



Province of the
EASTERN CAPE
EDUCATION

Iphondo leMpuma Kapa: Isobhe leMfundo
Provinsie van die Oos Kaap: Departement van Onderwys
Perafensie Ya Kapa Botjhabela: Letapha la Thuto

NATIONAL SENIOR CERTIFICATE

GRADE 12

JUNE 2026

GEOGRAPHY

MARKS: 150

TIME: 3 hours



This question paper consists of 21 pages.

INSTRUCTIONS AND INFORMATION

1. This question paper consists of TWO SECTIONS.

SECTION A:

QUESTION 1: CLIMATE AND WEATHER (40)

QUESTION 2: GEOMORPHOLOGY (40)

QUESTION 3: RURAL AND URBAN SETTLEMENTS (40)

SECTION B:

QUESTION 4: GEOGRAPHICAL SKILLS AND TECHNIQUES (30)

2. Answer all FOUR questions.
3. ALL diagrams are included in the QUESTION PAPER.
4. Leave a line between subsections of questions answered.
5. Start EACH question at the top of a NEW page.
6. Number the questions correctly according to the numbering system used in this question paper.
7. Do NOT write in the margins of the ANSWER BOOK.
8. Draw fully labelled diagrams when instructed to do so.
9. Answer in FULL SENTENCES, except when you have to state, name, identify or list.
10. Units of measurement MUST be indicated in your final answer, for example 1 020 hPa, 14 °C and 45 m.
11. You may use a non-programmable calculator.
12. You may use a magnifying glass.
13. Write neatly and legibly.

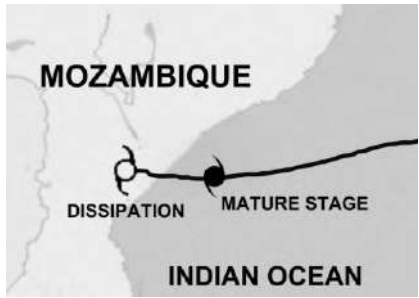
SPECIFIC INSTRUCTIONS AND INFORMATION FOR SECTION B

14. A 1 : 50 000 topographical map 3319AD CERES and a 1 : 10 000 orthophoto map 3319 AD 12 CERES are provided.
15. The area demarcated in RED/BLACK on the topographic map represents the area covered by the orthophoto map.
16. Show ALL calculations. Marks will be allocated for steps in calculations.
17. You must hand in the topographical and the orthophoto map to the invigilator at the end of this examination session.

SECTION A

QUESTION 1: CLIMATE AND WEATHER

- 1.1 Various options are provided as possible answers to the following questions. Choose the answer and write only the letter (A–D) next to the question numbers (1.1.1 to 1.1.5) in the ANSWER BOOK, e.g. 1.1.6 D.

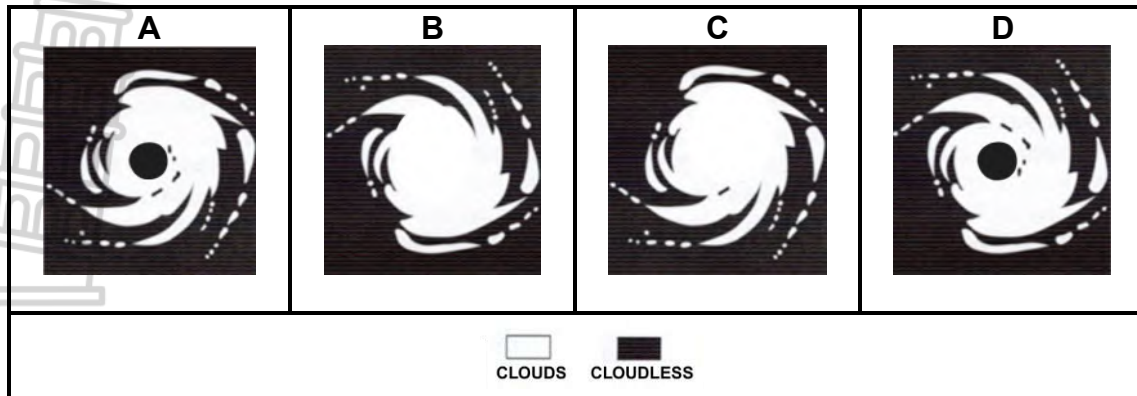
SOUTH-WEST INDIAN OCEAN REGION (2025 SEASON)			PATH OF FAIDA
STORM NAME	PEAK WIND SPEED (km/h)	CLASSIFICATION	
Garance	194	Intense Tropical Cyclone	
Honde	130	Tropical Cyclone	
Ivone	90	Severe Tropical Storm	
Faida	79	Moderate Tropical Storm	

[Adapted from <https://www.gdacs.org/Cyclones/report>.]

- 1.1.1 Tropical Cyclone ... occurred first in the 2025 season.
- A Garance
B Honde
C Ivone
D Faida
- 1.1.2 Tropical Cyclone ... was classified as the most intense (strongest).
- A Garance
B Honde
C Ivone
D Faida
- 1.1.3 Tropical cyclones intensify over the Indian Ocean mainly because of the ...
- A absorption of latent heat.
B convergence and uplift of warm, moist air.
C absence of the Coriolis force.
D the influence of the westerly wind belt.



1.1.4 Identify the mature stage of Tropical Cyclone Faida:



[Source: Examiner's own sketches]

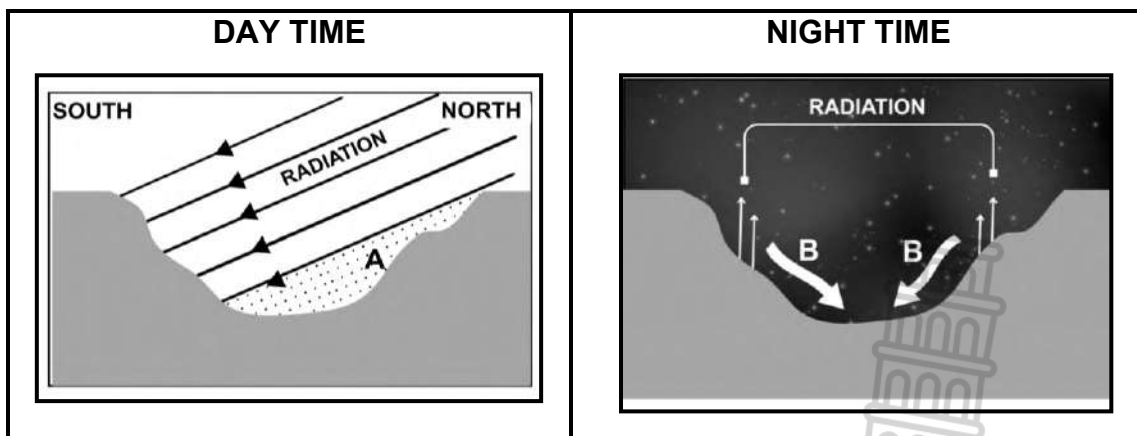
1.1.5 The factors that caused Tropical Cyclone Faida to dissipate:

- (i) Friction over land surface
- (ii) Movement into the subtropics
- (iii) Passage through an approaching cold front
- (iv) Drier air entered the system

- A (i) and (iii)
- B (ii) and (iv)
- C (i) and (iv)
- D (ii) and (iii)

(5 x 1) (5)

1.2 The sketches show the same valley at different times of the day. Select the CORRECT option from the brackets to complete each statement.



[Source: Examiner's own sketches]

1.2.1 The valley is in the (southern / northern) hemisphere.

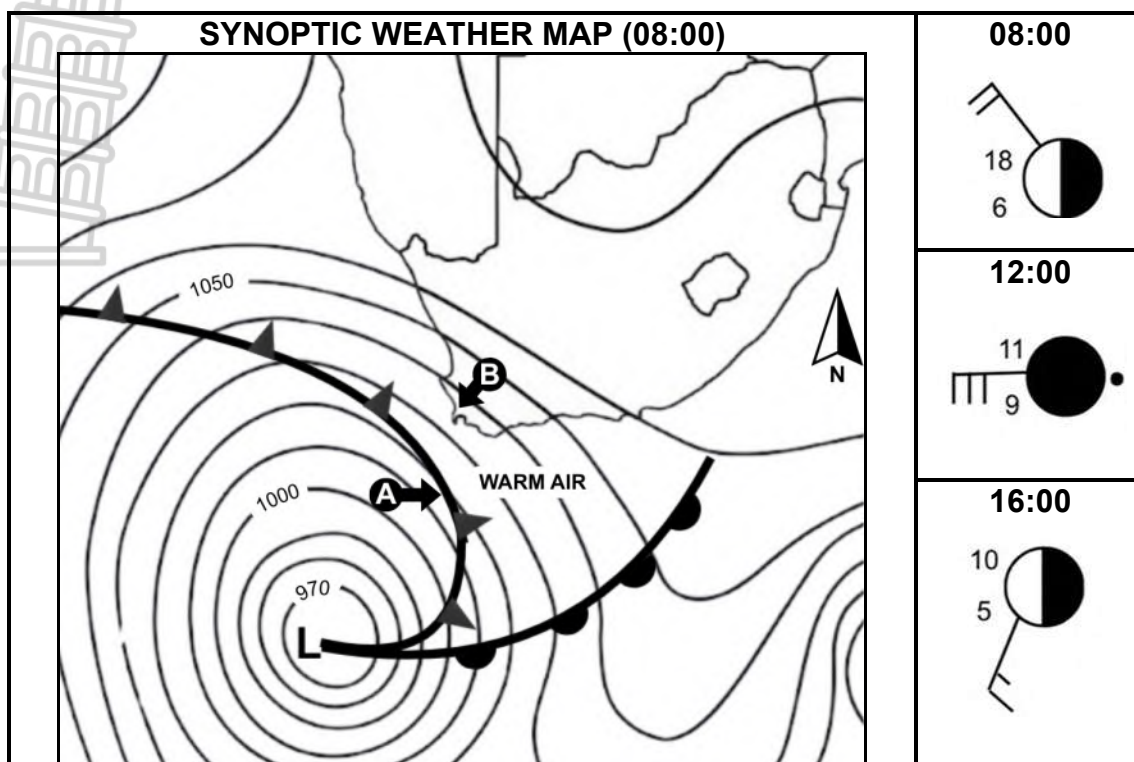
1.2.2 In the valley, slope **A** is will be (cooler and moist / warmer and drier).

