education

Department of
Education
FREE STATE PROVINCE

GEOGRAPHY

TEST ONE

Stanmorephysics.com

GRADE 11

18 MARCH 2025

MARKS: 60

Stanmorephysics.com

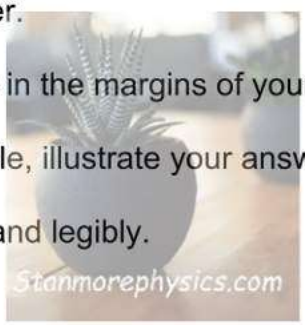
TIME: 1 HOUR

This question paper consists of 8 pages.

Copyright reserved

INSTRUCTIONS AND INFORMATION

1. Answer ALL the questions.
2. Answer the paragraph questions in the form of a paragraph.
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.
6. Do NOT write in the margins of your ANSWER BOOK.
7. Where possible, illustrate your answers with labelled diagrams.
8. Write clearly and legibly.

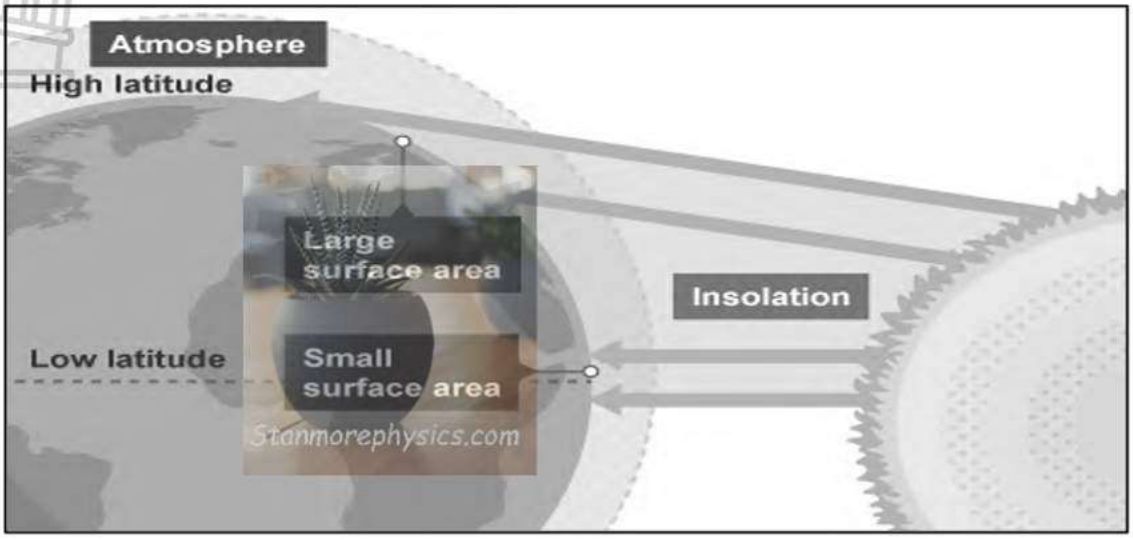


Copyright reserved

QUESTION 1

1.1 **The atmosphere**

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 (1.1.1 to 1.1.7) in the ANSWER BOOK, for example 1.1.8 D.



1.1.1 The incoming solar energy that reaches the Earth's surface is called …

A Energy loss
B Insolation
C absorption
D High temperature (1x1) (1)

1.1.2 The amount of insolation that heats the atmosphere depends on …

A winds.
B the latitude.
C the Coriolis force.
D high temperature. (1x1) (1)

