HWA CHONG INSTITUTION
College 2 Preliminary Examination 2008
General Certificate of Education Advanced Level
Higher 2

GEOGRAPHY 9730/01

PAPER 1 Physical Geography

10 September 2008

3 hours

Additional Materials: Answer Booklet/Paper
Insert 1
Insert 2
World Outline Map

READ THESE INSTRUCTIONS FIRST

Write your name and CT on all the work you hand in.
Write in dark blue or black pen on both sides of the paper.
You may use a soft pencil for any diagrams, graphs or rough working.
Do not use staples, paper clips, highlighters, glue or correction fluid.

Section A
Answer **all** questions.

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

Insert 1 contains all the Figures and Table 1 referred to in the question paper.
Insert 2 contains Photograph A referred to in Question 1.
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 test, fasten all your work securely together.
The number of marks is given in brackets [ ] at the end of each question or part question.

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 Photograph A shows a granite landform in a savanna region.

(a) Draw an annotated sketch diagram to show the main features of the landform shown. [4]

(b) Describe and explain the weathering processes that may have contributed to the formation of the landform shown. [8]

Atmospheric Processes, Hazards and Management

2 Fig. 1 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) (i) Identify the coastal location which has the greatest difference between its warmest and coolest months and state the difference in temperature. [2]

(ii) Identify the coastal location which has the smallest difference between its warmest and coolest months and state the difference in temperature. [2]

(b) Describe the pattern of ocean currents shown on Fig. 1 and **,** using examples, explain how warm and cool ocean currents can affect temperatures on land. [8]

Hydrologic Processes, Hazards and Management

3 Fig. 2 shows the development of a meandering channel.

(a) (i) Draw a labelled long profile of the channel along line A-A, showing a riffle. [2]

(ii) Draw a labelled cross section of the channel along the line marked B-B, showing a pool and point bar. [2]

(b) Explain how the river shown in Fig. 2 develops from a straight to a meandering channel. [8]

Lithospheric and Atmospheric Processes, Hazards and Management

4 Fig. 3 shows tectonic plates and volcanoes in the north west of the United States. Table 1 shows the causes of some mass movements and associated fatalities.

(a) Identify the **two** different types of plate boundaries shown on Fig. 3 and describe **one** difference between the plate boundaries. [2]

(b) Using Table 1 explain how different tectonic and climatic events can cause different types and magnitude of mass movements. [8]

(c) Describe the main features of the mass movements associated with the eruption of Mt. St Helens that would make them hazardous. [4]

Section B

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

Lithospheric Processes, Hazards and Management

5 EITHER

(a) Using diagrams, explain how sea floor spreading occurs. [9]

(b) To what extent can the plate tectonic theory be used to account for the global distribution and occurrence of earthquakes and the global distribution and formation of fold mountains and volcanoes. [16]

OR

(a) Using diagrams, explain the differences between a rock slide, a mud flow, and soil creep. [9]

(b) Discuss, with reference to an example or examples, the problems of managing an environment prone to tectonic hazards and of responding to the effects of the hazards. [16]

Atmospheric Processes, Hazards and Management

6 EITHER

(a) Explain the formation of rain in the equatorial region. [9]

(b) With reference to an example or examples, describe the nature of the hazard tropical storms produce, and assess the strategies used to respond to the effects of the hazard. [16]

OR

(a) Explain how buildings, tarmac and concrete can affect the climate in urban areas. [9]

(b) With reference to examples, discuss the present and possible future effects of global warming, and consider what measures can be taken to reduce these effects. [16]

Hydrologic Processes, Hazards and Management

7 EITHER

(a) Demonstrate, with the aid of hydrographs, how discharge in a drainage basin can be affected by geology, slopes and vegetation. [9]

(b) With reference to examples, consider the extent to which urbanisation within drainage basin might affect river channel flow. [16]

OR

(a) What is meant, in a drainage basin, by the terms drainage density, stream order and bifurcation ratio? [9]

(b) With reference to examples, explain why conflicts of interest can arise in the management of river basins. [16]