1.2.3 The winds at **B** are called (anabatic / katabatic) winds.

1.2.4 One of the main conditions for the formation of wind **B** is (solar / terrestrial) radiation.

1.2.5 (Pressure / Gravity) is the force primarily responsible for the movement of air at **B**. (5 x 1) (5)

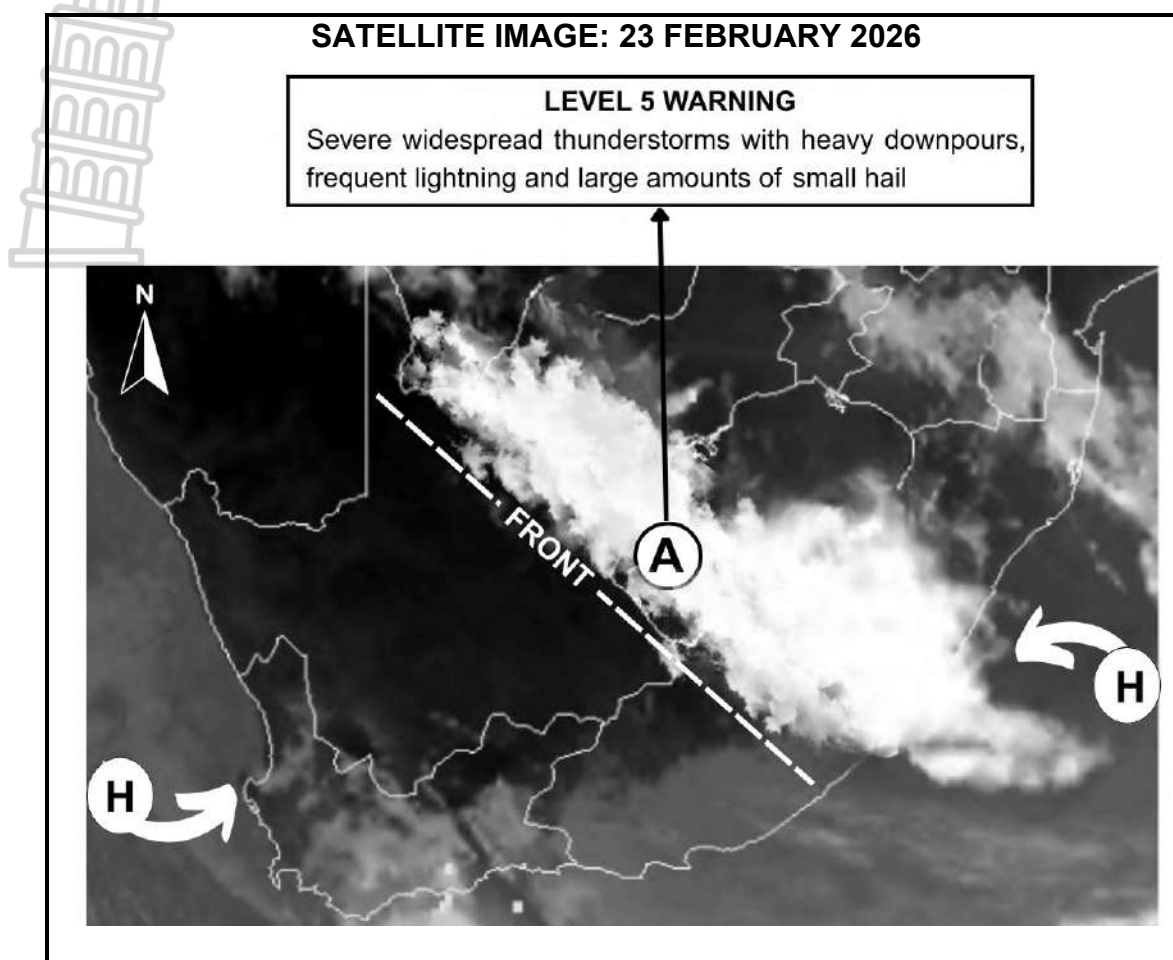
- 1.3 Refer the synoptic weather map and station models based on the conditions experienced at **B** as it is influenced by the mid-latitude cyclone.



[Adapted from www.imperial.ac.uk/grantham/research/climate]

- 1.3.1 Identify the type of front at **A**. (1 x 1) (1)
- 1.3.2 Give TWO pieces of evidence from the synoptic weather map to show that the mid-latitude cyclone is in its mature stage. (2 x 1) (2)
- 1.3.3 Describe the expected changes in temperature and humidity at **B** from 08:00 to 12:00. (2 x 1) (2)
- 1.3.4 How does the front at **A** lead to rainfall at **B** at 12:00? (2 x 2) (4)
- 1.3.5 How is the backing of the wind shown in the station models? (1 x 2) (2)
- 1.3.6 Explain why the winds at **B** back as the front at **A** moves over the area. (2 x 2) (4)

- 1.4 Refer to the satellite image of South Africa and the associated travelling disturbance.



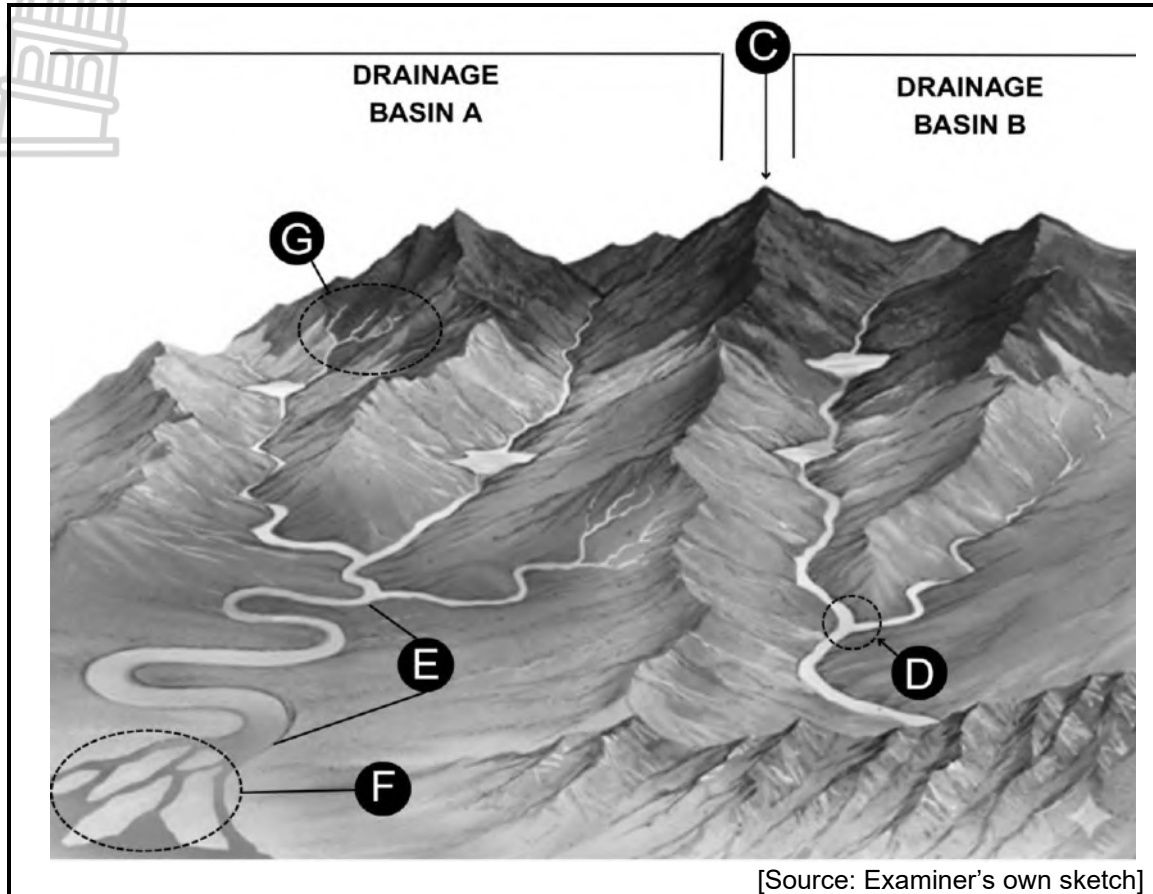
[Adapted from snowreport.co.za/south-africa-weather-forecast-23-february-2026/]

- 1.4.1 Name the front shown in the satellite image. (1 x 1) (1)
- 1.4.2 In which season do line thunderstorms develop? (1 x 1) (1)
- 1.4.3 Name the type of clouds to the east of the front. (1 x 1) (1)
- 1.4.4 Explain how the interaction between the South Atlantic and South Indian high-pressure cells leads to the formation of these clouds (answer to QUESTION 1.4.3). (2 x 2) (4)
- 1.4.5 In a paragraph of approximately EIGHT lines, explain the destructive nature of line thunderstorms on the physical (natural) environment at **A**. (4 x 2) (8)

[40]

QUESTION 2: GEOMORPHOLOGY

2.1 Refer to the sketch based on drainage basins. Complete the statements in COLUMN A with the options in COLUMN B. Write only **Y** or **Z** next to the question numbers (2.1.1 to 2.1.5) in the ANSWER BOOK, e.g. 2.1.6 Y.