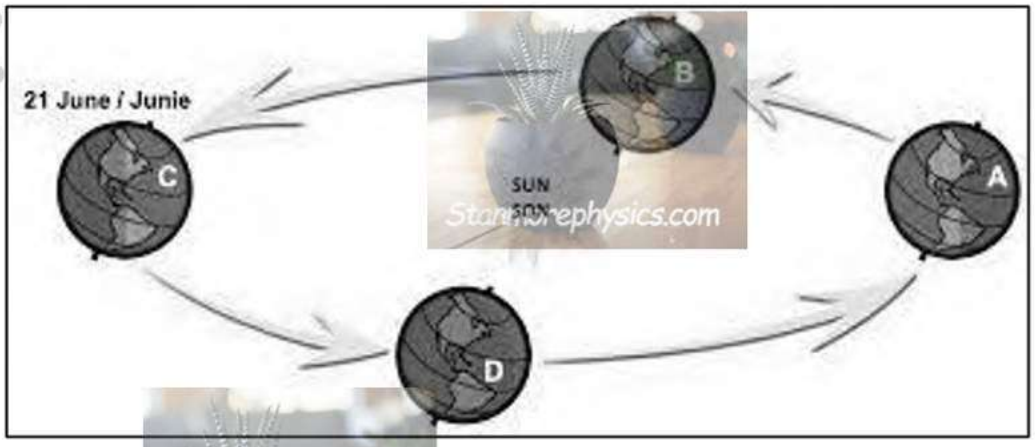
1.1.3 The further one moves from the equator, the more insolation will …

A decrease.
B increase.
C fluctuate.
D stay the same. (1x1) (1)

1.1.4 The Earth receives more energy than it needs at the equator as

A energy surplus.
B Energy distribution.
C Energy deficit.
D energy balance. (1x1) (1)

Copyright reserved



1.1.5 The seasons occur as a result of ... (1x1) (1)

A insolation.
B rotation.
C revolution.
D ocean currents

1.1.6 Sketch A illustrate … in the Southern Hemisphere, with the days being … than the night at the equator (1x1) (1)

(i) winter solstice
(ii) summer solstice
(iii) longer
(iv) shorter

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

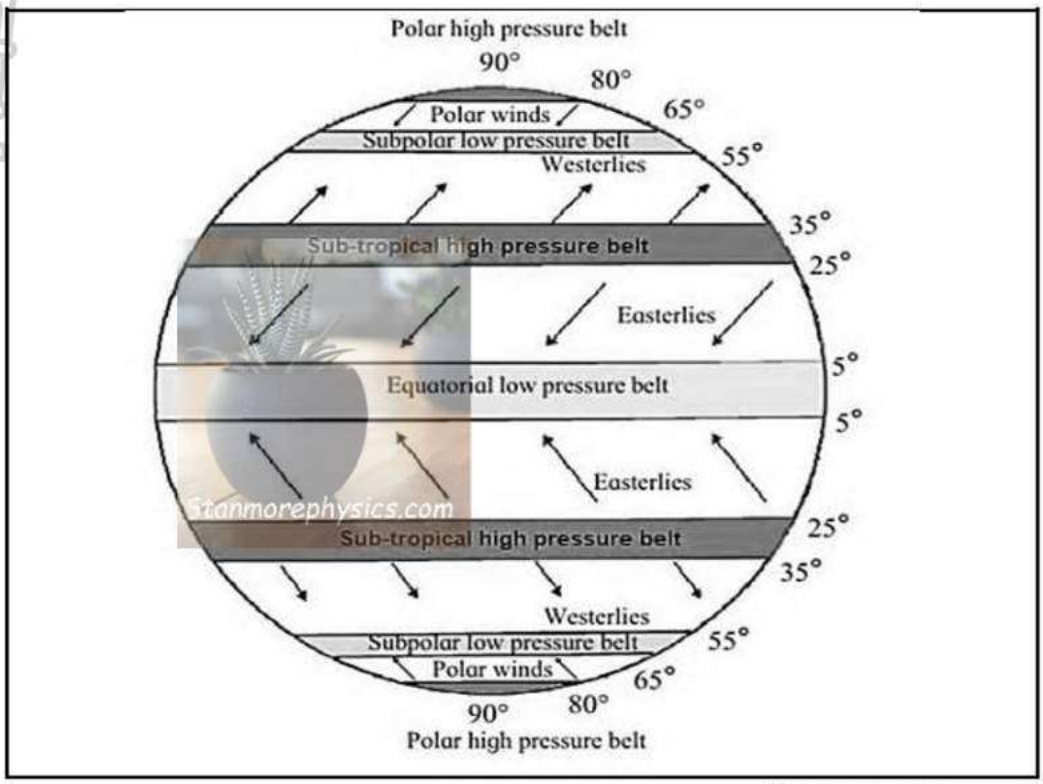
1.1.7 … represent Mid-autumn days that fall on the 21st of March when there's equal length of day and night. (1x1) (1)

