Confidential

GAUTENG PROVINCE
EDUCATION
REPUBLIC OF SOUTH AFRICA

JOHANNESBURG NORTH DISTRICT

EXAMINATION

JUNE 2026

GEOGRAPHY

GRADE 11

TERM	**:**	**TWO**
DURATION	**:**	**3 HOURS**
TOTAL	**:**	**150 MARKS**
EXAMINER	**:**	**JOHANNESBURG NORTH PLC**
MODERATOR	**:**	**JOHANNESBURG NORTH PLC**
DATE OF IMPLEMENTATION	**:**	**03 JUNE 2026**

This paper consists of 16 pages.

INSTRUCTIONS AND INFORMATION

1. This question paper consists of TWO sections:

   SECTION A:
   QUESTION 1: CLIMATE AND WEATHER (60)
   QUESTION 2: GEOMORPHOLOGY (60)

   SECTION B:
   QUESTION 3: GEOGRAPHICAL SKILLS AND TECHNIQUES (30)

2. Answer all THREE questions.

3. All diagrams are included in the QUESTION PAPER.

4. Leave a line between the 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. 1 020 hPa, 14 °C and 45 m.

11. You may use a non-programmable calculator.

12. You may make use of a magnifying glass.

13. Write neatly and legibly.

SPECIFIC INSTRUCTIONS AND INFORMATION FOR SECTION B

14. A 1 **:** 50 000 topographical map 2531 BC MALELANE and a 1 **:** 10 000 orthophoto map 2531 BC 16 RIVERSIDE are provided.

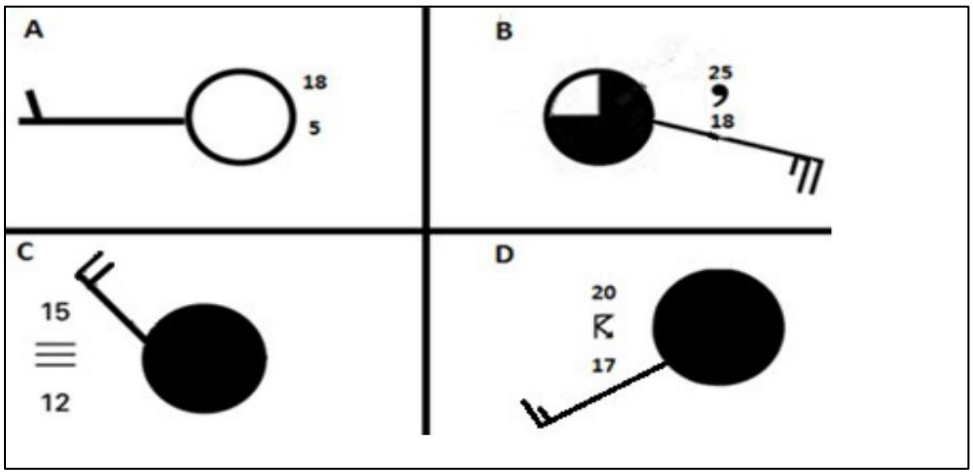
15. The area demarcated in RED/BLACK on the topographic map represents the area covered by the orthophoto map.

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

SECTION A: CLIMATE AND WEATHER AND GEOMORPHOLOGY

QUESTION 1: CLIMATE AND WEATHER

1.1 The source below shows FOUR weather stations. Match the statements below with weather stations **A** to **D**. Write only the letter (A–D) next to the question number (1.1.1 – 1.1.8) in the ANSWER BOOK, for example 1.1.9 A.