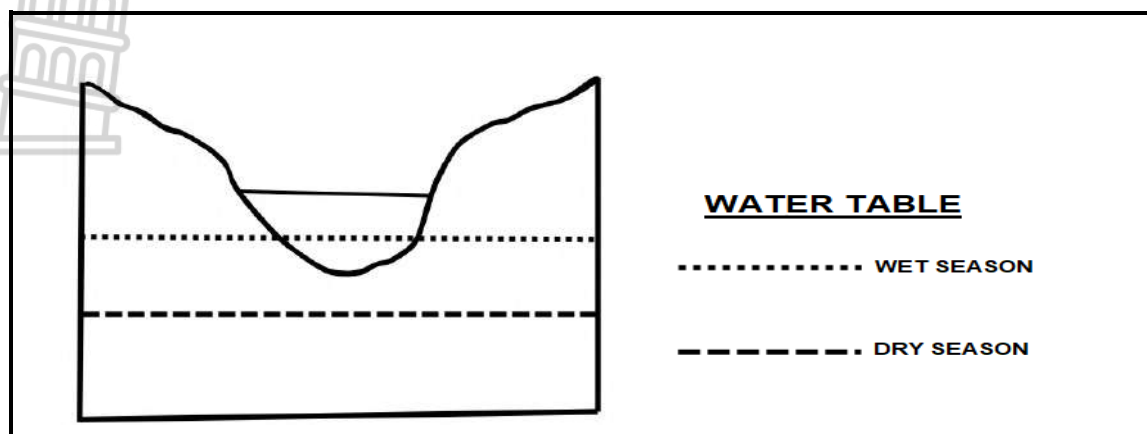


COLUMN A	COLUMN B
2.1.1 The area of high land at C	Y interfluvium Z watershed
2.1.2 The meeting point at D	Y tributary Z confluence
2.1.3 A braided stream pattern	Y F Z E
2.1.4 G shows the ... of the river	Y mouth Z source
2.1.5 The gradient is steeper ... of D	Y upstream Z downstream

(5 x 1) (5)

- 2.2 Various options are provided as possible answers to the following questions. Choose the answer and write only the letter (A–D) next to the question numbers (2.2.1 to 2.2.5) in the ANSWER BOOK, e.g. 2.2.6 D.

Refer to the sketch below to answer QUESTION 2.2.1 and 2.2.2.



[Source: Examiner's own sketch]

2.2.1 The type of river:

- A Permanent
- B Periodic
- C Episodic
- D Exotic

2.2.2 Base flow increases ...

- A when the water table drops.
- B during the wet season.
- C when there is a decrease in infiltration.
- D during the dry season.

Refer to the photograph to answer QUESTIONS 2.2.3 to 2.2.5

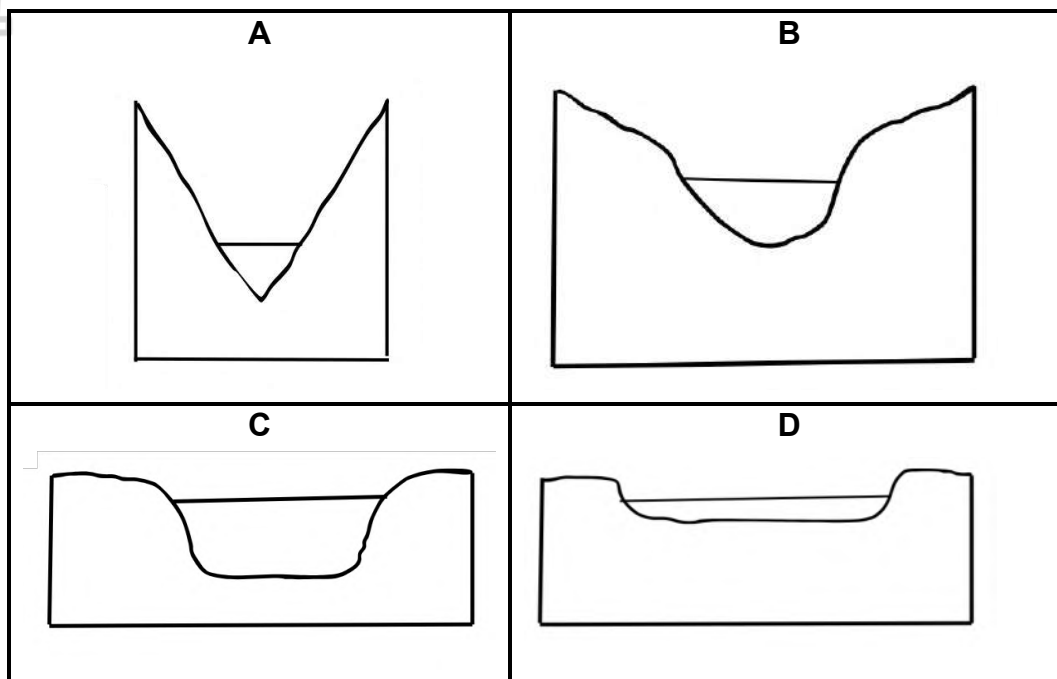


[Source: <https://www.shutterstock.com/image-photo/turbulent-flow>]

2.2.3 The stream flow (discharge) of the river is ...

- A turbulent.
- B laminar.
- C smooth.
- D layered.

2.2.4 The shape of the valley in the upper course where this stream flows:



[Source: Examiner's own sketches]

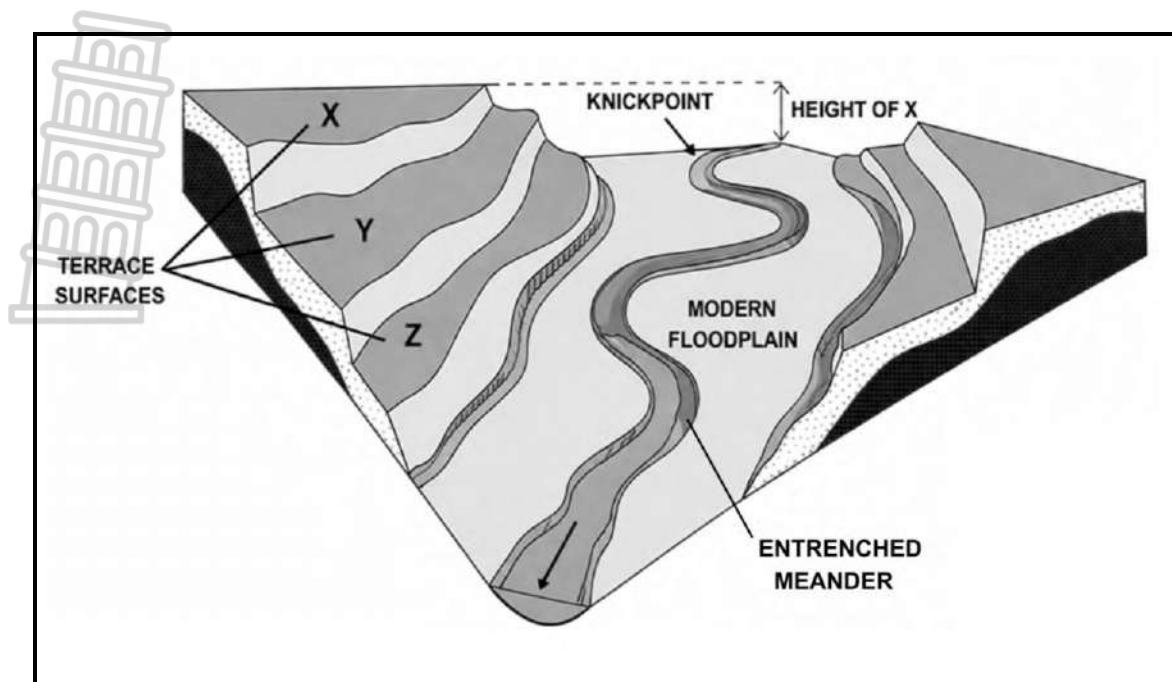
2.2.5 The fluvial process associated with the stream flow (discharge) is ...

- A undercutting.
- B headward erosion.
- C lateral erosion.
- D vertical erosion.

