LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF EDUCATION

NATIONAL SENIOR CERTIFICATE

GRADE 12

GEOGRAPHY PAPER

JUNE 2026

MARKING GUIDELINES

MARKS: 150

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SECTION A: CLIMATE AND WEATHER AND GEOMORPHOLOGY

QUESTION 1: CLIMATE AND WEATHER

1.1

1.1.1 B (1)

1.1.2 A (1)

1.1.3 A (1)

1.1.4 D (1)

1.1.5 C (1)

1.1.6 A (1)

1.1.7 C (1)

1.1.8 D (1) (8 x 1) (8)

1.2

1.2.1 Y (1)

1.2.2 Y (1)

1.2.3 Y (1)

1.2.4 Z (1)

1.2.5 Z (1)

1.2.6 Y (1)

1.2.7 Z (1) (7 x 1) (7)

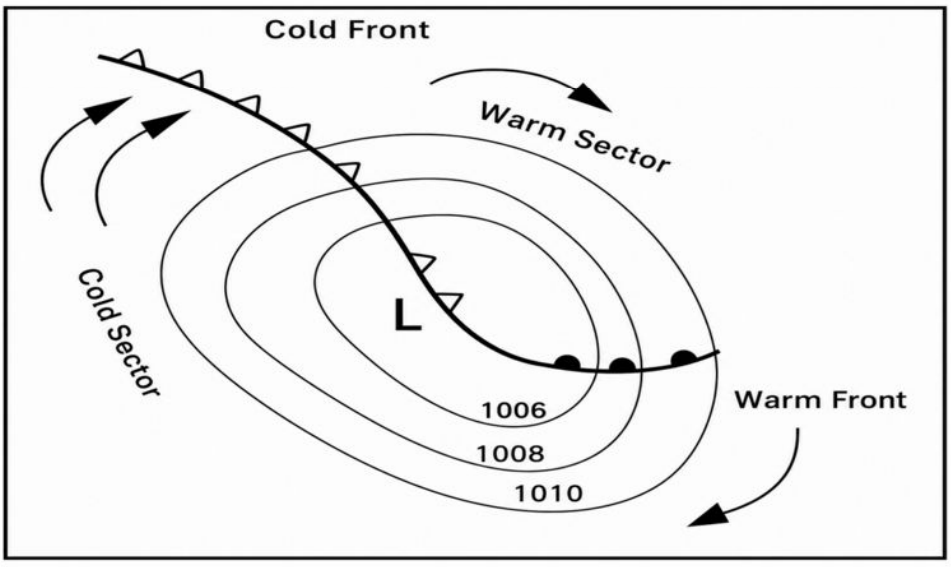
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1.3

1.3.1 Southern Hemisphere (1) (1 x 1) (1)

1.3.2 Satellite shows clockwise circulation (1)
The map of Southern Africa (1)
Cyclone will hit /approach Cape Town which is in South Africa (1)
[ANY TWO] (2 x 1) (2)

1.3.3 Mature stage of Mid-latitude cyclone



Marks will be allocated for:
Correct Plan view drawing (1)
Cold front (1)
Warm front ((1) Warm sector/
Cold sector (1)

(4 x 1) (4)

1.3.4 Flooding washes beach sand away (2)
Erosion of soil disturbs the coastal biodiversity (2)
Disruption of ecosystems (2)
Mass movement occurs (mudslides, rockfall) (2)
Vegetation is destroyed (2)
[ANY TWO] (2 x 2) (4)

1.3.5 Remain in-door to avoid heavy rainfall and flooding risks (2)
Stock up essentials such as food and fuel in time (2)
Keep track of the weather system (2)
Stay away from low lying areas (2)

[ANY TWO] (2 x 2) (4)

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1.4

1.4.1 Eye (1) (1 x 1) (1)

1.4.2 Air is subsiding /sinking (2)
Adiabatic warming and evaporation dry the air (2) (1 x 2) (2)

1.4.3 It creates and increases the spiralling action that forms the vertical eye wall (2) (1 x 2) (2)

1.4.4 Warm/ high sea surface temperature (2)
An intense low-pressure system (2)
Rapid rise of warm moist air (2)
High rate of condensation (2)
Release of latent heat (2)
ANY ONE (1 x 2) (2)

