



Province of the  
**EASTERN CAPE**  
EDUCATION

**NATIONAL  
SENIOR CERTIFICATE**

**GRADE 12**

**GEOGRAPHY  
MARCH 2024 - CONTROLLED TEST**

**MARKS: 60**

**TIME: 1 HOUR**

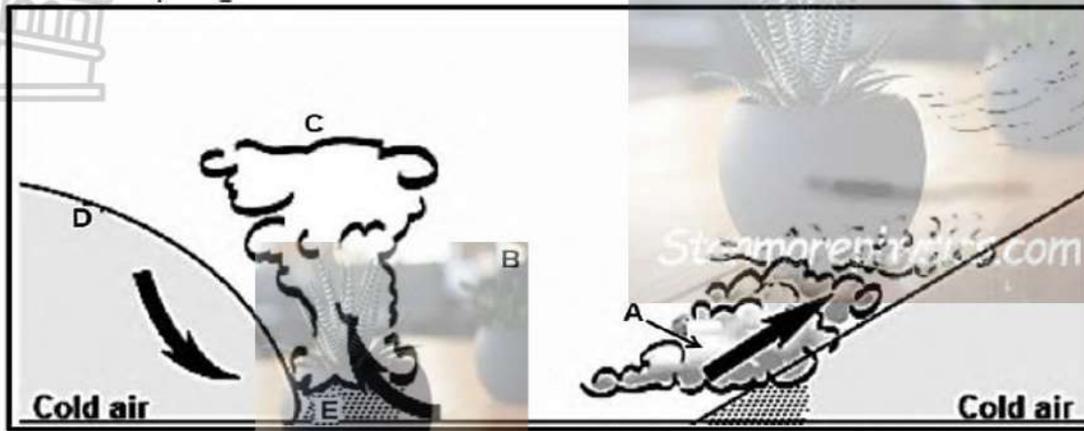
**This question paper consists of 8 pages**

## INSTRUCTIONS AND INFORMATION

- 1 This question paper consists of ONE question.
- 2 Answer ALL the sub -questions.
- 3 All diagrams are included in the QUESTION PAPER
- 4 Leave a line between subsections of questions answered.
- 5 Number the answers correctly according to the numbering system used in this question paper. Number the answers in the centre of the line.
- 6 Do NOT write in the margins of the ANSWER BOOK.
- 7 Draw fully labelled diagrams when instructed to do so.
- 8 Answer in FULL SENTENCES, except when you have to state, name, identify or list
- 9 Write neatly and legibly

QUESTION 1

- 1.1 Various options are provided as possible answers to the following questions based on the cross-section of the mid-latitude cyclone in FIGURE 1.1. Choose the answer and write down only the letter (A–D) next to the question numbers (1.1.1 to 1.1.8), e.g. 1.1.9 D



[Source: DBE Paper 1 November 2019]

- 1.1.1 The general direction of movement of the mid-latitude cyclone in the Southern Hemisphere is ... -wards.
- A north
  - B west
  - C east
  - D south
- 1.1.2 Identify cloud A that is associated with the warm front.
- A Stratus
  - B Cumulus
  - C Nimbostratus
  - D Cumulonimbus
- 1.1.3 The area at B is referred to as the ...
- A warm sector.
  - B cold sector.
  - C polar front.
  - D apex

1.1.4 The type of cloud at C is ...

- A stratus.
- B cirrus.
- C cumulonimbus.
- D nimbostratus.