(5 x 1) (5)



2.3 Refer to the sketch below on river rejuvenation.

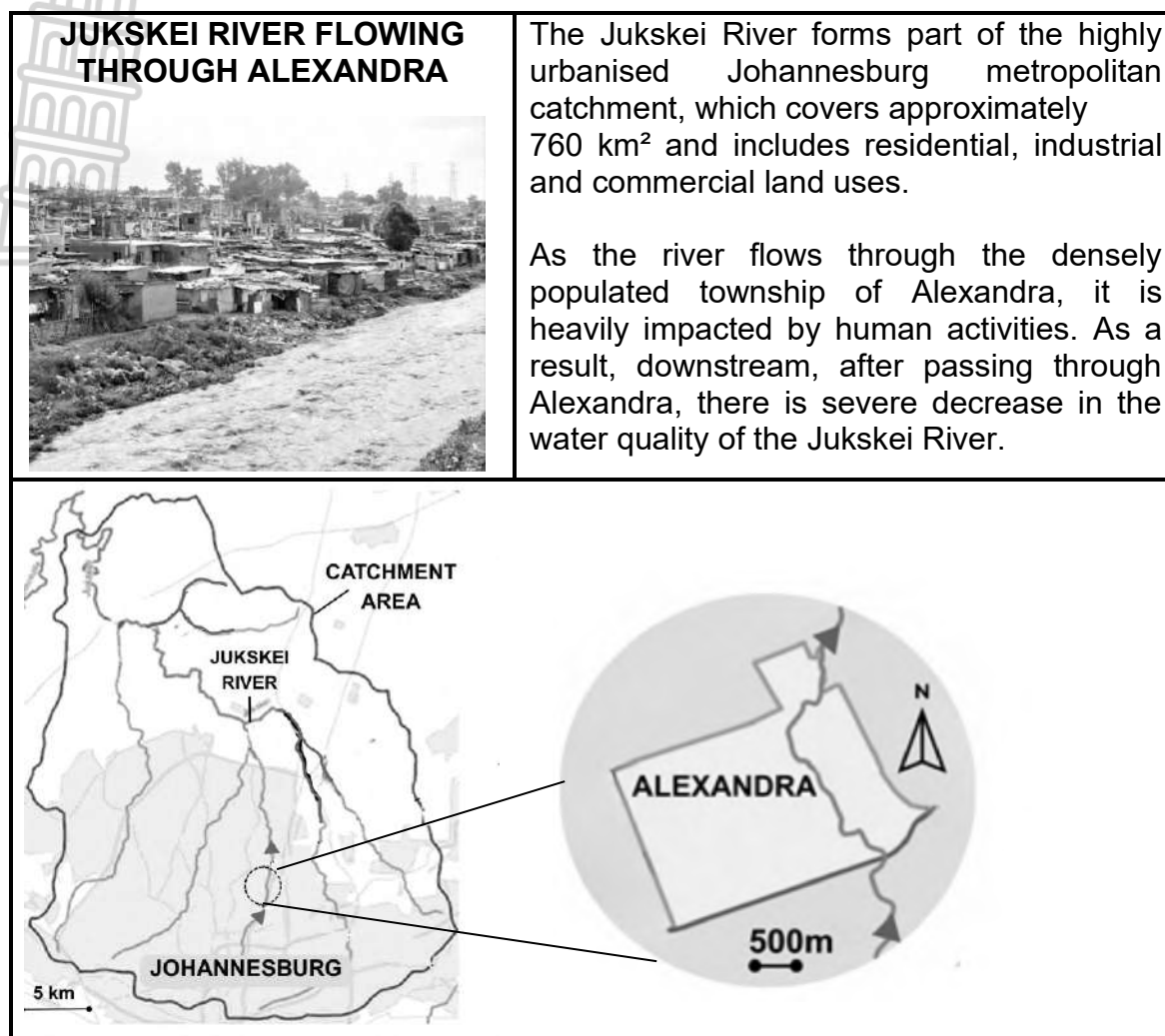


[Adapted from www.researchgate.net/figure/fluvial-landforms]

- 2.3.1 Identify evidence from the sketch to suggest that river rejuvenation has taken place. (2 x 1) (2)
- 2.3.2 What type of erosion is dominant during river rejuvenation? (1 x 1) (1)
- 2.3.3 Explain why this type of erosion (answer to QUESTION 2.3.2) is dominant during river rejuvenation. (2 x 2) (4)
- 2.3.4 In a paragraph of approximately EIGHT lines, explain the negative impact of rejuvenation on farming activities in the illustrated landscape. (4 x 2) (8)



- 2.4 Refer to the infographic below based on catchment and river management in an urban area.



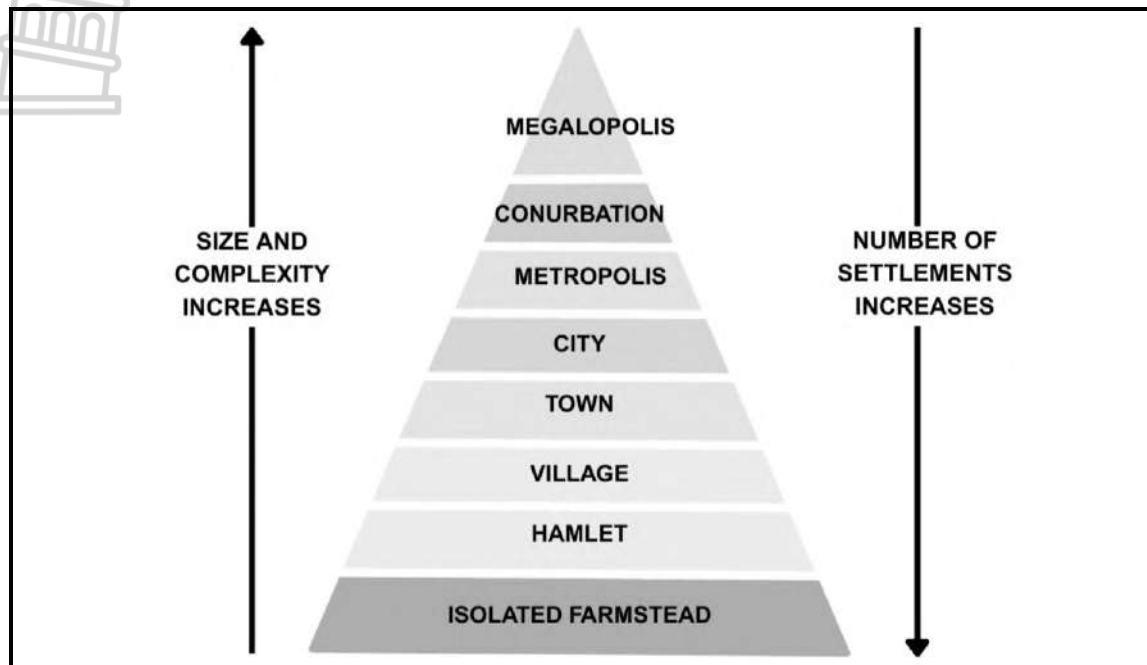
[Adapted from www.researchgate.net/figure/Sampling-sites-along--Jukskei-River]

- 2.4.1 According to the sketch, what is an *urbanised catchment area*? (1 x 2) (2)
- 2.4.2 By referring to the photograph, what urban land use impacts negatively on the Jukskei River? (1 x 1) (1)
- 2.4.3 Give TWO ways in which this urban land use (answer to QUESTION 2.4.2) can impact on the water quality of the Jukskei River. (2 x 1) (2)
- 2.4.4 How does poor water quality affect the natural (physical) environment downstream of Alexandra? (2 x 2) (4)
- 2.4.5 Suggest THREE sustainable strategies that the municipality of Johannesburg could implement to protect the urbanised catchment area of the Jukskei River. (3 x 2) (6)

[40]

QUESTION 3: RURAL AND URBAN SETTLEMENTS

- 3.1 Refer to the sketch below showing the hierarchy of settlements. Complete the statements in COLUMN A with the options in COLUMN B. Write only **Y** or **Z** next to the question numbers (3.1.1 to 3.1.5) in the ANSWER BOOK, for example 3.1.6 Y.

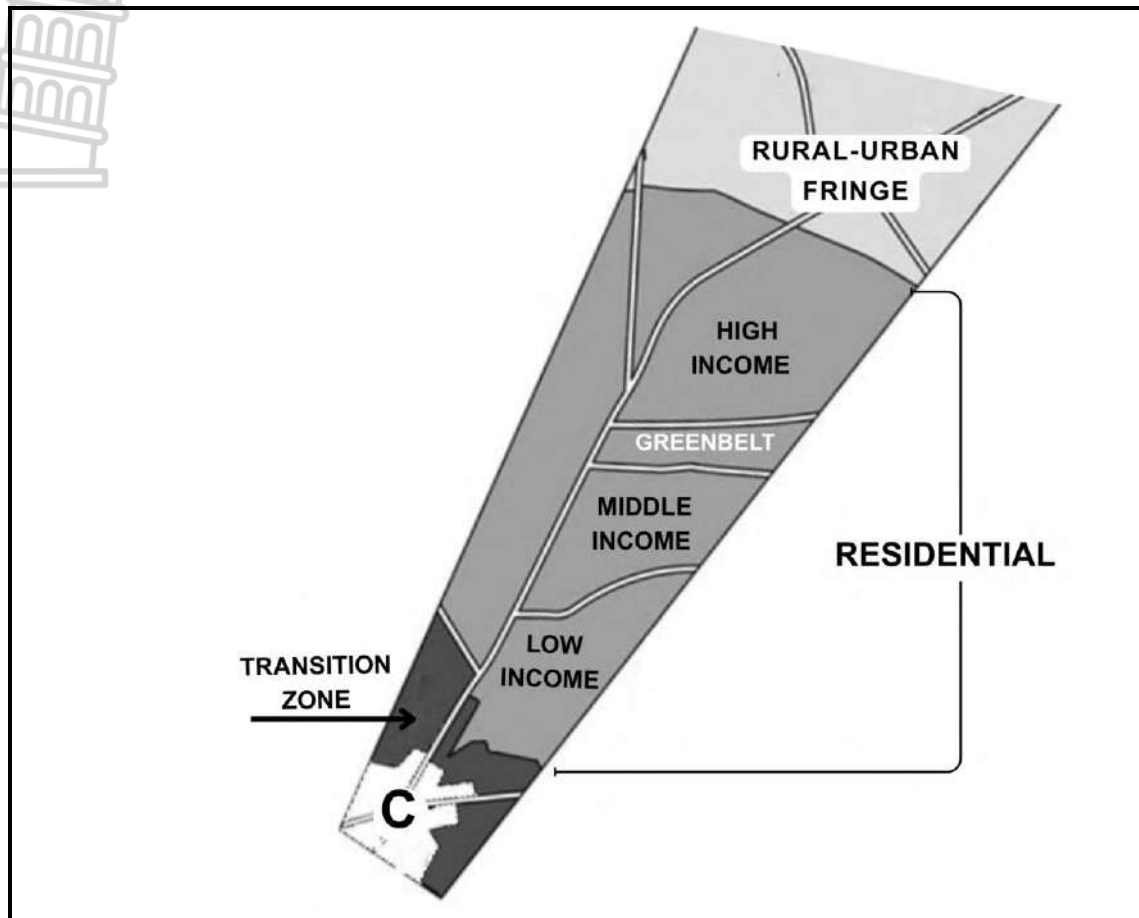


[Source: Examiner's own sketch]

COLUMN A		COLUMN B	
3.1.1	The criterion used to rank settlements	Y	function
		Z	population size
3.1.2	A ... is the highest ranked rural settlement	Y	hamlet
		Z	village
3.1.3	The largest and most complex type of settlement in South Africa	Y	metropolis
		Z	conurbation
3.1.4	In a given area, there are ... cities than towns	Y	fewer
		Z	more
3.1.5	A megalopolis consists of... urban areas	Y	isolated
		Z	interconnected

(5 x 1) (5)

- 3.2 Refer to the diagram below showing urban land-use zones. Various options are presented as possible answers to the following questions. Choose the answer and write only the letter (A–D) next to the question numbers (3.2.1 to 3.2.5) in the answer book e.g 3.2.6 C.



