

GEOGRAPHY

9696/33

Paper 3 Advanced Physical Geography Options

May/June 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.



2

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 shows changes in tropical vegetation with distance from the Equator.
 - (a) Describe the changes in tropical vegetation shown in Fig. 1.1. [4]
 - (b) Explain the changes described in (a). [6]

- 2 With the aid of a case study from **either** a rainforest ecosystem **or** a savanna ecosystem, describe some of the problems of sustainable management and evaluate the attempted solutions. [20]

- 3 Assess the roles of weathering and other factors in the formation of granite landforms in tropical environments. [20]

Coastal environments

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

- 4 Fig. 4.1 shows the level of risk to coral reefs from local threats for three world regions.
 - (a) Compare the level of risk to coral reefs in the three world regions shown in Fig. 4.1. [4]
 - (b) Explain why coral reefs are at risk from **two** of the local threats identified in Fig. 4.1. [6]

- 5 Describe the main sources of coastal sediments. Assess how the characteristics of coastal sediments influence the formation of depositional landforms. [20]

- 6 'Hard engineering is more effective than soft engineering in managing coasts sustainably.'
 With the aid of one or more case studies, how far do you agree? [20]

Hazardous environments

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

7 Fig. 7.1 shows the global distribution of volcanoes.

(a) Describe the distribution of volcanoes shown in Fig. 7.1. [4]

(b) Explain the distribution of volcanoes described in **(a)**. [6]

8 Describe the hazards resulting from earthquakes. Assess the extent to which hazards resulting from earthquakes can be managed. [20]

9 With the aid of examples, assess how prediction, preparedness and monitoring of tornadoes can reduce their impacts on lives and property. [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 is a photograph which shows vegetation in the Sonoran Desert, USA.

(a) Describe the characteristics of the vegetation shown in Fig. 10.1. [4]

(b) Explain how vegetation, such as that shown in Fig. 10.1, has adapted to aridity. [6]

11 To what extent have landforms of hot arid and semi-arid environments been developed by present-day processes? [20]

12 Evaluate the role of pressure and wind systems in the global distribution of hot arid and semi-arid environments. [20]

BLANK PAGE

Permission to reproduce items where third-party owned material protected by copyright is included has been sought and cleared where possible. Every reasonable effort has been made by the publisher (UCLES) to trace copyright holders, but if any items requiring clearance have unwittingly been included, the publisher will be pleased to make amends at the earliest possible opportunity.

To avoid the issue of disclosure of answer-related information to candidates, all copyright acknowledgements are reproduced online in the Cambridge Assessment International Education Copyright Acknowledgements Booklet. This is produced for each series of examinations and is freely available to download at www.cambridgeinternational.org after the live examination series.

Cambridge Assessment International Education is part of the Cambridge Assessment Group. Cambridge Assessment is the brand name of the University of Cambridge Local Examinations Syndicate (UCLES), which itself is a department of the University of Cambridge.