KWAZULU-NATAL PROVINCE
EDUCATION
REPUBLIC OF SOUTH AFRICA

NATIONAL SENIOR CERTIFICATE

GRADE 12

GEOGRAPHY P1

MARKING GUIDELINES

PREPARATORY EXAMINATION

SEPTEMBER 2024

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MARKS: 150

N.B. This marking guideline consists of 9 pages.

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1.1 1.1.1 Y✓ - (tropical)
1.1.2 Z✓ - (northern)
1.1.3 Z✓ - (eye)
1.1.4 Z✓ - (dry)
1.1.5 Y✓ - (dangerous semi-circle)
1.1.6 Y✓ - (cumulonimbus)
1.1.7 Y✓ - (east to west) (7 x 1) (7)

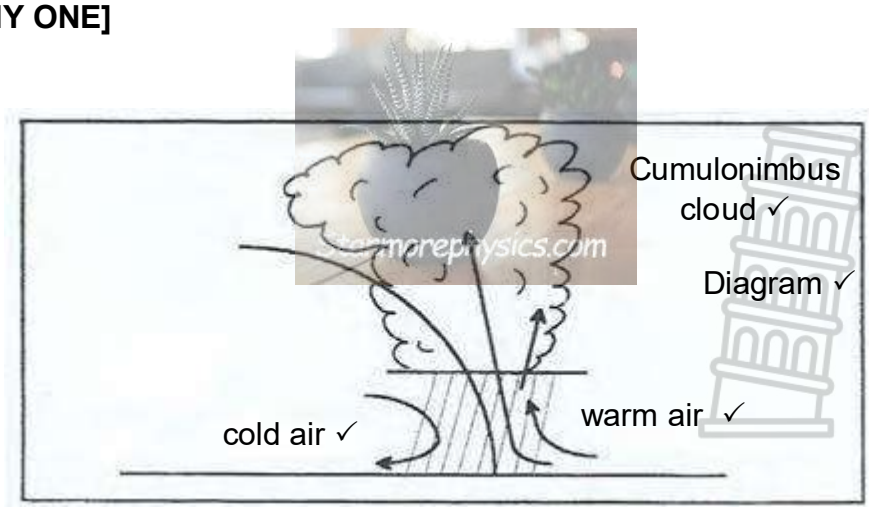
1.2 1.2.1 C✓
1.2.2 B✓
1.2.3 A✓
1.2.4 B✓
1.2.5 C✓
1.2.6 B✓
1.2.7 D✓
1.2.8 D✓ (8 x 1) (8)

1.3 1.3.1 Presence of cold front/ fronts✓ (1 x 1) (1)

1.3.2 The cold front is moving further north over the country✓✓
Low temperatures are dominating the interior of the country✓✓
ANY ONE (1 x 2) (2)

1.3.3 A strong cold front is currently positioned over the Eastern Cape✓✓
As the cold front moves across the Eastern Cape it forces the warm air to rise and form cumulonimbus clouds✓✓
The passing of the cold front leaves behind the cold temperature/ conditions✓✓
Station model shows a small difference between air temperature and dew point temperature ✓✓
[ANY ONE] (1 x 2) (2)

1.3.4



NB: No mark mark to be awarded for the complete cross section of the mid-latitude cyclone (4 x 1) (4)

1.3.5 Can warn farmers in advance of the approaching mid- latitude cyclone✓✓
Farmers can be warned about the severity of the cyclone✓✓
Necessary precautions can be taken to prevent the loss of animals and crops (accept examples) ✓✓
store food for livestock ✓✓
[ANY THREE] (3 x 2) (6)

1.4

1.4.1 Anticyclones (Accept ONE example from the sketch) ✓
Ocean currents (Accept ONE example from the sketch) ✓
Plateau (Accept escarpment) ✓ (1 x 1) (1)
[ANY ONE]

1.4.2 The South Indian High is located further from the land in summer, thus the winds leaving the SIH have a larger sea track (fetch) and gain lots of moisture from the warm ocean✓✓/ It will bring more moisture as the South Indian High is further from the land ✓✓
[ANY ONE] (1 x 2) (2)

1.4.3 Stronger convection currents/ rising of warm air on the surface forces the descending air from the Kalahari high upward ✓✓
It is part of the subtropical anticyclonic system that changes position with the revolution of the earth ✓✓ /
Accept other correct explanations of the migration shift of the ITCZ (1 x 2) (2)
[ANY ONE]

1.4.4 The inversion layer in sketch **B** develops far above the escarpment✓✓ (1 x 2) (2)

1.4.5 There is weak subsidence of air over the plateau✓✓
The land heats up excessively over the central interior✓✓
Warm moist air from warm Mozambique current ridges from the South Indian high up the escarpment✓✓
The warm moist air reaches the interior of the country because the inversion layer is above the plateau ✓✓
There is lots of cloud formation✓✓
Widespread rainfall in summer✓✓ (4 x 2) (8)
[ANY FOUR]

