



Cambridge International AS & A Level

GEOGRAPHY

9696/11

Paper 1 Core Physical Geography

May/June 2024

1 hour 30 minutes

You must answer on the enclosed answer booklet.

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

INSTRUCTIONS

- Answer **four** questions in total:
 - Section A: answer **all** questions.
 - Section B: answer **one** question.
- 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.

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.

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

Section A

Answer **all** questions in this section. All questions are worth 10 marks.

Hydrology and fluvial geomorphology

- 1 Fig. 1.1 shows the annual peak discharge recurrence interval for the Dwarkeswar River in India.
- (a) Using Fig. 1.1, state the annual peak discharge with a recurrence interval of 10 years. [1]
 - (b) Describe the relationship between annual peak discharge and recurrence interval shown in Fig. 1.1. [3]
 - (c) Use Fig. 1.1 to suggest how recurrence intervals can be used in flood prediction and prevention. [6]

Atmosphere and weather

- 2 Fig. 2.1 shows afternoon temperatures across an urban area.
- (a) (i) Name the effect shown in Fig. 2.1. [1]
 - (ii) Calculate the range in temperature shown in Fig. 2.1. [1]
 - (b) Describe the pattern of temperature shown in Fig. 2.1. [4]
 - (c) Give reasons for the pattern of temperature shown in Fig. 2.1. [4]

Rocks and weathering

- 3 Fig. 3.1 is a photograph which shows a slope in Somerset, UK.
- (a) Name the type of mass movement at A shown in Fig. 3.1. [1]
 - (b) Draw a labelled diagram of the mass movement shown in Fig. 3.1. [3]
 - (c) Explain **two** ways a slope may be modified to reduce mass movement. [6]

Section B

Answer **one** question from this section. All questions are worth 30 marks.

Hydrology and fluvial geomorphology

- 4 (a) (i) Define the hydrological terms *infiltration* and *interception*. [4]
- (ii) Describe a river levée. [3]
- (b) Explain the formation of meanders and oxbow lakes. [8]
- (c) 'Climate is the most significant factor which influences discharge within a drainage basin.'
With the aid of examples, how far do you agree with this statement? [15]

Atmosphere and weather

- 5 (a) (i) Describe the albedo effect. [3]
- (ii) Explain why not all incoming (shortwave) solar radiation reaches the surface of the Earth. [4]
- (b) Explain the causes of precipitation. [8]
- (c) With the aid of examples, evaluate whether the atmospheric impact of global warming might vary with location. [15]

Rocks and weathering

- 6 (a) (i) Define the weathering terms *freeze-thaw* and *pressure release (dilatation)*. [4]
- (ii) Describe the weathering process of vegetation root action. [3]
- (b) Explain how rock type and rock structure affect the rate of weathering. [8]
- (c) 'The movement of tectonic plates is determined by the process of subduction.'
With the aid of examples, how far do you agree with this statement? [15]

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