[Source: Examiner's own sketch]

- 3.2.1 Land-use **C** which is characterised by a high degree of accessibility:

- A Outlying Business District
- B Heavy industrial zone
- C Light industrial zone
- D Central Business District

- 3.2.2 The high-income residential area is in close proximity to the:

- (i) Transition zone
- (ii) Rural-urban fringe
- (iii) Green belt
- (iv) Low-income residential area

- A (i) and (iii)
- B (ii) and (iii)
- C (i) and (iv)
- D (ii) and (iv)

3.2.3 The main purpose (benefit) of a green belt:



- A Controls urban sprawl
- B Promotes invasion and succession
- C Facilitates commercial decentralisation
- D Ensures compatibility of land uses

3.2.4 The land-use zone that occupies the most amount of land:

- A Transition zone
- B Rural-urban fringe
- C Residential zone
- D Green belt

3.2.5 The land-use zones that are both zones of change:

- (i) Residential
- (ii) Rural-urban fringe
- (iii) Central Business District
- (iv) Transition zone

- A (i) and (ii)
- B (ii) and (iii)
- C (ii) and (iv)
- D (iii) and (iv)

(5 x 1) (5)

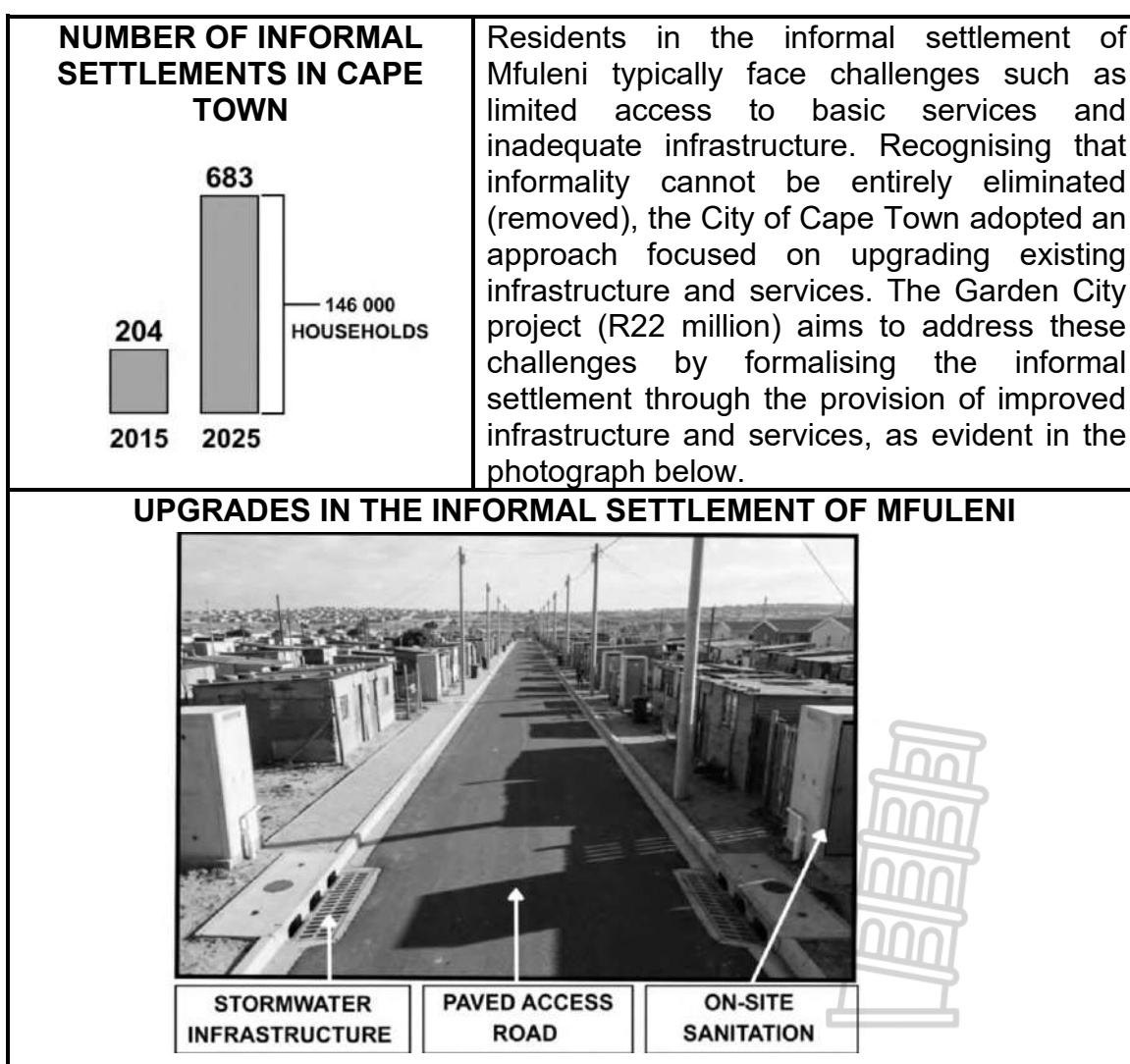
3.3 Refer to the photographs and extract below based on rural depopulation.

RURAL SETTLEMENTS IN THE THULAMELA LOCAL MUNICIPALITY	
1995	2025
In the Thulamela Local Municipality in Limpopo, there has been a steady decline in the number of rural households actively engaged in agriculture, along with shrinking plot sizes and increasing land abandonment. Between 1995 and 2025, cultivated agricultural land in the area has declined by approximately 73%. This decline is partly linked to the dispersed settlement pattern in the area. As a result, infrastructure development, such as roads, irrigation systems, electrical and storage facilities are limited. As farming becomes less viable, rural communities face increased cycles of poverty.	

[Adapted from <https://www.researchgate.net/publication/360263899>]

- 3.3.1 What is *rural depopulation*? (1 x 2) (2)
- 3.3.2 How is rural depopulation depicted in the two photographs? (1 x 2) (2)
- 3.3.3 From the extract identify ONE type of transport infrastructure that is limited in the area. (1 x 1) (1)
- 3.3.4 How would the lack of this transport infrastructure (answer to QUESTION 3.3.3) increase the cycle of poverty in the area? (2 x 2) (4)
- 3.3.5 What strategies could the Thumela Local Municipality implement to increase economic growth through agriculture in the area? (3 x 2) (6)

3.4 Refer to the infographic based on informal settlements in Cape Town.



[Adapted from <https://resource.capetown.gov.za/>]

- 3.4.1 Provide evidence from the graph that the number of informal settlements in Cape Town has increased over time. (1 x 2) (2)
- 3.4.2 In 2025, how many households were situated in informal settlements? (1 x 1) (1)

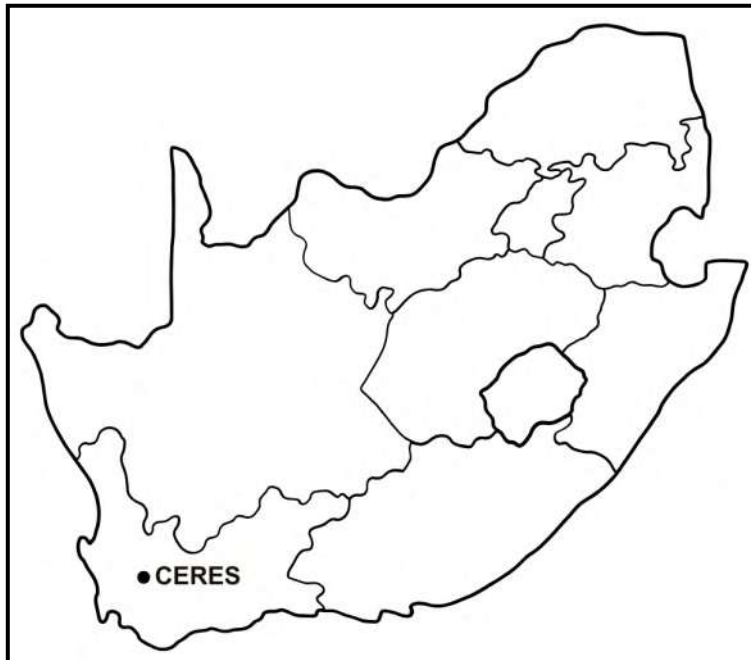
3.4.3 Provide TWO economic factors that influence the high number of households (answer to QUESTION 3.4.2) living in informal settlements. (2 x 1) (2)

3.4.4 From the photograph, identify TWO upgrades that have been made to the Mfuleni informal settlement. (2 x 1) (2)

3.4.5 In a paragraph of approximately EIGHT lines, explain how the upgrades (answer to QUESTION 3.4.4) can have a positive social impact for people living in the Mfuleni informal settlement. (4 x 2) (8)
[40]

TOTAL SECTION A: 120



SECTION B**QUESTION 4: GEOGRAPHICAL SKILLS AND TECHNIQUES****GENERAL INFORMATION ON CERES**

Co-ordinates: 33.37° S; 19.31° E

Ceres is a small town located in a mountainous valley in the Western Cape. It lies in a region characterised by a winter rainfall climate. The surrounding mountains influence both the climate and accessibility of the area. The town is closely associated with river systems, with rivers flowing through the valley and contributing to fertile soils. These conditions support extensive fruit farming, particularly deciduous fruit. Transport is significant in Ceres due to the presence of mountain passes. One of the key routes is Michell's Pass, which links the town to surrounding regions. The pass allows road access through the mountains and follows the natural valley created by erosion.