1.1.5 The gradient at D can be described as ...

- A steep.
- B gentle.
- C weak.
- D vertical



1.1.6 The ... front is found at D.

- A polar.
- B cold.
- C occlusion.
- D warm

1.1.7 The more active and faster moving front is the ... front.

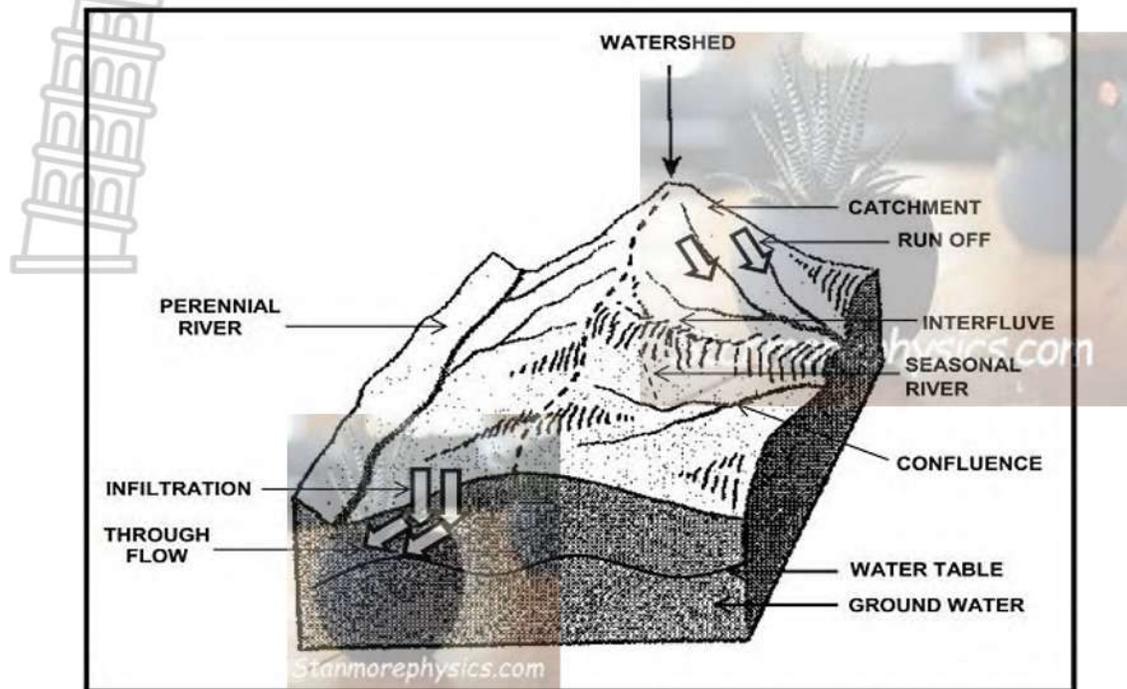
- A polar
- B cold
- C warm
- D moisture

1.1.8 The type of rainfall at E is/are ...

- A light showers.
- B frontal rain.
- C orographic rain.
- D convectional rain.

(8 x 1) [8]

