LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF
EDUCATION

NATIONAL

SENIOR CERTIFICATE

GRADE 10

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GEOGRAPHY P1

MAY/JUNE 2026

MARKING GUIDELINES

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MARKS : 150

These marking guidelines consist of 8 pages.

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SECTION A

QUESTION 1: ATMOSPHERE

1.1

1.1.1 Troposphere
1.1.2 Mesosphere
1.1.3 Mesosphere
1.1.4 Stratosphere
1.1.5 Troposphere
1.1.6 Thermosphere
1.1.7 Ozone layer
1.1.8 Troposphere (8 x 1) (8)

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1.2

1.2.1 Y
1.2.2 Z
1.2.3 Z
1.2.4 Y
1.2.5 Y
1.2.6 Z
1.2.7 Y (7 x 1) (7)

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1.3

1.3.1 The average increase in global temperatures of the earth (2) (1 x 2) (2)
[CONCEPT]

1.3.2 Altering of ecosystems
Forcing animals to migrate to cooler places for survival (2 x 1) (2)

1.3.3 Carbon dioxide(1) methane(1) nitrous oxide(1) chlorofluorocarbons(1) and water vapour(1) **(ANY TWO**) (2 x 1) (2)

1.3.4 Burning of fossil fuel by industries increases carbon dioxide which absorbs more terrestrial radiation causing an increase temperatures (2)
Deforestation increases the concentration of carbon dioxide which absorbs more terrestrial radiation thus increasing temperatures (2)
Refrigerators releases Chlofluorocarbons that absorbs more long wave /terrestrial radiation increasing temperatures (2)
Methane from livestock absorbs more long wave / terrestrial radiation causing an increase in temperatures (2) (2 x 2) (4)
(ANY TWO)

1.3.5 Burning of fossil fuel (1) (1 x 1) (1)

1.3.6 Rewards and incentives for reducing carbon emissions(2)
Carbon taxes (2) Stanmorephysics.com
Recycling, as manufacturing new products emits more greenhouse gases (2)
Using of environmentally friendly sources of energy e.g. solar power, wind power, etc. (2)
Planting more trees and conserving forest (2)
Educating people on ways to reduce their carbon footprint (2)
Use of public transport to reduce the release of burning fuel (2)
Use of electric cars to reduce emission of carbon (2)
Impose fines for deforestation (2) (2 x 2) (4)
(ANY TWO)

1.4

1.4.1 Windward side (1) (1 x 1) (1)

1.4.2 Nimbostratus(2), cumulus(2), stratocumulus(2) **(ANY ONE)** (1 x 2) (2)

1.4.3 Moisture content: wet (1)
Temperature: high (1) (2 x 1) (2)

1.4.4 Air heats up adiabatically (2)
Air temperature increases by 1ºC per 100m (2)
Temperature increase with decrease in height (2) (1 x 2) (2)
(ANY ONE)

1.4.5 Relief/ Orographic rainfall forms when warm moist wind blows off the ocean onto a mountain (2), which then forces it to rise (2), The rising air cools (2) and have the water vapour it contains condenses to form clouds (2), This results in rain falling on the windward side of the mountain (2).

(ANY FOUR) (4 x 2) (8)

1.5

1.5.1 Line on the map joining places with the same atmospheric pressure.(2)(1x2)(2)

1.5.2 Winter (1) (1 x 1) (1)

1.5.3 Kalahari/ high pressure cell in the interior (1)

Clear skies in the interior (1)
Lower air temperatures (1) (2 x 1) (2)

(ANY TWO)

1.5.4 4 hpa (2) (1 x 1) (1)

1.5.5 high pressure cell (2) (1 x 1) (1)

1.5.6 Cape Town (1), cloud cover is overcast (3) (1 + 3) (3)

1.5.7

a) 29ºC (1)
b) 1ºC (1)
c) Clear skies (1)
d) North west(1)
e) 15 knots (1) (5 x 1) (5)

[60]

QUESTION 2: GEOMORPHOLOGY

2.1

2.1.1 Mantle
2.1.2 Crust
2.1.3 Inner core
2.1.4 Outer core
2.1.5 Crust
2.1.6 Mantle
2.1.7 Crust (7 x 1) (7)

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2.2

2.2.1 A
2.2.2 B
2.2.3 C
2.2.4 D
2.2.5 A
2.2.6 B
2.2.7 A
2.2.8 C (8 x 1) (8)

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2.3

2.3.1 A – Igneous

B – Sedimentary

C – Metamorphic (3 x 1)(3)