[Adapted from <https://southafrica.co.za/ceres>]

The following English term and its translation are shown on the topographic map:

ENGLISH

Michell's Pass

AFRIKAANS

Michell se pas

4.1 MAPWORK SKILLS AND CALCULATIONS

Various options are provided as possible answers to the following questions. Choose the correct answer and write only the letter (A–D) next to the question numbers (4.1.1 and 4.1.2) in the ANSWER BOOK e.g. 4.1.3 A.

4.1.1 The portion of the river at **F** on the topographical map in block **A1** is a ... river flowing in a ... direction.

- (i) perennial
- (ii) non-perennial
- (iii) north-westerly
- (iv) south-easterly

- A (i) and (iv)
- B (ii) and (iv)
- C (i) and (iii)
- D (ii) and (iv)

(1 x 1) (1)

4.1.2 On the orthophoto map, the straight-line distance between the police station in block **B3** and the spot height 456 in block **B2** is ...

- A 6,7 m.
- B 3 350 m.
- C 6,7 km.
- D 670 m.

(1 x 1) (1)

Refer to the topographic map to answer QUESTIONS 4.1.3 and 4.1.4.

4.1.3 The mean magnetic declination for 2026 is 25°38' West of True North.

Determine the magnetic bearing between trigonometrical station 98 in block **D2** / **C2** and spot height 622 in block **C3**.

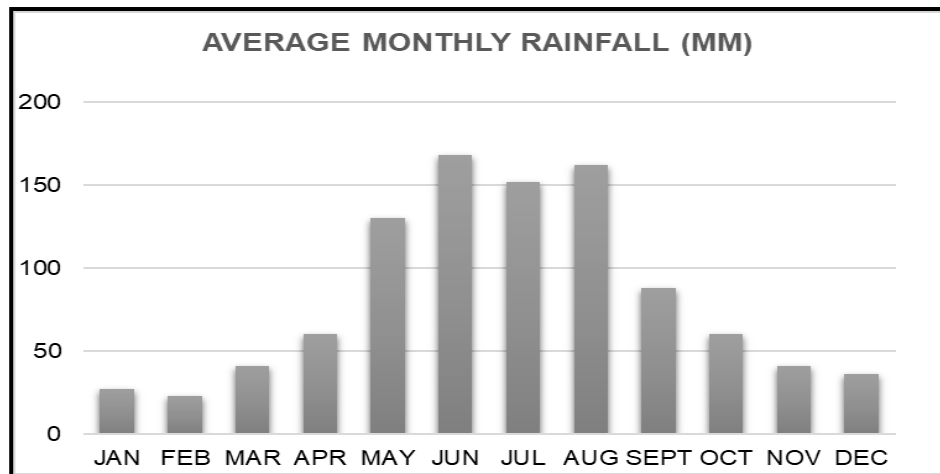
(3 x 1) (3)

4.1.4 Refer to the portion of the road (R46) in **D3** and **E3**.

- (a) Name the type of road. (1 x 1) (1)
- (b) Identify the height indicator (460.4) along the road in block **D3**. (1 x 1) (1)
- (c) The road through Michell's Pass makes use of a natural (ridge / gap) in the Witzenberg Mountains. (1 x 1) (1)
- (d) Explain why the road follows the river course through Michell's Pass. (1 x 2) (2)

4.2 MAP INTERPRETATION

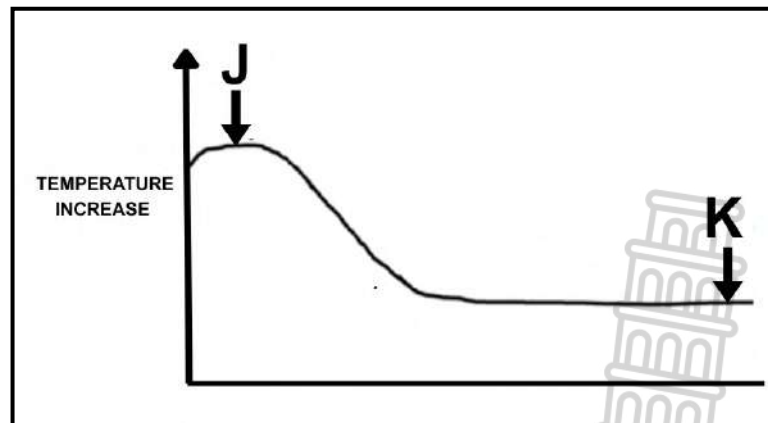
4.2.1 Ceres receives a seasonal rainfall. Refer to the graph and topographical map to answer QUESTIONS 4.2.1 (a) and (b).



[Source: <https://www.weather2visit.com/africa/south-africa/ceres.htm>]

- (a) Ceres rainfall pattern indicates that it receives a (summer/winter) rainfall. (1 x 1) (1)
- (b) Provide evidence from block **D2** on the topographical map that indicates the area receives seasonal rainfall. (1 x 1) (1)

4.2.2 The temperature graph below illustrates the general change during the day from the industrial land-use zone (**J**) in block **C5** to **K** in block **A5** on the topographical map.



[Source: Examiner's own sketch]

- (a) The general trend of the change in temperature from **J** to **K** is (increasing / decreasing). (1 x 1) (1)
- (b) Give **TWO** reasons for the difference in temperature between **J** and **K**. (2 x 1) (2)

Refer to the blocks **D3**, **E3** and **E4** on the topographical map.

4.2.3 Identify which area, **L** or **M**, has the higher drainage density. (1 x 1) (1)

4.2.4 Determine the stream order of the river at point **N**. (1 x 2) (2)

4.2.5 Explain how the stream order at point **N** could increase. (1 x 2) (2)

The photograph shows a commercial facility which is marked **Q** on the topographical and orthophoto maps.



[Source: <https://www.google.com/maps>]

4.2.6 The commercial facility at **Q** is classified as a(n):

- A Isolated store
- B Neighbourhood shopping centre
- C Regional shopping centre
- D Ribbon development

(1 x 1) (1)

4.2.7 Give a reason for your answer to QUESTION 4.2.6.

(1 x 1) (1)



4.3 GEOGRAPHICAL INFORMATION SYSTEMS (GIS)

Study the vertical aerial photograph of the area around Ceres Peak in block C2 on the topographical map.

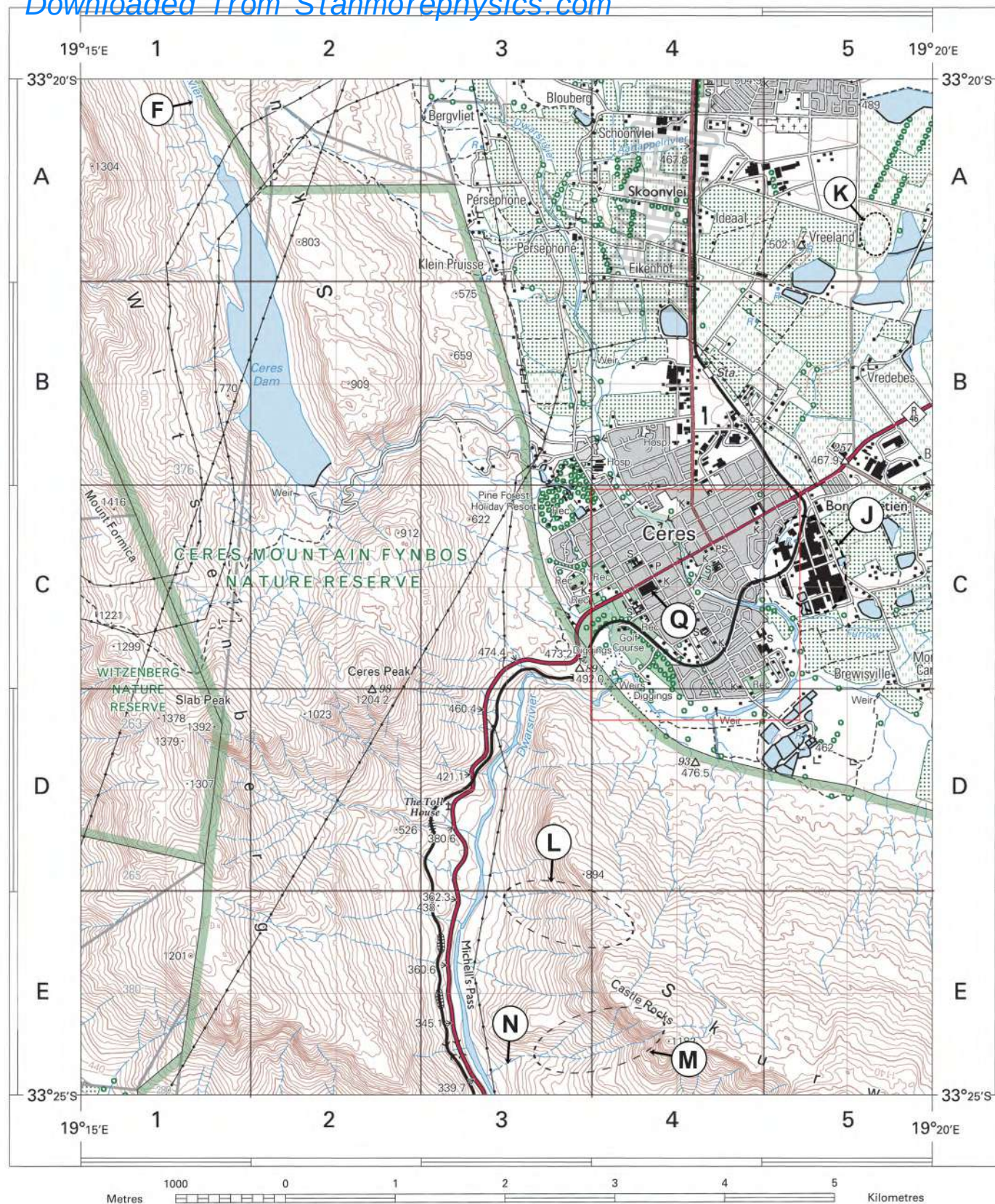


[Source: <https://www.google.com/maps/place/Ceres+Peak>]

