



**CATHOLIC JUNIOR COLLEGE**  
**In preparation for**  
**General Certificate of Education Advanced Level**  
**Higher 2**

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**GEOGRAPHY**

**9730/01**

Paper 1 Physical Geography

31 August 2015

3 hours

Additional Materials: Answer Paper  
1 Insert  
World Outline Map

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**READ THESE INSTRUCTIONS FIRST**

Write your class and name 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 four** questions.

**Section B**

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

Data Inserts contains all Photographs, Table and Figures 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, you are to hand in **each question separately**.

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

Indicate the questions attempted on the examination cover page provided and attach the cover page to Question 1.

**Start each question on a fresh sheet of paper. You will hand in each question separately.**

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This document consists of 5 printed pages.

[Turn over]

### **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** Figure 1A shows the location of oceanic trenches in the Pacific Ring of Fire. Figure 1B shows the distribution of active volcanoes and the major tectonic plates of the world.
- (a)** With reference to Figure 1A, explain the differences in the formation processes of the oceanic trench at the Peru-Chile Trench and the Tonga Trench. [4]
  - (b)** Explain how the nature of the volcanic activities at X and Y as shown in Figure 1B would differ. [5]
  - (c)** Explain how the discovery of mid-oceanic ridges supports the plate tectonics theory. [3]

#### **Hydrologic Processes, Hazards and Management**

- 2** Figure 2 shows the relationship between sediment size and pattern along a river profile.
- (a)** Describe how sediment size varies with mean slope gradient along the course of the river. [3]
  - (b)** Account for the changes in sediment size as the river flows downstream. [4]
  - (c)** Explain how you might conduct primary fieldwork to find out variations in discharge along a meandering channel. [5]

### **Atmospheric Processes, Hazards and Management**

- 3** Figure 3A shows the track of Typhoon Haiyan, a Category 5 tropical cyclone, on 8 November 2013. Figure 3B shows the location of the Philippines in the world and Figure 3C shows the characteristics of the typhoon,
- (a)** With reference to Figures 3A and 3C, explain why the Eastern Visayas Region is so severely hit by Typhoon Haiyan. [5]
  - (b)** With reference to Figure 3B, explain why the Philippines is susceptible to tropical cyclones. [4]
  - (c)** Suggest ways in which the Philippine government could reduce the impacts of tropical cyclones. [3]

### **Hydrologic and Atmospheric Processes, Hazards and Management**

- 4** Figure 4A shows the climograph of Islamabad, Northeast Pakistan, while Figure 4B shows the extent of the flood in August 2010.
- (a)** Describe the climograph of Islamabad, Northeast Pakistan. [3]
  - (b)** Explain the precipitation patterns in Figure 4A. [3]
  - (c)** With reference to Figure 4B, describe how the impact of floods along the Indus River varies spatially. [4]
  - (d)** Explain how human activities can contribute to the flooding in Pakistan. [4]

## **Section B**

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

### **Lithospheric Processes, Hazards and Management**

#### **5 EITHER**

- (a) With reference to one flow and slide, describe the characteristics of such mass movements and explain the factors that may trigger them. [9]
- (b) “Volcanic hazards are more easily managed than earthquake hazards due to their predictability.” Discuss the validity of this statement. [16]

#### **5 OR**

- (a) With reference to specific examples, explain how rock characteristics are determined by the lithospheric processes which lead to their formation. [9]
- (b) Discuss the relative importance of climate and geology in influencing the development of granite landforms. [16]

### **Hydrologic Processes, Hazards and Management**

#### **6 EITHER**

- (a) Explain how channel morphology may be influenced by channel velocity, discharge and load. [9]
- (b) Discuss the suggestion that major river floods are almost always a response to human actions within drainage basins. [16]

#### **6 OR**

- (a) With reference to examples, examine the impact of river floods. [9]
- (b) To what extent do anthropogenic factors influence the hydrological processes operating in a drainage basin? [16]

## **Atmospheric Processes, Hazards and Management**

### **7 EITHER**

- (a)** Compare the characteristics of a tropical rainforest climate with those of a hot low-latitude desert climate. [9]
- (b)** Explain how the 'convergence zone' in the tropics can influence the global circulation and climate within such zones. [16]

### **7 OR**

- (a)** Explain how human activity has contributed to the 'enhanced' greenhouse effect and its impact on temperature and precipitation. [9]
- (b)** To what extent has land use change been a cause of and solution to global warming? [16]

**[END OF PAPER]**