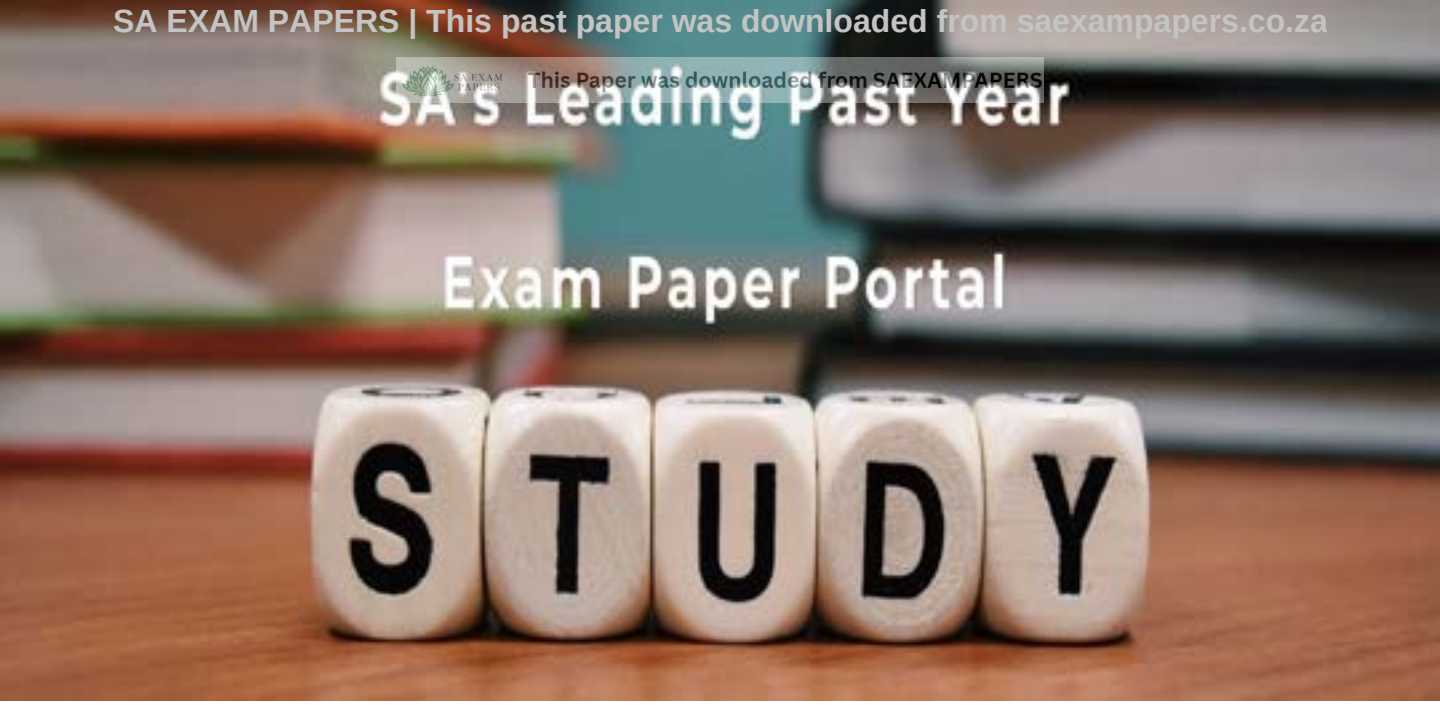


GAUTENG PROVINCE
EDUCATION
REPUBLIC OF SOUTH AFRICA

JUNE EXAMINATION
GRADE 12

2025

MARKING GUIDELINES

GEOGRAPHY

(PAPER 1)

20 pages

PRINCIPLES FOR MARKING GEOGRAPHY – JUNE 2025

The following marking principles are developed to standardise marking processes.

MARKING

- ALL questions MUST be marked, irrespective of whether it is correct or incorrect.
- Where the maximum marks have been allocated for a particular question, place an **M** over the remainder of the text to indicate the maximum marks have been achieved.
- A clear, neat tick must be used: ✓
  - If ONE mark is allocated, ONE tick must be used: ✓
  - If TWO marks are allocated, TWO ticks must be used: ✓✓
  - The tick must be placed at the FACT that a mark is being allocated for.
  - Ticks must be kept SMALL, as various layers of moderation may take place.
- Incorrect answers must be marked with a clear, neat cross: **X**
  - Use MORE than one cross across a paragraph/discussion style questions to indicate that all facts have been considered.
  - Do NOT draw a line through an incorrect answer.
  - Do NOT underline the incorrect facts.

