

GEOGRAPHY

9696/33

Paper 3 Advanced Physical Geography Options

October/November 2019

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.

In this paper there are four Physical Geography options.

Tropical environments

Coastal environments

Hazardous environments

Hot arid and semi-arid environments

Answer questions from **two** different options.

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 resources 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.

The total number of marks for this paper is 60.

This document consists of **3** printed pages, **1** blank page and **2** Inserts.

Answer questions from **two** different options.

Tropical environments

If answering this option, answer Question 1 and **either** Question 2 **or** Question 3.

- 1 Fig. 1.1 is a photograph which shows a landform in a tropical environment.
 - (a) With the aid of a labelled diagram, describe the landform shown in Fig. 1.1. [4]
 - (b) Suggest how the landform shown in Fig. 1.1 was formed. [6]

- 2 Assess the extent to which energy flows and trophic levels differ between humid tropical (rainforest) ecosystems and seasonally humid tropical (savanna) ecosystems. [20]

- 3 Evaluate the influence of the intertropical convergence zone (ITCZ) on the global distribution and characteristics of seasonally humid tropical climates. [20]

Coastal environments

If answering this option, answer Question 4 and **either** Question 5 **or** Question 6.

- 4 Fig. 4.1 shows a model of a coastal dune system.
 - (a) Describe the characteristics from A to B shown in Fig. 4.1. [4]
 - (b) Explain how embryo dunes are formed and develop into fixed dunes. [6]

- 5 Evaluate the influence of rock type and rock structure on coastal erosion. [20]

- 6 Assess the extent to which conditions required for coral growth are under threat. [20]

Hazardous environments

If answering this option, answer Question 7 and **either** Question 8 **or** Question 9.

- 7 Fig. 7.1 shows the distribution of tornadoes in the USA, by state, in 2016. Fig. 7.2 shows the names of the states.
- (a) Describe the pattern of tornadoes shown in Fig. 7.1. [4]
- (b) Suggest reasons for the pattern of tornadoes described in (a). [6]
- 8 'The hazardous impacts of mass movements depend on their nature and causes.'
- With the aid of examples, how far do you agree? [20]
- 9 Assess the extent to which the types of volcanic eruptions and their products determine the hazardous impacts. [20]

Hot arid and semi-arid environments

If answering this option, answer Question 10 and **either** Question 11 **or** Question 12.

- 10 Fig. 10.1 shows some landforms in a hot arid environment.
- (a) Describe the landforms shown in Fig. 10.1. [4]
- (b) Explain the development of the landforms shown in Fig. 10.1. [6]
- 11 Explain why the nature of climate and soils cause problems for the sustainable management of **either** hot arid **or** semi-arid environments. Using a case study, evaluate attempted solutions to these problems. [20]
- 12 With the aid of examples, assess the extent to which desertification is caused by natural factors. [20]

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