A Sketch **A**
B Sketch **B**
C Sketch **C**
D Sketch **D**

(7X1) (7)

Copyright reserved

1.2 Read the following statements and choose the appropriate word(s) in brackets which will make the statement TRUE. Write down only the question number (1.2.1 to 1.2.8) (Pressure belts and winds)



[Source: studyhash.com]

1.2.1 The sub-polar low pressure is created by (divergence/ or convergence) of air movement. (1x1) (1)

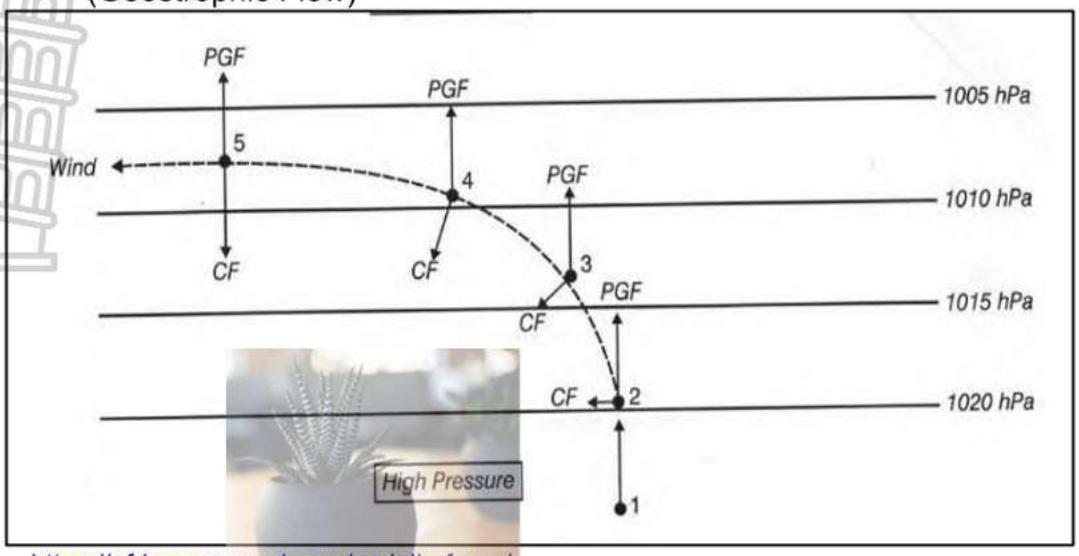
1.2.2 ITCZ is associated with (subpolar low-pressure belt/ Equatorial low-pressure Belt) (1x1) (1)

1.2.3 Subsiding warming air causes a belt of high-pressure cells called the (subtropical high-pressure belt/ polar high pressure belt) (1x1) (1)

1.2.4 (Westerlies/ Tropical Easterlies) blow from the subtropical regions to the temperate regions. (1x1) (1)

Copyright reserved

(Geostrophic Flow)



https://africansunroad.com/coriolis-force/

1.2.5 The air at 1, a high-pressure area, moves towards the low pressure area because of the (pressure gradient / Coriolis) force, at right angles to the isobars (1x1) (1)

1.2.6 Winds deflect or change direction because of (pressure gradient/ Coriolis force) (1x1) (1)

1.2.7 When the wind reaches 5, both forces are balanced. The wind is now blowing (Perpendicular/ Parallel) to the isobars. (1x1) (1)

1.2.8 The direction of the wind in the sketch above represents conditions in the (Southern/ Northern) hemisphere. (1x1) (1)
(8)

Copyright reserved

1.3 Refer to the extract below on the **Föhn winds**

DEVIL'S WIND, DEVIL'S BREATH OR RED WIND

These are all other names for the Santa Ana winds that are notorious in Southern California. They belong to the **katabatic Föhn winds**, like the bora. They originate from a high that forms over the Great Basin. This typically forms in the winter months, as the high temperatures in summer tend to counteract a high (heat low).