[Source: South African Weather Service]

1.1.1 Thunderstorms are likely to be experienced.

1.1.2 Wind speed is 25 knots.

1.1.3 Indicates clear skies.

1.1.4 Wind direction is south-westerly.

1.1.5 Associated with stable conditions over the interior in winter.

1.1.6 Conditions that prevail on the west coast of South Africa in winter.

1.1.7 The expected precipitation is drizzle.

1.1.8 Air temperature decreases by 18 °C

(8 x 1) **(8)**

1.2 Refer to the FIGURE below showing two air pressure cells. Match the descriptions below with either Diagram A or Diagram B. Write only the question numbers (1.1.1 to 1.1.7) in the ANSWER BOOK, e.g. 1.1.8 B

DIAGRAM A

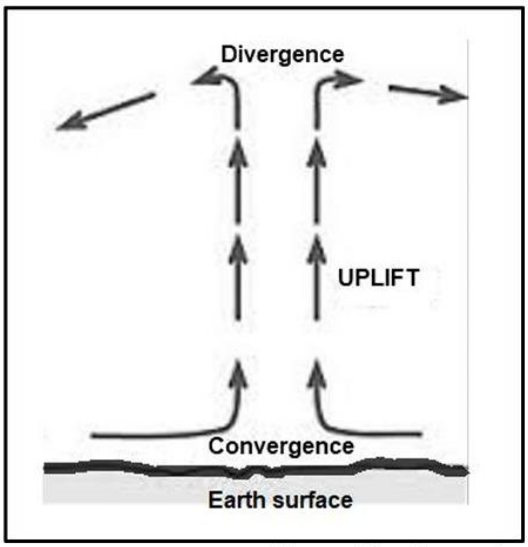
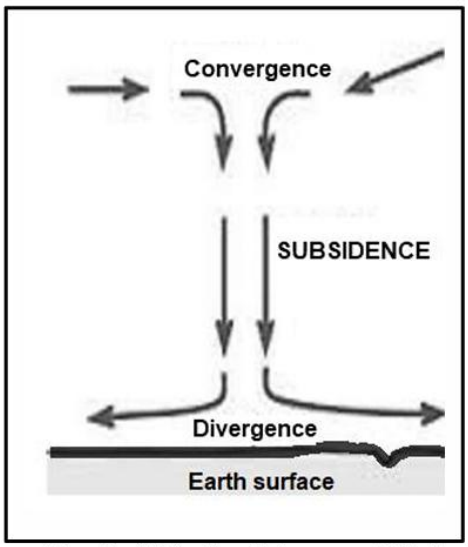


DIAGRAM B



[Source:https://www.shsu.edu/~dl_www/bkonline/131online/f04pressure/04index.htm]

1.2.1 This pressure cell is associated with warm moist air rising up.

1.2.2 This pressure cell is also found on the N/S Poles

1.2.3 This pressure cell is dominant over the interior of South Africa in summer.

1.2.4 This pressure cell is associated with anticlockwise rotation of air in the Southern Hemisphere.

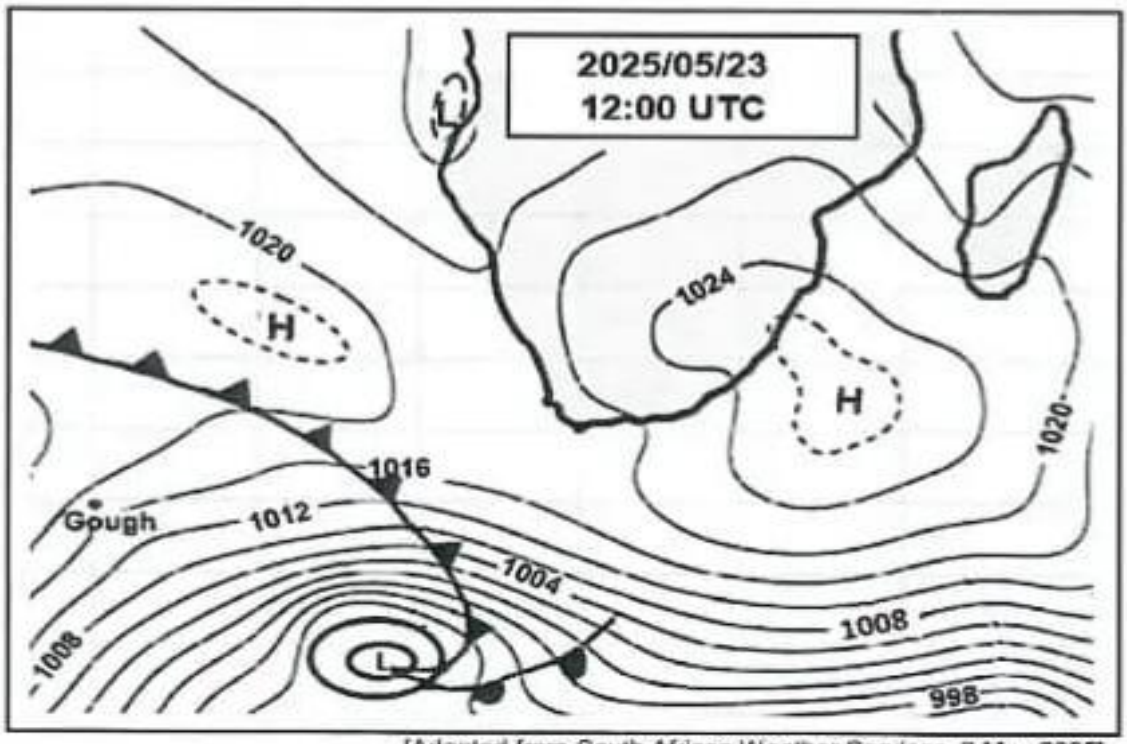
1.2.5 This pressure cell is associated with the Dry Adiabatic Lapse Rate.

