Province of the
EASTERN CAPE
EDUCATION

Iphondo leMpuma Kapa: Isebe leMfundo
Provinsie van die Oos Kaap: Department van Onderwys
Porafensie Ya Kapa Botjhabela: Lefapha la Thuto

NATIONAL SENIOR CERTIFICATE

GRADE 10

NOVEMBER 2025

GEOGRAPHY P1

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MARKS: 150

TIME: 3 hours

This question paper consists of 14 pages.

INSTRUCTIONS AND INFORMATION

1. This question paper consists of TWO SECTIONS:
   SECTION A:
   QUESTION 1: THE ATMOSPHERE (60)
   QUESTION 2: GEOMORPHOLOGY (60)
   SECTION B:
   QUESTION 3: MAPWORK (30)

2. Answer all THREE questions.

3. ALL diagrams are included in the QUESTION PAPER.

4. Leave a line between subsections of questions answered.

5. Start EACH question at the top of a NEW page.

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

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

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

9. Answer in FULL SENTENCES, except when you have to state, name, identify or list.

10. Units of measurement MUST be indicated in your final answer, e.g. 1 010 hPa, 9 °C and 25 m.

11. You may use a non-programmable calculator.

12. Write neatly and legibly.

SPECIFIC INSTRUCTIONS AND INFORMATION FOR SECTION B

14. A 1:50 000 topographical map of 3419 AB CALEDON and an orthophoto map 1:10 000 3419 AB 24 of a part of the mapped area are provided.

15. The area demarcated in RED/BLACK on the topographic map represents the area covered by the orthophoto map.

16. Show ALL calculations. Marks will be allocated for this.

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17. You must hand in the topographic and the orthophoto map to the invigilator at the end of this examination session.

SECTION A QUESTION 1: THE ATMOSPHERE

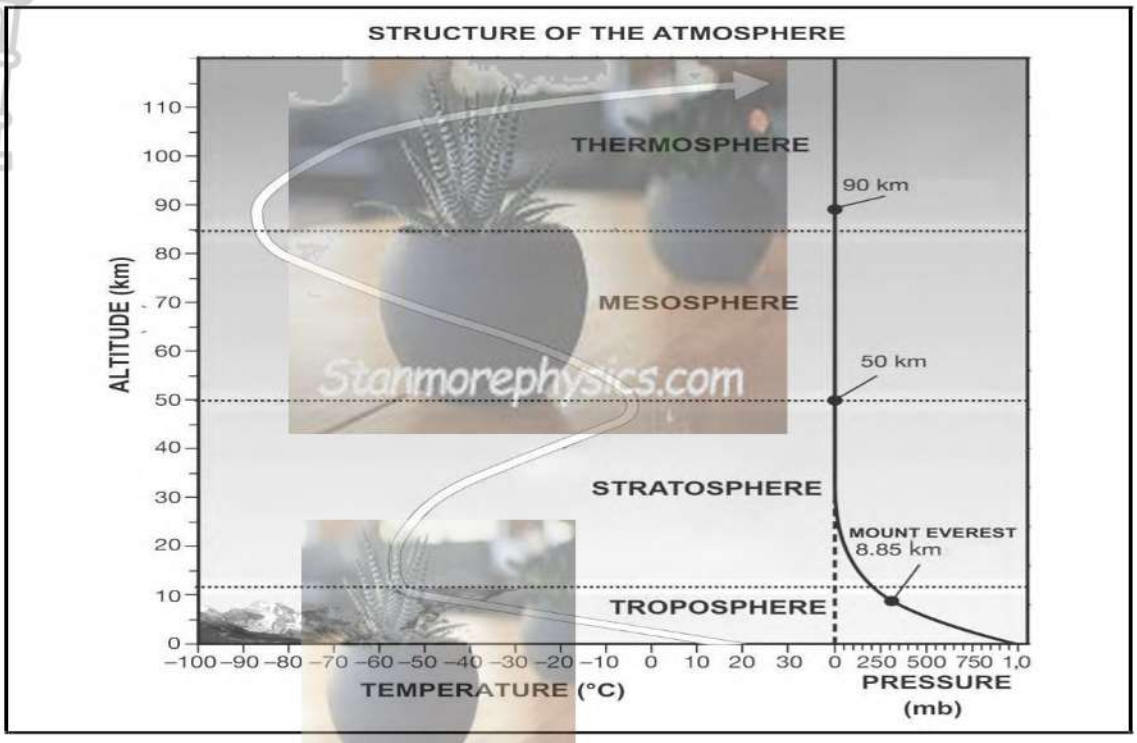
1.1 Choose the word/term from COLUMN B that completes the statement in COLUMN A. Write only Z or Y next to the question numbers (1.1 .1 to 1.1.8) in the ANSWER BOOK, e.g. 1 .1 .9 Y.

