazardous. [10]
- (b) Explain the similarities and differences in the locations of hazardous earthquakes and volcanoes. To what extent are these hazards predictable? [15]

### Arid and semi-arid environments

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

- 7 (a) Explain the operation of weathering in hot arid environments and describe its effects upon rocks. [10]
- (b) Explain the extent to which wind and water are responsible for the shaping of desert landforms. [15]
- 8 (a) Fig. 3 shows the distribution of semi-arid climates in the tropics.  
Describe the distribution of semi-arid climates shown in Fig. 3 and explain the nature of semi-arid climates. [10]
- (b) Explain why many semi-arid areas are subject to desertification. Using an example or examples, evaluate attempts to overcome the effects of desertification. [15]

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