1.2.6 This pressure cell is located closer to the 0° latitude.

1.2.7 This pressure cell ridges and carries moisture from the South Indian ocean to the south-eastern coastal areas

(7 x 1) **(7)**

1.3 Refer to the synoptic weather map below.



[Adapted from South African Weather Services, 9 May 2025]

1.3.1 Give ONE piece of evidence that the season depicted is winter. (1 x 1) (1)

1.3.2 Name the global wind system that approaches from the west of South Africa. (1 x 1) (1)

1.3.3 State the general air movement in the high-pressure cell located over the South Indian Ocean on the synoptic weather map (1 x 1) (1)

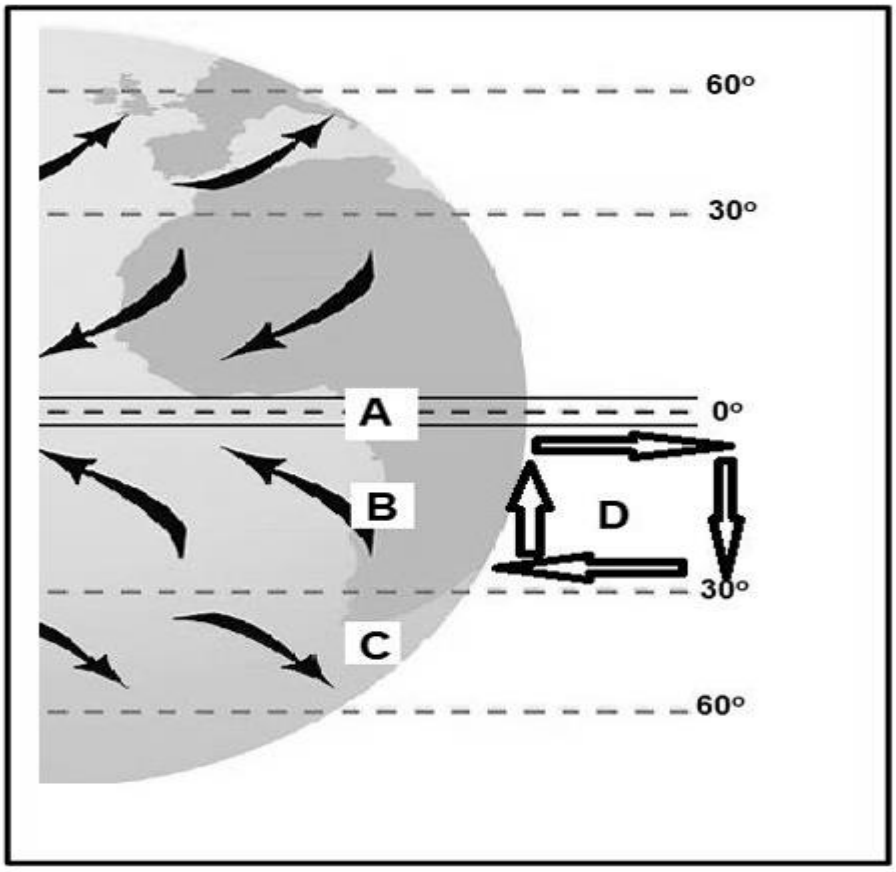
1.3.4 Give evidence from the synoptic weather map that strong damaging winds will affect the Western Cape due to the approaching cold front. (1 x 2) (2)