Column A	Column B
1.1.1 The process by which water vapour changes to liquid is known as …	**Z** Evaporation **Y** Condensation
1.1.2 The process by which water changes to water vapour is known as ...	**Z** Evaporation **Y** Condensation
1.1.3 Forms overnight as the air near the ground cools and stabilizes.	**Z** Radiation fog **Y** Advection fog
1.1.4 Gases that do not change in proportion (percentage) are …	**Z** Constant Gasses **Y** Variable gases
1.1.5 A condition in the atmosphere where temperature increase with height is …	**Z** Global Warming **Y** Temperature inversion
1.1.6 Incoming solar radiation is known as ...	**Z** Terrestrial Radiation **Y** Insolation
1.1.7 It includes temperature extremes, large latitudinal and seasonal ranges of temperature, small annual precipitation totals, and low relative humidity.	**Z** Maritime Climate **Y** Continental climate
1.1.8 The temperature at which condensation begins.	**Z** Dew point **Y** Temperature

(8 x 1) (8)

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1.2 The sketch below shows the structure of the atmosphere. Match the descriptions in QUESTIONS 1.2.1 to 1.2.7 with the correct name of the atmospheric layer. Write only the name of the layer next to the question numbers in the ANSWER BOOK, e.g. 1.2.8 stratosphere.



1.2.1 The coldest layer.

1.2.2 The layer that comprises of the densest air.

1.2.3 A temperature inversion occurs in the stratosphere and which other layer?

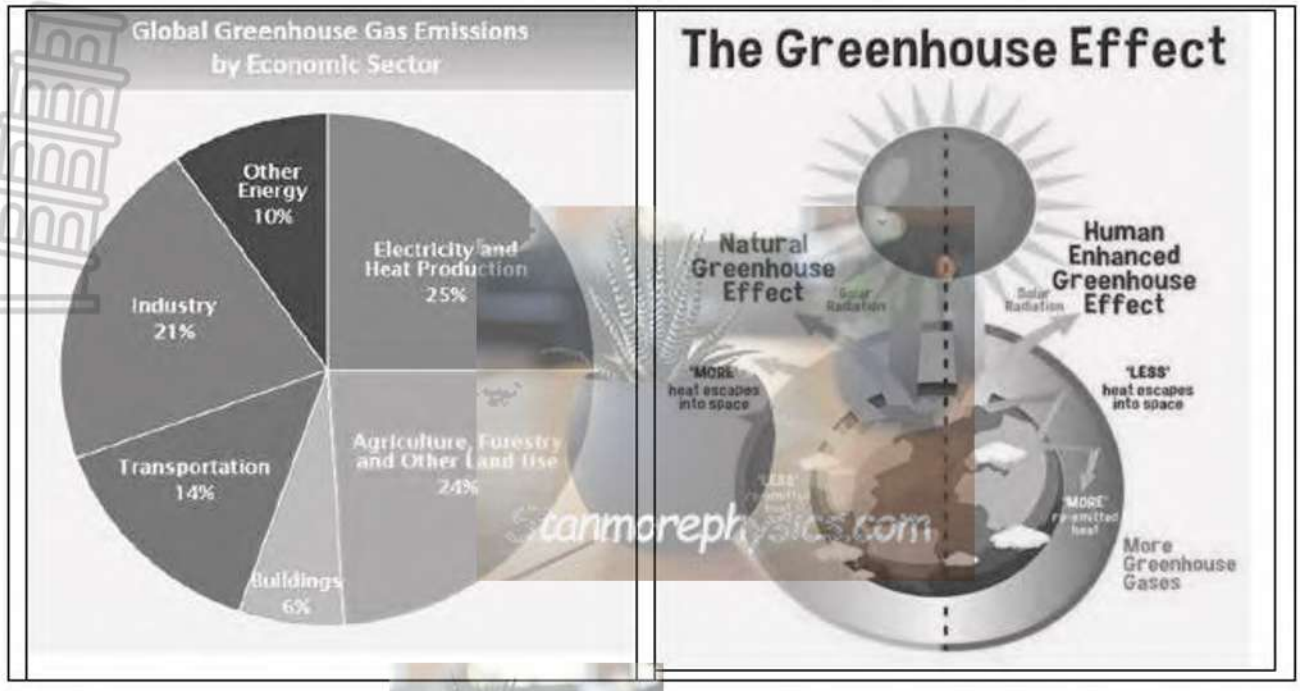
1.2.4 The stratopause is the boundary that demarcates the stratosphere from which layer?

1.2.5 The layer of ozone is found in this layer.

1.2.6 The layer that prevents dust and rocks from space entering the lower layers of the atmosphere.

1.2.7 The layer that contains most of the air of the atmosphere. (7 x 1) (7)

1.3. Study the infographic on the greenhouse effect.



[Source: Google image]

1.3.1 Explain the concept: the *greenhouse effect?* (1 x 2) (2)

1.3.2 According to the pie graph, which sector contributes the most to greenhouse emissions globally? (1 x 1) (1)

1.3.3 Name ONE greenhouse gas emitted by this sector (Answer to 1.3.2). (1 x 2) (2)

1.3.4 Explain how continuous emission of greenhouse gases into the atmosphere will have a negative impact on the environment. (2 x 2) (4)

