

**GEOGRAPHY**

**9696/21**

Paper 2 Advanced Physical Options

**October/November 2017**

**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 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.

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 tropical rainforest vegetation.

Describe and explain the characteristics of the vegetation shown in Fig. 1. [10]

- (b) For **either** a tropical rainforest **or** a savanna ecosystem, describe the effects of human exploitation on nutrient cycling. Evaluate ways in which your chosen ecosystem might be sustainably managed. [15]

- 2 (a) Describe and explain the characteristics of a tropical monsoon climate. [10]

- (b) Evaluate the extent to which the development of tropical landforms in **either** granite **or** limestone is the result of the characteristics of the rock type. [15]

### Coastal environments

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

- 3 (a) Photograph A shows some coastal depositional landforms.

With the aid of a labelled diagram, describe the landforms in Photograph A and explain how they may have developed. [10]

- (b) Describe the conditions required for coral growth and development. Assess the major threats to the continued development of coral reefs. [15]

- 4 (a) Describe and explain how rock type **and** structure may influence cliff profiles. [10]

- (b) To what extent do human activities affect the erosion, transport and deposition of sediment along coasts? [15]

### Hazardous environments

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

- 5 (a) Fig. 2 shows a tropical cyclone (hurricane).  
Using Fig. 2, describe and explain the development of tropical cyclones (hurricanes). [10]
- (b) Describe the hazardous impacts of tropical cyclones (hurricanes). To what extent can these impacts be reduced? [15]
- 6 (a) Compare **two** types of mass movements. Explain why some mass movements may be hazardous. [10]
- (b) Examine the extent to which a hazardous area can be sustainably managed. [15]

### Arid and semi-arid environments

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

- 7 (a) Explain the global distribution of hot arid environments. [10]
- (b) Fig. 3 shows some hot desert landforms.  
Describe the landforms shown in Fig. 3. Evaluate the relative importance of processes, past and present, in the development of those landforms. [15]
- 8 (a) With the aid of labelled diagrams, describe and explain the development of **two** different types of sand dune found in arid environments. [10]
- (b) With reference to **either** an arid **or** a semi-arid area, evaluate the ways in which it can be developed sustainably. [15]

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