1.3.5 Account for the changes in temperature and precipitation due to the dominance of the pressure cell that develops over the interior during the winter season. (2 x 2) (4)

1.3.6 The cold front, of the midlatitude cyclone evident in the synoptic weather map is associated with heavy rainfall. Explain how the heavy rainfall is beneficial to farming in the Western Cape in winter. (3 x 2) (6)

(15)

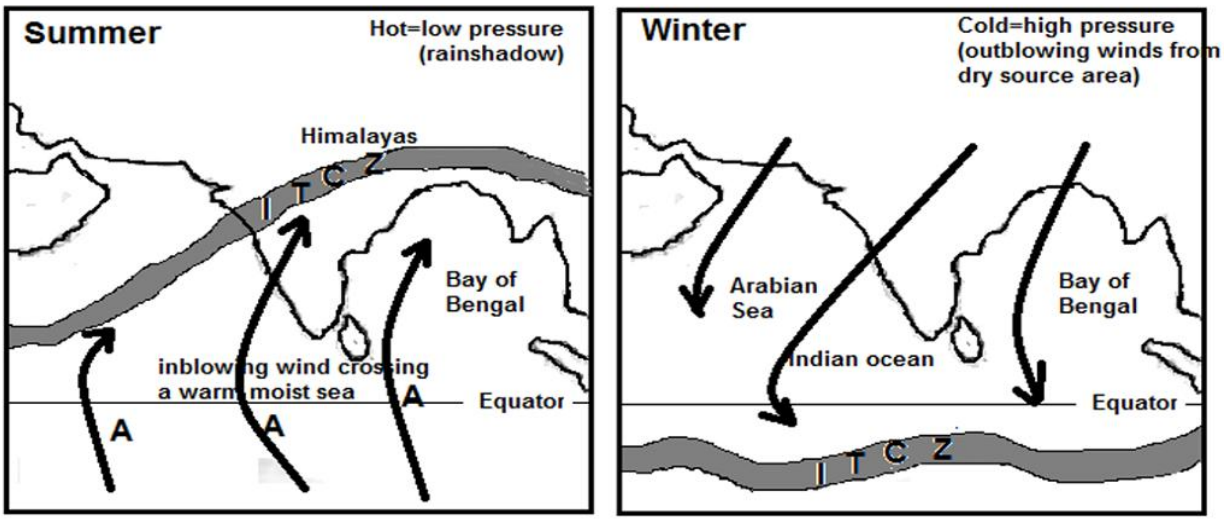
1.4 Refer to the sketch on the tri-cellular circulation



[Source:https://www.tutor2u.net/geography/reference/aqa-gcse-geography-weather-hazards]

1.4.1	The pressure belt at **A** is (high/low pressure)	(1 x 1)	(1)
1.4.2	Give TWO reasons for your answer to QUESTION 1.4.1	(2 x 2)	(4)
1.4.3	Name the winds marked **B** and **C** respectively.	(2 x 1)	(2)
1.4.4	Describe the movement of air in cell **D**.	(1 x 2)	(2)
1.4.5	Explain the influence of the wind at **C** on the weather conditions on the west coast of South Africa.	(3 x 2)	(6)
			(15)

1.5 Refer to representation of monsoon conditions over the sub-continent of India.



[Source: E*xaminers own sketch*]