1.4.5 Less moisture supply over the land (2)
More friction which reduce the wind speed (2)

(2 x 2) (4)

1.4.6 Soil erosion, landslides and rock falls occur on steep slopes (2)
Natural vegetation is destroyed by mass movements (2)
Ecosystems are disrupted by flooding (2)
Flooding of rivers increase erosion (2)
Biodiversity is disrupted (2)

[ANY TWO] (2 X 2) (4)

1.5

1.5.1 An area of high temperature in the urban area surrounded by low temperatures in the rural areas (2) **[CONCEPT]** (1 x 2) (2)

1.5.2 A (1) (1 x 1) (1)

1.5.3 Geometric shapes of building/tall building causes sun's rays to be reflected and deflected between the buildings (2)
Artificial material used to build urban areas such as concrete and metals traps heat (2)
Urban activities generate more heat (2)
Building density reduces flow of air in the city centre and increase temperature (2)
Tarred surfaces and underground drainage systems reduces the rate of evaporation causing the atmosphere to be hot (2)
Large numbers of people in the city centre during the day contribute to higher temperatures as they use heaters, geysers and cooking apparatus (2)

[ANY ONE] (1 x 2) (2)

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1.5.4 Increases atmospheric temperature (2)
Leads to the formation of clouds (2)
Increases the probability for occurrence of rainfall (2)
Increases the loss of soil moisture (2) (1 x 2) (2)

1.5.5 Planting more trees would absorb carbon dioxide which is responsible for trapping heat (2)
Reduce the building density which allows the use of less artificial building materials that traps heat (2)
Establish roof gardens which prevents use of metallic or concrete roof that absorb and retain heat (2)
Use of reflective paints prevent heat from entering the lower atmosphere (2)
Decentralisation of industries and commercial activities to outlying areas (2)

[ANY FOUR] (4 X 2) (8)

[60]

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QUESTION 2: GEOMORPHOLOGY

2.1

2.1.1 Y (1)

2.1.2 Z (1)

2.1.3 Y (1)

2.1.4 Y (1)

2.1.5 Z (1)

2.1.6 Z (1)

2.1.7 Y (1) (7 x 1) (7)

2.2

2.2.1 C (1)

2.2.2 A (1)

2.2.3 C (1)

2.2.4 D (1)

2.2.5 B (1)

2.2.6 B (1)

2.2.7 D (1)

2.2.8 B (1) (8 x 1) (8)

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2.3

2.3.1. The process in which a river reaches a state of equilibrium between its eroded materials and deposited materials (2) **[CONCEPT]** (1 x 2) (2)

2.3.2 Dam (1)
Knick point (1) (2 x 1) (2)

2.3.3 Sketch B

2.3.4 It has an uneven riverbed/Not smooth (2)
It has many obstacles (2)
[ANY ONE] (1 x 2) (2)

2.3.5 Vertical and head-ward erosion in the upper course removes temporary base levels (2)
The gradual slope in the middle course promotes lateral erosion. (2)
Lateral erosion continues the levelling of temporary base levels. (2)
An even/gentle gradient in the lower course promotes deposition (2)
The deposited material fills up and level the temporary base levels. (2)
An equilibrium is reached when the rate of erosion is equivalent to deposition (2)
The river profile becomes flat and smooth (2)

[ANY FOUR] (F + Q) (4 x 2) (8)

INSTRUCTIONS FOR PART MARKING
Vertical erosion/headward erosion (1)
Lateral erosion (1)
Deposition (1)
Equilibrium (1)
[ANY TWO- MAXIMUM TWO MARKS]

2.4

2.4.1 A more energetic river erodes through the watershed and steals the headwaters of another river/ a less energetic river **[CONCEPT]** (1 x 2) (2)

2.4.2 Abstraction (1 x 1) (1)

2.4.3 Steep gradient promotes high river velocity and vertical erosion/ the river cuts back towards its source due to the steep gradient and its velocity (2) (1 x 2) (1)

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2.4.4 River will lose its headwaters (2)
Too little water remains in the valley within which the flows (2)(1 x 2) (2)

