LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF
EDUCATION

NATIONAL SENIOR CERTIFICATE

GRADE 11

Stanmorephysics.com

GEOGRAPHY

MAY-JUNE 2025

Stanmorephysics.com

MARKING GUIDELINES

MARKS: 150

These Marking guidelines consist of 8 pages.

Copyright reserved

SECTION A: THE ATMOSPHERE AND GEOMORPHOLOGY

QUESTION 1: THE ATMOSPHERE

1.1.
1.1.1. High (1)
1.1.2. High (1)
1.1.3. Low (1)
1.1.4. High (1)
1.1.5. Low (1)
1.1.6. High (1)
1.1.7. Low (1)

1.2.
1.2.1. C (1)
1.2.2. B (1)
1.2.3. A (1)
1.2.4. B (1)
1.2.5. C (1)
1.2.6. B (1)
1.2.7. D (1)
1.2.8. A (1)



1.3.
1.3.1. Geostrophic flow- winds that blows parallel to isobars, under the combined effects of pressure gradient force and Coriolis force. (2)
[CONCEPT]
1.3.2. B-A (1)
1.3.3. C-pressure gradient force (1)

D- Coriolis force (1)

1.3.4. Isobars (1)
1.3.5. Northern hemisphere (1)
1.3.6. Wind is deflected to their right. (2)
1.3.7. Air moves from a high pressure to a low pressure because of pressure gradient force. (2)

As soon as it moves the air started to deflect because of Coriolis force that develops because of the rotation of the earth. (2)

As wind moves from high to a low pressure the speed increases. (2)

As the speed increases the deflection from the Coriolis force increases. (2)

The speed of and Coriolis force increases until pressure gradient force and Coriolis force are of equal strength. (2)

The air is then no longer moving from a high pressure to a low pressure but flows parallel to the isobars. (2)

[ANY THREE]

1.4.

1.4.1. Fohn winds are warm, dry winds that descends on the leeward side of the mountain. (2) **[CONCEPT]**

1.4.2. A-windward (1)

B-leeward (1)

1.4.3. Decreases (1)

1.4.4. When moist air from the sea hits a mountain, it is forced to rise up the windward slope. (2)

As it rises, the air cools adiabatically (due to expansion at lower pressure). (2)

Cooler air holds less moisture, so the water vapor condenses into clouds and precipitation occurring in the windward slope. (2)

[ANY TWO]

1.4.5. Little to no precipitation/clear skies (2)

Rain shadow effect (2)

Dry hot winds/loss of moisture/dry conditions/very low humidity and dry air (2)

Warm temperatures/increase in temperature. (2)

Increased evaporation and fire risk. (2)

Strong winds as fohn wind can be gusty and strong. (2)

[ANY THREE]

1.5.

1.5.1. A process where fertile land becomes arid. (2) **[CONCEPT]**

1.5.2. Overpopulation (1)

Over-farming (1)

Deforestation (1)

[ANY ONE]

1.5.3. Sahel region of Africa / the area between the Sahara Desert and the Sudanian Savannah (1)
[ANY ONE]

1.5.4. People in Africa are subsistence farmers. (1)

Dependent on fertile soil to produce food. (1)

Farming is a source of income. (1)

[ANY ONE]

1.5.5. People from Senegal migrate to other countries to use their resources/make living (2)

This puts a strain on the land in those countries and less food is produced. (2)

Local citizens are unable to feed themselves and depend on government and foreign donations. (2)

Conflict between locals and immigrants comes at a great economic costs. (2)

Locals and immigrants move to the urban areas which puts more strain on the host country's economy. (2)

[ANY ONE]

1.5.6. There should be afforestation programmes. (2)

Effective soil management that should include organic fertilizers, crop rotation and contour ploughing. (2)

Allowing the land to be fallowed for a period of time to renew itself. (2)

Supporting local farmers with education and training (2)

Introduce programmes on rainfall unreliability and planting drought resistant crops. (2)

Natural action plans that could oversee landownership and encourage sustainable management of land (2)

[ANY FOUR]

[60]

Stanmorephysics.com

QUESTION 2: GEOMORPHOLOGY

2.
2.1.1. X (1)
2.1.2. Y (1)
2.1.3. Y (1)
2.1.4. Y (1)
2.1.5. X (1)
2.1.6. Y (1)
2.1.7. X (1)
2.1.8. Y (1)

2.2.
2.2.1. F (1)
2.2.2. C (1)
2.2.3. B (1)
2.2.4. D (1)
2.2.5. E (1)
2.2.6. G (1)
2.2.7. A (1)



2.3.
2.3.1. A-Tors (1)

B- granite domes (1)