NOTE THE FOLLOWING

- If the numbering is incorrect or left out, the candidate can be credited, as long as the sequence of answers to the questions is followed.
- Spelling errors: if recognisable, award the marks provided the meaning is correct.
- Be sensitive to the sense of an answer, which may be stated in a different way.
- In questions where a letter is the accepted response, but the learner writes the actual answer- award marks.

TOTALLING AND TRANSFERRING OF MARKS

- Each sub-question must be totalled.
  - Questions in Section A have five sub-sections, therefore five sub-totals per question are required. Section B has three sub-sections and three sub-totals.
  - Sub-section totals to be written in the right-hand margin at the end of the sub-section and underlined.
  - Sub-totals must be written legibly.
  - Leave space to write in the moderated marks on the moderation different levels.
- Add sub-totals and transfer totals to top left-hand margin next to question number.
- Transfer the total to the cover of answer book.

MODERATION

- Marking on each level of moderation is done in the same way as the initial marking. All guidelines for marking must be adhered to.
- If a mark for a sub-question is changed after moderation, the moderator must strike through the marker's mark and write down the new mark, ~~12~~ 16.
- The total for the question must be recalculated and similarly be struck off and the new total has to be written down, ~~26~~ 36.

EXAMPLE FOR MARKING

22

QUESTION 1

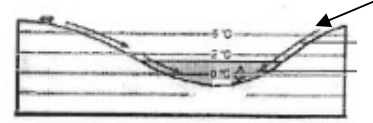
1.1 1.1.1 A (South Atlantic High) ✓
1.1.2 B (Kalahari High) ✓
1.1.3 B (South Indian) X 2

1.2 1.2.1 Melting snow ✓
1.2.2 Mouth X
1.2.3 Third order ✓ 2

1.3 1.3.1 Katabatic X

1.3.2 1 occurs during the day while 2 occurs at night ✓✓

1.3.3 Cold air rolls down into the valley and forms an inversion. ✓✓
Air flows downslope √√



6

1.4 1.4.1 Shape of front concave X
Steep gradient of front ✓

1.4.2 Warm air undercuts the cold air X

1.4.3 Air behind the cold front is colder than the air in front. Cold air moves faster than warm air ahead of it. Cold front catches up with the warm front. ✓✓ √√ 5

1.5 1.5.1 (a) A river that only flows all year-round X
(b) The river channel is wide X ✓✓
(c) Regularity of rainfall and the soil type over which the streams flow. ✓ X ✓✓

1.5.2 Gauteng and the Eastern Cape

1.5.3 The cost of food production will increase as it is costly to buy purified water. Farmers will have to buy more chemicals to purify water. Chemicals cost a lot, and this will increase production costs. It will be costly to purify water for use in electricity generation. These costs will be in electricity prices. Costs will increase the price of electricity during production. There will be less clean water to generate hydroelectricity. ✓✓ M 7

SECTION A: CLIMATE AND WEATHER, GEOMORPHOLOGY AND SETTLEMENT GEOGRAPHY

QUESTION 1: CLIMATE AND WEATHER

1.1 1.1.1 D (1)/5 °C OR C (1)/4

1.1.2 C (1)/Tall buildings

1.1.3 D (1)/(ii) and (iv)

1.1.4 C (1)/(i) and (iii)

1.1.5 B (1)/night in winter.

1.1.6 D (1)/(i) and (iv)

1.1.7 B (1)/smog.

(7 x 1) (7)