1.2 Refer to FIGURE 1.2 which shows fluvial features and give ONE term for each of the statements below

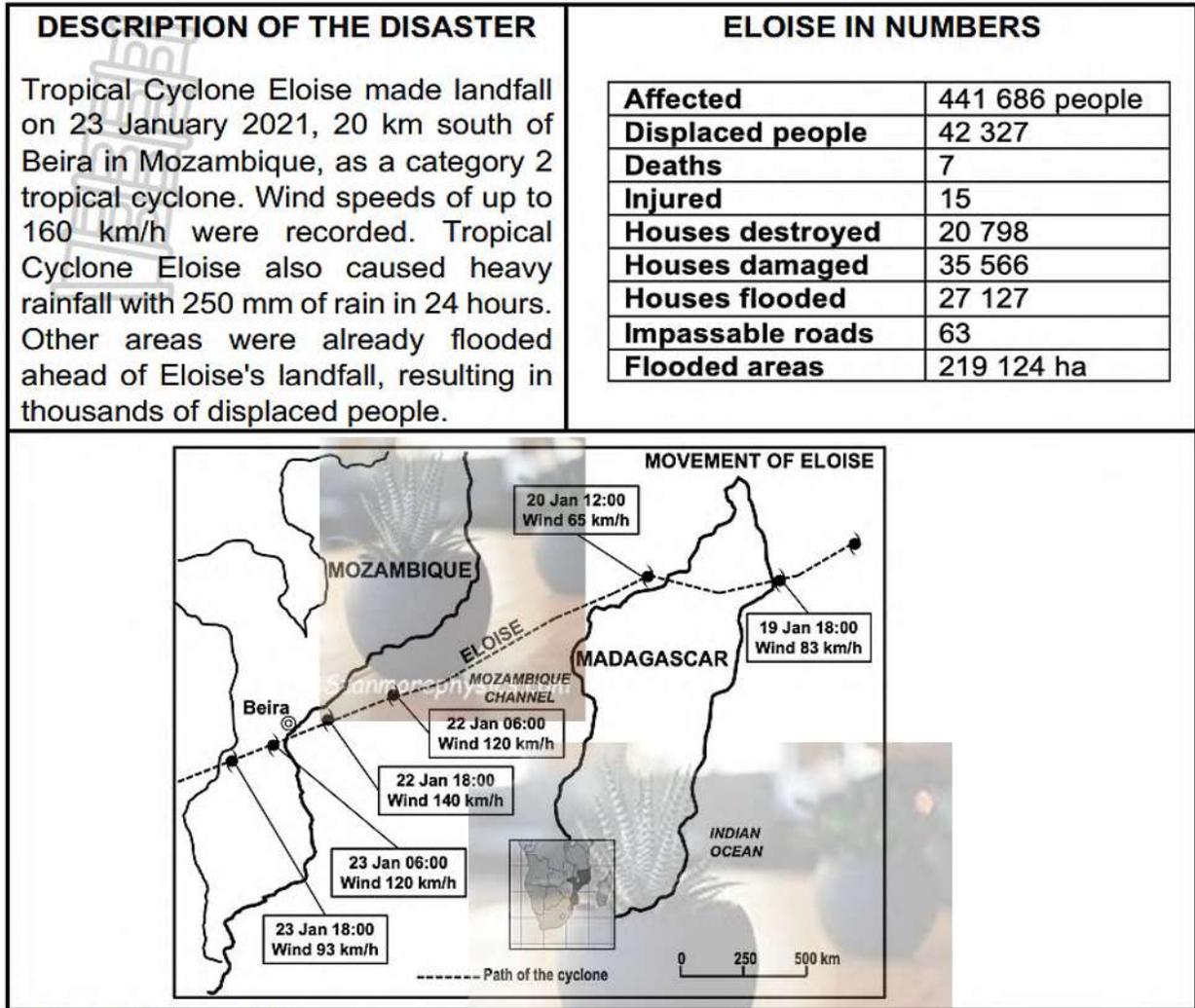


Adapted: Geomorphological Landforms

- 1.2.1 Water that flows on the surface after it rains
- 1.2.2 High-lying area that separates two rivers in the same drainage basin
- 1.2.3 Water found below the earth's surface
- 1.2.4 River that flows throughout the year
- 1.2.5 Upper level of ground water
- 1.2.6 Meeting place of two rivers
- 1.2.7 Soaking of water into the ground

(7 x 1) [7]

