

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

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**GEOGRAPHY**

**9730/01**

Paper 1 Physical Geography

**1 September 2015**

**3 hours**

Additional Materials:      Writing Paper  
   1 Insert  
   World Outline Map

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**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 Photographs 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 Section A and Section B separately**.  
The number of marks is given in brackets [ ] at the end of each question or part question.

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This document consists of **5** printed pages.



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**[Turn over**

## **Section A**

Answer **all** the questions in this section.

Questions 1 and 4 carry 13 marks and Questions 2 and 3 carry 12 marks.

You should allocate your time accordingly.

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

**1** Photograph A shows the tors at Dartmoor, United Kingdom.

- (a)** Draw an annotated sketch diagram of the tor in Photograph A to show its main features. [4]
- (b)** Explain the role of weathering processes in the formation of the tor. [4]
- (c)** Imagine you are a geologist assigned to examine the Dartmoor landscape. Outline how you will determine the rock type and its mineral composition. [5]

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

**2** Fig. 1 shows the global sea surface temperatures on a world map.

- (a)** Describe the global variation in the sea surface temperatures shown in Fig. 1 [3]
- (b)** Account for the global variation described in **(a)**. [6]
- (c)** Explain how an El Nino event will affect the sea surface temperatures in the Pacific Ocean and suggest associated climatic impacts that might occur. [3]

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

- 3** Photograph B shows a river channel at Innoko National Wildlife Refuge in the United States.
- (a)** Draw a sketch diagram to represent the cross-sectional view of the channel along line X-Y, identifying channel features. [4]
  - (b)** Explain the formation of the river channel and its features. [8]

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

- 4** Fig. 2 shows the climate data of 2 stations, A and B in the Tropics.
- (a)**
    - (i)** Compare the precipitation characteristics of stations A and B. [3]
    - (ii)** Suggest reasons for the precipitation characteristics you have outlined in **(a)(i)**. [4]
  - (b)** In your opinion, identify the station which is more likely to exceed bankfull discharge and suggest suitable management strategies for this drainage basin. [6]

**[Turn over**

## Section B

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

### Lithospheric Processes, Hazards and Management

- 5 EITHER** (a) With the aid of diagram(s), compare the main processes and landforms at convergent plate boundaries. [9]
- (b) How far can the hazardous effects of earthquakes be mitigated by accurate prediction and timely evacuation? [16]
- 5 OR** (a) Explain the differences between physical and chemical weathering processes. [9]
- (b) According to Peltier's model, physical weathering is most rapid in areas with low temperatures whereas chemical weathering is most rapid in areas with high temperatures. Discuss. [16]

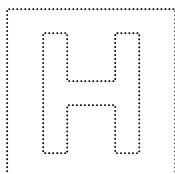
### Atmospheric Processes, Hazards and Management

- 6 EITHER** (a) With the aid of a diagram, describe and explain the general circulation of the atmosphere. [9]
- (b) "The most effective way to ensure tropical cyclones do not cause tremendous destruction is to be warned about them early on and to move people out of the way."
- How far do you agree with the statement? [16]
- 6 OR** (a) Explain how the urban environment has led to urban heat islands. [9]
- (b) To what extent are global solutions to global warming more effective than local ones? [16]

## Hydrologic Processes, Hazards and Management

- 7 EITHER**
- (a)** Explain why the average channel velocity increases downstream. [9]
- (b)** Evaluate the role of urbanisation in influencing the drainage basin hydrological cycle. [16]
- 7 OR**
- (a)** Explain the causes of river floods. [9]
- (b)** With reference to one or more examples, assess the success of strategies adopted to resolve conflicts of interests in the management of water resources in transborder river basins. [16]

