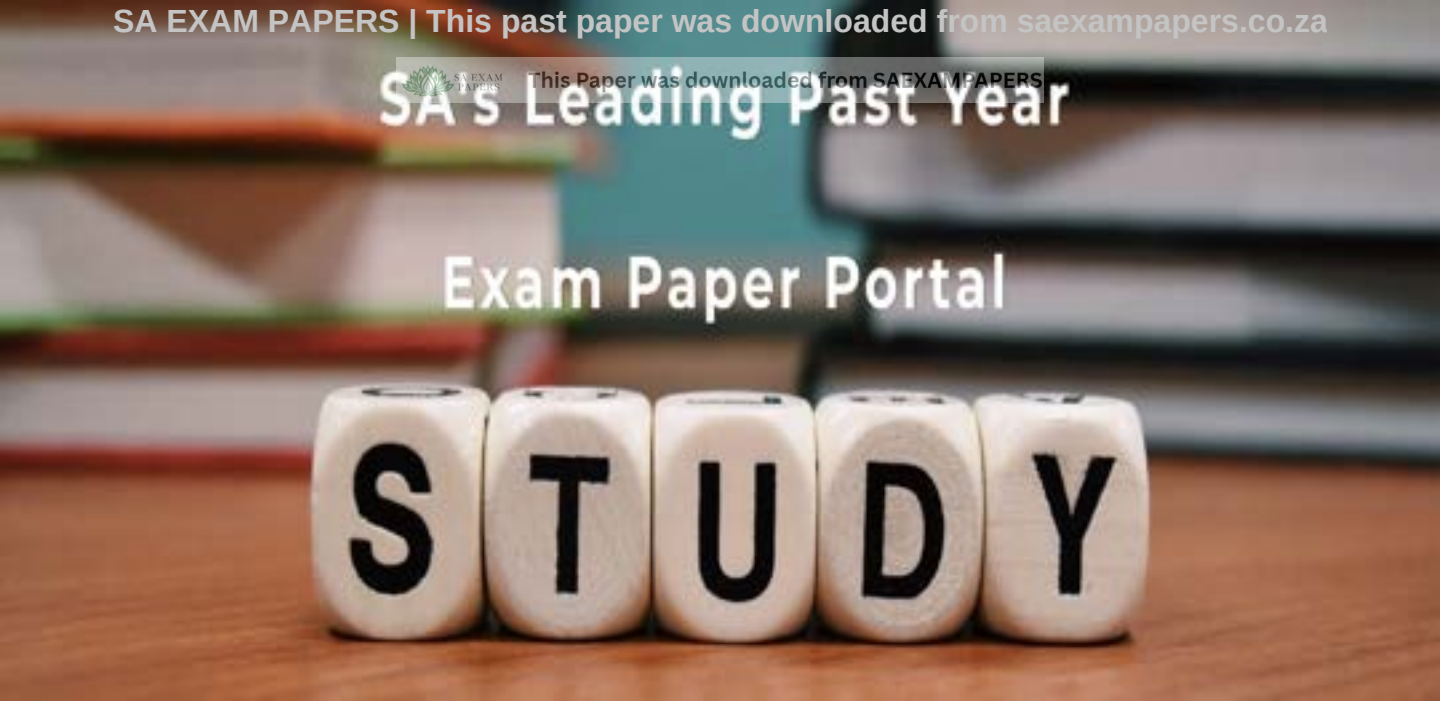

**KWAZULU-NATAL PROVINCE**

**EDUCATION**
REPUBLIC OF SOUTH AFRICA

# NATIONAL SENIOR CERTIFICATE

## GRADE 12

## GEOGRAPHY P1

## MARKING GUIDELINES

## PREPARATORY EXAMINATION

## SEPTEMBER 2025

**MARKS: 150**

**This marking guideline consists of 9 pages.**

## SECTION A: CLIMATE AND WEATHER AND GEOMORPHOLOGY

### QUESTION 1: CLIMATE AND WEATHER

1.1

1.1.1 B

1.1.2 A

1.1.3 C

1.1.4 A

1.1.5 A

1.1.6 C

1.1.7 B

1.1.8 A (8 x 1) (8)

1.2

1.2.1 South Atlantic

1.2.2 Anti-clockwise

1.2.3 1016

1.2.4 winter

1.2.5 stable

1.2.6 ridge

1.2.7 north-west (7 x 1) (7)

