



Cambridge International AS & A Level

GEOGRAPHY

9696/13

Paper 1 Core Physical Geography

October/November 2021

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 position of the Mississippi River delta over different time periods.
- (a) Using Fig. 1.1, state:
- (i) the time period in which the delta is the largest [1]
 - (ii) the distance the delta advanced between time period B and A. [1]
- (b) Describe the changes in the position and size of the delta shown in Fig. 1.1. [3]
- (c) Suggest the factors that led to the shape of the delta labelled A shown in Fig. 1.1. [5]

Atmosphere and weather

- 2 Fig. 2.1 shows global surface temperature changes in 2017.
- (a) State the maximum surface temperature change shown in Australia, labelled X, in Fig. 2.1. [1]
- (b) Compare the surface temperature changes in the Northern hemisphere with the Southern hemisphere shown in Fig. 2.1. [4]
- (c) Suggest reasons for the temperature changes shown in Fig. 2.1. [5]

Rocks and weathering

- 3 Fig. 3.1 is a photograph which shows a weathered rock in Colorado, USA.
- (a) Name the type of weathering shown in Fig. 3.1. [1]
- (b) Describe the main characteristics of the weathered rock shown in Fig. 3.1. [3]
- (c) Explain how the Peltier diagram helps geographers to understand weathering in different environments. [6]

Section B

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

Hydrology and fluvial geomorphology

- 4 (a) (i) Contrast a braided river channel with a meandering river channel. [4]
- (ii) Briefly explain how meandering river channels may change over time. [3]
- (b) Explain how deposition in river channels is affected by river velocity and discharge. [8]
- (c) 'Vegetation is the most important factor influencing flows and stores in a drainage basin system.'
- With the aid of examples, how far do you agree with this statement? [15]

Atmosphere and weather

- 5 (a) (i) Outline the conditions necessary for the process of evaporation to take place. [3]
- (ii) Explain the processes of heat transfer in the atmosphere. [4]
- (b) Explain how land-sea distribution affects seasonal variations in global pressure and wind belts. [8]
- (c) 'Convection is the main cause of precipitation.'
- With the aid of examples, how far do you agree? [15]

Rocks and weathering

- 6 (a) (i) Describe the process of fold mountain building. [4]
- (ii) Briefly explain freeze-thaw weathering. [3]
- (b) Contrast the mass movement slide with the mass movement flow. [8]
- (c) 'Some types of mass movement are easier to control than others.'
- With the aid of examples, to what extent do you agree? [15]

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