



EUNOIA JUNIOR COLLEGE  
JC1 Promotional Examination 2023  
General Certificate of Education Advanced Level  
Higher 2

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## H2 GEOGRAPHY

**9173/01**

Paper 1

**27 September 2023**

Additional Materials:

Insert

**3 hours**

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### READ THESE INSTRUCTIONS FIRST

If you have been given an Answer Booklet, follow the instructions on the front cover of the Booklet.

Write your Centre number, index number and name on the work you hand in.

Write in dark blue or black pen on both sides of the paper.

You may use an HB pencil for any diagrams or graphs.

Do not use staples, paper clips, glue or correction fluid.

**DO NOT WRITE ON ANY BARCODES.**

Answer both questions in **Section A**.

Answer two questions in **Section B**.

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.

**Section A**

Answer **both** questions.

**Cluster 2: Tropical Environments**

- 1** Cyclone Batsirai was a deadly tropical cyclone which heavily impacted Madagascar in February 2022 and is one of the strongest tropical cyclones to strike Madagascar. Resource 1 shows global distribution of tropical cyclones. Resource 2 shows the pathway of Cyclone Batsirai from 2 February to 7 February 2022 and its effects on rainfall pattern in the region. Resource 3 shows a photograph of a mass movement which occurred in Madagascar after Cyclone Batsirai. Resource 4 shows a diagram classifying different types of mass movement.
- (a) Describe the global distribution of tropical cyclones shown in Resource 1. [5]
  - (b) With reference to Resource 1, explain **two** conditions necessary for the development of tropical cyclones. [4]
  - (c) Cite data from Resource 2 to describe the past and forecast track of Cyclone Batsirai from 2 February to 7 February. [5]
  - (d) Explain how Cyclone Batsirai affected the rainfall pattern in Madagascar as shown in Resource 2. [5]
  - (e) With reference to Resource 3, suggest why the mass movement has occurred in Madagascar. [5]
  - (f) Using Resource 4, describe the differences between an earth flow and mud flow. [6]

### Cluster 3: Sustainable Future and Climate Change

- 2** Resource 5 shows the global temperature anomaly from 1880 to 2022 compared to the 1951-1980 average. Resource 6 is a cartoon about the challenges in implementing strategies to respond to climate change. Resource 7A shows the normal thermohaline circulation in the Atlantic Ocean and Resource 7B shows the weakened thermohaline circulation in the Atlantic Ocean.
- (a)** Describe **two** insights that ocean cores provide about past climate variability. [4]
  - (b)** Cite data from Resource 5 to describe how the global temperature anomaly has changed from 1880 to 2022. [5]
  - (c)** With reference to Resource 6, describe **three** challenges associated with implementing strategies to respond to climate change. [6]
  - (d)** With reference to Resources 7A and 7B, explain how changes in the thermohaline circulation influenced past temperature variability. [5]
  - (e)** With reference to Resources 5 and 7B, suggest **one** impact on aquatic and terrestrial ecosystems each due to changes in the Earth's climate. [4]
  - (f)** Explain how human activities can influence the global carbon cycle. [6]

**Section B**

Answer **either** Question 3 **or** Question 4 and answer **either** Question 5 **or** Question 6.

**Cluster 2: Tropical Environments**

- 3** Evaluate the success of the strategies used to manage fluvial floods in the humid tropics. [20]
- 4** Evaluate the significance of fluvial erosion in the formation of fluvial landforms in the humid tropics. [20]

**Cluster 3: Sustainable Future and Climate Change**

- 5** “The impacts of contemporary climate change are largely negative.”  
Evaluate this statement. [20]
- 6** “The state is the main actor involved in responding to climate change.”  
Evaluate this statement. [20]