1.3 Refer to the infographic on Tropical Cyclone Eloise

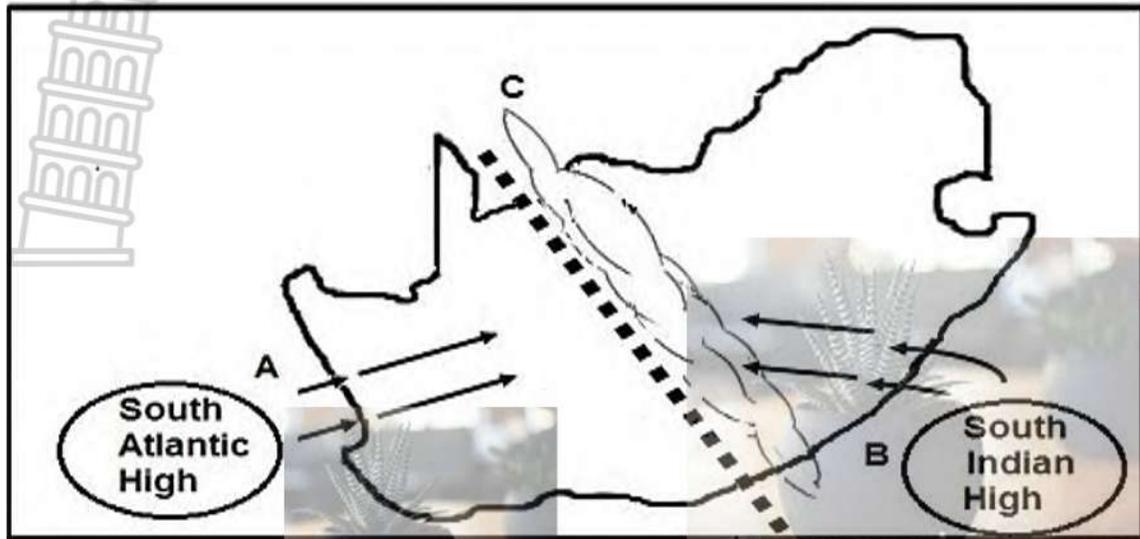


[source: examiner's own sketch]

- 1.3.1 Give ONE piece of evidence in the infographic that the tropical cyclone is in the Southern Hemisphere. (1 x 1) (1)
- 1.3.2 State TWO weather conditions associated with tropical cyclones indicated in the infographic. (2 x 1) (2)
- 1.3.3 Give ONE reason for the decrease in wind speed from 19 January to 20 January 2021. (1 x 2) (2)
- 1.3.4 Account for the increase in wind speed of Tropical Cyclone Eloise from the 20 January to 22 January 2021. (2 x 2) (4)
- 1.3.5 According to the infographic the negative impact of Tropical Cyclone Eloise was devastating. Suggest THREE strategies that could be put in place to reduce this impact. (2 x 3) (6)

[15]

