Candidate Name: _____

Class	Adm No

millennia institute

Preliminary Examination 2008

Pre-university 3

H2 GEOGRAPHY 9730
PAPER 1 9730/1

Tuesday 16 Sep 3h

Additional materials:
Answer paper
Insert
World outline map

INSTRUCTIONS TO CANDIDATES

Write your name, admission number and class in the spaces at the top of this page and on any separate answer paper used.

Section A

Answer **all** questions.

Section B

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

At the end of the examination, fasten the sheets together.

INFORMATION FOR CANDIDATES

The number of marks is given in brackets [ ] at the end of each question or part question.

You are advised not to spend more than **one hour 30 minutes** on Section A.

You should make reference to appropriate examples studied in the field or the classroom, even where such examples are not specifically requested by the question.

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.

This question paper consists of 4 printed pages.

[Turn over

Section A

Answer **all** questions from 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. Fig. 1 shows the location of some recently active volcanoes in the region around North and South America and the Pacific Ocean.

   a) Draw an annotated cross sectional diagram of transect AB on Fig.1, identifying key features and processes. [4]

   b) Referring to Fig. 1, describe and account for the structural and behavioural differences between a stratovolcano and a shield volcano. [8]

Atmospheric Processes, Hazards and Management

2. Fig. 2A shows the regions where hurricanes form, and the typical paths they follow. Fig. 2B displays the structure of a mature hurricane.

   a) With the help of Fig. 2B, explain how hurricanes derive their energy. [2]

   b) Using examples, explain the measures taken to mitigate the social impacts of a hurricane if it hits an inhabited area. [4]

   c) Describe and account for the spatial occurrence of hurricanes shown in Fig. 2A. [6]

Hydrologic Processes, Hazards and Management

3. Fig. 3A shows the flood stage hydrograph of the Tar River for the period 1 Sept 1999 – 31 Oct 1999. Fig. 3B details the flood frequency data of the Tar River in North Carolina, USA for the period 1887-1998.

   a) Using Figs 3A and 3B, explain how the recurrence interval of the peak flow experienced in the aftermath of Hurricane Floyd can be calculated and obtained. [4]

   b) Explain and evaluate the usefulness of the recurrence interval in the mitigation of flood hazards. [4]

   c) Explain the impact of urbanisation on the flood hydrograph. [4]

Hydrologic and Atmospheric Processes, Hazards and Management

4. Photograph 4A shows the course of a river channel in San Luis Valley, Colorado, USA. Fig. 4B shows the average monthly precipitation data for Colorado, USA.

   a) Draw a sketch diagram to represent a **plan view** of the channel, identifying channel features. [4]

   b) Using evidence from Photograph 4A and Fig. 4B, give an explanation for the features identified for the channel shown in Photograph A. [4]

   c) Explain the possible causes for drought conditions. [6]

Section B

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

Lithospheric Processes, Hazards and Management

5. EITHER

(a) Explain the role of climate in the occurrence of mass movements. [9]

(b) Using examples, discuss the extent to which man is in control of mass wasting hazards. [16]

OR

(a) Compare and contrast the characteristics of granite and limestone. [9]

(b) Using examples, discuss the extent to which rock characteristics may account for the structural differences between granite and limestone landscapes. [16]

Atmospheric Processes, Hazards and Management

6. EITHER

a) With the use of an annotated diagram, describe and explain what is meant by the Inter-Tropical Convergence Zone (ITCZ) and its seasonal movement. [9]

b) Describe and explain the major climatic effects of surface winds. [16]

OR

a) Give an account of the nature and evidence that exists for global warming. [9]

b) Discuss the possible impacts that global warming could have upon atmospheric circulation patterns and the distribution of precipitation and global climate. [16]

Hydrologic Processes, Hazards and Management

7. EITHER

(a) Outline the factors affecting river velocity and explain how they influence the river channel's ability to do work. [9]

(b) Using examples, explain how human activity in a drainage basin might alter stream flow and discuss the consequences that this might bring. [16]

OR

(a) With the aid of an annotated diagram(s), describe and account for the key characteristics of a drainage basin hydrological cycle in the humid tropics. [9]

(b) With reference to examples, discuss the issues behind the shared use of transboundary river basins. [16]

End of Paper