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**GEOGRAPHY**

**9696/12**

Paper 1 Core Physical Geography

**May/June 2019**

**1 hour 30 minutes**

No Additional Materials are required.

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**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.

**Section A**

Answer **all** questions.

**Section B**

Answer **one** question.

Sketch maps and diagrams should be drawn whenever they serve to illustrate an answer.

All the resources 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.

The total number of marks for this paper is 60.

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This document consists of **3** printed pages, **1** blank page and **2** Inserts.

## Section A

Answer **all** questions in this section.

### Hydrology and fluvial geomorphology

- 1 Fig. 1.1 shows a storm hydrograph.
- (a) Using Fig. 1.1:
- (i) state the peak discharge [1]
  - (ii) name A and B. [2]
- (b) Calculate the lag time in Fig. 1.1. Show your working. [2]
- (c) Explain **two** factors that affect the shape of a storm hydrograph. [5]
- [Total: 10]

### Atmosphere and weather

- 2 Fig. 2.1 shows the global pattern of ocean currents.
- (a) Using Fig. 2.1, describe the pattern of ocean currents in the Southern Hemisphere. [3]
- (b) Explain **two** ways in which the ocean currents described in (a) affect the seasonal variation of temperature in the Southern Hemisphere. [4]
- (c) Explain **one** factor, other than ocean currents, that affects the seasonal variation of temperature in the Southern Hemisphere. [3]
- [Total: 10]

### Rocks and weathering

- 3 Fig. 3.1 shows types of mass movement.
- (a) Using Fig. 3.1, name the mass movement at:
- (i) Y [1]
  - (ii) Z. [1]
- (b) Using evidence from Fig. 3.1, compare the effects of mass movements Y and Z on the slopes. [4]
- (c) Explain why mass movement Z may have occurred. [4]
- [Total: 10]

## Section B

Answer **one** question from this section.

### Hydrology and fluvial geomorphology

- 4 (a) (i) Describe how underground water recharge occurs. [3]
- (ii) Explain how channel straightening may help prevent river flooding. [4]
- (b) Describe and explain different patterns of flow within a river channel. [8]
- (c) 'River flooding impacts the environment more than it impacts people.'  
With the aid of examples, how far do you agree? [15]
- [Total: 30]

### Atmosphere and weather

- 5 (a) (i) Define the terms *orographic uplift* and *condensation*. [4]
- (ii) Describe how fog forms. [3]
- (b) With reference to **one** urban area, describe and explain the effects of human activity on precipitation and winds. [8]
- (c) With the aid of examples, assess the extent to which reflected solar radiation is the most important factor in determining the diurnal energy budget. [15]
- [Total: 30]

### Rocks and weathering

- 6 (a) (i) Define the terms *sheetwash* and *rainsplash*. [4]
- (ii) Briefly describe how netting can reduce mass movements on slopes. [3]
- (b) Describe and explain the formation of volcanic island arcs. [8]
- (c) 'Convection currents are the most significant factor in the formation of landforms at divergent plate boundaries.'  
With the aid of examples, how far do you agree? [15]
- [Total: 30]

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