1.2 1.2.1 Z (1)/South facing

1.2.2 Y (1)/Dew

1.2.3 Z (1)/Inversion layer

1.2.4 Y (1)/Frost

1.2.5 Z (1)/Radiation fog

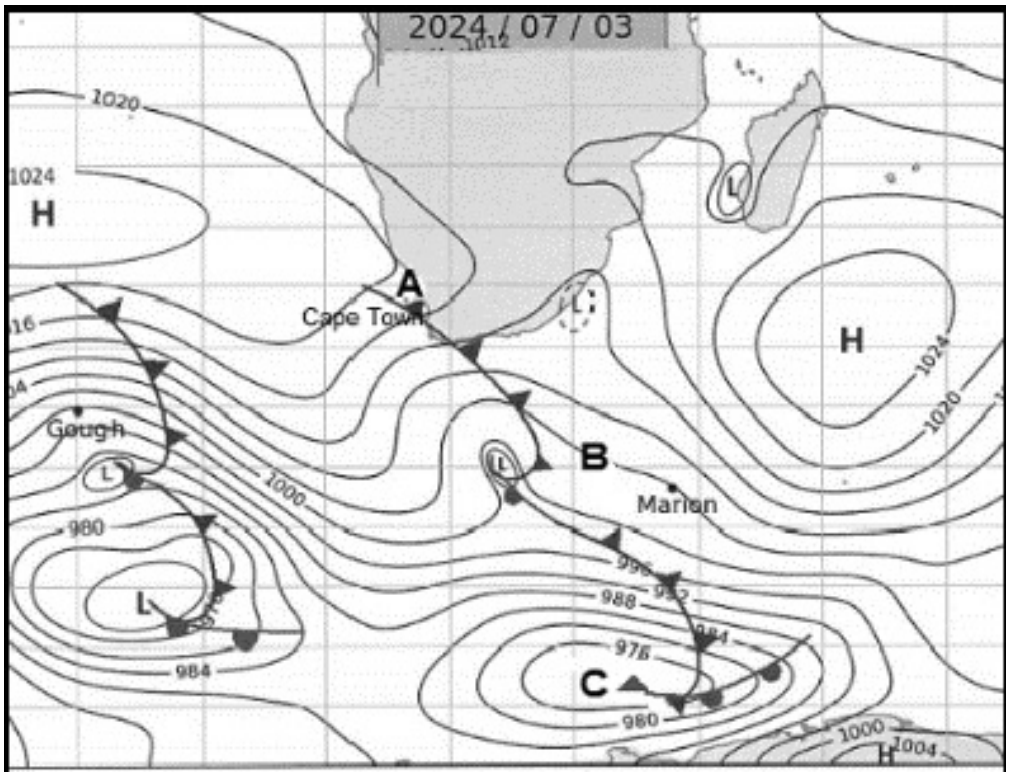
1.2.6 Z (1)/Anabatic wind

1.2.7 Y (1)

1.2.8 Y (1)

(8 x 1) (8)

1.3 Refer to the synoptic weather map below on mid-latitude cyclones.



[Source:South African Weather Services]

1.3.1 What do we call a series of mid-latitude cyclones in succession?

Family (of cyclones) (1) (1 x 1) (1)

1.3.2 Name front **A** and sector **B** on the synoptic weather map.

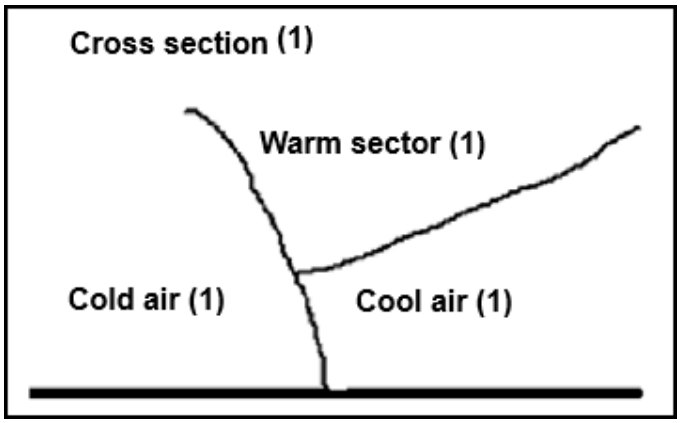
A – Cold front (1)
B – Warm sector (1) (2 x 1) (2)

1.3.3 What influence does the South Indian Anticyclone, as shown on the synoptic weather map, have on the path followed by mid-latitude cyclones?

Blocks /blocking HP their path to the east. (2)
Causes them to change their path to a south-easterly direction. (2)
[Any ONE] (1 x 2) (2)

1.3.4 The mid-latitude cyclone at **C** is in the cold occlusion stage. Draw a labelled cross-section at **C** on the synoptic weather map. Marks will be awarded for the following:

(a)	Cross-section	(1 x 1)	(1)
(b)	Cold air	(1 x 1)	(1)
(c)	Cool air	(1 x 1)	(1)
(d)	Warm sector	(1 x 1)	(1)



1 mark for the correct drawing of the Cross-section – COLD FRONT LINE MUST TOUCH THE SURFACE (1)
1 mark for the indication of the warm sector (1)
1 mark for the indication of the location of the cold air (1)
1 mark for the indication for the location of the cool air (1)

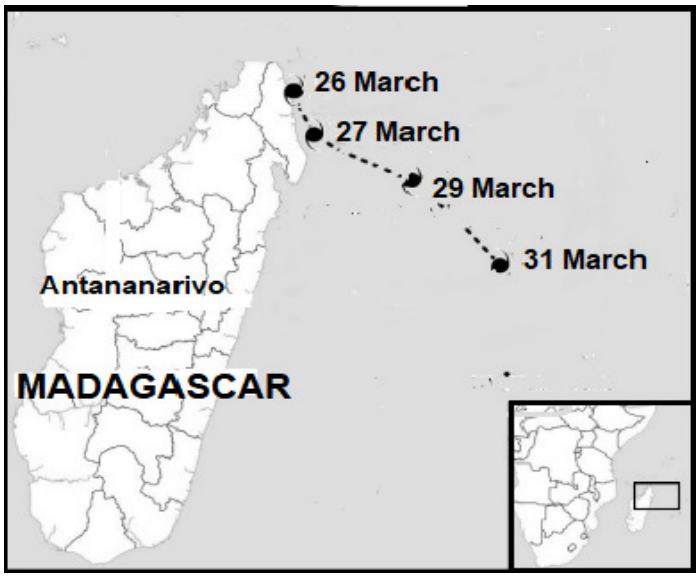
1.3.5 Account for the development of the weather that Cape Town experienced on 3 July 2024.

