RAFFLES JUNIOR COLLEGE
Preliminary Examinations 2008

GEOGRAPHY 9730/01

Paper 1 Physical Geography Duration: 3 hours

Additional material: Writing Paper
Insert 1
World Outline Map (to be supplied upon request)

READ THESE INSTRUCTIONS FIRST

Section A: Answer all questions.
Section B: Answer **two** questions, each from a different topic.

Write in dark blue or black pen.
You may use a soft pencil for any diagrams, graphs or rough working.
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.
The world outline map may be annotated and handed in with relevant answers.
You are reminded of the need for good English and clear presentation in your answers.

At the end of the examination, fasten all your work securely together using the string provided.

This document consists of 4 printed pages including this page.

Physical Geography (H2)

Section A

Answer all the 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 the major tectonic features of Central America.

(a) Describe the distribution of volcanic activity in Central America as shown in the figure. [4]

(b) Explain the formation of two landforms at destructive plate margins shown in the figure. [8]

Atmospheric Processes, Hazards and Management

2 Figure 2 shows the changes in the global temperature since 160,000 years ago to the present.

(a) Briefly describe the global temperature changes as shown in the figure. [4]

(b) Explain what might have caused these changes. [8]

Hydrologic Processes, Hazards and Management

3 (a) With reference to figure 3, describe the relationship between sediment yield (the amount of material eroded from the land surface by runoff and delivered to a stream system) and precipitation. [2]

(b) Account for the relationship you have described in **(a)**. [4]

(c) Describe the other factors affecting sediment yield. [6]

Lithospheric and Hydrologic Processes, Hazards and Management

4 Figure 4 shows the sequence of drainage development in a region of insoluble rock and a karst region.

(a) Describe how drainage development in the two regions differs as shown in the figure. [4]

(b) With the aid of diagram(s), illustrate how drainage development might have occurred in the karst region as shown in figure 4. [10]

Section B

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

Lithospheric Processes, Hazards and Management

5 EITHER

(a) Explain the differences between chemical weathering and physical weathering. [9]

(b) How true is it that weathering is mainly physical in dry climates and mainly chemical in wet climates? [16]

OR

(a) Briefly define the term “mass movement” as applied to slopes. [9]

(b) Describe the landforms commonly found in regions of granite and briefly explain how they have been formed. [16]

Atmospheric Processes, Hazards and Management

6 EITHER

(a) Briefly describe what is meant by the heat balance of the earth. [9]

(b) Describe and briefly explain **two** differences between the weather experienced in urban areas and the weather experienced in surrounding rural areas. [16]

OR

(a) With the aid of a diagram, describe and explain the main features of a tropical cyclone. [9]

(b) With the aid of diagram(s), illustrate the changes in the atmospheric and oceanic circulations during an El Nino event. Briefly describe the consequences of such changes. [16]

Hydrological Processes, Hazards and Management

7 EITHER

(a) With the aid of a clear annotated diagram, describe the main features of a storm hydrograph (river hydrograph). [9]

(b) Discuss the suggestion that major flooding events are almost always a response to human actions within drainage basins. [16]

OR

(a) Describe and explain the actual processes of erosion occurring in
   i. river channels in *alluvium*, and
   ii. river channels in *solid rock*. [9]

(b) Show how the processes of erosion and deposition are related to the formation of
   i. meandering channels, and
   ii. braided channels. [16]

END