2.4.5 D = Elbow of capture (1)

E = River gravel (1) (1 x 2) (2)

2.4.6 River A has a steep gradient, high velocity and higher rate of vertical erosion than River B (2)
River A erodes faster towards the source and cuts across the watershed/headward erosion (2)
[ANY ONE] (1 x 2) (2)

2.4.7 Loses most of its water and becomes a misfit stream (2)
Reduced erosive power increases deposition (2)
Floodplains may dry out over time. (2)
Aquatic ecosystems begin to suffer (2)
Aquatic biodiversity/habitats become dysfunctional (2)
Loss of protected/rare species is experienced (2)
[ANY TWO] (2 x 2) (4)

2.5.

2.5.1 Using River resources/managing river sources in a sustainable way so that it will be available for future generation. (2) **[CONCEPT]** (1 x 2) (2)

2.5.2 Eight years (1) (1 x 1) (1)

2.5.3 Poor service delivery (2)
Poor maintenance of the sewage system (2)
Damage to sewage pipes by community (2) (1 x 2) (2)

2.5.4 Waste disposal pollution affects water quality (2)
Spread of waterborne diseases. (2)
Decline in aquatic life. (2)
Deforestation reduces interception and increases floods. (2)
Surfaces become compacted, reducing infiltration. (2)
[ANY TWO] (2 x 2) (4)

2.5.5 Create a buffer zone close to rivers to prevent industrial development being too close (2)
Encourage the recycling of waste rather than dumping in the rivers (2)
Frequent testing of water quality to prevent disruption of ecosystems (2)
Impose fines to industries and people dumping into rivers (2)
Educate people about the importance of catchment areas (2)
Awareness campaigns and legislation to prevent dumping into rivers (2)
Wetlands must be conserved (2)
[ANY THREE] (3 x 2) (6)

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[60]

TOTAL SECTION A: 120

SECTION B

QUESTION 3

3.1 **MAP SKILLS AND CALCULATIONS**

3.1.1 C (1) (1 x 1) (1)

3.1.2 A (1) (1 x 1) (1)

3.1.3 Formula: **Magnetic bearing = True bearing + magnetic declination**

Difference in years = 2026-2009

= 17 years (1)

Mean annual change = 7'

Total annual change = 7' x 17

= 1° 59' W (119') (1)

Total magnetic declination = 25° 07' + 1° 59' W (1)

= 27° 6' W (1)

Magnetic bearing = 66° + 27° 6' W (1)

= 93° 6' W (1)

(6 x 1) (6)

3.1.4 5 m (1) (1 x 1) (1)

3.1.5 Summer (1) (1 x 1) (1)

3.2 **MAP INTERPRETATION**

3.2.1 South-west (1) (1 x 1) (1)

3.2.2 (a) Less (1) (1 x 1) (1)

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(b) A great number of dams for storage of water(1)
There are a lot of non-perennial rivers (1)
There are a lot of windpumps (1)
[ANY ONE] (1 x 2) (2)

3.2.3 (a) **B** is a steep slope while **C** is a gentle. (1 x 2) (2)

ALL OR NOTHING

(b) At **B**, the contour lines are close together (1)
At **C** the contour lines are far apart (1)
(2 x 1) (2)

3.2.4 (a) Temperature at **A4** is higher than at **D4** (2) (1 x 2) (2)

(b) **A4** is a dense settlement with artificial surface that generate more heat
D4 is a natural surface that does not generate artificial heat. (2)
(1 x 2) (2)

3.3 **GEOGRAPHICAL INFORMATION SYSTEMS (GIS)**

3.3.1 N9/ National Road (1) (1 x 1) (1)

3.3.2 D/ Point (1) (1 x 1) (1)

3.3.3 Details are clearly visible (2)

Many Pixels/ small pixels (2)

[ANY ONE] (1 x 2) (2)

3.3.4 A Geographical Information System technique that creates a zone or area of a specified width around a geographical feature. (2) **[CONCEPT]**
(1 x 2) (2)

3.3.5 It prevents people from dumping waste into the river (2) (1 x 2) (2)

TOTAL SECTION B: [30]

GRAND TOTAL: 150

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