Heavy rainfall due to the formation of cumulonimbus clouds (2)
Strong winds due to a steep pressure gradient/strong upliftment of warm air (2)
Hail due to the vertical extension of cumulonimbus clouds (2)
Decrease in temperatures because of cold air behind the cold front (2)
[ANY THREE] (3 x 2) (6)

[15]

1.4 Refer to the INFOGRAPHIC below on Tropical cyclone Gamane.

PATH TAKEN BY TROPICAL CYCLONE GAMANE



[Source: GDACS,METEO Madagascar]

Tropical Cyclone (TC) Gamane made landfall in the Ampisikinana Commune, Sava Region, bringing heavy rains and floods to the north and north-east, on 27 March. The ninth tropical depression system of the current cyclone season began developing along the northeastern coast of Madagascar on 25 March. Some districts in the northeast have received heavy rainfall over the past few days, the Sambava district recorded 300 mm of rain on 26 March alone. Madagascar issued a red alert for imminent danger in the Diana and Sava regions; and a yellow alert of menace in the Ambatosoa and Analanjirofo regions on 27 March.

[Adapted from UN office for the coordination of Humanitarian Affairs,accessed on 19 November 2024]

1.4.1 How many tropical cyclones have developed before Tropical Cyclone Gamane?

Six (6) (1) (1 x 1) (1)

1.4.2 When did Tropical Cyclone Gamane make landfall, according to the infographic?

26/27 March (1) (1 x 1) (1)

1.4.3 Describe the **general direction** followed by Tropical Cyclone Gamane.

east to west/westerly (1)
South-easterly(1)
(Any ONE) (1 x 1) (1)

1.4.4 Discuss the negative environmental (natural) impact of Tropical Cyclone Gamane on the coastal regions mentioned in the case study.

Coastal areas will be flooded (due to storm surges/ torrential rain) (2)
Soil will become polluted/it will become salty (2)
Increased soil erosion (2)
The beach and sand dunes will be washed away (2)
The coastline would be reshaped (2)
Aesthetic beauty of coastal areas will be destroyed (2)
Mass movements will occur (accept examples) (2)
Destruction of biodiversity (accept examples) (2)
Destruction of natural habitats (accept examples) (2)
[ANY TWO] (2 x 2) (4)

1.4.5 In a paragraph of approximately EIGHT lines, explain why Madagascar is still vulnerable to the effects of tropical cyclones, even with huge improvements in early warning systems and disaster relief programmes.

Lack of media coverage to warn people (2)
Some refuse to evacuate because they want to protect their property and livestock (2)
The government does not give assistance when it comes to rebuilding (2)
Clinics and hospitals are poorly equipped with both personnel and medicine (2)
Rescue personnel are poorly trained, lack equipment and vehicles (2)
Most people stay in rural areas where infrastructure is underdeveloped/of poor quality (2)
It does not have very good road infrastructure (2)
Roads and bridges get cut off or washed away (2)
Its geographical location in the southwest Indian ocean makes it vulnerable (2)
Steep slopes of mountainous areas are prone to mass movements (Accept examples.) (2)
Flashfloods often occur in areas not directly hit by the cyclones (2)
Most people farm on floodplains which are prone to flooding (2)
People live in remote areas (2)
It is a less developed country (2)
[ANY FOUR) (4 x 2) (8)
[15]

