Province of the
EASTERN CAPE
EDUCATION

NATIONAL SENIOR CERTIFICATE

GRADE 12

GEOGRAPHY
MARCH 2024
CONTROLLED TEST
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)

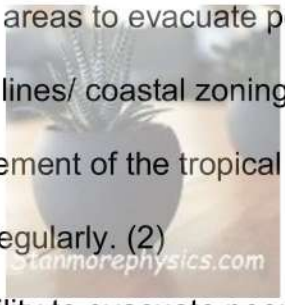
Evacuation protocols and drills. (2)

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 x1) (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]