education
MPUMALANGA PROVINCE
REPUBLIC OF SOUTH AFRICA

# NATIONAL SENIOR CERTIFICATE

## GRADE 12

## GEOGRAPHY
## TASK 2

## 04 MARCH 2026

**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 questions
3. Leave a line between subsections of questions answered.

4 Number the answers correctly according to the numbering system used in this question paper

5. Do NOT write in the margins of the ANSWER BOOK.

6. Draw fully labelled diagrams when instructed to do so.

7. Answer in FULL SENTENCES, except where you have to state, name, identify or list. Write in full sentences when answering paragraph questions.

8. Units of measurement MUST be indicated in your final answers, e.g., 14 °C and 45 m.

9. You may use a non-programmable calculator.

10. Write neatly and legibly

**QUESTION 1: CLIMATE AND WEATHER**

1.1 Give ONE term for each of the following descriptions by choosing the term from the list below. Write only the term next to the question numbers (1.1.1 to 1.1 8) in the ANSWER BOOK, for example 1.1.9 Plume.

| sublimation; isotherm; thermal belt; frost pocket; radiation fog; advection fog; temperature inversion; anabatic wind; hygroscopic nuclei; albedo |
|---|

1.1.1 The term used to describe an increase in temperature as height increases

1.1.2 Occurs when the temperature of cold air on the valley floor drops to below freezing point

1.1.3 A type of wind that result from air moving up the valley slope during the day

1.1.4 Particles of dust, smoke or salt that water vapour sticks to and condenses

1.1.5 Lines on a map connecting points having the same temperature

1.1.6 The amount of incoming solar radiation that is reflected by the earth surfaces

1.1.7 Forms at night under clear, calm conditions

1.1.8 An area where a warm air mass is trapped between the colder air mass (8 x 1) (8)

1.2 Various options are provided as possible answers to the following questions. Choose the answer and write only the letter (A–D) next to the question numbers (1.2.1 to 1.2.7) in the ANSWER BOOK, for example 1.2.8 A

1.2.1 The system deflects mid-latitude cyclones away from the coast in summer.

A Coastal low
B South Indian High-Pressure Cell
C South Atlantic High-Pressure Cell
D Kalahari High-Pressure Cell

1.2.2 Results in stable, fine weather with clear …

A anticyclone.
B cyclones.
C depressions.
D heat low.

1.2.3 In winter … air compress and … adiabatically which causes the inversion layer to be below the escarpment.

(i) sinking
(ii) rising
(iii) heat
(iv) cool

A (i) and (iii)
B (i) and (iv)
C (ii) and (iii)
D (ii) and (iv)

1.2.4 In a thermal low, the air in contact with the earth surface … and … towards a low-pressure centre.

(i) cools
(ii) heats
(iii) diverges
(iv) converges

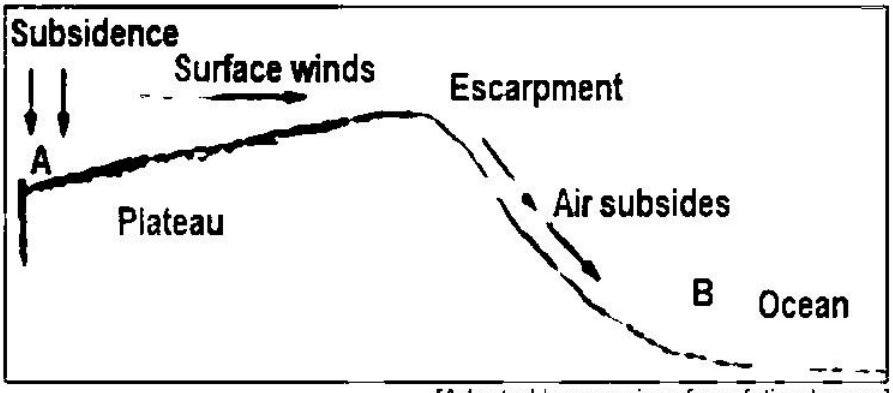
A (i) and (iii)
B (i) and (iv)
C (ii) and (iii)
D (ii) and (iv)

1.2.5 Onshore winds on the west coast are … with …
(i) warm and dry.
(ii) cold and dry.
(iii) no moisture.
(iv) limited moisture.

A (i) and (iii)
B (i) and (iv)
C (ii) and (iii)
D (ii) and (iv)

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1.2.6 Name the pressure cells at A and B as indicated on the diagram below, which is responsible for the development of a berg wind.




