

Name: _____

Admission No: Class:

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2015 Preliminary Examination 2

Pre-University 3

GEOGRAPHY (HIGHER 2)
Paper 1 Physical Geography

9730/01
15 September 2015

3 hours

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

INSTRUCTIONS TO CANDIDATES

Write your name, admission number and class 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 contains all the Figures, Table and Photograph 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.
The number of marks is given in brackets [] at the end of each question or part question.

Physical Geography (H2)**Section A**

Answer **all** questions in this section.

Question 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 mass movement that took place in a humid temperate climatic zone.
- (a) With reference to Photograph A, identify the mass movement and describe its main features. [3]
- (b) With reference to Photograph A, briefly explain the mass movement process you have identified in (a). [3]
- (c) Besides climate, explain other factors that might have contributed to the mass movement process. [6]

Atmospheric Processes, Hazards and Management

- 2 Table 1 shows the climatic characteristics of certain climatic zones. Fig. 1 shows the earth's energy budget. Fig. 2 shows the world map.
- (a) Study the climatic characteristics in Table 1. Fill in the alphabets into the boxes to match the correct climatic characteristics to the four areas as shown in Fig. 2. [4]
- (b) With reference to Fig. 1, explain the various pathways in which radiation travels within the earth's atmosphere. [4]
- (c) State and explain two factors that can determine the heat budget of an area. [4]

Hydrologic Processes, Hazards and Management

- 3 Fig. 3 shows the storage and movement of water between the biosphere, atmosphere, lithosphere, and the hydrosphere.
- (a) With reference to Fig. 3, identify and explain two factors that can influence the amount of river discharge. [4]
- (b) Describe and explain the necessary steps needed to investigate the velocity of a section of a river channel. [8]

Atmospheric and Hydrologic Processes, Hazards and Management

- 4 Fig. 4A shows the spatial distribution of wet and dry areas globally. Fig. 4B shows changes in soil and vegetation profiles, as well as climatic characteristics, in Eastern Europe.
- (a) i) Describe the distribution of dry areas as shown in Fig. 4A. [2]
- ii) Demonstrate how air circulation affects the distribution described above. [5]
- (b) Describe and account for the variations in ground water table through Eastern Europe as shown in Fig. 4B. [7]

4
Section B

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

Lithospheric Processes, Hazards and Management

5 EITHER

(a) With the aid of diagram(s), describe and account for the nature and location of volcanic arcs. [9]

(b) With reference to examples, describe the effects of volcanic eruption on the natural and human environment.

Assess the measures taken to manage these effects. [16]

5 OR

(a) Differentiate the formation and characteristics of sedimentary **and** metamorphic rocks. [9]

(b) 'Mechanical weathering is largely responsible for block disintegration while chemical weathering is largely responsible for granular disintegration.'

To what extent do you agree with this statement? [16]

Atmospheric Processes, Hazards and Management

6 EITHER

(a) Outline the methods in which climates of the past can be determined. [9]

(b) 'Economically more advanced countries have the global responsibility and monetary means to implement meaningful measures against global warming'.

To what extent do you agree with the above statement? Support your answers with relevant case studies. [16]

6 OR

(a) Discuss the formation and behaviour of the Inter-tropical Convergence Zone. [9]

(b) Provide reasons to explain the presence of different climatic zones within Tropical Asia. [16]

Hydrologic Processes, Hazards and Management

7 EITHER

- (a) With aid of well-annotated diagram(s), describe the differences between an open and a closed hydrological cycle system. [9]
- (b) Using specific examples, discuss how the physical and anthropogenic factors may influence a flood hydrograph. [16]

7 OR

- (a) Suggest reasons why rivers meander. [9]
- (b) Examine the main factors that determine a river's ability to erode its channel. [16]

~ End of Paper ~

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Copyright Acknowledgements:

Question 1	Photograph A	http://www.coma.vic.gov.au/soilhealth/photos.htm Last accessed on: 12 th August 2015
Question 2	Fig. 1	http://idaholyoaks3.blogspot.sg/2012/11/understanding-climate-change-part-3.html Last accessed on: 12 th August 2015
	Fig. 2	Adapted from http://www.science-story.com/images/countries.jpg Last accessed on: 10 th August 2015
Question 3	Fig. 3	http://www.physicalgeography.net/fundamentals/8b.html . Last accessed on: 12 th August 2015
Question 4	Figs. 4A & 4B	www.seafriends.org.nz/enviro/Soil/geosoil.htm Last accessed on: 11 th August 2015