The Santa Ana winds often hit the coastal area with gale force, wind speeds of over 100 km/h are not uncommon – and 150 km/h are also possible. The air is very warm to hot and stands in stark contrast to the otherwise rather subdued temperatures in winter (cold coastal waters due to the California Current). Temperatures rise abruptly when the Santa Ana winds arrive, and the air is warmer than in the desert inland due to the sinking movement. The air is also very dry and the relative humidity can drop below 10%.

Stanmorephysics.com

https://meteonews.ch/en/News/N14723/The-Santa-Ana-winds

1.3.1 What are Föhn winds? (1x2) (2)

1.3.2 According to the extract, Föhn winds usually occur in which season? (1x1) (1)

1.3.3 "… the air is ***warmer*** than in the desert inland due to the sinking movement. The air is also very ***dry*** …"
Explain why the wind is warmer and dry. (1x2) (2)

1.3.4 Explain why the windward side is usually wet/ rainy. (1x2) (2)

1.3.5 In a paragraph of approximately EIGHT lines, discuss the impacts of the **Föhn winds** on the natural environment and suggest the management strategies that could be implemented to reduce the impact. (4x2) (8)

[15]

Copyright reserved

1.4 Refer to the infographic on the role of oceans in climate control in Africa.

December 2024 temperatures

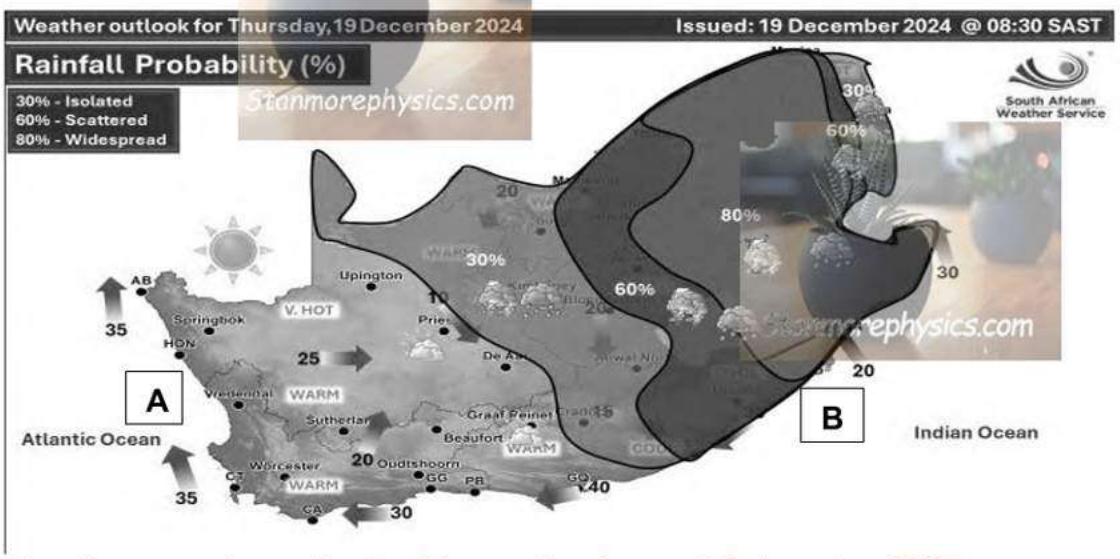
City	Maximum temp °C	Minimum temp °C
Durban	28	20
Cape Town	25	14

https://www.timeanddate.com/weather/south-africa/durban/climate

Ocean currents influence the weather of the coastal areas.

Due to evaporation from the oceans, the winds blowing from the sea to the land carry moisture, (Onshore winds) to coastal areas.