1.4 Refer to figure 1.4 shows the presence of a line thunderstorm across South Africa

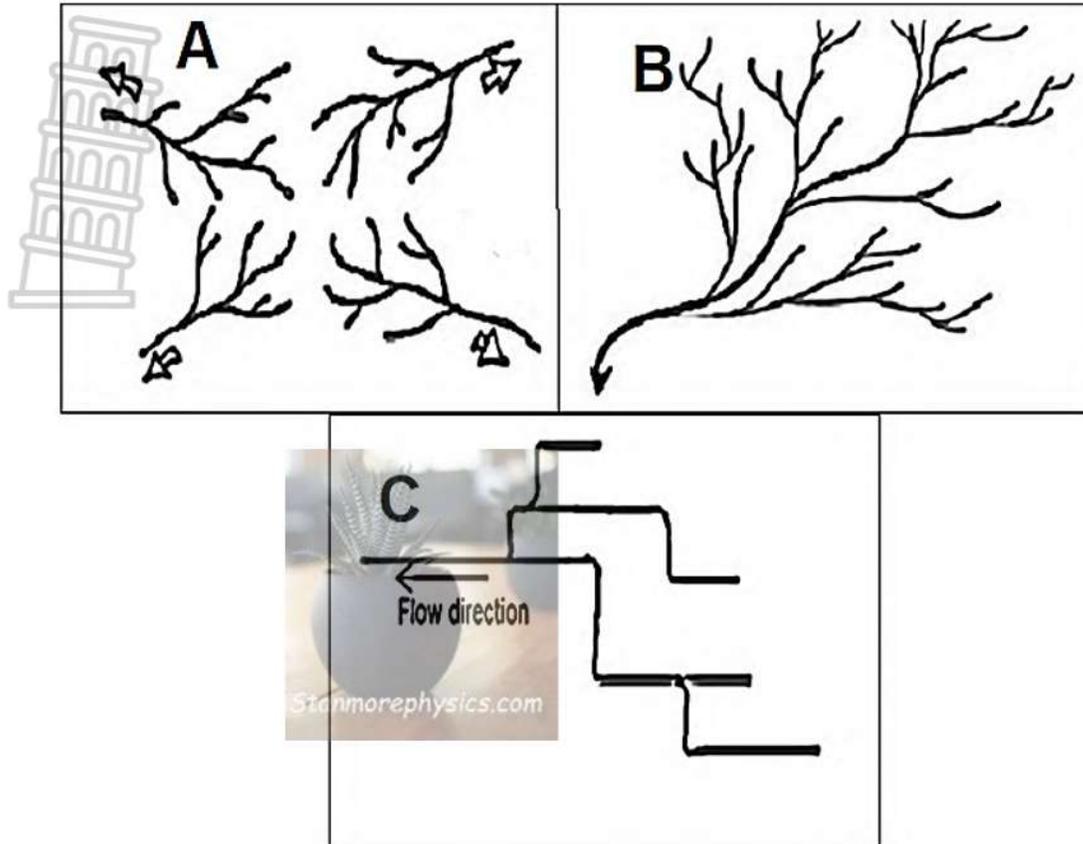


[Source: examiner's sketch]

- 1.4.1 Does the line thunderstorm obtain its source of moisture from ocean **A** (1 x 1) (1) or **B**?
- 1.4.2 Why is cold, dry air fed in from the South Atlantic High-Pressure Cell? (1 x 2) (2)
- 1.4.3 Explain how the formation of the moisture front at C results in line thunderstorms (2 x 2) (4)
- 1.4.4 In a paragraph of approximately EIGHT lines, explain the destructive (harmful) nature of line thunderstorms. (4 x 2) (8)

[15]

1.5 Study the FIGURE 1.5 below and answer the questions that follow



[Source: Examiner's sketch]

- 1.5.1 What is a drainage pattern? (1 x 2) (2)
- 1.5.2 Identify drainage patterns C. (1 x 1) (1)
- 1.5.3 Compare the underlying rock structures of drainage patterns B and C (2 x 2) (4)
- 1.5.4 Account for the direction of the stream flow in patter A. (2 x 2) (4)
- 1.5.5 Explain why drainage pattern B is suitable for farming? (2 x 2) (4)

[15]



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MARKING GUIDELINE**

**MARKS: 60**

**This marking guideline consist of 7 pages.**

**Question - 1**

**1.1 Cross-section of the mid-latitude cyclone**

1.1.1 C (1)

1.1.2 C (1)

1.1.3 A (1)

1.1.4 C (1)

1.1.5 A (1)

1.1.6 B (1)

1.1.7 B (1)

1.1.8 B (1)



[8]

**1.2 Fluvial Features**

1.2.1 Surface runoff (1)

1.2.2 Watershed (1)

1.2.3 Ground water (1)

1.2.4 Permanent (1)

1.2.5 Water table (1)

1.2.6 Confluence (1)

1.2.7 Infiltration (1)

[7]

### 1.3 Infographic on Tropical Cyclone Eloise

1.3.1 Date /January indicates summer (1)

Mozambique (1)

Madagascar (1)

Beira (in Mozambique) (1)

South-westerly movement (1)

Clockwise circulation symbol (1)

Located over the South Indian Ocean (1)

Mozambique channel (1)

Tropical Cyclone (Eloise) (1)

Map of Southern Africa (1)

(1 x 1) (1)

1.3.2 Heavy rainfall / Rainfall of 250mm in 24 hours (1)

Wind speeds up to 140 -160 km/hr (1)

(2 x 1) (2)

1.3.3 Increased frictional drag (2)

System moves over land (2)

Decrease in latent heat (2)

Decrease in moisture levels (2)

**[ANY ONE]**

(1 x 2) (2)

1.3.4 Movement over the warm Mozambique channel. (2)

Less friction over Warm Mozambique channel/ ocean. (2)