1.3.5 Suggest THREE strategies this sector can implement to reduce the emission of greenhouse gases. (3 x 2) (6)

/15/

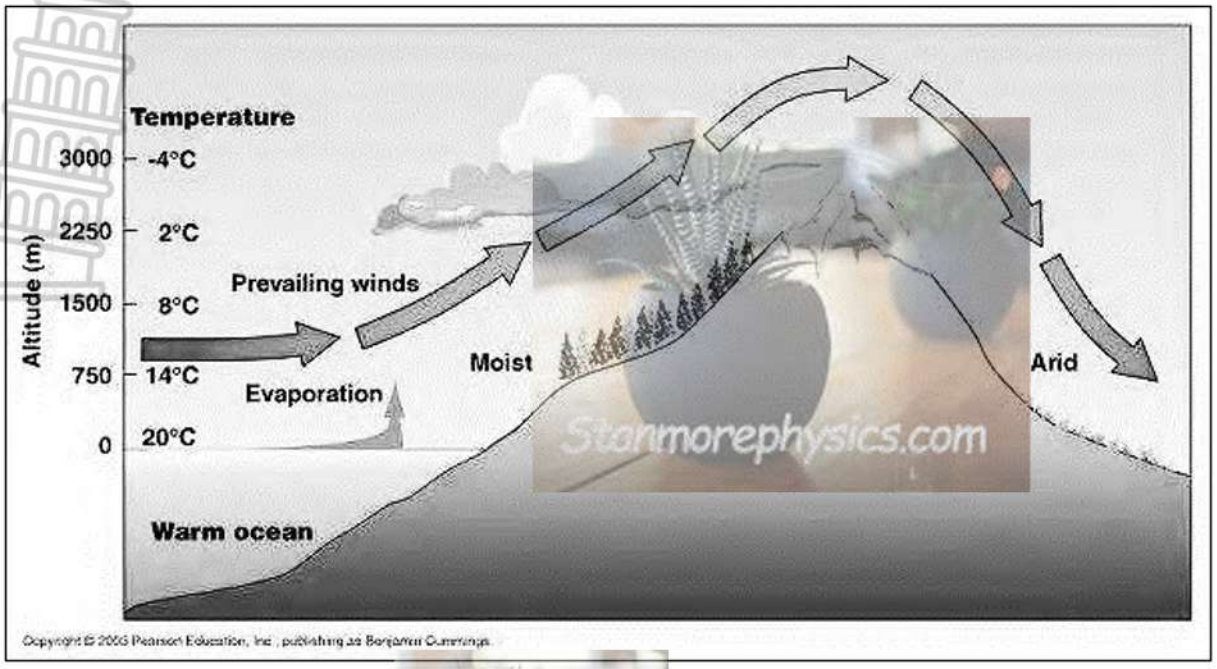
1.4 Study the sketch on a type of rainfall.

1.4.1 Identify the type of rainfall in the sketch. (1 x 1) (1)

1.4.2 On which side of the mountain is vegetation found (*Windward* or *Leeward*)? (1 x 1) (1)

1.4.3 Give ONE reason why more vegetation will be growing on this side of the mountain (Answer to Question 1.4.2). (1 x 1) (1)

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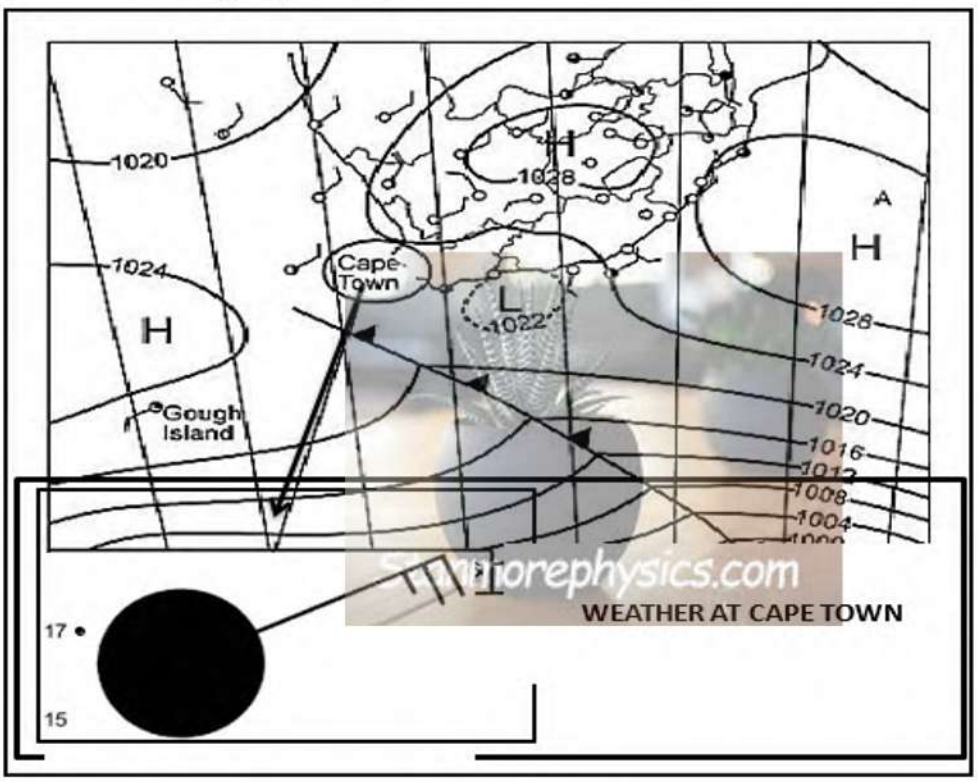