2.3.2. Rock have no strata/bedding planes (1)
2.3.3. A-laccoliths (1)
B-batholith (1)
2.3.4. Erosion of overlying strata/materials. (2)
2.3.5. Occurs over granite rocks, when granite cools underground and develops joints(cracks) due to contraction. (2)
Water seeps into joints of igneous rocks underneath the earth's surface. (2)

This causes chemical weathering to take place. (2)

Chemical weathering causes the rock to break into rectangular block. (2)

Softer materials are eroded away, leaving the resistant rectangular blocks exposed. (2)

[ANY FOUR]

2.4.
2.4.1. A-plateau (1)

B-canyon (1)

2.4.2. Not uniformly (1)

2.4.3. Steep-sided valley with rocks vary in resistance to erosion (2)

Rivers incise into joints in rocks (2)

Back wasting widens the joints (2)

Resistant layers from vertical cliffs and softer rock from gentle slopes are formed. (2)

[ANY TWO]

2.4.4. Mesas form from a plateau that is reduced in size by back wasting. (2)

Continuing erosion (back wasting) reduces the size of the mesa to form a butte. (2)

2.4.5. The impressive scenery associated with canyons can be used as a tourist attraction. (2)

Canyons can be utilised for recreational activity (accept examples) (2)

The pediplain below canyons, mesas and buttes can be used for livestock farming. (2) **[ANY TWO]**

2.5.

2.5.1. Landslides (1)

Rock falls (1)

Mud flow (1)

Soil creep (1) **[ANY TWO]**

2.5.2. 'the region is subtropical' (1)

2.5.3. Water pressure pushes particles apart reducing their strength (2)

Some soil like clays are more slippery (2)

Slopes become unstable causing masses of land to break off (2)

[ANY TWO]

2.5.4. Collapsing land would lead to death and injury to people. (2)

Property damage and loss of homes (2)

Destruction of infrastructure (accept examples) (2)

Loss of jobs (2)

Interruption of basic services (accept examples) **[ANY TWO]**

2.5.5. Careful planning and management needed when making use of slopes (Accept examples) (2)

Development in landslide-prone areas must be restricted. (2)

Regrade slopes. (2)

Reduce deforestation on slopes. (2)

Provide adequate drainage on slopes. (2)

Plant vegetation covers on slopes. (2)

[ANY TWO]

[60]

TOTAL SECTION A: [120]

SECTION B

QUESTION 3: GEOGRAPHICAL SKILLS AND TECHNIQUES

3.

3.1.1 D (1)

3.1.2 B (1)

3.1.3 VI=1558 – 1409 = 149m (1)

HE= 12 cm X 100 = 1200 m (1)

$$\text{Gradient} = \frac{\text{VI}}{\text{HE}}$$

$$= \frac{149}{1200}\ (1) \qquad \text{(1 mark for correct substitution)}$$

= 1: 8.05 (1)

3.1.4 Difference in years: 2025 – 2017 = 8 years (1)

Mean annual change: 10' westwards

Total change : 8 X 10' w = 80' w = 1^0 20' w (1)

Magnetic declination for 2025: 26^0 25' + **(1)** 1^0 20' = 27^0 45' WTN **(1)**

3.2 Map interpretation

3.2.1 Refer to I in block A2 on the topographic map.

(a) Erosion. (1)

(b) Water/runoff carries away loosened soil. (2)

River/stream erode river banks exposing the soil. (2) **[ANY ONE]**

3.2.2 Refer to block D4 on the topographic map.
(a) Seasonal rainfall. (1)
(b) Non-perennial river. (1)

Wind pump. (1)

Perennial water/dam. (1)

[ANY TWO]

(c) West. (1)
(d) Highest point to the north east/spot height 1485 (2)

The V-shape contour lines point to areas of increasing heights to the east. (2)

Acute angle formed by the tributaries joining the main stream point in a westerly direction. (2)

Dam wall on the western side of the block. (2)

[ANY ONE]

Stanmorephysics.com

3.2.3 Refer to block C2 on the topographic map
(a) Steep. (1)
(b) Contour lines are close to each other (2)

3.3 Geographical Information System

3.3.1 Vector. (1)
3.3.2 Clarity of an image (2) **[CONCEPT]**
3.3.3 64. (1)
3.3.4 University Researcher wants to collect environmental data in block C2 on the topographic map.
(a) Satellite. (1)

Drones. (1)

(b) Allows coverage of very large areas. (2)
Can access inaccessible areas. (2)
No limitation on the extent of information that can be gathered from a single remotely sensed images. (2)
Cheap and fast to collect data of large areas. (2)
Data can be easily processed and analysed fast using a computer. (2)
[ANY ONE]

TOTAL SECTION B: 30

GRAND TOTAL: 150

Copyright reserved