1.5.1 What does the abbreviation *ITCZ* stand for? (1 x 1) (1)

1.5.2 Why does the wind at **A** change direction from south-east to south-west? (1 x 2) (2)

1.5.3 Explain how the ITCZ plays a role in the formation of monsoon conditions over India. (2 x 2) (4)

1.5.4 In a paragraph of approximately EIGHT lines, account for destructive physical (natural) impact of summer monsoons in India. (4 x 2) (8)

(15)

[60]

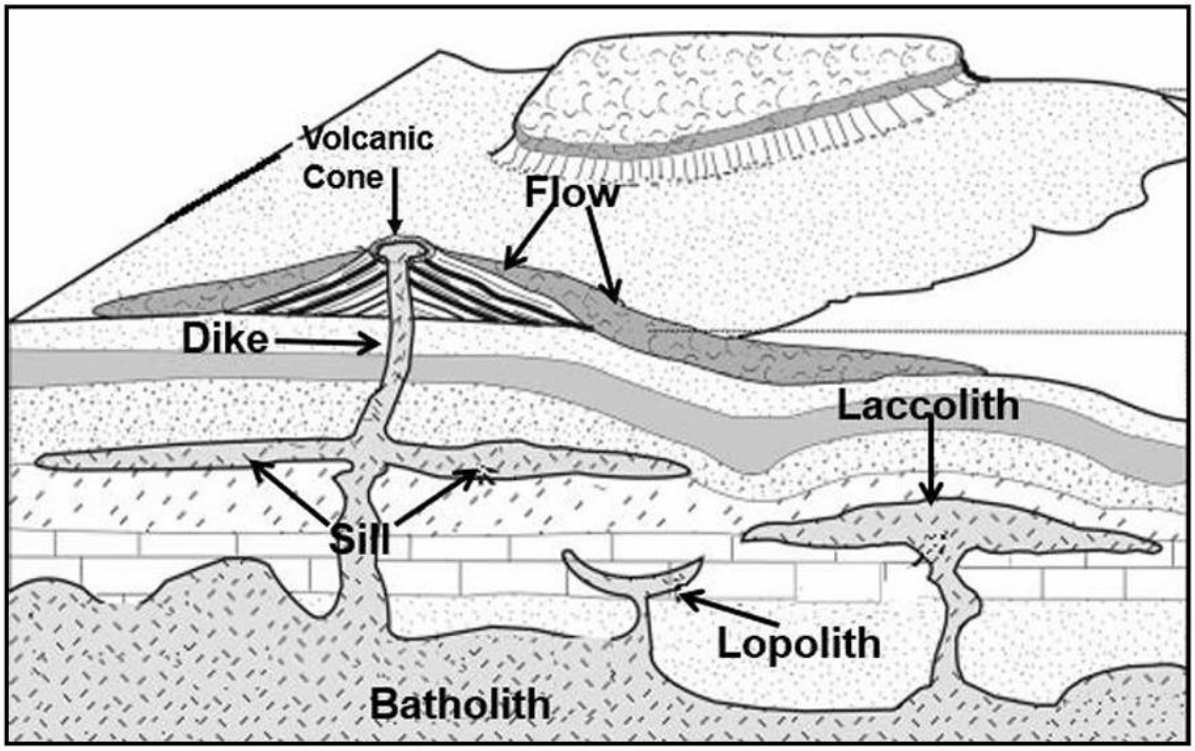
QUESTION 2: GEOMORPHOLOGY

2.1 Refer to the sketch, which shows river profiles. Complete the statements in COLUMN A with the options in COLUMN B. Write only Y or Z next to the question numbers (2.1.1 to 2.1.8) in the ANSWER BOOK, example 2.2.9 Y.