[Adapted by examiner from fotisedu.com]

(i) Kalahari High-Pressure Cell
(ii) South Indian High-Pressure Cell
(iii) Thermal low
(iv) Coastal low

A (i) and (iii)
B (i) and (iv)
C (ii) and (iii)
D (ii) and (iv)

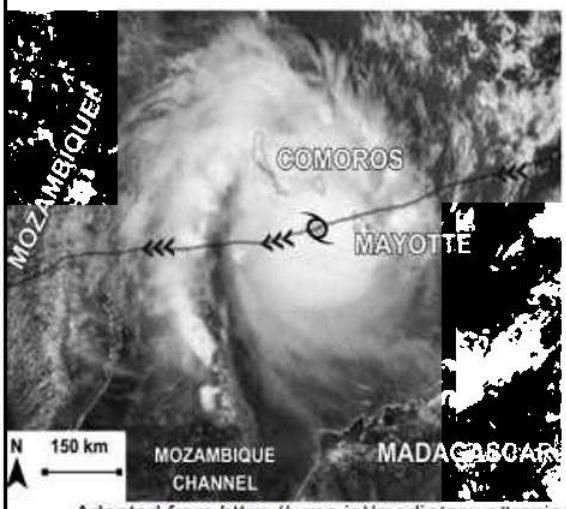
1.2.7 South African berg winds are warm offshore winds due to the …

A temperatures there are warmer above the plateau.
B low-pressure cell that feeds warm moist air from the interior.
C temperature of air that decreases by 1˚C per 100 m as it ascends.
D temperature of air that increases by 1˚C per 100 m as it descends.

(7 x 1) (7)

1.3 Refer to the infographic on Tropical Cyclone Chido

**SATELLITE IMAGE: THE PATH OF TROPICAL CYCLONE CHIDO**




Adapted from https://wmo.int/media/news/tropical-cyclone-chido

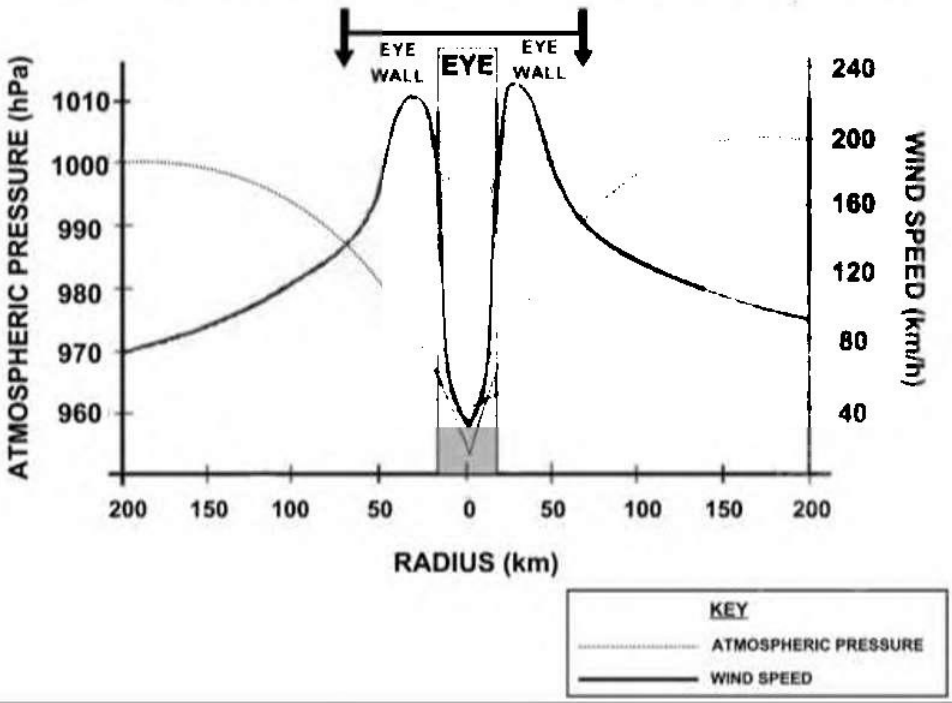
**TROPICAL CYCLONE CHIDO**

Tropical Cyclone Chido caused widespread devastation across the SW Indian Ocean.

Forming on 5 December 2024, Chido intensified rapidly with the development of torrential **rainfall** (176 mm in 12 hours) **and strong** winds (exceeding 200 **km/hr**).

The cyclone passed north of Madagascar, before striking Mayotte on 14 December. Chido continued its path, making landfall in Mozambique on 15 December before dissipating on 16 December.

