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**GEOGRAPHY**

**9696/23**

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 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 distribution of temperature and rainfall in the seasonally humid tropics. [10]
- (b) For **either** a tropical rainforest **or** a savanna ecosystem, explain the effects on nutrient cycling by different types of exploitation. Evaluate ways in which your chosen ecosystem might be sustainably managed. [15]
- 2 (a) Fig. 1 shows the formation of tors in a tropical environment.  
Explain the factors and processes that lead to the development of tors in a tropical environment. [10]
- (b) Describe the vegetation structure of **either** the tropical rainforest **or** the savanna ecosystem. For your chosen ecosystem, explain how the vegetation structure may be affected by relief, soils and human activities. [15]

### Coastal environments

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

- 3 (a) Photograph A shows a coral atoll in the Caribbean Sea.  
Describe the conditions needed for the growth of coral and explain how an atoll, such as that shown in Photograph A, could develop. [10]
- (b) To what extent are rock type and rock structure the main influences on the morphology (form) of coastal landforms? Support your answer with reference to different coastal landforms. [15]
- 4 (a) Explain how the interaction of winds, different types of breaking waves and longshore drift can lead to the development of spits and dunes along a stretch of coast. [10]
- (b) Explain the problems of management of a stretch, or stretches, of coastline that you have studied. Evaluate solutions, or possible solutions, to these problems. [15]

### Hazardous environments

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

- 5 (a) Explain the occurrence of **two** different types of volcanic eruption and describe the nature of their products. [10]
- (b) Explain how and where tsunamis occur. Describe how they become hazardous and evaluate the extent to which their hazardous impacts may be reduced. [15]
- 6 (a) Explain how and where tornadoes develop and describe their effects on lives and property. [10]
- (b) Photograph B shows a major mass movement and its impact.
- Describe and explain the mass movement shown in Photograph B. To what extent can the hazardous impacts of this and other types of mass movement be reduced? [15]

### Arid and semi-arid environments

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

- 7 (a) Describe and explain the global distribution of hot arid environments. [10]
- (b) Fig. 2 is a block diagram of hot desert landforms.
- Explain and evaluate the factors and processes, both past and present, that have operated to develop hot desert landforms as shown in Fig. 2. [15]
- 8 (a) Explain ways by which plants have adapted to survive the extreme temperatures and drought of hot arid environments. [10]
- (b) For an area of **either** an arid **or** a semi-arid environment that you have studied, explain the problems of sustainable management. Evaluate attempted or possible solutions to these problems. [15]

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