1.4.4 Briefly explain how this type of rainfall is formed. (Answer to Question 1.4.1) (2 x 2) (4)

1.4.5 Explain the negative physical impacts of this type of rainfall on the side of the mountain identified in QUESTION 1.4.2. (4 x 2) (8)

/15/

1.5 Refer to the synoptic map.



1.5.1 Supply a name for the lines joining places of equal pressure on the map. (1 x 1) (1)

1.5.2 Give the name of the pressure cell dominating the interior of South Africa. (2 x 1) (2)

1.5.3 (a) What season is indicated on the synoptic weather chart? (1 x 2) (2)

(b) Give **TWO** pieces of evidence to substantiate why you chose this season. (2 x 2) (4)

1.5.4 Describe the weather forecast for Cape Town for that day, using information from the weather station model for Cape Town. Refer to:

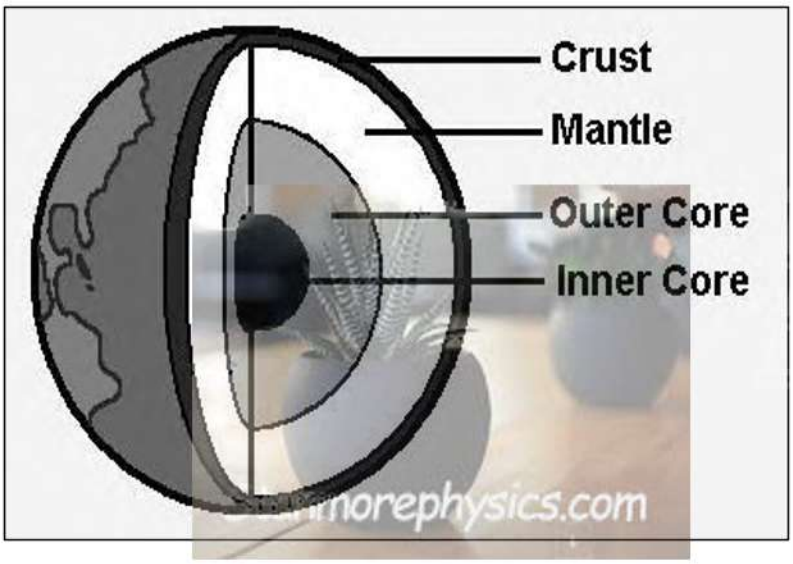
(a) Cloud cover
(b) Wind direction
(c) Wind speed
(d) Temperature
(e) Dew point temperature
(f) Precipitation (6 x 1) (6)

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QUESTION 2: GEOMORPHOLOGY

2.1 Study the diagram on the structure of the earth. Give ONE term that best describes each of the descriptions below. Write only the term next to the question number (1.2.1–1.2.7) in the ANSWER BOOK. The same term may be used for more than one answer.



2.1.1 The layer is a very dense solid metallic ball.

2.1.2 The layer that is formed of solid rock.

2.1.3. The layer that is molten in nature.

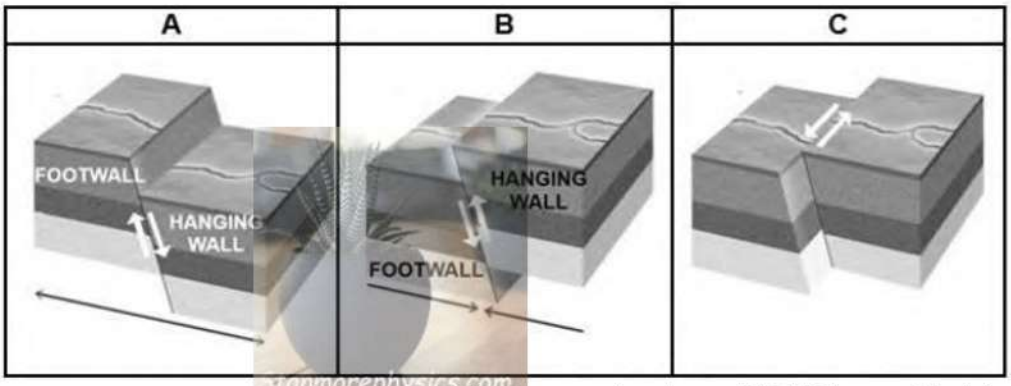
2.1.4. The layer that is solid and dense and consists of iron and nickel.