High temperatures/warm ocean results in increased evaporation. (2)

Increased condensation results in the release of latent heat. (2)

Latent heat drives the system and increases the wind speed. (2)

(2 x 2) (4)

1.3.5 Early warning systems put in place. (2)

Sandbags to reduce flooding. (2)

Reinforcing existing infrastructure. (2)

Awareness and education programmes. (2)

Evacuation protocols and drills. (2)

Stocking up of emergency supplies and necessities. (2)

Identify high lying areas to evacuate people. (2)

Build above flood lines/ coastal zoning. (2)

Tracking the movement of the tropical cyclone good forecasting / Use of media to update regularly. (2)

Improve accessibility to evacuate people. (2)

Move people to higher ground. (2)

Development of good rescue and emergency services. (2)

Storage/ provision of clean water and food supplies. (2)

Rescue personnel, police, medical personnel on standby. (2)

Maintain coastal vegetation to act as a buffer against storm surges. (2)

Request National and international aid if necessary. (2)

**[ANY THREE- ACCEPT EXAMPLES]**

(2 x 3) (6)  
**[15]**

1.4 Line thunderstorm across South Africa

1.4.1 B (1)

Accept Indian Ocean (1)

(1 x 1) (1)

1.4.2 Divergence of air from South Atlantic High to the trough of low pressure in the interior. (2)

Anticlockwise rotation from South Atlantic High feeds in the cold air. (2)

Cold air from above the Atlantic Ocean/Benguela current. (2)

Air is dry due to limited evaporation. (2)

**[ANY ONE]**

(1 x 2) (2)

1.4.3 Cool dry air from the southwest meets warm moist air from the northeast. (2)

Warm air is forced to rise rapidly over colder air and the rising air cools and condenses (cumulonimbus clouds form and thunderstorms occur). (2)

There is rapid rising of warm air along the east of the moisture front. (2)

Moisture front covers an extensive linear area (NW to SE). (2)

**[ANY TWO]**

(2 x 2) (4)

1.4.4 Torrential (Heavy) rainfall can cause extensive flooding. (2)

Lightning can cause extensive fires (**accept examples**). (2)

Lightning can cause the death of people and livestock. (2)

Hail can cause damage to property. (2)

Gale force winds can damage property/infrastructure/crops/ uproot trees. (2)

Flooding can lead to loss of human life/disrupt activities. (2)

Crops will be destroyed by heavy rainfall. (2)

Rainfall can destroy property and infrastructure (**accept examples**). (2)

There will be widespread soil erosion/loss of fertile soil due to heavy rainfall (**accept examples**). (2)

Poor visibility due to the heavy rainfall can cause accidents. (2)

Ecosystems can be destroyed by flooding. (2)

Loss of biodiversity due to destructive nature of the rain. (2)

Economic destruction (**accept explained examples**). (2)

Social destruction (**accept explained examples**). (2)

Interruption of traffic/lack of visibility due to torrential rain. (2)

[ANY FOUR] (4 x 2) (8)  
[15]

## 1.5 Drainage patterns

1.5.1 The way in which streams are arranged within a drainage basin / The surface pattern formed by a river and its tributaries. (2)

(1 x 2) (2)

1.5.2 C. Rectangular pattern (1)

(1 x 1) (1)

1.5.3 Pattern **B**: found on a rock with a uniformed resistance to erosion. (2)

Pattern **C**: found on an igneous rock with cracks and joints. (2)

(2 x 2) (4)

1.5.4 High lying area at the center. (2)

Streams are flowing outwards from a central elevated point. (2)

Dome like structure at the center will cause water to flow in all directions. (2) (2 x 2) (4)

1.5.5 In the dendritic pattern water is widely distributed in the drainage basin and water is accessible. (2)

Longer tributaries therefore water is more accessible. (2)

Occurs over flat/gentle land (middle/lower course) thus more suitable for farming. (2)

Larger floodplains with access to fertile soils. (2)

(2 x 2) (4)

[15]