COLUMN A		COLUMN B
2.1.1	Forms from layers of lava that flow horizontally onto the earth's surface	**X** hilly landscape **Y** basaltic plateau
2.1.2	Type of weathering causing exposed igneous rocks to peel off	**X** sheetwash **Y** exfoliation
2.1.3	The dip slope faces outward, and the scarp slope faces inwards	**X** cuesta dome **Y** cuesta basin
2.1.4	The relief region that lies between the plateau and coastal plains	**X** plateau slopes **Y** great escarpment
2.1.5	Top soil becomes saturated and slides on the frozen ground	**X** earthflow **Y** solifluction
2.1.6	Rapid movement of material down a slope will be increased by ...	**X** steep slopes **Y** thick vegetation
2.1.7	Assymmetrical ridge with a gentle dip slope between 10–25	**X** hogsback **Y** cuesta
2.1.8	Forms from hard rock that weathers slowly	**X** dip slope **Y** scarp slope

(8 x 1) **(8)**

2.2 Refer to the sketch on intrusive landforms. Choose the correct landform from the sketch that the description below refers to. Write only the landform next to the question numbers (2.2.1 to 2.2.7) in the ANSWER BOOK. E.g 2.2.8 Batholith



[Source: https://www.google.com/search?q=igneous+intrusions+diagram]

2.2.1 The largest of all intrusive forms

2.2.2 A vertical intrusion of igneous rock that forms a wall

2.2.3 When magma is exposed on the earth's surface

2.2.4 Igneous intrusion that forms when strata is forced upwards

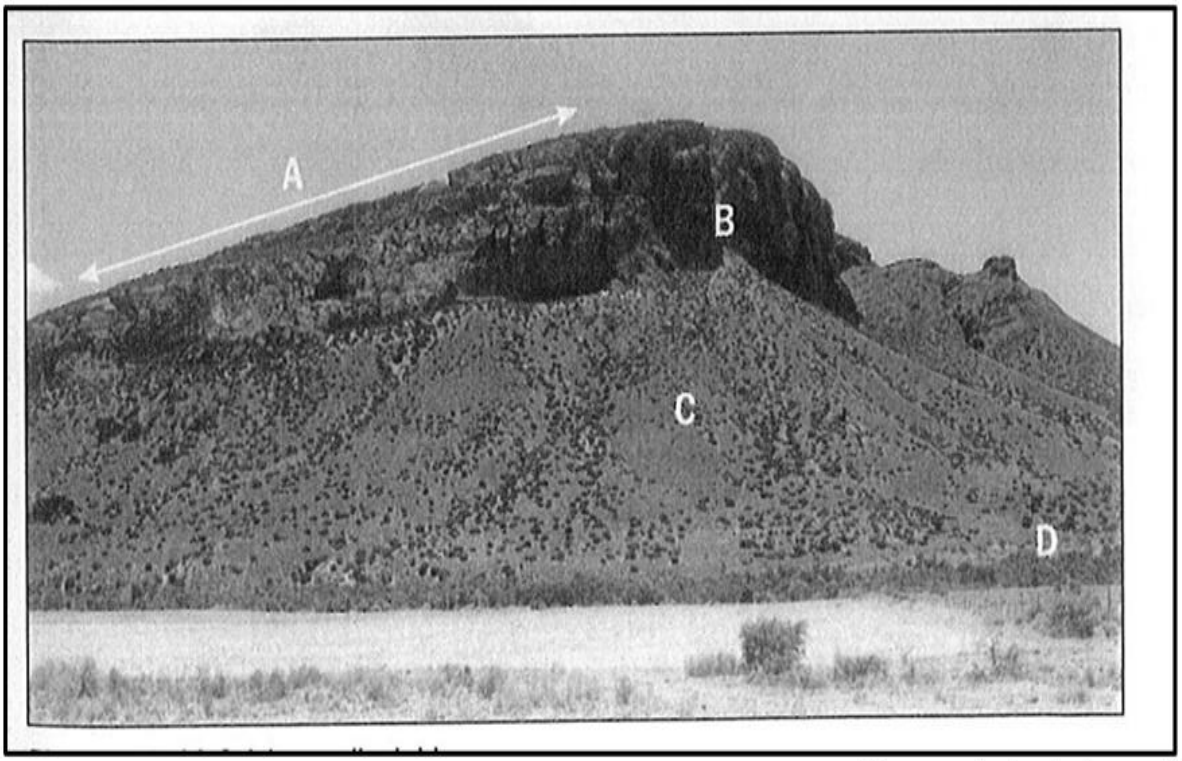
2.2.5 A horizontal intrusion of igneous rock that forms a sheet