2.1.5. The layer that is generally referred to as being soft and pliable (bendable)

2.1.6. The layer that is largely made up of granite and basalt.

2.1.7. The layer where humans practise farming. **(7 x 1) (7)**

2.2 Refer to the sketches showing different types of faults. Match each description in QUESTION 2.2.1 to 2.2.8 with the sketch. Write only **A, B** or **C** next to the question numbers (2.2.1 to 2.2.8) in the ANSWER BOOK, e.g. 2.2.9 C



[Adapted from https://www.geologyin.com/2024/09/types-of-faults]

2.2.1 Extensional forces cause the Earth's crust to be pulled apart

2.2.2 A tear fault/ transform fault

2.2.3 Associated with shear stress and not compressional or tensional forces

2.2.4 Caused by compressional forces

2.2.5 A reverse fault

2.2.6 Horizontal movement along a fault plane

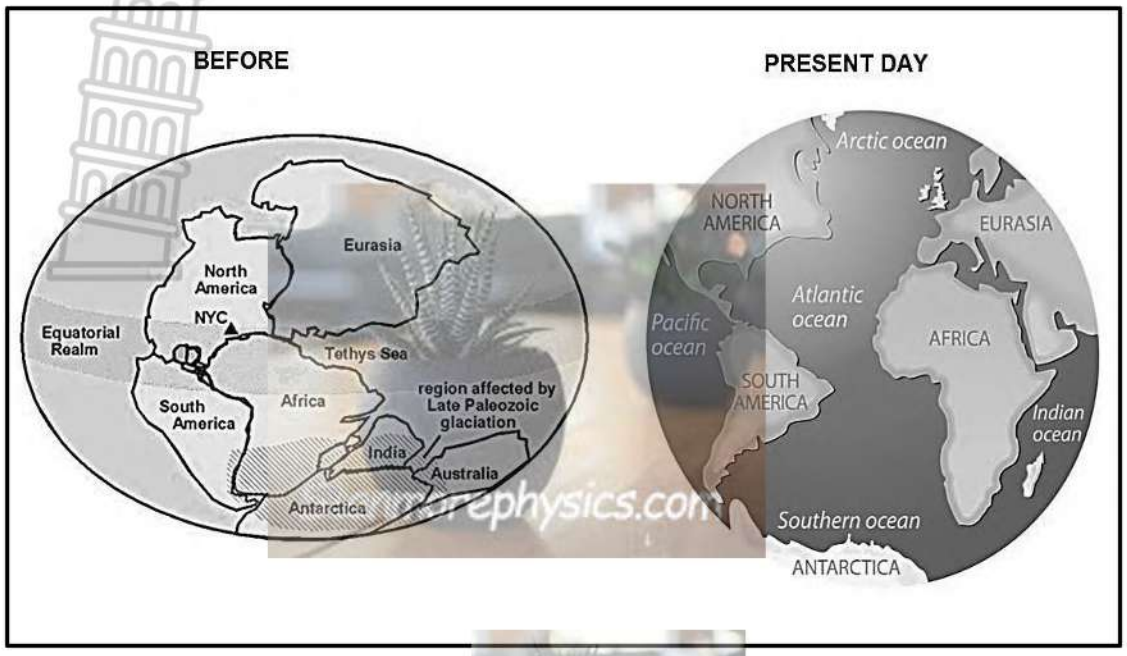
2.2.7 A normal fault

2.2.8 The hanging wall block moves upward relative to the footwall block.

(8 x 1) (8)

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2.3 Study the diagram on continental drift.



Source: https://www.google.com/search?q=continental+drift&rlz]

2.3.1 Define the concept *continental drift*. (1 x 2) (2)

2.3.2 Name TWO continents that formed part of Gondwanaland. (2 x 1) (2)

2.3.3 What is the main reason for the drifting of continents? (1 x 1) (1)

2.3.4 Explain what happens at divergent plate boundaries. (1 x 2) (2)

2.3.5 Give evidence that suggests South America and Africa were previously connected. (2 x 2) (4)

2.3.6 How does the theory of continental drift differ from the theory of plate tectonics? (2 x 2) (4)

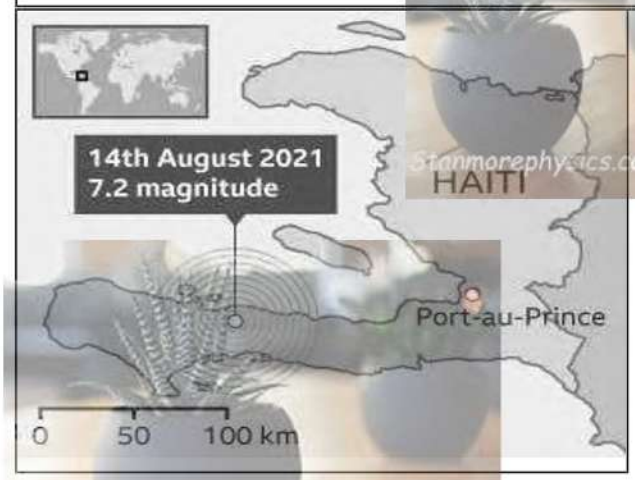
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2.4 Study the infographic on the Haiti earthquake.