1.5 Study the DIAGRAM and CASE STUDY on berg winds below.

SAWS WARNING FOR DURBAN

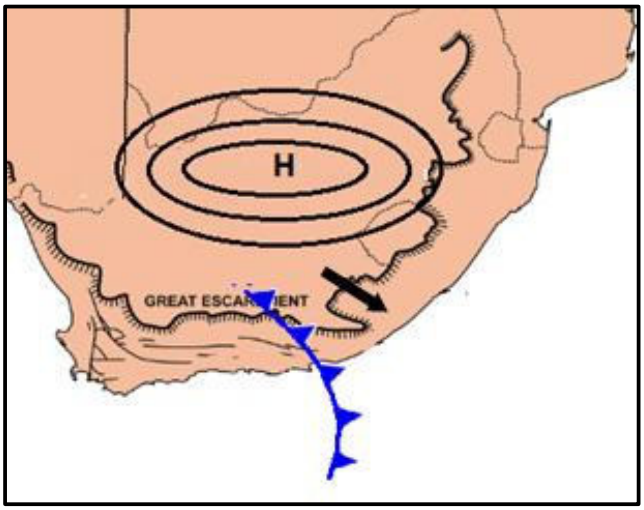
Durban — 4 August 2024

Nhlanhla Sithole, a weather forecaster from the South African Weather Service (SAWS), predicts that the province could experience damaging inland winds on Sunday. A yellow level 2 warning has been issued, due to a cold front moving across the southern interior of the country.

"Ahead of the cold front, we have northwesterly berg winds. These winds lead to warmer temperatures, especially over the central and eastern parts of the province. As a result of these strong winds and warm temperatures, an FDI (Fire Danger Index) warning has also been issued for Sunday."

[Adapted from https://www.iol.co.za/dailynews/news/immediate-warning-of-extreme-heat-and-elevated-fire-risk-across-kzn-3d15d9db-86f1-4d58-a085-167a03c648ac]

SIMPLIFIED WEATHER MAP



[Source: Examiner's own sketch]

1.5.1 Define the concept *berg wind.*

A hot, dry wind that blows from the interior of South Africa to coastal areas (in winter). (2) [CONCEPT] (1 x 2) (2)

1.5.2 According to the weather map, which TWO pressure cells are responsible for the occurrence of berg winds?

Kalahari high pressure cell (1)
Mid-latitude cyclone (1) (2 x 1) (2)

1.5.3 A berg wind is an (onshore/offshore) wind that develops due to the air circulation in the pressure cells identified in QUESTION 1.5.2.

Offshore (1) (1 x 1) (1)

1.5.4 Explain why the South African Weather Service issued a Fire Danger Index on 4 August 2024.

The wind dries vegetation, making it vulnerable to veldfires. (2)
The wind is strong and can easily spread veldfires. (2) (2 x 2) (4)

1.5.5 Suggest strategies that the local government can implement to reduce the impact of berg winds on the natural environment of the coastal regions of KwaZulu-Natal.

Create firebreaks around forests, plantations to reduce the spread of veldfires. (2)
Implement the controlled burning of vegetation to reduce the risk of veldfires. (2)
Planting windbreaks to reduce the strong winds and protect the soil from erosion. (2)
Planting grass and vegetation in areas with sparse vegetation to reduce erosion. (2)
Monitor and manage fire risks. (2)
Have lookout towers installed in areas with forests. (2)
Have well equipped firefighting teams ready at all times during the winter season. (2)
Educate the local communities about the impact of berg winds. (2)
Awareness campaigns. (2)
Legislation against the starting of fires during the winter season. (2)
Implementation of fines and the imprisonment of arsonists. (2)
[ANY THREE] (3 x 2) (6)

[15]

TOTAL: 60

QUESTION 2: GEOMORPHOLOGY

2.1 2.1.1 Captor (1)

2.1.2 Headward (1)

2.1.3 C (1)

2.1.4 E (1)

2.1.5 G (1)

2.1.6 erosion (1)

2.1.7 decrease (1)

(7 x 1) (7)

2.2 2.2.1 A (1)/sheet

2.2.2 C (1)/confluence

2.2.3 B (1)/groundwater

2.2.4 A (1)/(i) and (iii)

2.2.5 A (1)/transverse

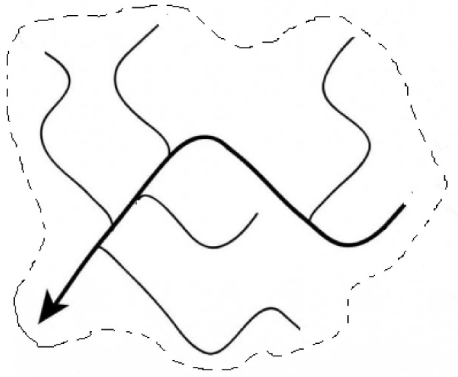
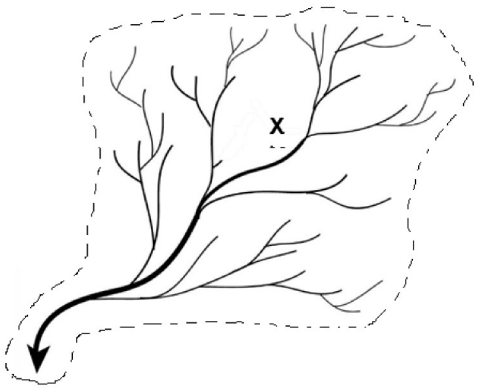
2.2.6 C (1)/erosion

