



**SERANGOON JUNIOR COLLEGE
JC2 PRELIMINARY EXAMINATION 2008**

GEOGRAPHY

Higher 2

9730/1

Paper 1 Physical Geography

**Monday
18 Aug 2008**

3 hours

Additional materials:
Writing paper

INSTRUCTIONS TO CANDIDATES

Write your name, civics group on every answer sheet.
Write in dark blue or black pen on both sides of the paper.
You may use a soft pencil for any diagrams or graphs.
Do not use staples, paper clips, highlighter, glue or correction fluid.
Write your answers on the separate answer paper provided.

Section A

Answer **all** questions.

Section B

Answer **two** questions, each from a different topic.

INFORMATION FOR CANDIDATES

At the end of the examination, fasten all your work securely together.
The number of marks is given in brackets [] at the end of each question or part question.
Insert 1 contains all the Figures referred to in the question paper.
Diagrams and sketch maps should be drawn whenever they serve to illustrate an answer.
You are reminded of the need for clear presentation in your answers.

This question paper consists of 5 printed pages.

[Turn over

Physical Geography (H2)

Section A

Answer **all** questions in this section.

Questions 1, 2 and 3 carry 12 marks and Question 4 carries 14 marks.

You should allocate your time accordingly.

Lithospheric Processes, Hazards and Management

- 1** Figure 1 shows a granite landform in a tropical region.
- (a) Draw a well-annotated sketch to show the features and processes occurring on the landform. [4]
- (b) Explain the processes that have led to the formation of the feature shown. [8]

Atmospheric Processes, Hazards and Management

- 2** Fig. 2 shows warm and cool ocean currents in the Atlantic Ocean and the mean monthly temperatures of the warmest and coolest months of some coastal locations.
- (a) Describe and explain the pattern of ocean currents shown on Fig. 2. [4]
- (b) Using examples from Fig. 2, explain how warm and cool ocean currents can affect temperatures and precipitation in coastal locations. [8]

Hydrologic Processes, Hazards and Management

- 3** Figure 3 shows the development of a meandering channel.
- (a) (i) Draw a labelled cross section of the channel along the line A – A, showing a riffle. [1]
- (ii) Draw a labelled cross section of the channel along the line B – B, showing a pool. [1]
- (b) Explain how river discharge may be measured. [4]
- (c) Explain how the river shown in Fig. 3 develops from a straight to a meandering channel. [6]

[Turn over

Hydrologic and Atmospheric Processes, Hazards and Management

- 4 Fig. 4A shows a climograph for Berbera, Somalia, a semi-arid region in the tropics. Fig. 4B shows the location of Berbera in Africa. Fig. 4C shows the hydrological response to rainfall in semi-arid areas.
- (a) Describe how the nature of the climate in tropical semi-arid areas may affect the flows and storages within the hydrological cycle. **[6]**
- (b) Suggest ways in which droughts in semi-arid areas may be managed. **[8]**

Section B

Answer **two** questions, each from a different topic. All questions carry 25 marks.

Lithospheric Processes, Hazards and Management

5 EITHER

Fig. 5 shows the locations of recent earthquakes and volcanic eruptions.

- (a) Describe and account for the distribution of earthquake activities as shown in Fig. 5. [9]
- (b) To what extent is a knowledge of Plate Tectonics Theory important in the understanding of the formation of large-scale tectonic landforms? [16]

OR

- (a) Explain the conditions under which *block disintegration*, *spheroidal weathering* and *exfoliation* may occur. [9]
- (b) To what extent is the distribution of weathering types across the world's regions determined by climate? [16]

Atmospheric Processes, Hazards and Management

6 EITHER

- (a) Using diagrams, explain how tropical storms (hurricanes) are produced. [9]
- (b) Using examples, describe the nature of the hazards that tropical storms (hurricanes) produce. To what extent can the hazards be managed? [16]

OR

- (a) Describe the characteristics of the ITCZ (Inter-Tropical Convergence Zone). Why is it important in understanding tropical climates? [9]
- (b) Discuss the possible impact of global warming and explain why it is difficult to resolve. [16]

Hydrologic Processes, Hazards and Management**7 EITHER**

- (a) Explain the terms *headward erosion*, *lateral erosion* and *vertical erosion* and the conditions under which they occur. [9]
- (b) To what extent are human actions the principal factors influencing the hydrological processes in a drainage basin? [16]

Or

- (a) Explain how the changes in inputs of sediment and water can influence channel morphology. [9]
- (b) With reference to examples from LDCs and DCs, assess the strategies to manage the hazards posed by river floods. [16]

End of Paper