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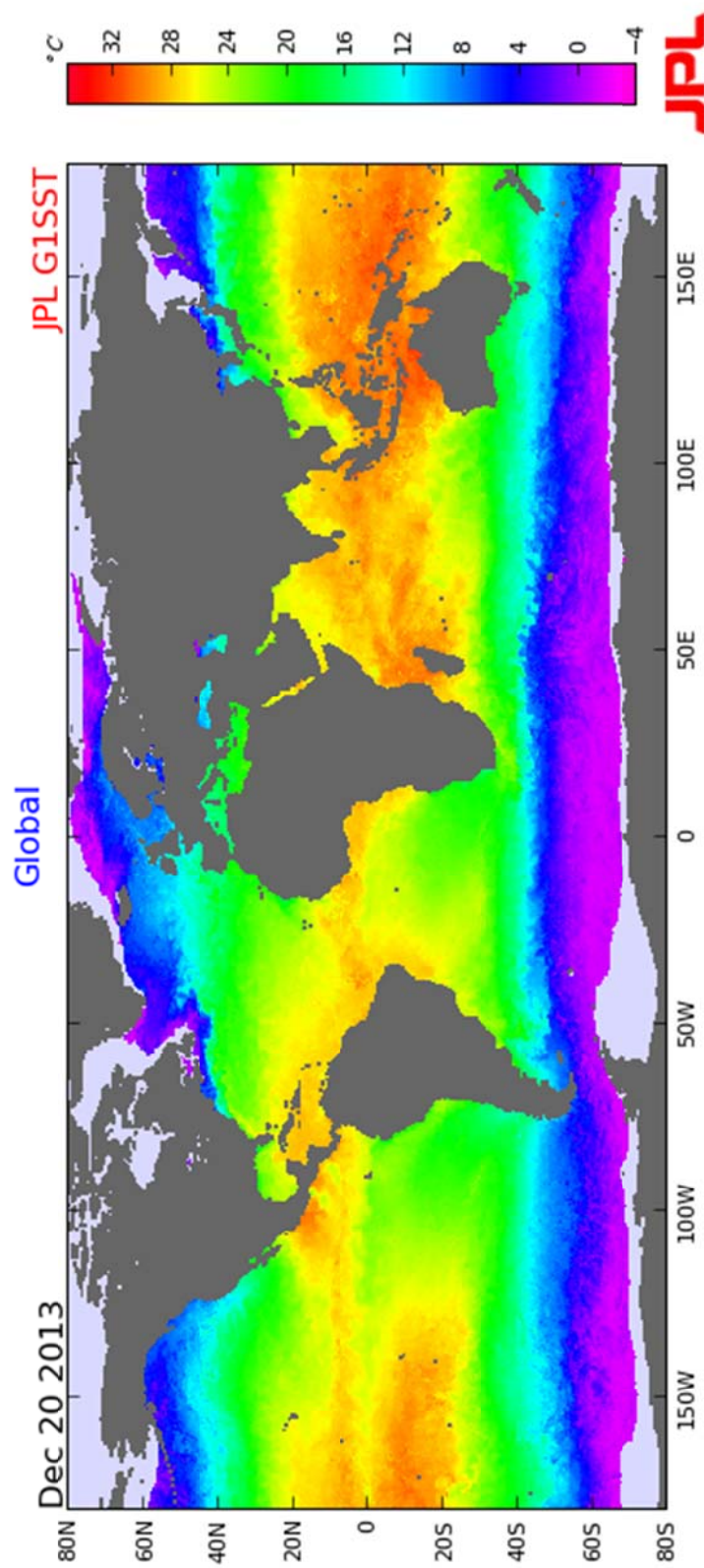
**Photograph A for Question 1**

**Tors at Dartmoor, United Kingdom**



Fig. 1 for Question 2

Global Sea Surface Temperatures



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**Photograph B for Question 3**

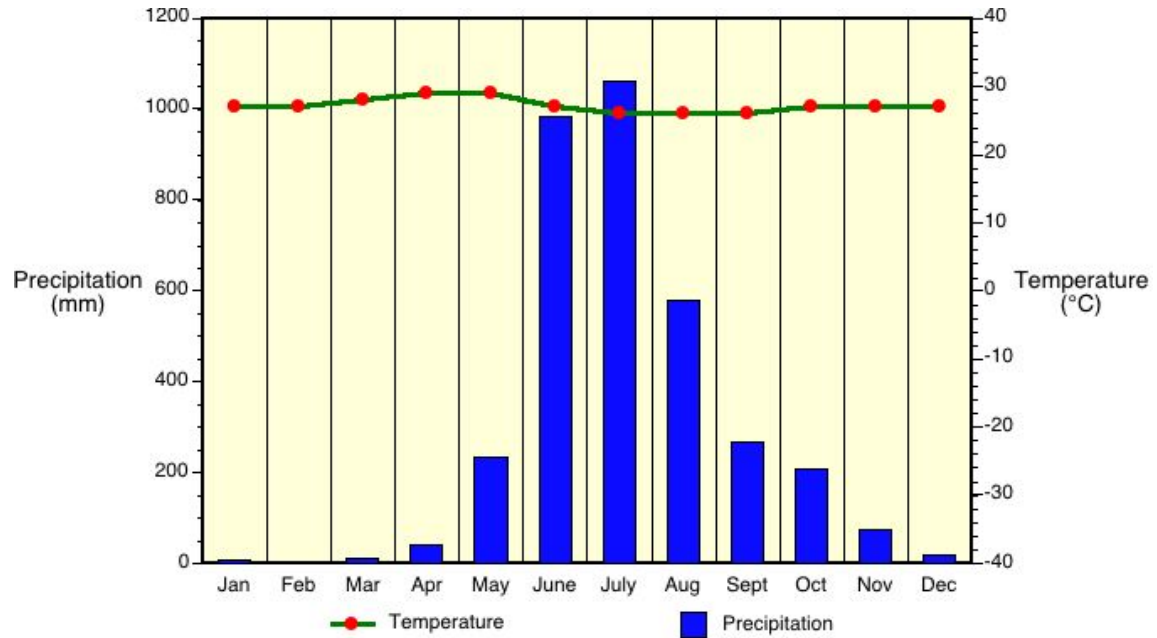
**River Channel at Innoko National Wildlife Refuge, United States**



**Fig. 2 for Question 4**

**Climate Data of Stations A and B**

**Station A**



**Station B**