- | | | | |
|-------|---|---------|-----|
| 4.3.1 | What is <i>remote sensing</i> ? | (1 x 2) | (2) |
| 4.3.2 | Name ONE device used to capture this image. | (1 x 1) | (1) |
| 4.3.3 | Explain why remote sensing is effective in this terrain. | (1 x 2) | (2) |
| 4.3.4 | The photograph represents data in its (raster/vector) format. | (1 x 1) | (1) |
| 4.3.5 | Explain how image resolution influences the visibility of steep slopes of Ceres Peak. | (1 x 2) | (2) |

[30]

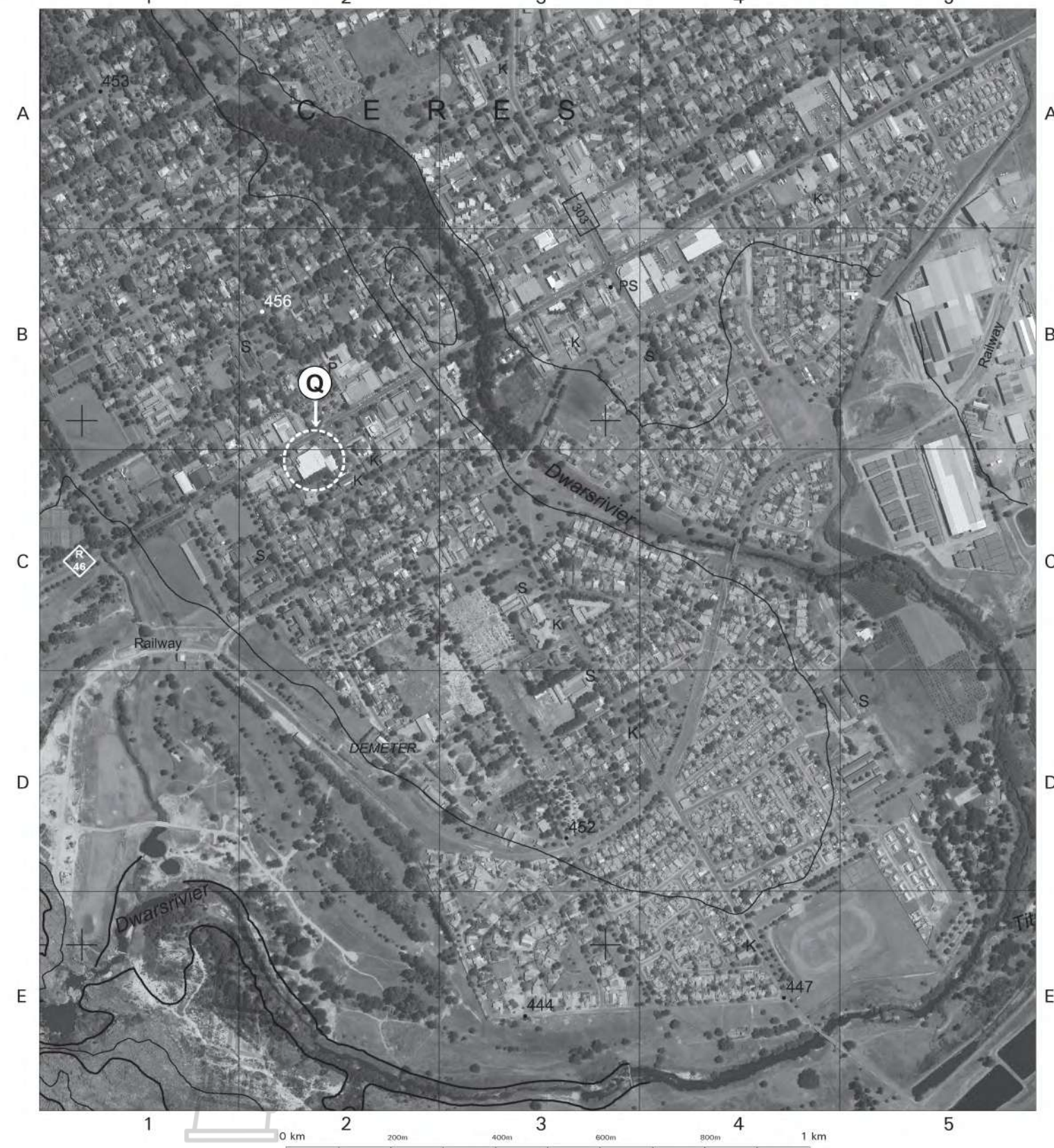
TOTAL SECTION B: 30
GRAND TOTAL: 150



Mean magnetic declination 24°38' West of True North (October 2014).
Mean annual change 5' westwards (Oct. 2014 - Sept. 2015).

CONTOUR INTERVAL 20 METRES
REFERENCE

National Freeway; National Route	International Boundary and Beacon	Fence; Wall
Arterial Route	Provincial Boundary	Windpump; Monument
Main Road	Protected Area	Communication Tower
Secondary Road; Bench Mark	Perennial River	Mine Dump; Excavation
Other Road; Bridge	Perennial Water	Trigonometrical Station; Marine Beacon
Track and Hiking Trail	Non-perennial River	Lighthouse and Marine Light
Railway; Station or Siding	Non-Perennial Water	Cemetery; Grave
Other Railway; Tunnel	Dry Water Course	Erosion; Sand
Embankment; Cutting	Dry Pan	Woodland
Power Line	Marsh and Vlei	Cultivated Land
Built-up Area (High, Low Density)	Pipeline (above ground)	Orchard or Vineyard
Buildings; Ruin	Water Tower; Reservoir; Water Point	Recreation Ground
Post Office; Police Station; Store	Coastal Rocks	Row of Trees
Place of Worship; School; Hotel	Prominent Rock Outcrop	Original Farms



1:10000 KONTOERTUSSENRUIMTE 5 METER
VERKLARING

Nasionale Deurpad; Nasionale Roete	Internasionale Grens en Baken	Draadheining; Muur
Hoofverkeersroete	Provinsiale Grens	Windpomp; Monument
Hoofpad	Bewarings Gebied	Kommunikasietoring
Sekondêre Pad; Hoogtemerk	Standhoudende Rivier	Mynhoop; Uitgraving
Ander Pad; Brug	Standhoudende Water	Peilbaken; Seevaartbaken
Dowwe Pad en Voetslaanpad	Nie-standhoudende Rivier	Vuurtoring en Seevaartlig
Spoorweg; Stasie of Sylyn	Nie-standhoudende Water	Begraafplaas; Graf
Ander Spoorweg; Tunnel	Droë Loop	Erosie; Sand
Opvulling; Deurgrawing	Moeras en Vlei	Beboste Gebied
Kraglyn	Pypplyn (bo die grond)	Bewerkte Land
Beboude Gebied (Hoë, Laë Digtheid)	Watertoring; Reservoir; Waterpunt	Boord of Wingerd
Geboue; Murasie	Kuslynrotse	Ontspanningsterrein
Poskantoor; Polisiestasie; Winkel	Prominente Klipbank	Rye Bome
Plek van Aanbidding; Skool; Hotel		Oorspronklike Plase



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EDUCATION

Iphondo leMpuma Kapa: faebho leMfundo
Provinsie van die Oos-Kaap: Departement van Onderwys
Porafensele Ya Kapa Bojjanabela: Lefapha la Thuto

NATIONAL SENIOR CERTIFICATE

GRADE 12

JUNE 2026

GEOGRAPHY MARKING GUIDELINE

MARKS: 150



This marking guideline consists of 9 pages.