1.3 **TROPICAL CYCLONES**

1.3.1 9 (tropical cyclones) (1) (1 x 1) (1)

1.3.2 Warm sea surface temperature allows for the large-scale evaporation and the release of latent heat which serves as the energy source. (2)
The latent heat, which is accumulated in water vapour is released when water vapour condenses into cumulonimbus clouds. (2)
Rising air provides heat and moisture for the atmosphere to become unstable. (2)
Creates upper atmospheric divergence of air. The removal of air in the upper troposphere, allows for the creation of low-pressure area at the lower level of the atmosphere. (2)
The low wind shear allows for sustained upliftment of moisture over the warm ocean (2)
[ANY TWO] (2 x 2) (4)

1.3.3 **INFRASTRUCTURE**
Infrastructure damage, strong winds, lightning, hail and heavy rainfall result in: destruction of roads, bridges, and buildings, making transportation and communication difficult. (2)
Power outage affecting essential services such as hospitals and water supply. (2)

**PEOPLE**
Flooding & displacement of people. (2)
Economic Loss such as destruction of homes, businesses, leading to financial strain on individuals and the government. (2)
Loss of life and livelihoods (2)
Shortage of food (accept examples) (2)
Health crisis (accept examples) (2)
[NB: Learner must provide one example from infrastructure and one from people] (2 x 2) (4)
[ANY TWO]

1.3.4 Early warning system, use satellite tracking and weather alerts to inform residents about the approaching cyclone. (2)
Evacuation plans, identify safe shelters and ensure communities in high-risk areas evacuate before the cyclone makes landfall. (2)
Strengthening Infrastructure and buildings, by reinforcing them to withstand strong winds and flooding. (accept examples) (2)
Proper maintenance (cleaning) of drainage system (2)
Emergency rescue services on standby. (2)
Placing sandbags/artificial levees along the river banks/coastal areas. (2)
Community awareness and education on cyclone preparedness. (2)
Advise people to stock up on emergency resources (food, water, medical supplies and emergency equipment). (2)
[ANY THREE] (3 x 2) (6)

1.4

1.4.1 Hot, dry and gusty winds which blow from the interior down the escarpment to the coast in winter of South Africa. (2) (1 x 2) (2)
[CONCEPT]

1.4.2 Coastal Low-Pressure Cell (1)
Kalahari High Pressure Cell (1) (2 x 1) (2)

1.4.3 It is heated up adiabatically / the temperature increases as it descends the mountain / moisture is evaporated. (1) (1 x 1) (1)

1.4.4 The low-pressure system near the coast draws the air from the interior, initiating the movement of berg winds. (2)
Intensifies pressure difference (gradient) between the high-pressure cell in the interior of South Africa and the coast. (2)
[ANY ONE] (1 x 2) (2)

1.4.5 Increased risk of wildfires, the dry, warm air brought by berg winds creates conditions that are highly conducive to wildfires. (2)
Vegetation becomes dry and highly flammable, increasing the likelihood of fires spreading, especially in regions with dry bush or grasslands. (Vulnerable areas) (2)
Berg winds can intensify/ increase drought conditions as they lead to increased evaporation rates. (2)
This can negatively affect forests, and natural vegetation, and loss of biodiversity in the affected areas. (2)
Destruction of ecosystems / food web / food chain (2)
Destruction of natural habitats (2)
Prolonged exposure to berg winds can lead to soil degradation. (2)
As plants dry out, the soil becomes more vulnerable to erosion. (2)
Animals can suffer heat stroke/heat exhaustion/ die (2) (4 x 2) (8)
[ANY FOUR]

1.5

1.5.1 Mass concentration of pollutants trapped above the city. (2) (1 x 2) (2)
[CONCEPT]

1.5.2 Vehicle emissions. (1)
Industrial activity (e.g., factories, power plants) (1)
Burning of fossil fuels (coal, petrol, diesel) (1)
Construction activities (1)
[ANY ONE] (1 x 1) (1)

