

**GEOGRAPHY**

**9696/22**

Paper 2 Advanced Physical Options

**October/November 2016**

**1 hour 30 minutes**

No Additional Materials are required.

**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 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.

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) Fig. 1 shows climate graphs for two tropical environments.

Compare the climates shown in Figs. 1A and 1B. Explain why the amount and seasonal pattern of rainfall varies between the two locations. [10]

- (b) Assess the importance of weathering processes in the development of different landforms under humid tropical conditions. [15]

- 2 (a) With the aid of a diagram, describe the changes in soil characteristics along a tropical soil catena. [10]

- (b) Describe how and explain why the vegetation structure of a tropical rainforest ecosystem differs from the vegetation structure of a savanna ecosystem. [15]

### Coastal environments

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

- 3 (a) Describe how waves are generated and explain how different types of breaking waves develop. [10]

- (b) To what extent does the interaction of marine processes and sub-aerial processes determine the morphology (shape) of coastal landforms? [15]

- 4 (a) Photograph A shows a coral atoll in the Pacific Ocean.

Explain the causes of sea level changes and how they relate to **one** theory of atoll formation such as shown in Photograph A. [10]

- (b) For a stretch or stretches of coastline, explain the need for protection and evaluate **one** scheme for its sustainable management. [15]

### Hazardous environments

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

- 5 (a) Fig. 2 shows the global distribution of tropical storms (cyclones).  
Describe and explain the global distribution of where tropical storms (cyclones) develop and the paths they take. [10]
- (b) Explain the hazardous impacts of tornadoes. To what extent can the hazardous impacts of tornadoes be managed? [15]
- 6 (a) Explain how human activities can contribute to the nature and causes of hazardous mass movements on slopes. [10]
- (b) Explain the tectonic hazards that may occur at convergent plate margins. For **one** type of tectonic hazard, evaluate its impact on lives and property. [15]

### Arid and semi-arid environments

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

- 7 (a) Describe and explain the distribution and climatic characteristics of hot arid environments. [10]
- (b) Explain the process of desertification in semi-arid environments. Evaluate the success of a scheme, or schemes, to manage areas of **either** an arid **or** a semi-arid environment sustainably. [15]
- 8 (a) Describe the processes of wind erosion in deserts. Explain the role of wind in the development of desert sand dunes. [10]
- (b) Photograph B shows landforms in a hot desert.  
With the aid of diagrams, describe the landforms shown in Photograph B and explain their formation. To what extent have past climates been important in the development of these landforms? [15]

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