Case Study: Haiti Earthquake, 2021

On 14th August 2021 a magnitude 7.2 earthquake struck Haiti in the Caribbean. The plate boundaries around Haiti are complex. The North American Plate lies to the north and the Caribbean Plate to the south. The earthquake took place at a conservative plate boundary, where the Caribbean plate moved eastwards. The focus was only 10 km deep, and the epicentre was 125 km from the capital Port-au-Prince. Years of exploitation from outside countries, dating back to the enslavement of the island's people after Christopher Columbus arrived in 1492, and political unrest within Haiti have resulted in the country's current standing as the poorest in Latin America. The unrest and poverty have translated to the development of the region, which is rife with substandard structures and building materials. Many structures use concrete, which is inexpensive and can be used to create heavy walls and roofs that resist hurricane winds. But much of the region's concrete is unreinforced, and it readily crumbles under the shaking of earthquakes.





2.4.1 What is an earthquake? (1 x 2) (2)

2.4.2 Where in Haiti did the earthquake occur? (1 x 1) (1)

2.4.3 According to the article, the focus was only 10 km deep.
Define the concept focus. (1 x 2) (2)

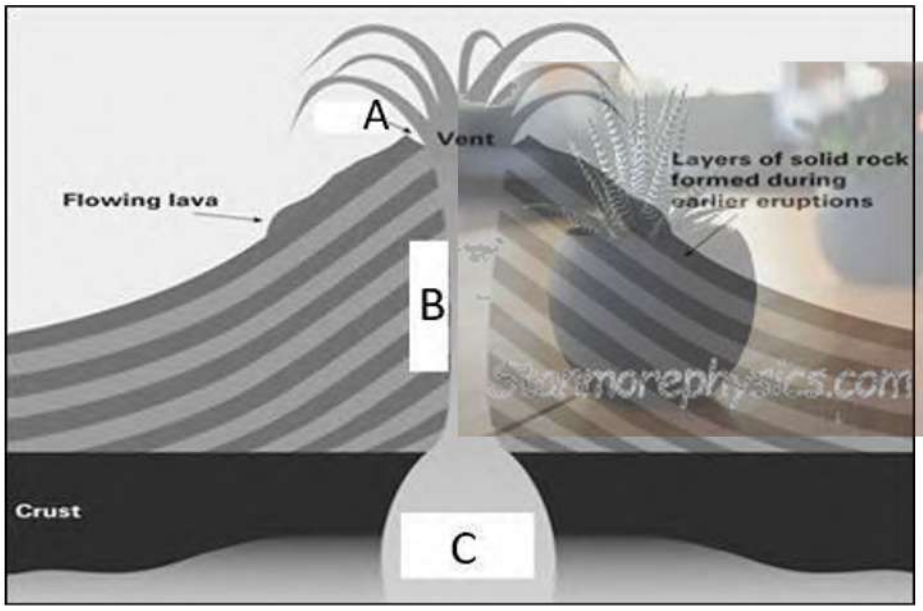
2.4.4 Explain the negative impact of this earthquake on the people living close to the epicentre of the earthquake. (2 x 2) (4)

2.4.5 What strategies can Haiti implement to reduce the impact of earthquakes? (3 x 2) (6)

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2.5 Refer to the sketch of a volcano to answer questions 2.5.1 to 2.5.5



[Source: Google Image]

2.5.1 What is a *volcano*? (1 x 2) (2)

2.5.2 What type of volcanic structure is illustrated above? (1 x 2) (2)

2.5.3 Identify labels **A**, **B** and **C** respectively. (3 x 1) (3)

2.5.4 In a paragraph of approximately EIGHT lines, explain TWO negative and TWO positive impacts that volcanoes have on people. (4 x 2) (8)

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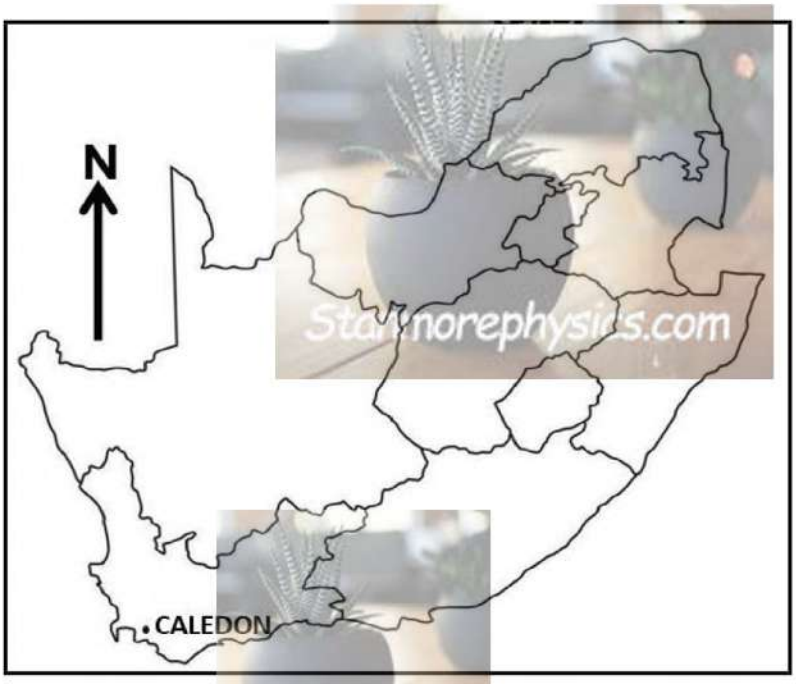
[60]

