DUNMAN HIGH SCHOOL
Senior High Section

PRELIMINARY EXAMINATION 2008
Higher 2

GEOGRAPHY **9730/01**
Paper 1 Physical Geography

Wednesday 10 September 2008 3 hours

READ THESE INSTRUCTIONS FIRST

Write your name and class clearly 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 referred to in the question paper.
Insert 2 contains the photograph referred to in the question paper.
Sketch maps and diagrams should be drawn wherever 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.
You should make a reference to appropriate examples studied in the field or the classroom, even where the examples are not specifically requested by the question.

Start each question on a fresh sheet of paper.
At the end of the examination, fasten all your work securely together.
The number of marks is given in the brackets [ ] at the end of each question or part question.

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 Photograph A shows a limestone area in a temperate area.

(a) Sketch and label the main features in Photograph A. [4]

(b) Explain the factors which influence the development of these features. [8]

Atmospheric Processes, Hazards and Management

2 Fig. 1 shows the idealised cross-section through the atmosphere depicting (A and B) the main zones of ascending and descending air motions during the seasonal extremes of winter and summer and (C) the associated principal areas of precipitation.

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(a) Briefly describe the nature and development of the polar front. [4]

(b) Explain the development of the ITCZ and its movement (shown in Fig. **D**) and indicate its influence on the weather. [8]

Hydrologic Processes, Hazards and Management

3 Fig. 2 shows the variation in surface drainage network and area of saturation in a small heathland catchment in New Forest, England.

(a) Describe the relationship between vegetation cover and saturated area at different discharges. [4]

(b) Explain how drainage network is affected by vegetation cover and rainfall characteristics. [8]

Atmospheric and Hydrologic Processes, Hazards and Management

4 Fig. 3 shows regional contributions to coastal flooding in 1990 and the 2020s.

(a) Describe the main trends in the data shown. [2]

(b) Suggest reasons for the trends you have identified in (a). [6]

(c) Explain how the flooding hazard along coasts can be managed. [6]

Section B

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

Lithospheric Processes, Hazards and Management

5 EITHER

(a) Discuss the role of hotspots in volcanic activity. [9]

(b) Assess the extent to which rock characteristics determine the landforms in granite areas. [16]

OR

(a) Explain the factors determining the stability of a slope. [9]

(b) With reference to examples, assess the strategies used to manage mass movement hazards. [16]

Atmospheric Processes, Hazards and Management

6 EITHER

(a) Explain the main influences of the microclimate of an urban area. [9]

(b) Evaluate the role of man in climate change. [16]

OR

(a) Explain the effect of jet streams and Ross waves on surface conditions. [9]

(b) Discuss the vulnerability of the tropical area to atmospheric hazards and the attempts to manage the problems that arise. [16]

Hydrologic Processes, Hazards and Management

7 EITHER

(a) Explain the terms 'width-depth ratio' and 'hydraulic radius'. [9]

(b) Discuss the relationship between channel pattern and changes in channel efficiency under different conditions. [16]

OR

(a) Explain how the characteristics of catchment areas can be altered by human activity. [9]

(b) With reference to examples, discuss the factors which determine effective management of basins. [16]

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