



ANDERSON JUNIOR COLLEGE

JC2 H2 Geography Preliminary Examination (2015)

H2 GEOGRAPHY

9730/01

Paper 1

Physical Geography

Monday

14 September 2015

8.00 am – 11.00 am

3 hours

Additional Materials: 1 Insert
World outline map

READ THESE INSTRUCTIONS FIRST

1. Write your name and class in the spaces provided below.
2. Write in dark blue or black pen.
3. You may use a soft pencil for any diagrams, graphs or rough working.
4. If you use more than one sheet of paper, fasten the sheets securely.
5. **Hand in Section A (Data Response Questions) and Section B (Structured Essay Questions) separately.**
6. 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. Please write the respective question number in the spaces provided.

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

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.

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.

Name: _____

PDG: _____

Question Attempted	Marks
Section A:	
1	/12
2	/12
3	/12
4	/14
Section B:	
	/25
	/25
Percentage	100

Section A

Answer **all** the 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 part of the granite landscape in the Matopos Hills in Zimbabwe, southern Africa. Photograph B shows part of the karst landscape by the river in Guilin, southern China.
- (a) Identify the landforms shown in Photographs A and B. With reference to Photographs A and B, briefly outline the key differences in the characteristic features of these landforms. [4]
 - (b) Differentiate the rock characteristics and the weathering processes that may have contributed to the production of the landforms as shown in Photographs A and B. [5]
 - (c) With reference to Photograph A, suggest how the landform may change over time. [3]

Atmospheric Processes, Hazards and Management

- 2 Fig. 1 shows the climatic regions of Chad.
- (a) Identify the climatic types at
 - (i) Faya-largeau, and
 - (ii) Sarh. [2]
 - (b) Using Fig. 1, describe the temperature and precipitation patterns of Faya-largeau and Sarh. [4]
 - (c) Suggest reasons for the patterns you have described in (b). [6]

Hydrologic Processes, Hazards and Management

- 3 Fig. 2A shows a map of the Mississippi River basin. Fig. 2B shows the climographs at selected cities in the Mississippi River basin.
- (a) Using Fig. 2A, comment on the role of the dams in the Mississippi River basin. [2]
 - (b) Outline the secondary data you would require, in addition to that shown in Figs 2A and 2B, to understand the flood risk in Memphis. [3]
 - (c) Briefly explain **two** possible impacts of flood in the Mississippi River basin. [3]
 - (d) Briefly describe **two** possible responses to floods in the Mississippi River basin. [4]

Lithospheric Processes, Hazards and Management, Atmospheric Processes, Hazards and Management and Hydrologic Processes, Hazards and Management

- 4 Fig. 3A shows an extract from an Indian news report on the approach of a tropical storm, Cyclone Laila, in May 2010. Fig. 3B shows the likely path of Cyclone Laila.
- (a) Describe the possible path and wind speed of Cyclone Laila over space and time, as shown in Fig. 3B. [4]
 - (b) In addition to the heavy rain that is brought about by Cyclone Laila, state **two** possible reasons that may have aggravated the 'knee high flooding' in Andhra Pradesh and Tamil Nadu. [2]
 - (c) Explain why some groups of people living along the South-eastern coastline of India may be more severely affected by cyclonic hazards than others. [4]
 - (d) Briefly outline how Cyclone Laila may have contributed to slope failure in Andhra Pradesh and Tamil Nadu. [4]

Section B

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

Lithospheric Processes, Hazards and Management

- 5 EITHER**
- (a) Describe and explain how tectonic activities may result in mass movements. [9]
- (b) To what extent is the theory of plate tectonics able to account for the global distribution of tectonic landforms and phenomena? [16]
- 5 OR**
- (a) Describe the differences between the Richter scale and the Mercalli scale. [9]
- (b) To what extent is the prediction and management of volcanic eruptions easier than that of earthquakes? [16]

Atmospheric Processes, Hazards and Management

- 6 EITHER**
- (a) With the aid of a well-labelled diagram, describe and explain the general circulation of the atmosphere. [9]
- (b) '[Hurricane] Katrina was a failure of initiative. It was a failure of leadership. In this instance, [a] blinding lack of situational awareness and disjointed decision making needlessly compounded and prolonged Katrina's horror.'
– *The Washington Post*, 'Katrina Report Spreads Blame', 12 February 2006
- To what extent is the successful management of cyclonic hazards solely dependent on the nature of governance in a country? [16]
- 6 OR**
- (a) With the aid of a well-labelled diagram, explain the natural causes of drought. [9]
- (b) 'The responses to drought crises in the Sahel are often heavily criticised as being "too little, too late".'
- Examine the view that a country's ability to cope with the adverse impacts of drought is determined by its level of economic development. [16]

Hydrologic Processes, Hazards and Management

- 7 EITHER**
- (a) With the aid of a well-labelled diagram, describe and explain how channel morphology varies downstream. [9]
- (b) 'The forms and formation of meandering channels are more complex than that of braided ones'.
Critically examine the validity of this statement. [16]
- 7 OR**
- (a) Describe and explain how stream ordering, bifurcation ratio and drainage density can influence flooding risk within a drainage basin. [9]
- (b) With reference to examples, critically assess the relative importance of financial resources in determining the success of flood management strategies. [16]

*****END OF PAPER*****