2.2.7 D (1)/lake

2.2.8 C (1)/rejuvenation

(8 x 1) (8)

2.3 Refer to the following diagrams showing different drainage basins.

DRAINAGE BASIN A	DRAINAGE BASIN B
	

[Adapted from https://sageography.co.za/wiki/grade-12-caps/geomorphology/drainage-systems-in-south-africa/drainage-patterns/]

2.3.1 Name the drainage pattern evident in drainage basin **A**.

Rectangular (1) (1 x 1) (1)

2.3.2 Mention ONE characteristic (feature) of the drainage pattern evident in drainage basin **A**.

Streams flow in right-angled bends (2)
Tributaries join at right angles (2)
[ANY ONE] (1 x 2) (2)

2.3.3 Describe the underlying rock structure that influenced the development of the drainage pattern in drainage basin **A**.

Rock structure is uniform to erosion (2)
Rock structure is jointed/ faulted (at about 90°) (2) (2 x 2) (4)

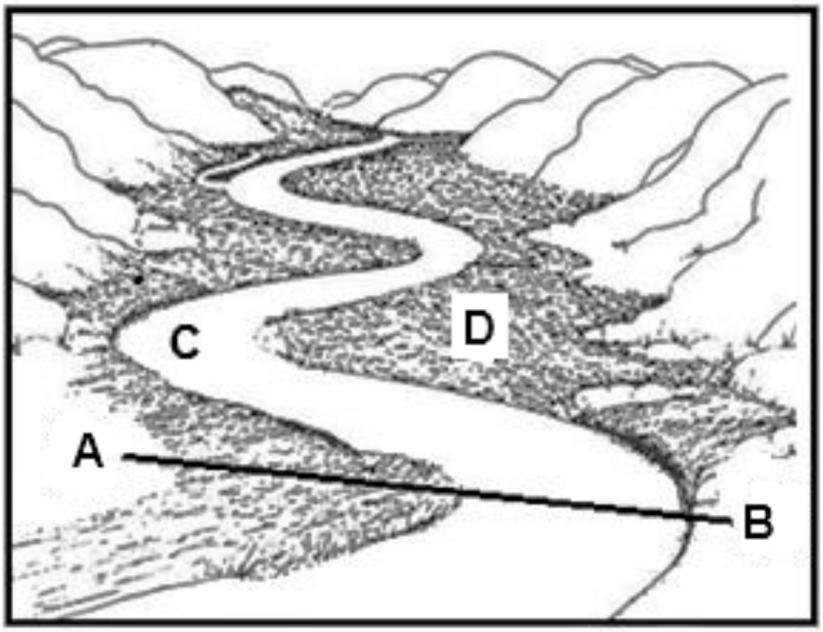
2.3.4 Compare the drainage density of drainage basins **A** and **B**.

Drainage basin A has a lower drainage density than B (2)
OR
Drainage basin B has a higher drainage density than A (2) (1 x 2) (2)

2.3.5 Discuss how vegetation contributes to a lower drainage density in a drainage basin.

Vegetation cover reduces the amount of runoff that occurs (2)
Vegetation intercepts and stores water (2)
Plant roots help to hold soil in place which reduces erosion (2)
Evapotranspiration reduces the amount of water available for run-off (2)
Vegetation results in more infiltration because of the spaces created by roots (2)
[ANY THREE] (3 x 2) (6)
[15]

2.4 Refer to the diagram of a river meander below.



[Adapted from https://link.springer.com/chapter/10.1007/978-3-642-52338-0_34]

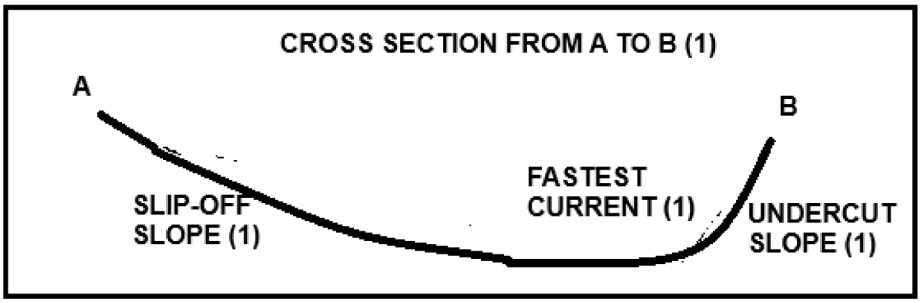
2.4.1 Name the course of the river where a meander would usually form.

