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**GEOGRAPHY**

**9696/11**

Paper 1 Core Physical Geography

**October/November 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 is a photograph which shows a braided river channel in South Island, New Zealand.
- (a) Using Fig. 1.1, name the feature labelled A. [1]
- (b) Describe the features of the braided river shown in Fig. 1.1. [4]
- (c) Explain the formation of the features described in (b). [5]
- [Total: 10]

### Atmosphere and weather

- 2 Fig. 2.1 shows a cross-section of relief and average annual precipitation amounts along a transect through western USA.
- (a) Calculate the difference in average annual precipitation amounts between Los Banos and Mariposa. Show your working. [2]
- (b) Describe the variations in average annual precipitation amounts from west to east shown in Fig. 2.1. [3]
- (c) Suggest reasons for the variations in precipitation amounts described in (b). [5]
- [Total: 10]

### Rocks and weathering

- 3 Fig. 3.1 shows the distribution and movement of the main tectonic plates in the Pacific Region.
- (a) Name the type of plate boundary labelled Y in Fig. 3.1. [1]
- (b) Describe the movement of the tectonic plates shown in Fig. 3.1. [3]
- (c) Describe and explain **two** tectonic landforms formed at the plate boundary labelled Z in Fig. 3.1. [6]
- [Total: 10]

**Section B**

Answer **one** question from this section.

**Hydrology and fluvial geomorphology**

- 4 (a) (i) Define the terms *throughflow* and *soil water*. [4]
- (ii) Briefly explain how drainage density affects the shape of a storm hydrograph. [3]
- (b) Explain the effects of land use change on catchment flows and catchment stores. [8]
- (c) With the aid of examples, assess the extent to which river floods can be prevented. [15]
- [Total: 30]

**Atmosphere and weather**

- 5 (a) (i) Briefly describe the differences between sensible heat transfer and latent heat transfer. [3]
- (ii) Describe the conditions that increase evaporation rates. [4]
- (b) Describe the distribution of global pressure belts and explain their seasonal variation. [8]
- (c) 'Emissions from transport are the main cause of the enhanced greenhouse effect.'
- With the aid of examples, how far do you agree? [15]
- [Total: 30]

**Rocks and weathering**

- 6 (a) (i) Define the weathering terms *hydration* and *freeze-thaw*. [4]
- (ii) Briefly describe how heating and cooling can result in the weathering of rocks. [3]
- (b) Describe and explain the conditions that result in mass movements on slopes. [8]
- (c) 'Rock type is the most important factor in determining the type and rate of weathering.'
- With the aid of examples, how far do you agree? [15]
- [Total: 30]

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