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INNOVA JUNIOR COLLEGE JC 2 PRELIMINARY EXAMINATION 2 in preparation for General Certificate of Education Advanced Level **Higher 2**

GEOGRAPHY

9730/02

Paper 2 Human Geography

19 Sep 2013 3 hours

Additional Materials: Writing Paper 1 Insert World Outline Map

READ THESE INSTRUCTIONS FIRST

Write your name 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.

The Insert contains all the Figures and Table referred to in the questions. 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.

This document consists of **5** printed pages and **1** blank page.



Innova Junior College

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Section A

Answer **all** the questions in this section. Questions 1, 2 and 4 carry 12 marks and Question 3 carries 14 marks. You should allocate your time accordingly.

Lithospheric Processes, Hazards and Management

- 1 Photograph A shows a mass movement event that occurred at the Mid-Levels region in Hong Kong in 1972.
 - (a) Describe and explain the possible causes of the mass movement shown in Photograph A. [6]
 - (b) Briefly describe one strategy that can be employed to mitigate the effects of the mass movement shown in Photograph A. [2]
 - (c) Outline how you would observe the process of soil creep on a slope and describe the methods you would use to examine this process. [4]

Atmospheric Processes, Hazards and Management

- **2** Figs 1A and 1B show the development of the Inter-Tropical Convergence Zone (ITCZ).
 - (a) Using Fig. 1A and 1B, describe and explain the formation of the ITCZ. [4]
 - (b) Using Fig. 1B explain the influence the ITCZ may have upon precipitation. [4]
 - (c) Explain one other major factor that is combined with the shifting of the ITCZ to produce monsoons. [4]

Hydrologic Processes, Hazards and Management

- **3** Fig. 2A shows the relationship between channel slope and bankfull discharge on braided and meandering streams in the USA. Fig. 2B shows the relationship between channel slope and sediment load for the same two types of streams. Fig. 2C shows the Hjulstrom Curve.
 - (a) Briefly describe the main differences between braided and meandering streams that are suggested by Figs 2A and 2B. [4]
 - (b) With reference to Fig. 2C, give reasons for the likely processes that would operate within the channel and the particles affected when the velocity of the river is at 200cm/s.
 - (c) Define the term erosion. To what extent does Fig. 2C support the argument that 'the higher the velocity, the greater the erosion'? [6]

Atmospheric and Hydrologic Processes, Hazards and Management

- **4** Fig. 3 shows a diagrammatic representation of the Walker Ciculation and the El Nino Southern Oscillation.
 - (a) With reference to Fig 3, explain how the occurrence of droughts in eastern Australia can be attributed to the El Nino Southern Oscillation. [6]
 - (b) Describe and assess one strategy used to predict the occurrence of droughts due to the El Nino. [4]
 - (c) Explain the nature of overland flow likely to occur along the western coast of South America during an El Nino event. [2]

Section B

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

Lithospheric Processes, Hazards and Management

5 EITHER

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(a) Fig 4 is a cross section diagram of a granite inselberg in a tropical region.

Explain how the processes of weathering and the removal of regolith have operated in stages to produce a granite inselberg in a tropical area, such as that shown in Fig 4. [9]

(b) To what extent can the plate tectonic theory be used to account for the nature and distribution of fold mountains, rift valleys and volcanoes? [16]

OR

- (a) Differentiate between and account for the types of volcanic eruptions associated with the different plate boundaries. [9]
- (b) With reference to examples, discuss the problems of managing an inhabited environment prone to tectonic hazards. [16]

Atmospheric Processes, Hazards and Management

6 EITHER

- (a) How does a consideration of pressure gradient force, Coriolis force and friction help us understand the movement of air? [9]
- (b) With the aid of a diagram or diagrams, explain the earth's energy budget. [16]

OR

- (a) Compare the effects of droughts in DCs and LDCs. [9]
- (b) Explain how urban heat islands develop. To what extent can urban heat islands influence the weather in cities? [16]

Hydrologic Processes, Hazards and Management

7 EITHER

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(a) Explain how each one of the following may influence the hydrograph of a river:

- (i) drainage basin shape;
- (ii) geology;
- (iii) drainage density. [9]
- (b) What is meant by the term channel morphology? Why is an understanding of channel morphology important in explaining the processes occurring in river channels? [16]

OR

- (a) How can the abstraction (removal) and the storage of water by humans affects flows and stores within a drainage basin? [9]
- (b) With reference to examples, assess the extent to which magnitude and frequency determine the effects of river floods. [16]

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INNOVA JUNIOR COLLEGE JC 2 PRELIMINARY EXAMINATION 2 in preparation for General Certificate of Education Advanced Level **Higher 2**

1

GEOGRAPHY

9730/01

Paper 1 Physical Geography INSERT 19 Sep 2013

3 hours

READ THESE INSTRUCTIONS FIRST

This Insert contains all the Figures and Photographs referred to in the questions.

Photograph A for Question 1

Mass movement that occurred at the Mid-Levels region in Hong Kong in 1972



2















Relationship between channel slope and bankfull discharge

Fig. 2B for Question 3

Relationship between channel slope and sediment load



ig. 2C for Question 3



The Hjulstrom Curve

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Fig. 4 for Question 5 Either (a)

Cross section diagram of an inselberg in a tropical region



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