1.5

1.5.1 High amounts of air pollution due to heat-generating activities (accept examples) ✓
Influx of motor vehicles in the city/exhaust fumes from the motor vehicles✓
Industrial activity in cities emit large amounts of air pollution✓
Construction activities causes dust particles✓
[Any TWO] (2 x 1) (2)

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1.5.2 It is compressed✓
Well defined/dome shaped over the city✓
Cooler temperatures/ temperatures are relatively low at night✓
The pollution dome is below the inversion layer
[Any ONE] (1 x 1) (1)

1.5.3 There are no convection currents to disperse the pollutants vertically✓✓
Descending air is stronger at night✓✓
[Any ONE] (1 x 2) (2)

1.5.4 Greenhouse effect is generated by pollutants that are trapped✓✓
Pollutants in the city forms artificial clouds and traps the terrestrial radiation causing a greenhouse effect✓✓
[Any ONE] (1 x 2) (2)

1.5.5 It is more dominant in winter due to subsiding colder air✓ that produces inversion conditions ✓
Pollutants trapped over the city affects air quality✓ that is in direct contact with people✓
Less convection currents✓ that remove pollutants into the upper atmosphere ✓

NB: FOR TWO MARKS ALLOCATION, A FACTOR AND A QUALIFYER IS NEEDED
[Any TWO] (2 x 2) (4)

1.5.6 Reduce the number of private vehicles on our roads (accept examples) ✓✓
Decentralisation of industries from the city to the surrounding countryside ✓✓
Create more parks/greenbelts in the city/plant more trees to absorb more carbon dioxide ✓✓
Green policy to be included in all legislation (accept examples) ✓✓
Awareness/education campaigns on green policies ✓✓
Household activities (accept examples) ✓✓
Roof top gardens ✓✓
[Any TWO] (2 x 2) (4)

[60]

QUESTION 2 GEOMORPHOLOGY

2.1

2.1.1 D✓
2.1.2 C✓
2.1.3 A✓
2.1.4 D✓
2.1.5 B✓
2.1.6 D✓
2.1.7 C✓
2.1.8 A✓ (8x1) (8)

2.2

2.2.1 Z✓
2.2.2 Y✓
2.2.3 Y✓
2.2.4 Z✓
2.2.5 Z✓
2.2.6 Y✓
2.2.7 Y✓ (7x1) (7)

2.3

2.3.1 Drainage density is the total length of streams in a drainage basin divided by the total area of the drainage basin. ✓✓
[Concept] (1x2) (2)

2.3.2 B has more tributaries. ✓✓
The total length of the streams at B is longer than for A. ✓✓
There are many first order streams in B. ✓✓
[Any ONE] (1x2) (2)

2.3.3 3rd order ✓✓ (1x2) (2)

2.3.4 There are more fingertip streams which join, increasing the drainage density further downstream. ✓✓ (1x2) (2)

2.3.5 Gentle gradient (slope) increases the amount of infiltration into the ground thus resulting in the lower density. ✓✓
Steeper gradient (slope) increase the amount of runoff into streams causing high density. ✓✓ (2x2) (4)

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2.3.6 dendritic✓ (1x1) (1)

2.3.7 Tributaries resembles the branches of a tree✓✓
Tributaries join the main river at acute angles. ✓✓
[Any ONE] (1x2) (2)

2.4

2.4.1 Headward erosion is taking place. ✓
Tributary of river A is cutting through the watershed. ✓
[Any ONE] (1x1) (1)

2.4.2 Flowing over a steeper gradient. ✓
Flowing over softer rocks. ✓
Increase in the volume of water/ increase in rainfall. ✓
[Any TWO] (2x1) (2)

2.4.3 C – elbow of capture✓
D – misfit stream✓ (2x1) (2)

2.4.4 Headwaters of the misfit stream was cut off by the captor stream. ✓✓
It continued to flow (after the wind gap) with reduced supply of water. ✓✓
[Any ONE] (1x2) (2)

2.4.5 More water for the irrigation of crops. ✓✓
More water for livestock✓✓
Increased yields due to the abundance of water. ✓✓
Decrease in costs to obtain sufficient water for irrigation. ✓✓
Increased flooding increases natural fertilization of soil. ✓✓
Input costs to farm decreases. ✓✓
Farming now is economically viable. ✓✓
More jobs are created as more areas are put under cultivation. ✓✓
Increase in income as farming yields increase. ✓✓
Increase in domestic water. ✓✓
Increase in recreational activities. ✓✓
Food security is secured since there is more access to food. ✓✓
More water for aquaculture✓✓
[Any FOUR] (4x2) (8)