**CONDITIONS ASSOCIATED WITH TROPICAL CYCLONE CHIDO**




1.3.1 According to the extract, over which ocean did Tropical Cyclone Chido develop? (1 x 1) (1)

1.3.2 During which season did Tropical Cyclone Chido develop? (1 x 1) (1)

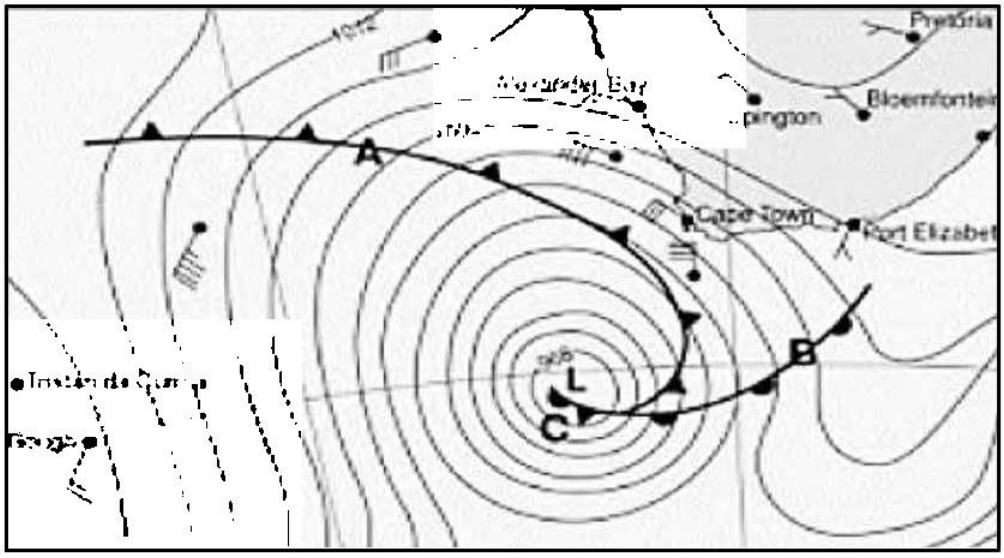
1.3.3 Calculate the life span (duration) of Tropical Cyclone Chido. (1 x 1) (1)

1.3.4 Refer to the satellite image and explain the reason for the direction of Tropical Cyclone Chido's path. (1 x 2) (2)

1.3.5 Refer to the graph and state why the eye of the tropical cyclone is calm and clear. (2 x 2) (4)

1.3.6 Explain how the moisture content and high temperatures over the ocean contribute to the formation of heavy rain in the eye walls. (3 x 2) (6)

1.4 Refer to the synoptic weather map portraying a mid-latitude cyclone




1.4.1 Define the term cyclogenesis. (1 x 2) (2)

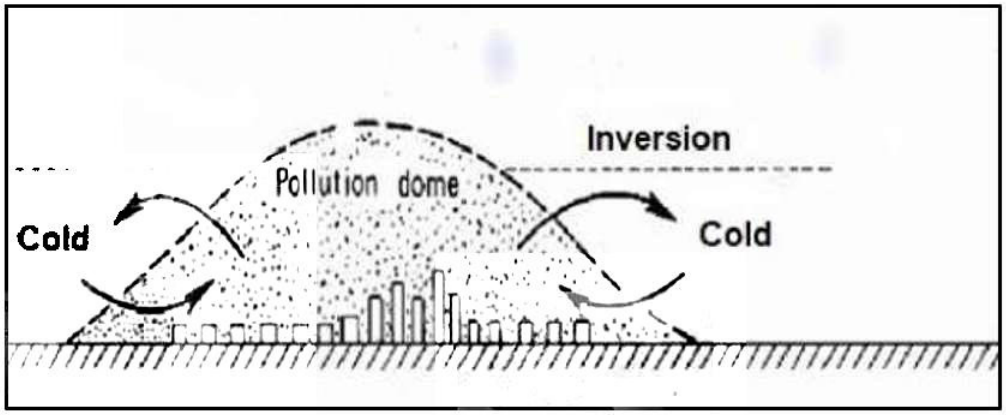
1.4.2 Provide a suitable name for the fronts at **A** and **B**. (2 x 1) (2)

1.4.3 Give the term used to describe the change of wind direction in the Southern Hemisphere. (1 x 1) (1)

1.4.4 Explain why the wind changed from a north westerly wind to a south westerly wind in the Southern Hemisphere. (1 x 2) (2)

1.4.5 Letter **C** refers to an occluded stage. In a paragraph of approximately EIGHT lines, describe the process that resulted in the formation of a cold and warm front occlusion. (4 x 2) (8)

1.5 Refer to the sketch showing a pollution dome.




[Source: www.science direct.com]

1.5.1 Define pollution dome. (1 x 2) (2)

1.5.2 Give THREE reasons why a pollution dome is common in most cities. (3 x 1) (3)

1.5.3 A pollution dome is at a lower altitude at night than during the day. Explain why this occurs. (2 x 2) (4)

1.5.4 Explain the climatological effect of a pollution dome over a city. (3 x 2) (6)

**TOTAL:60**