Cambridge Assessment International Education

Cambridge International AS & A Level

GEOGRAPHY **9696/11**

Paper 1 Core Physical Geography **May/June 2024**

1 hour 30 minutes

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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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