



# Cambridge International AS & A Level

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## GEOGRAPHY

9696/33

Paper 3 Advanced Physical Geography Options

May/June 2022

1 hour 30 minutes

You must answer on the enclosed answer booklet.

You will need: Answer booklet (enclosed)  
Insert (enclosed)

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## INSTRUCTIONS

- Answer **four** questions in total:  
Answer questions from **two** options.  
For **each** option, follow the instructions inside on which questions to answer.
- Follow the instructions on the front cover of the answer booklet. If you need additional answer paper, ask the invigilator for a continuation booklet.
- 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.

## INFORMATION

- The total mark for this paper is 60.
- The number of marks for each question or part question is shown in brackets [ ].
- The insert contains all the resources referred to in the questions.

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This document has **4** pages. Any blank pages are indicated.



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 a typical profile of an oxisol/latosol.  
  - (a) Describe the main features of the profile shown in Fig. 1.1. [4]
  - (b) Explain **two** ways in which climate is likely to have influenced the profile features you described in (a). [6]
- 2 Assess the relative importance of conditions influencing varying characteristics of tropical karst landforms. [20]
- 3 To what extent are air masses the most significant factor affecting tropical climates? [20]

### **Coastal environments**

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

- 4 Fig. 4.1 shows rates of salt weathering near Prawle Point, Devon, UK, 1980–84.  
  - (a) Describe the variations in rates of salt weathering shown in Fig. 4.1. [4]
  - (b) Suggest reasons for the variations you described in (a). [6]
- 5 Using a case study, assess the extent to which problems of sustainably managing a stretch or stretches of coastline have been solved. [20]
- 6 'Wave energy is the most important factor influencing the formation of erosional landforms in coastal environments.'  

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 reported intensity of ground shaking produced by the 2014 South Napa earthquake, USA.
- (a)** Describe the pattern of reported intensity of ground shaking shown in Fig. 7.1. [4]
- (b)** Suggest **two** reasons for the pattern you described in **(a)**. [6]
- 8** 'Flooding is the most significant hazard from large-scale atmospheric disturbances.'
- How far do you agree with this view? [20]
- 9** Using a case study, evaluate the attempted or possible solutions to the problems of sustainable management of a hazardous environment. [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 the hydrological regime of a small stream in an arid environment in Arizona, USA, 2013–14.
- (a)** Describe the hydrological regime shown in Fig. 10.1. [3]
- (b)** Suggest reasons for the characteristics of the hydrological regime you described in **(a)**. [7]
- 11** Assess the relative importance of the causes of low biomass productivity in hot arid environments. [20]
- 12** To what extent do the global distributions of hot arid and semi-arid environments differ? [20]

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