TOTAL SECTION A: 120

SECTION B

QUESTION 3: GEOGRAPHICAL SKILLS AND TECHNIQUES

GENERAL INFORMATION ON CALEDON



Co-ordinates: 34° 13′ S ; 19° 25′ E

Caledon has a Mediterranean climate of warm, dry summers and cool, wet winters. Temperatures are modified by its close proximity to the South Atlantic Ocean, just over the Klein River Mountains to the south.

[Source: https://en.wikipedia.org/wiki/Calendon, Western Cape]

The following English term and their translations are shown on the topographic map

ENGLISH	**AFRIKAANS**
Golf course	Gholfbaan
Holiday resort	Vakansie-oord

3.1 MAPWORK SKILLS AND CALCULATIONS

3.1.1 The topographic map number 3419 refers to the ...

A longitude and latitude.
B latitude and longitude.
C contour line and isobar.
D longitude and contour lines. (1 x 1) (1)

3.1.2 The scale of the orthophoto map is … times larger than the scale of the topographic map.

A 5
B 10
C 20
D 40 (1 x 1) (1)

3.1.3 The length (L) of the hospital (Area **2**) on the orthophoto map is … centimetres (cm).

A 30
B 13
C 3
D 1,4 (1 x 1) (1)

3.1.4 The breadth (B) of the hospital (Area **2**) on the orthophoto map is … centimetres (cm).

A 0,3
B 13
C 3,3
D 1,3 (1 x 1) (1)

3.1.5 Using the answers from QUESTIONS 3.1.3 and 3.1.4, calculate the area of the hospital **2** in square meters (m^2). Show ALL calculations. Marks will be awarded for calculations.

Formula: Area = length (L) x breadth (B) (3 x 1) (3)

3.1.6 Calculate the magnetic declination of Caledon for 2025.
Use the information and steps given below.

Difference in years: 24 years

Mean annual change: 4' westwards

Total change: _____

Magnetic declination for 2025: _____ (3 x 1) (3)

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3.2 MAP INTERPRETATION

3.2.1 What type of climate does Caledon experience? Give a reason for your answer. (1 + 1) (2)

Refer to the topographical and orthophoto maps.

3.2.2 The letter **3** on the orthophoto map indicates a ...

A sewerage plant.
B reservoir.
C silo.
D power station. (1 x 1) (1)

3.2.3 Rainfall over the mapped area is seasonal. Give TWO examples of measures, shown on the map in blocks **E1/2**, that farmers use to overcome water shortages during periods of low rainfall. (2 x 1) (2)

3.2.4 The Caledon town council has decided to try and improve the level of development of this area through tourism. Explain how the council would promote this area using evidence from blocks **D3/4** and **E3/4**. (2 x 2) (4)

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Refer to **2** in block **E2** on the orthophoto map.

3.2.5 The main economic activity at **2** in block **E2** on the orthophoto map is (*secondary / tertiary*). (1 x 1) (1)

3.2.6 Explain why area **2** was suitable for the development of the economic activity identified in QUESTION 3.2.5. (1 x 2) (2)

3.3 GEOGRAPHICAL INFORMATION SYSTEMS (GIS)

3.3.1 What is Geographical information systems? (1 x 2) (2)

3.3.2 Refer to block **C2** on the topographic map and state one example of each of the following spatial features:

(a) Line feature.
(b) Point feature. (2 x 1) (2)

3.3.3 Is the Orthophoto an example of raster data or vector data? (1 x 1) (1)

3.3.4 What is remote sensing? (1 x 1) (1)

3.3.5 State TWO advantages of remote sensing. (2 x 1) (2)

TOTAL SECTION B: 30
GRAND TOTAL: 150

3419AB CALEDON

Grade 10 November 2025

1:50 000



Metres 1000 0 1 2 3 4 5 Kilometres

CONTOUR INTERVAL 20 METRES

Mean magnetic declination 23°48' West of True North (July 2001).
Mean annual change 4' Westwards (1995–2000).

