

Cambridge
International
AS & A Level

Cambridge International Examinations
Cambridge International Advanced Subsidiary and Advanced Level

GEOGRAPHY

9696/22

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 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.



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 a tropical soil catena.

With reference to Fig. 1, describe and explain the downslope variations in soil characteristics. [10]

- (b) Describe the characteristics of the vegetation in savanna ecosystems. Assess the extent to which vegetation in savanna ecosystems has been influenced by human activities. [15]

- 2 (a) Describe and explain the development of deep weathering profiles on granite in tropical environments. [10]

- (b) Explain why it may be difficult to sustainably manage areas within **either** the tropical rainforest ecosystem **or** the savanna ecosystem. Evaluate the success of attempted solutions to the difficulties identified. [15]

Coastal environments

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

- 3 (a) Photograph A shows some landforms along a stretch of coastline.

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

- (b) Using specific examples, describe the problems of the sustainable management of a stretch or stretches of coastline. Evaluate attempted solutions to these problems. [15]

- 4 (a) Describe how sediment is transported and deposited along coastal areas. Explain how these processes lead to the formation of **two** coastal landforms. [10]

- (b) Discuss the relative importance of mass movements in the evolution of cliffs. [15]

Hazardous environments

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

- 5 (a) Fig. 2 shows an erupting volcano.

Describe the characteristics of pyroclastic flows and ash fallout, and explain how they might be hazardous. [10]

- (b) To what extent are methods used to predict earthquakes more successful than methods used to predict volcanic eruptions? [15]

- 6 (a) Describe the nature of tornadoes and explain how they develop. [10]

- (b) Describe and explain the nature of **two** types of mass movement. Assess the extent to which the hazardous effects of mass movements can be limited. [15]

Arid and semi-arid environments

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

- 7 (a) Photograph B shows vegetation in a hot arid environment.

Describe the characteristics of the vegetation shown in Photograph B. Explain how vegetation has adapted to the conditions of a hot arid environment. [10]

- (b) Describe the process of desertification. Evaluate measures that might be used to sustainably manage areas that have been desertified. [15]

- 8 (a) Explain the processes of erosion, transport and deposition by wind in deserts. [10]

- (b) For an arid **or** a semi-arid environment, to what extent does climate create problems of sustainable management? [15]

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