2.3.2 Intrusive forms when magma cools beneath the earth's surface while extrusive forms when magma cools quickly above the earth's surface. **(CONCEPT**) (4)

(2 x 2) (4)

2.3.3 Characteristics of Sedimentary rocks:

They usually form in layers

Fossils are found in these rocks

Can be able to be folded or bent **(ANY TWO**) (2 x 2) (4)

2.3.4 Use of Metamorphic rocks:

Used in the building industry (2)

Slate can be used for making roof tiles and floor tiles (2)

Can be used for decoration e.g making sculptures/ grave stones (2)

(ANY ONE) (1 x 2) (2)

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2.3.5 Granite (1)/basalt (1)/ Dolerite (1) **(ANY TWO**) (2 x1) (2)

2.4

2.4.1 The theory about the movement of the Earth's continents relative to each other over geologic time (2) **(CONCEPT**) (1 x 2) (2)

2.4.2 Alfred Wagner (1) (1 x 1) (1)

2.4.3 Gondwana land and Laurasia (2) (2 x 1) (2)

2.4.4 The continents fit together like a jig saw puzzle (2)

Rocks of similar type, age and formation were found in South east Brazil and South Africa (2)

Fossils of small reptiles were also found in South East Brazil and South Africa (2)

Coal which forms in hot wet conditions is found beneath the Antarctic ice cap (2)

(ANY THREE) (3 x 2) (6)

2.4.5 The movement of plate is caused by convection currents in the mantle, which drag along the overlaying crust (2)

Plates rest on top of the underlying mantle (2)

Heat generates convection currents in the mantle (2)

Plates move along convection currents that are created (2)

Plates move away from each other or towards each other (2) (2 x 2) (4)

(ANY TWO)

2.5

2.5.1 The vibration or shaking of the earth's crust (2) **(CONCEPT)** (1 x 2) (2)

2.5.2 Epicentre (1) (1 x 1) (1)

2.5.3 Isoseismal lines (1) (1 x 1) (1)

2.5.4 6.5 (1) (1 x 1) (1)

2.5.5 A 60 year old man died / loss of life (2)

Twelve others were injured (2)
(ANY ONE) (1 x 2) (2)

2.5.6 High number of deaths and injuries (2)

Power failure which leads to power outage (2)
Destruction of houses which leads to homeless people (2)
Damage of water pipes which leads to lack of clean water (2)
Destruction of roads which leads to areas being inaccessible for relief services (2)
Disruption of telecommunication for reporting of damages (2)
(ANY FOUR) (4 x 2) (8)

[60]

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SECTION B

QUESTION 3: GEOGRAPHICAL SKILLS AND TECHNIQUES

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 1146.7m (1) (1 x 1) (1)

3.1.4 Formula: **Actual distance= Map distance x Scale**

8.5 (1) cm x 100

= 850m (1) (2 x 1) (2)

3.1.5 161º(2) (Range 160 º-162º) (2 x 1) (2)

3.1.6 161º + 14º 23' (1)

175º 23' (1) (Range 174º- 176º) (2 x 1) (2)

3.1.7 Main road (1) (1 x 1) (1)

3.2 MAP INTERPRETATION AND APPLICATION

3.2.1 Gentle slope(1), contour lines are far apart from each other(2) (1+2) (3)

3.2.2 Crop farming/ farming/ cultivation (1), (1 x 1) (1)

3.2.3 Track and hiking (1 x 1) (1)

3.2.4 The area is mountainous / hiking is done in mountainous area(2) (1 x 2) (2)

3.2.5 Ratio (1) and linear / line scale(1) (2 x 1) (2)

3.2.6 South west (1) (1 x 1) (1)

3.2.7 Dam wall is at the south west(2) (1 x 2) (2)

3.3 GEOGRAPHIC INFORMATION SYSTEMS (GIS)

3.3.1 Gathering of information about the earth's surface without physical contact

(CONCEPT) (1 x 2) (2)

3.3.2 Satellite(1) (1 x 1) (1)

3.3.3 Hardware (1) Software (1) Data (1) People (1) Method (1)

(ANY THREE) (3 x 1) (3)

3.3.4 Dam (1), Cultivated land (1) (2 x 1) (2)

[30]

TOTAL: 150

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