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2.5

2.5.1 Elands river✓
Wilge river✓
Klein – Olifants river✓
Steelpoort river✓
[Any TWO] (2x1) (2)

2.5.2 Mpumalanga✓
Limpopo✓
[Any ONE] (1x1) (1)

2.5.3 Rainfall in South Africa is low and unreliable. ✓✓
Mining and agricultural activities use up a lot of water✓✓
Poor drainage basin management policies (accept examples) ✓✓
The Kalahari high pressure dominated the area in winter resulting in little or no rainfall. ✓✓
The inversion layer prevents moist air from penetrating into the plateau leading to little or no rainfall. ✓✓
[Any ONE] (1x2) (2)

2.5.4 Mining and agriculture – pollution of water through harmful chemicals, toxic waste and pesticides. ✓✓
Acid mine drainage. ✓✓
Overgrazing and hence soil erosion – increased deposition and impact on river silt content. ✓✓
Due to agriculture and mining, likely that natural wetlands system may have been drained, canalized and most certainly heavily polluted by these activities. ✓✓
Construction of dams – over 30 in the catchment area- impact upon natural flow characteristics of the river. ✓✓
Pollution of the dams through various activities. ✓✓
[Any THREE] (3x2) (6)

2.5.5 Wetlands restoration and health programs – wetlands provide a useful water storage and release system. ✓✓
Restriction in number of future dams built in this catchment. ✓✓
Regular release of water from dams in the rainy season. ✓✓
Reduction in water usage for industry and agriculture – better water management and reticulation systems need to be put in place. ✓✓
GM crops that have been modified for drier conditions, planting water wise / indigenous vegetation. ✓✓
[ANY TWO] (2x2) (4)

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SECTION B

3.1 MAP SKILLS AND CALCULATIONS

3.1.1 C (50.2) ✓ (1 x 1) (1)

3.1.2 D (ii and iv) ✓ (1 x 1) (1)

3.1.3 D (Hill) ✓ (1 x 1) (1)

3.1.4 Actual Distance = Map distance x Map scale
= 9.6 ✓cm x 0.1 (Range 9.5 cm to 9.7 cm)
= 0.96 km ✓ (Range 0.95 km to 0.97 km) (2 x 1) (2)

3.1.5 180° +67° = 247°✓ (Range 246° to 248°) (1 x 1) (1)

3.1.6 Total change = 7 x 10' = 70'✓
Magnetic declination for 2024 = 26°25' +✓ 70'
= 27°35' West of True North ✓ (3 x 1) (3)

3.1.7 MB = TB + MD
= 247° + 27°35'
= 274°35' ✓ (RANGE 273°35'- 275°35') (1 x 1) (1)

3.2 MAP INTERPRETATION

3.2.1 (a) Winter ✓ (1 x 1) (1)

(b) Non-perennial river✓ (1 x 1) (1)

(c) Reservoirs have been built to store purified water✓✓
Dams have been built to store water from rivers ✓✓
Wind Pumps to extract ground water✓✓
[Any ONE] (1 x 2) (2)

(d) July✓ (1 x 1) (1)

(e) Low temperature decreases the probability (chances) of rainfall. ✓✓ (1 x 2) (2)

3.2.2 Soil erosion✓ (1 x 1) (1)

3.2.3 Afforestation on steep slopes✓✓
Terracing of steep slopes✓✓
Contour ploughing✓✓
Strip cultivating with alternate crops in the same area✓✓
Plant trees and resistant bush to act as wind breaker and shelter belts to reduce erosion✓✓
Stone/ gabian walls to trap water runoff and soil. ✓✓
[Any TWO] (2 x 2) (4)

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3.3 GEOGRAPHIC INFORMATION SYSTEM (GIS)

3.3.1 (a) River✓ (1 x 1) (1)
(b) Dam✓ (1 x 1) (1)

3.3.2 Size (surface area) of the dam✓
Depth of the dam✓
Quality of water stored✓
[**Any TWO]** (2 x 1) (2)

3.3.3 Remote sensing is obtaining information of the earth from a distance / without touching or making physical contact. ✓✓ (1 x 2) (2)
[Concept]



3.3.4 Images taken by remote sensing can be taken regularly to get updated information. ✓✓
Series of images allows for tracking the impact over a period of time✓✓
Images can be taken by drone technology which is less costly✓✓
Images can be updated more regularly than topographical maps✓✓
It is an actual image of the soil erosion and not map symbols✓✓
Image is clear or has a high resolution. ✓✓ (1 x 2) (2)
[Any ONE]

GRAND TOTAL: 150

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