1.5.3 Subsiding/sinking/descending air. (1) (1 x 1) (1)

1.5.4 Strong subsidence of air pushes/traps/compresses pollutants close to the ground. (2) (1 x 2) (2)

1.5.5 Winter (1) (1 x 1) (1)

1.5.6 Atmospheric stability in the morning with less vertical mixing of air which traps pollutants closer to the ground. (2)
Reduced dispersion in the late afternoon due to low temperatures. (2)
Increased traffic (congestion) during peak hours (morning and afternoon) leading to increased vehicle emissions. (2)
[ANY TWO] (2 x 2) (4)

1.5.7 Promote the use of public transport to reduce the number of vehicles. (accept examples) (2)
Implement strict emission controls / regulations. (2)
Impose fines on air polluters. (2)
Education and awareness campaigns. (2)
Create cycle lanes. (2)
Encourage green spaces/green belts in urban areas [accept examples] (2)
Promote renewable / clean energy sources (accept examples). (2)
Industrial and commercial decentralization (2)
[ANY TWO] (2 x 2) (4)

## QUESTION 2: GEOMORPHOLOGY

2.1

2.1.1 C

2.1.2 E

2.1.3 B

2.1.4 A

2.1.5 C

2.1.6 A

2.1.7 B (7 x 1) (7)

2.2

2.2.1 Z (Abstraction)

2.2.2 Y (Source)

2.2.3 Y (Distributaries)

2.2.4 Z (Delta)

2.2.5 Z (Graded)

2.2.6 Y (Incised meander)

2.2.7 Y (Transverse)

2.2.8 Y (Waterfall) (8 x 1) (8)

2.3 **DELTA**

2.3.1 Is a landform that is a triangular or fan shaped like created through deposition of sediments at the mouth of the river. (2) [CONCEPT] (1 x 2) (2)

2.3.2 Lower course (1) (1 x 1) (1)

2.3.3 When the river approaches the ultimate base level its speed/energy is reduced. (2)
The river is unable to transport its load and deposits its sediments at the ultimate base level. (2)
Flocculation of clay particles in the sediments due to saline conditions. (2)
The sediments (deposited material) spread outwards from the mouth and gradually accumulate and rise above the sea level. (2)
The slow velocity of water leads to the formation of distributaries. (2)
[ANY TWO] (2 x 2) (4)

2.3.4 Contain fertile soil for agriculture. (2)
Good for construction of towns and cities. (2)
Habitable by humans/ can be used to build settlements. (2)
Close to water supply for irrigation or hydro-electricity generation. (2)
Can be used for bulk transportation of goods. (2)
Promote aquaculture. (2)
Provide water for domestic activities. (2)
Contains large mineral deposits. (2)
[ANY FOUR] (4 x 2) (8)

2.4 **RIVER REJUVINATION**

2.4.1 When a less energetic river regains energy and starts to erode vertically. (2) (1 x 2) (2)
[CONCEPT]

2.4.2 Lower course (1) (1 x 1) (1)

2.4.3 Presence of the mouth (sea)/ ultimate base level. (2)
Presence of the flood plain. (2)
Presence of meandering river. (2)
[ANY ONE] (1 x 2) (2)

2.4.4 After river rejuvenation has occurred the meanders are cut (incised) deeply into the underlying rock. (2) (1 x 2) (2)

2.4.5 Higher rainfall increases the volume of water, velocity and its erosive ability. (2)
Drop-in sea-level results in river gaining energy. (2)
Uplift of land (isostatic uplift). (2)
River capture which increases the volume and erosive potential of the captor stream. (2)
Increased volume of water due to melting ice (glaciation). (2)
[ANY TWO] (2 x 2) (4)

2.4.6 Ensures reliable supply of water for irrigation. (2)
Enhances soil fertility. (2)
Potential for hydro-electric power generation. (2)
Enhances farming capacity. (2)
Increased supply of water for irrigation which reduces input costs (2)
Reduces/less risks for flooding. (2)
[ANY TWO] (2 x 2) (4)

