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**GEOGRAPHY**

**9696/21**

Paper 2 Advanced Physical Options

**October/November 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 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 and explain the characteristics of the climate of an area affected by tropical monsoons. [10]
- (b) Explain the vegetation structure of **either** a tropical rainforest **or** a savanna ecosystem. Evaluate the success of a scheme, or schemes, of sustainable management in **one** of the ecosystems. [15]
- 2 (a) Explain the factors and processes that influence the fertility of soils in **both** tropical rainforest and savanna ecosystems. [10]
- (b) Fig. 1 shows a tropical landform in an area of granite.
- Explain and evaluate the range of factors and processes that could lead to the development of such a landform in a humid tropical climate. [15]

### Coastal environments

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

- 3 (a) Explain the factors that determine the effectiveness of marine erosion processes. [10]
- (b) For a stretch, or stretches, of coastline, explain how marine erosion processes have caused problems for human settlements and activities. Evaluate the success of schemes to solve these problems. [15]
- 4 (a) Fig. 2 shows three landforms, A, B and C, developed by wave action and coastal deposition processes.
- For **each** type of landform, A, B and C shown in Fig. 2, explain the processes that led to its development. For **one** of the landforms, suggest how its continued existence could be threatened by human and physical factors. [10]
- (b) Explain the causes of sea level changes and their effect on coral reefs. To what extent are the conditions necessary for coral growth under threat? [15]

### Hazardous environments

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

- 5 (a) Photograph A shows an approaching tornado and Photograph B the hazardous impact of a tornado.

Describe how tornadoes develop and explain the causes of their hazardous effects. [10]

- (b) For **three** products of volcanic eruptions, describe their nature and their hazardous impact. To what extent can measures be taken to reduce the hazardous impact of volcanic eruptions? [15]

- 6 (a) Describe the nature and explain the causes of different types of avalanche. [10]

- (b) Explain the physical hazards that might be generated by major earthquakes. To what extent can the impact of such hazards be managed? [15]

### Arid and semi-arid environments

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

- 7 (a) Describe the climatic characteristics of hot semi-arid areas and explain the distribution of hot semi-arid areas in **one** continent. [10]

- (b) Explain the problems of sustainable management in **either** a hot arid **or** semi-arid environment. Evaluate attempted solutions to these problems. [15]

- 8 (a) Describe the characteristics of soils and explain the biodiversity of hot arid environments. [10]

- (b) Photograph C shows landforms in a hot arid environment.

Explain the processes of weathering and erosion that have operated to develop hot desert landforms such as those shown in Photograph C. To what extent may past climatic change have played a part in the development of hot desert landforms? [15]

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