2.2.6 Igneous intrusion that forms when sedimentary strata create a basin

2.2.7 A triangle-shaped hill formed from material of eruptions

(7 x 1) **(7)**

2.3 Refer to the photograph below that shows a homoclinal ridge.



[Source: Jen's photograph]

2.3.1	Define the term *Cuesta*	(1 x 2)	(2)
2.3.2	This landform forms because of (inclined/horizontal) strata	(1 x 1)	(1)
2.3.3	Identify slope **A** and **B** associated with the homoclinal ridge.	(2 x 1)	(2)
2.3.4	Describe each of these slopes identifies in QUESTION 2.3.3	(2 x 2)	(4)
2.3.5	Explain THREE ways in which these landscapes can be used by people.	(3 x 2)	(6)
			(15)

2.4 Study the FIGURE which illustrates tors



[Source: researchgate.net]

2.4.1	Name ONE igneous intrusion that tors can originate from	(1 x 1)	(1)
2.4.2	What are the rocks at **A** known as during the process of tor formation?	(1 x 1)	(1)
2.4.3	Name the type of igneous rock that **A** consists of.	(1 x 1)	(1)
2.4.4	How did weathering in the vertical and horizontal joints of igneous rocks determine the shape of the rocks at **A**?	(2 x 2)	(4)
2.4.5	In a paragraph of approximately EIGHT lines, explain how tors develop.	(4 x 2)	(8)

(15)

2.5 Refer to the photograph and extract on a landslide



[Source: google images]

In eThekwini, combinations of sloping ground, water and clay left trails of devastation in their wake during the recent floods.

Some articles have suggested the catastrophes in Durban and the greater eThekwini region of South Africa following recent floods are due to climate change and maladministration. While these factors play a role, the fact that landslides occurred comes as no surprise, considering the geology of the area.

eThekwini is a coastal metropolis characterised by hilly terrain dissected by several major rivers such as the Umgeni, Mlazi and Mbokodweni. The region is subtropical, but recent rains were abnormal relative to recent records and resulted in multiple landslides. The negative social, economic, and physical impact on the region has been disastrous.

[Adapted from an article by Charles Macrobert]

2.5.1	How does the photograph depict a landslide?	(1 x 1)	(1)
2.5.2	According to the article, what is the main cause of landslides in the greater eThekwini region	(1 x 1)	(1)
2.5.3	What climatic evidence in the article suggests that the eThekwini region receives high rainfall?	(1 x 1)	(1)
2.5.4	What role did heavy rainfall play in the development of landslides?	(2 x 2)	(4)
2.5.5	Account for the negative social impact of landslides in the region	(2 x 2)	(4)
2.5.6	Suggest strategies that the municipality of eThekwini could adopt to minimise the effects of landslides.	(2 x 2)	(4)

(15)

[60]

SECTION B

QUESTION 3: GEOGRAPHICAL SKILLS AND TECHNIQUES

GENERAL INFORMATION ON MALELANE



Coordinates: 25°29′S ; 31°31′E

Malelane is a gateway to the Kruger National Park, Mozambique and Eswatini (formerly Swaziland). This charming farming town in Mpumalanga is situated on the N4 national highway about halfway between the capital city of Mpumalanga, Nelspruit, and the capital city of Mozambique, Maputo. Malelane sits on the intersection of three roads that lead to many of southern Africa's favourite tourist destinations. Driving into Malelane from Nelspruit, you can see the hilly outcrop directly ahead, with the Mozambique border post nestled at its base. Turn left and the promise of a few glorious days in the Kruger National Park beckons you. Turn right and the lush, tropical landscape of Eswatini lies on the horizon.