## 2.5 CATCHMENT MANAGEMENT

2.5.1 Maintaining rivers and use of water in a sustainable way so that it is available for future generations. (2) (1 x 2) (2)
[CONCEPT]

2.5.2 Irrigation (1)
Farming (1)
[ANY ONE] (1 x 1) (1)

2.5.3 To test the quality of water along the river course. (2)
Ensure that the water quality is maintained. (2)
Identify the point where water pollution occurs. (2)
[ANY ONE] (1 x 2) (2)

2.5.4 The polluted water (1) will result in the loss of bio-diversity. (1)
Ecosystems / aquatic life will be disturbed (1) due to polluted water. (1)
Poor farming methods (accept examples) (1) will accelerate soil erosion. (1)
Eutrophication (1) decreases the oxygen levels in the river. (1)
[ANY TWO] (2 x 2) (4)
**PART MARKING (ONE MARK FOR A FACTOR AND ONE MARK FOR A QUALIFIER**.

2.5.5 Regular testing of water / monitoring water quality. (2)
Imposing fines to industries that pollute the river. (2)
Implementing flood control measures (accept examples) to prevent pollutants from entering the river. (2)
Removal of invasive (alien) plants and animals. (2)
Promote community water stewardship (supervision). (2)
Community education / awareness programmes. (2)
Restoration of indigenous plants along the river bank. (2)
Buffering along the river. (2)
[ANY THREE] (3 x 2) (6)

**TOTAL SECTION A: [120]**

## SECTION B

## QUESTION THREE: GEOGRAPHICAL SKILLS AND TECHNIQUES

### 3.1 MAP SKILLS AND CALCULATIONS

3.1.1 A (5) (1 x 1) (1)

3.1.2 C (8) (1 x 1) (1)

3.1.3 C (46,4m) (1 x 1) (1)

3.1.4 A (North West) (1 x 1) (1)

3.1.5 Actual distance = Map distance x Map scale
= 3,4 ✓ cm x 0,5 (Range 3,3 cm – 3,5 cm)
= 1,7 km ✓ [Range: 1,65 km – 1,75 km] (2 x 1) (2)

3.1.6 **A = L x B**
L = 3,1 cm x 0,1 = 0, 31 km (Range 3 cm to 3,2 cm) ✓
B = 2,2 cm x 0,1 = 0,22 km (Range 2,1 cm to 2,3 cm) ✓
L x B = 0,31 km x 0,22 km ✓
= 0,0682 $km^2$✓ (Range 0.063 $km^2$ to 0.073 $km^2$) (4 x 1) (4)

### 3.2 MAP INTERPRETATION

3.2.1 A (South-easterly) Accept C (North-easterly) (1 x 1) (1)

3.2.2 D (28°32´09´´S, 29°45´35´´E) (1 x 1) (1)

3.2.3 Non-perennial (seasonal) rivers (1)
Many dams (1)
Reservoirs (1)
Water towers (1)
Wind pump (1) (1 x 1) (1)
[ANY ONE]

3.2.4 Dendritic (1) (1 x 1) (1)

3.2.5 Resembles the branches of a tree (2)
Tributaries join main stream at an acute angle (2) (1 x 2) (2)
[ANY ONE]

3.2.6 A rock with a uniform resistance to erosion (2)
Horizontal sedimentary rock (2)
Massive igneous rocks (2) (1 x 2) (2)
[ANY ONE]

3.2.7 Afforestation (2)
Introducing vegetation cover (2)
Terracing (2)
Correct farming methods (Accept examples) (2)
Managing surface runoff (Accept examples) (2)
[ANY TWO] (2 x 2) (4)

## 3.3 GEOGRAPHICAL INFORMAL SYSTEMS (GIS)

3.3.1 Vector (data). (1) (1 x 1) (1)

3.3.2 Data is represented by points, lines and polygons. (2) (1 x 2) (2)

3.3.3 Data Layer- piece of information based on a specific theme. (2) (1 x 2) (2)
[CONCEPT]

3.3.4 Relief / topography (1)
Drainage (1)
Infrastructure (1)
Settlement (1)
Economic Activity (1)
[ANY THREE] (3 x 1) (3)

**TOTAL SECTION B: [30]**

**TOTAL MARKS: 150**