Middle/Lower course (1) (1 x 1) (1)

2.4.2 Draw a labelled cross-section of the meander loop along line **A** – **B**. Marks will be awarded for the following:

(a) Cross-section sketch (1 x 1) (1)
(b) Slip-off slope (1 x 1) (1)
(c) Undercut slope (1 x 1) (1)
(d) Area of fastest current flow (1 x 1) (1)

xxxx



Marks to be awarded as following:
1 mark for correct cross-section from A to B (1) CORRECT STEEPNESS OF SLOPES AND LABELS A AND B
1 mark for the indication of the slip-off slope (1)
1 mark for the indication of the undercut slope (1)
1 mark for the area of the fastest current flow (1)

2.4.3 Explain how the continued erosional and depositional processes in the meander loop will lead to the development of an ox-bow lake at **C**.

The river erodes the undercut slope (through lateral erosion and undercutting) (2)
The neck of the meander narrows (2)
The river cuts through the meander (during flooding) (2)
The meander is cut off and becomes an ox-bow lake (2)
[ANY THREE] (3 x 2) (6)

2.4.4 A developer has chosen to build a holiday resort at area **D**. Explain why this choice of site is a favourable (good) location for construction.

Less erosion at D (which reduces the risk of building collapse) (2)
D is in a stable area (in the meander loop) (2)
Gentler gradient at D (which reduces building costs) (2)
There is less risk of flooding at D (2)

[ANY TWO] (2 x 2) (4)
[15]

2.5 Refer to the following extract on river management.

DWS OFFICIALLY OPENS THE BOATING SEASON ON THE VAAL RIVER

The DWS officially opened the boating season on the Vaal River on Saturday, 7 September 2024. This event marked a significant achievement in the battle against invasive (alien) aquatic plants that had been damaging the river.

For several months, the Vaal River had been plagued by the rapid spread of water lettuce and water hyacinth. These invasive species had taken over large areas of the river, choking out native plant and animal life. The situation was worsened by high levels of pollution in the catchment area, which accelerated the growth of these plants.

Recognising the seriousness of the problem, the DWS took action to address the issue. Through combined efforts, the water lettuce and water hyacinth were successfully removed, allowing the river to start the process of recovery.

By taking a proactive approach, the DWS hopes to prevent future infestations and to protect the health of the river.

[Adapted from https://www.dws.gov.za/Communications/PressReleases/2024]

2.5.1 What is *river management*?

The practice of sustainable managing water resources in a river basin in relation to the socio-economic setting (2) [CONCEPT]

(1 x 2) (2)

2.5.2 What does the acronym *DWS* stand for?

Department of Water and Sanitation (1) (1 x 1) (1)

2.5.3 Provide a quote from the extract showing how water lettuce and water hyacinth disrupted the Vaal River ecosystem.

***"These invasive species had taken over large areas of the river, choking out native plant and animal life."* (2)** (1 x 2) (2)

2.5.4 Explain why it is important to ensure the health of the Vaal River for Gauteng.

Water is used by (Gauteng) residents (accept examples) (2)
Water is needed by (Gauteng) industries (accept examples) (2)
Ensures water security (for Gauteng) (2)
[ANY ONE] (1 x 2) (2)

2.5.5 In a paragraph of approximately EIGHT lines, propose measures that the DWS can implement to ensure the future health of the Vaal River.

Educational programmes (accept examples) (2)
Awareness campaigns (accept examples) (2)
Legislation to protect river systems (2)
Fines for transgressing legislation (2)
Banning imports of alien plant species (2)
Recycling agricultural/industrial/domestic waste (accept examples) (2)
Reducing pollution /clean-up campaigns (accept examples) (2)
Removal of alien vegetation (2)
Recycling of greywater (2)
Frequent monitoring of water quality (2)
Implementation of water efficient practices (accept examples) (2)
[ANY FOUR] (4 x 2) (8)
[15]

TOTAL: 60

TOTAL SECTION A: 120

SECTION B

QUESTION 3: GEOGRAPHICAL SKILLS AND TECHNIQUES

GENERAL INFORMATION ON UPINGTON

Coordinates: 28.45°S;21.25°E

Upington is a town located in the Northern Cape province of South Africa, on the banks of the Orange River. It sits at an elevation of 835 metres above sea level. Upington is the closest large centre to the Augrabies Falls (arguably the greatest of the South African waterfalls) and the Kgalagadi Transfrontier Park. The landscape is very arid, but the soil is fertile, allowing crops such as fruit to be grown in irrigated fields. Upington has a hot desert climate with long, hot summers and short, mild winters. Precipitation peaks during late summertime.