REFERENCE

National Freeway; National Route
Arterial Route
Main Road
Secondary Road; Bench Mark
Other Road; Bridge
Track and Hiking Trail
Railway; Station or Siding
Other Railway; Tunnel
Embankment; Cutting
Power Line
Built-up Area (High, Low Density)
Buildings; Ruin
Post Office; Police Station; Store
Place of Worship; School; Hotel

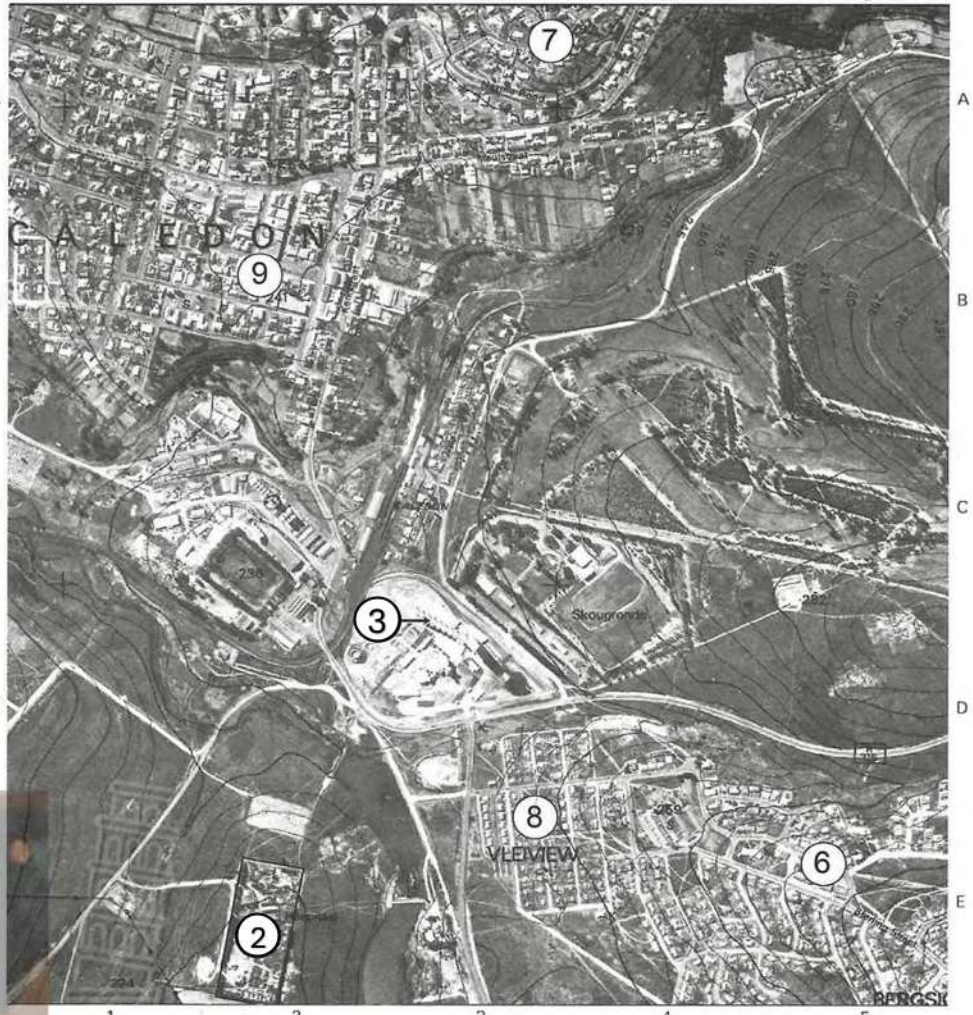
International Boundary and Beacon
Provincial Boundary
Protected Area
Perennial River
Non-perennial River
Perennial Water
Non-Perennial Water
Dry Water Course
Dry Pan
Marsh and Vlei
Pipeline (above ground)
Water Tower; Reservoir; Water Point
Coastal Rocks
Prominent Rock Outcrop

Fence; Wall
Windpump; Memorial
Communication Tower
Mine Dump; Excavation
Trigonometrical Station; Marine Beacon
Lighthouse and Marine Light
Cemetery; Grave
Erosion; Sand
Woodland
Cultivated Land
Orchard or Vineyard
Recreation Ground
Row of Trees
Original Farms

3419 AB 24 CALEDON

Grade 10 November 2025

1:10 000



0 km 1 km

1:10000 KONTOERTUSSENRUIMTE 5 METER

VERKLARING

Nasionale Deurpad; Nasionale Roete
Hoofverkeersroete
Hoofpad
Sekondêre Pad; Hoogtemerk
Ander Pad; Brug
Dowwe Pad en Voetslaanpad
Spoorweg; Stasie of Sylyn
Ander Spoorweg; Tonnel
Opvulling; Deurgrawing
Kraglyn
Beboude Gebied (Hoë, Lae Digtheid)
Geboue; Murasie
Poskantoor; Polisiestasie; Winkel
Plek van Aanbidding; Skool; Hotel

Internasionale Grens en Baken
Provinsiale Grens
Bewarings Gebied
Standhoudende Rivier
Standhoudende Water
Nie-standhoudende Rivier
Nie-standhoudende Water
Droë Loop
Droë Pan
Moeras en Vlei
Pyplyn (bo die grond)
Watertoring; Reservoir; Waterpunt
Kusly nroete
Prominente Klipbank

Draadheining; Muur
Windpomp; Monument
Kommunikasietoring
Mynhoop; Uitgrawing
Peilbaken; Seevaartbaken
Vuurtoring en Seevaartlig
Begraafplaas; Graf
Erosie; Sand
Beboste Gebied
Bewerkte Land
Boord of Wingerd
Ontspanningsterrein
Rye Borne
Oorspronklike Plase

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