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**GEOGRAPHY**

**9696/21**

Paper 2 Advanced Physical Options

**October/November 2016**

**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 Photographs and the Figures 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) Photographs A and B show contrasting seasons of a tropical monsoon climate.  
Describe and explain the contrasting weather experienced during the different seasons of a tropical monsoon climate. [10]
- (b) With reference to **either** granite **or** limestone, assess the importance of structure and composition in the development of landforms in tropical environments. [15]
- 2 (a) Describe and explain nutrient cycling in tropical rainforest ecosystems **and** savanna ecosystems. [10]
- (b) For **either** a tropical rainforest ecosystem **or** a savanna ecosystem, explain the need for sustainable management and evaluate the extent to which the management has been successful. [15]

### Coastal environments

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

- 3 (a) Describe the marine erosion processes of hydraulic action, wave quarrying and corrasion/abrasion. Explain the factors that make these processes effective in the development of cliffs. [10]
- (b) For a stretch or stretches of coastline, describe measures that might be considered to solve problems needing sustainable management. Evaluate attempted solutions to the problems. [15]
- 4 (a) Fig. 1 shows depositional landforms of a lowland coast.  
Describe and explain the factors and processes which influence the development of landforms A, B and C, shown in Fig. 1. [10]
- (b) Explain why the conditions required for the growth of coral reefs are under threat. To what extent can the impact of these threats be managed? [15]

### Hazardous environments

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

- 5 (a) Describe the nature and explain the causes of **two** types of hazardous mass movement. [10]

- (b) Fig. 2 shows a cross section of a tropical storm (cyclone).

Explain the development of tropical storms (cyclones). Evaluate the extent to which the hazardous impacts of tropical storms (cyclones) may be managed. [15]

- 6 (a) Explain the causes and location of **two** different types of volcanic eruption. [10]

- (b) Explain the nature of hazards which may be caused by earthquakes. To what extent is it possible to predict earthquakes? [15]

### Arid and semi-arid environments

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

- 7 (a) Using **three** examples, explain how animals are adapted to the climatic characteristics of hot arid environments. [10]

- (b) Photograph C shows desertification in a semi-arid environment.

Outline the processes of desertification. Assess the extent to which desertification is caused by physical factors. [15]

- 8 (a) Describe the weathering processes that operate in hot arid environments. Explain the results of weathering on rocks. [10]

- (b) 'The landforms of desert environments are the result of past climatic conditions.'

To what extent do you agree with this statement? [15]

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