Die volgende Engelse terme en hul Afrikaanse vertalings word op die topografiese kaart getoon:

ENGLISH	**AFRIKAANS**
Cutline	Kaplyn of voorbrand
Mean magnetic declination	Gemiddelde magnetiese deklinasie
Mean annual change	Gemiddelde jaarlikse verandering
West of True North	Wes van Ware Noord

3.1 **MAP SKILLS AND CALCULATIONS**

3.1.1 In the topographical map index 2531BC, the 25 and 31 indicate …

A. 25°N 31°W.
B. 25°S 31°E.
C. 25°W 31°N.
D. 25°E 31°S (1 x 1) (1)

3.1.2 Malelane is located in the … province.

A. Limpopo
B. North West
C. Mpumalanga
D. KwaZulu-Natal (1 x 1) (1)

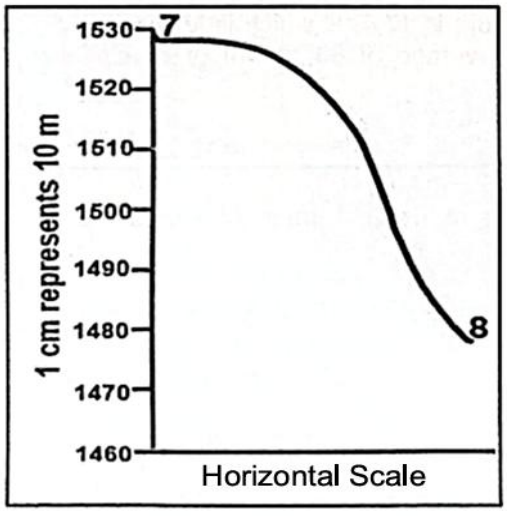
3.1.3 In which year was the map of Malelane developed? (1 x 1) (1)

3.1.4 Use the answer to QUESTION 3.1.3 to calculate the current difference in years. (1 x 1) (1)

3.1.5 The annual change is 5' westwards. Calculate the mean annual change in 2026. (1 x 1) (1)

3.1.6 Use the answer to QUESTION 3.1.5 to calculate current magnetic declination. (1 x 1) (1)

Refer to the rough cross section below drawn from **7** to **8** on the orthophoto map.



3.1.7 Calculate the vertical exaggeration of the cross section.

Formula: **Vertical Exaggeration= $\frac{\text{Vertical Scale}}{\text{Horizontal Scale}}$** (4 x 1) (4)

(10)

3.2 MAP INTERPRETATION

3.2.1 What is the main land use in block **E3** on the orthophoto map? (1 x 1) (1)

A. Sewage works
B. Golf course
C. Farming
D. Cemetery

3.2.2 Give ONE reason for your answer to QUESTION 3.2.1. (1 x 2) (2)

The mapped area receives seasonal rainfall. Give ONE piece of evidence from the topographic map to substantiate the statement (1 x 2) (2)

Refer to the topographical map.

3.2.3 Which cell in the tri-cellular model of the global air circulation affects the climate of Malelane? (1 x 1) (1)

3.2.4 Give a reason for your answer to QUESTION 3.2.3. (1 x 2) (2)

3.2.5 Draw a fully labelled cross section of the landform that appears in block **E5 spot height 557** on the topographic map. Marks will be awarded for the following:

a) Caprock
b) Height

(2 x 1) (2)

3.2.6 Explain why the landing strip in block **A5** is well situated (1 x 2) (2)

(12)

3.3 GEOGRAPHICAL INFORMATION SYSTEMS (GIS)

3.3.1 Vector data is data that consists of points, lines and polygons. Identify the following vector data in block **E2**

a) A line feature (1 x 1) (1)

b) A polygon feature (1 x 1) (1)

Refer to block **D2** on the topographical map.

3.3.2 The name **Umgwenya** along the river in block **D2** on the topographic map, is an example of (attribute/spatial) data. (1 x 1) (1)

Refer to the area marked RED in block **A3** on the topographic map.

3.3.3 a) Define the concept *buffering.* (1 x 2) (2)

b) Do you think buffering was applied in the development of the town in block **A3**? (1 x 1) (1)

c) Give a reason from the topographic map for your answer to QUESTION 3.3.3(b). (1 x 2) (2)

(8)

[30]

TOTAL:150