Any moisture in the air condenses to form either mist or fog



https://snowreport.co.za/south-africa-weather-forecast-19-december-2024/

1.4.1 Define diurnal temperature range (1x2) (2)

1.4.2 "According to the infographic, which city has the smallest diurnal temperature range ,and what is the range?" (2x1) (2)

1.4.3 Identify ocean current **A** and **B**, which influence the climate of the Soth Africa. (2x1) (2)

1.4.4 What do we call winds that blow from the ocean towards the land? (1x1) (1)

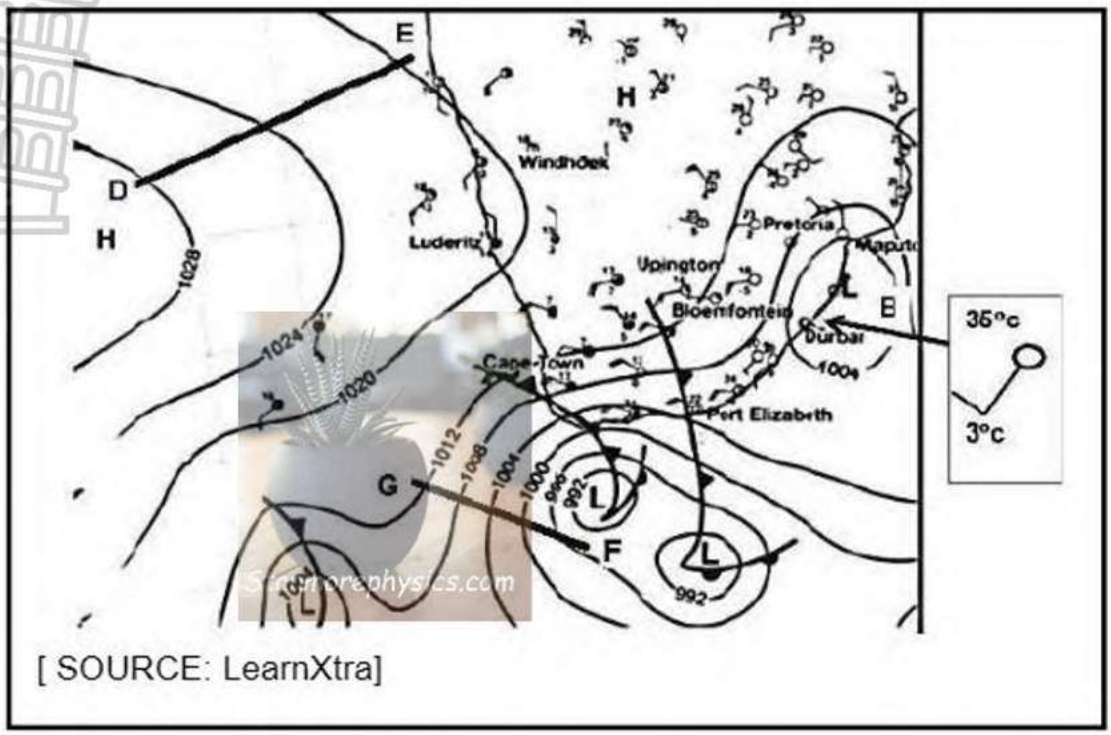
1.4.5 Explain why ocean current **A** is responsible for cold and dry west coastal conditions. (2x2) (4)

1.4.6 Account for warm temperatures and high rainfall in Durban (influence of ocean current **B** identified in QUESTION 1.4.3) (2x2) (4)

[15]

Copyright reserved

1.5 Study the Synoptic weather map below and answer the questions that follow.



[SOURCE: LearnXtra]

1.5.1 a) What is the season shown on the synoptic weather map? (1x1) (1)

b) Support your answer to QUESTION 1.5.1 a) with evidence from the synoptic weather map. (1x2) (2)

1.5.2 Determine the isobaric interval on the synoptic weather map. (1x1) (1)

1.5.3 Name the high-pressure system on the west of South Africa. (1x1) (1)

1.5.4 Explain how the high-pressure system identified in QUESTION 1.5.3 affects the weather of South Africa (1x2) (2)

1.5.5 Compare the wind strength between line **D-E** and line **G-F** in respect to spacing of the isobars. (2x2) (4)

1.5.6 Describe the weather conditions experienced in Durban. (4x1) (4)

[15]

TOTAL 60

Copyright reserved