[Source: https://en.wikipedia.org/wiki/Upington#Geography_and_climate]

ENGLISH	**AFRIKAANS**
Rifle range	Skietbaan
Sewage works	Rioolwerke
Furrow	Voor
Canal	Kanaal

3.1 MAP SKILLS AND CALCULATIONS

3.1.1 **D (1)/20 m** (1 x 1) (1)

3.1.2 **B (1)/(ii) and (iii)** (1 x 1) (1)

3.1.3 Identify the map which is located west of 2821AD.

2821AC (1) (1 x 1) (1)

3.1.4 Refer to the orthophoto map.

Calculate the area of the recreational ground labelled **6** in block **A3/A4** and **B3/B4**, in metres. Use the following information: Breadth is 80 m.

Formula: **Length x Breadth**

Formula: Length x Breadth
Length = 1 cm x 100 = 100 (1) m Range: 0.9 cm – 1.1cm (90m – 110m)
Area = 100 (1) m x 80 m
= 8 000 m² (1) Range : 7200 m² - 8800 m² (3 x 1) (3)

3.1.5 Refer to the topographical map.

Calculate the gradient from spot height **815** in block **C4** to trigonometrical station **71** in block **D5**. Use the following information: Height measurement as **24,2 m**.

Formula: Vertical Interval (VI) / Horizontal Distance (HE)

Distance: 2,8 cm x 500 Range:(2,7 cm to 2,9 cm)
1 400 m (1) Range:(1 350 m to 1 450 m)
G = 24,2 m / 1 400 m (1) for substitution

= 1 : 57,85 (1) Range:(1 : 55,78 to 1 : 59,91) (3 x 1) (3)

3.1.6 Refer to the area between spot height **815** (block **C4**) to trigonometrical station **71** (block **D5**).

The area is unsuitable for crop farming. Provide evidence from the topographical map to support this statement.

Too many non-perennial rivers which will result in flooding (1)
(1 x 1) (1)
[10]

3.2 MAP INTERPRETATION

Refer to the topographical map.

3.2.1 (a) **C (1)/Urban heat island** (1 x 1) (1)

(b) A solution to this phenomenon, answer to QUESTION 3.2.1(a), is creating more greenbelts in this built-up area.

Define the concept *greenbelt.*

It is land that is protected by law from development, and is available for leisure, recreation, agricultural use and wildlife habitat. (CONCEPT) (2) (1 x 2) (2)

(c) Provide evidence of greenbelts from block **B1**.

Recreational areas/recreation (1) (1 x 1) (1)

3.2.2 Refer to block **C4** and block **D4** on the topographical map.

(a) Calculate the stream order at **X** in block **D4.**

3 (2) (1 x 2) (2)

(b) Where is the drainage density higher, in block **C4** or in block **D4**?

Block C4 (1) (1 x 1) (1)

3.2.3 Refer to the orthophoto and topographical map.

(a) The stream channel flowing between **7** in block **D1** and **8** in block **E2** is braided. Provide evidence from the orthophoto to justify this statement.

The river splits and rejoins several times due to the Island/alluvium (silt) deposits in its path. (2) (1 x 2) (2)

(b) What is the name of this braided stream?

Orange River (1) (1 x 1) (1)

(c) Explain with evidence, the main reason for the development of the braided stream identified in QUESTION 3.2.3 (a).

Contour lines are spaced out indicating a gentle gradient. (2)
Slow velocity of water allows silt/alluvium/fertile soil to develop in the stream's path (2)
[Any ONE] (1 x 2) (2)

[12]

3.3 GEOGRAPHIC INFORMATION SYSTEMS (GIS)

3.3.1 Choose the correct option to make these statements true.

(a) Descriptive data on a map is also referred to as (spatial data/attribute data).

attribute data (1) (1 x 1) (1)

(b) (Data manipulation/Data integration) involves combining data from different sources to create a more comprehensive view.

Data integration (1) (1 x 1) (1)

3.3.2 Refer to block **C5** on the topographical map and identify the following features:

(a) ***stream (1) river (1)***
(Any ONE) (1 x 1) (1)

(b) ***orchard (1) vineyard (1)***
(Any ONE) (1 x 1) (1)

(c) ***spot height 834 (1) / Building (1)***
(Any ONE) (1 x 1) (1)

3.3.3 (a) Refer to the statement below about the Orange River, located in block **B4** on the topographical map.

Buffering is evident on either side of the Orange River. Define the concept *buffering*.

The demarcation of a feature or area. (2)
The zoning off of an area or feature. (2)
[CONCEPT]
(Any ONE) (1 x 2) (2)

(b) Provide evidence from the topographical map that buffering is occurring on either side of the Orange River in block **B4**.

There is a row of trees on either side of the river (1)

(1 x 1) (1)
[8]

TOTAL SECTION B: 30

TOTAL: 150