SECTION A

QUESTION 1

- 1.1 1.1.1 D (1)
- 1.1.2 A (1)
- 1.1.3 B (1)
- 1.1.4 D (1)
- 1.1.5 C (1) (5 x 1) (5)
- 1.2 1.2.1 Southern (1)
- 1.2.2 Cooler and moist (1)
- 1.2.3 Katabatic (1)
- 1.2.4 Terrestrial (1)
- 1.2.5 Gravity (1) (5 x 1) (5)
- 1.3 1.3.1 Cold (front) (1) (1 x 1) (1)
- 1.3.2 Well-formed V-shape (1)
Atmospheric pressure below 1 000 hPa (1)
Fully developed warm sector (1)
Cold and warm fronts are fully developed (1)
No occlusion (1)
[ANY TWO] (2 x 1) (2)
- 1.3.3 **Temperature:**
Drop / decrease / cools (1)
18°C to 9°C (1)
[ANY ONE]
- Humidity:**
Rises / increases / higher (1) (2 x 1) (2)
- 1.3.4 Front is the boundary between the cold and warm air masses (2)
Cold air behind the front moves faster than the warm air ahead of the front (2)
Cold air is heavier and sinks, undercutting warm air (2)
Warm air forced to rise along the cold front (2)
Steep pressure gradient of cold front causes uplift of air; condensation and (frontal) rain (2)
[ANY TWO] (2 x 2) (4)



- 1.3.5 A change in wind direction to the left (anticlockwise) in the southern hemisphere (2)
Wind direction changes from north-westerly to westerly to south-westerly (2)
[ANY ONE] (1 x 2) (2)
- 1.3.6 Low pressure in southern hemisphere: wind deflected to the left / air circulates clockwise around a low-pressure system (2)
The system moves from west to east (easterly direction) (2) (2 x 2) (4)
- 1.4 1.4.1 Moisture (front) (1) (1 x 1) (1)
- 1.4.2 Summer (1) (1 x 1) (1)
- 1.4.3 Cumulonimbus / Cb (1) (1 x 1) (1)
- 1.4.4 Cold, dry air from the south Atlantic anticyclone and the warm, moist air from the south Indian anticyclone **converge** at the trough of low pressure / form the moisture front (2)
Cold air undercuts the warm air causing the warm moist air to rise along the steep pressure gradient causing **large-scale condensation** (2). (2 x 2) (4)
- 1.4.5 Intense rainfall can cause flash floods destroying habitats (2)
Vegetation can be washed away making soil vulnerable (2)
Gusty winds / heavy run-off removes top soil / causes soil erosion (2)
Loss of fertile soil negatively affects vegetation growth (2)
Hailstones can destroy vegetation / habitats (2)
Lightning can ignite veld fires which destroys vegetation (2)
Leaching of nutrients causes decline in soil fertility (2)
Animals can be injured or killed by hail/lightning strikes/floodwaters (2)
[ANY FOUR] (4 x 2) (8)
[40]



QUESTION 2

- 2.1 2.1.1 Z (1)
- 2.1.2 Z (1)
- 2.1.3 Y (1)
- 2.1.4 Z (1)
- 2.1.5 Y (1) (5 x 1) (5)
- 2.2 2.2.1 B (1)
- 2.2.2 B (1)
- 2.2.3 A (1)
- 2.2.4 A (1)
- 2.2.5 D (1) (5 x 1) (5)
- 2.3 2.3.1 Terraces (1)
Entrenched meander (1)
Knickpoint (1)
[ANY TWO] (2 x 1) (2)
- 2.3.2 Vertical (downward) (1) (1 x 1) (1)
- 2.3.3 Increased water volume (accept examples) causes larger discharge (2)
More water/larger discharge increases erosive capacity (2)
Flow velocity (speed) and erosive capacity increases with increased water volume (2)
Increased energy because of increased volume/speed of water (2)
Sea level drops and the river has to erode to a lower level (2)
[ANY TWO] (2 x 2) (4)
- 2.3.4 Terraces reduce land available (cultivation / livestock) (2)
Narrowed floodplain / less fertile lands (2)
Terrain is impractical / dangerous for livestock (2)
Deeper river channel makes it difficult / more expensive to access water (2)
Difficult / more expensive to access floodplain (2)
Building infrastructure / use of farm equipment more difficult (accept examples) (2)
Unstable slopes / increased soil erosion (2)
Reduced natural fertilisation / fewer alluvial deposits (2)
[ANY FOUR] (4 x 2) (8)

- 2.4 2.4.1 An area of land where all rainfall drains into a specific river, found predominately in an urban environment (2) (1 x 2) (2)
- 2.4.2 Residential (1) (1 x 1) (1)
- 2.4.3 (Untreated) sewage (1)
Solid waste / litter (1)
Illegal dumping (1)
Greywater / chemicals (accept examples) (1)
Pathogens from livestock / pets (1)
[ANY TWO] (2 x 1) (2)
- 2.4.4 Loss of aquatic life / reduced biodiversity (2)
Eutrophication / algae blooms (2)
Habitat destruction (2)
Toxins in food chain / Disruption of ecosystems (2)
Spread of invasive species (2)
Contaminated water in wetlands / soil (2)
Change in pH of water affects flora / fauna (2)
[ANY TWO] (2 x 2) (4)
- 2.4.5 Improve /upgrade sanitation infrastructure (2)
Stormwater drains / filters to reduce polluted runoff entering river (2)
Waste management improvements (bin / waste collection) to prevent dumping (2)
Strict enforcement of laws / penalise (fine) illegal dumping (2)
River clean-up programmes (2)
Rehabilitation of riverbanks / stabilise river banks (2)
Creation of buffer zones / prohibit development (2)
Environmental education and awareness on protecting water resources (2)
Regular monitoring and testing water quality (2)
Wetland preservation (2)
[ANY THREE] (3 x 2) (6)

[40]

QUESTION 3

- 3.1 3.1.1 Y (1)
- 3.1.2 Z (1)
- 3.1.3 Y (1)
- 3.1.4 Y (1)
- 3.1.5 Z (1) (5 x 1) (5)
- 3.2 3.2.1 D (1)
- 3.2.2 B (1)
- 3.2.3 A (1)
- 3.2.4 C (1)
- 3.2.5 C (1) (5 x 1) (5)
- 3.3 3.3.1 The decrease in the number of people in rural areas (2)
[CONCEPT] (1 x 2) (2)
- 3.3.2 In 2025 there are fewer houses compared to 1995 / In 1995 there are more houses than in 2025 (2)
Over the 30 year period fewer houses/people/activities are evident (2)
[ANY ONE] (1 x 2) (2)
- 3.3.3 Roads (1) (1 x 1) (1)
- 3.3.4 Limited access to market (2)
Low investment because of poor accessibility (2)
High transport cost reduces disposable income (2)
Poor access to goods and services (2)
Community isolation / less access to government services (2)
Reduction in income and opportunities (2)
Slower response for emergency / disaster response (2)
[ANY TWO] (2 x 2) (4)

- 3.3.5 Improve agricultural infrastructure (accept examples) (2)
 Reliable access to water (for irrigation) /electricity (accept examples pertinent to agriculture i.e. water pumps) (2)
 Provide access to irrigation systems (2)
 Supply agricultural inputs (accept examples) (2)
 Access to finance (accept examples: subsidies, grants, loans, etc.) (2)
 Transfer to farming skills (2)
 Provide support from agricultural extension officers (2)
 Improve access to markets (2)
 Promote formation of farmer co-operatives (2)
 Improve technology and innovation/farming methods (accept examples) (2)
 Promote land reform and access to land (2)
[ANY THREE] (3 x 2) (6)
- 3.4 3.4.1 In 2015 there were 204 settlements whereas in 2025, there were 683. (2)
 There are 479 more informal settlements in 2025 compared to 2015. (2)
[ANY ONE] (1 x 2) (2)
- 3.4.2 146 000 (1) (1 x 1) (1)
- 3.4.3 High unemployment (1)
 Unaffordability / lack of affordable housing (1)
 High poverty / low income (1)
 Rising cost of living (1)
 Closer to job / close to work opportunity / save transport costs (1)
 High cost of land / housing development (1)
 Dependant on informal economy (1)
[ANY TWO] (2 x 1) (2)
- 3.4.4 Stormwater infrastructure (1)
 Paved access road (1)
 On-site sanitation (1)
[ANY TWO] (2 x 1) (2)
- 3.4.5 Cleaner living conditions results in less diseases / better health (2)
 Improved standard of living / quality of life in cleaner environment (2)
 Increased sense of dignity with improved infrastructure (2)
 Reduced risk of flood because water gets channelled away (2)
 Less chance of flood damage during heavy rain (2)
 Increased safety and accessibility on roads (2)
 Quicker response for emergency services (accept examples) (2)
 Paved roads make it easier for emergency services (accept examples) (2)
 Roads allow for easier travel / access to increased opportunities (2)
 Increased community pride / social cohesion (2)
 Service delivery operates more effectively with better infrastructure (2)
[ANY FOUR] (4 x 2) (8)
[40]

SECTION B

QUESTION 4

- 4.1 4.1.1 A (1) (1 x 1) (1)
- 4.1.2 D (1) (1 x 1) (1)
- 4.1.3 Magnetic bearing = True bearing + magnetic declination
- $29^{\circ}(1) + 25^{\circ} 38'(1)$ [Range 28° to 30°]
 $= 54^{\circ} 38'(1)$ [Range $53^{\circ} 38'$ to $55^{\circ} 38'$] (3 x 1) (1)
- 4.1.4 (a) Arterial route (1) (1 x 1) (1)
- (b) Benchmark (1) (1 x 1) (1)
- (c) Gap (1) (1 x 1) (1)
- (d) Rivers naturally erode valleys over time, creating gradual slopes (2)
Easier / cheaper to build a road through natural passage (gap) (2)
The river valley provides accessibility through the Witzenberg Mountains (2)
[ANY ONE] (1 x 2) (2)
- 4.2 4.2.1 (a) Winter (1) (1 x 1) (1)
- (b) Non-perennial water / rivers (1) (1 x 1) (1)
- 4.2.2 (a) Decreasing (1) (1 x 1) (1)
- (b) Urban heat island effect at J / minimal heat island effect at K (2)
High building density (J) absorb and retain heat / no buildings means less heat is stored at K (2)
Industrial activities generate heat at J / no industrial activities generating heat at K (2)
More human activities produce heat at J / less artificial heat input produced at K (2)
More vehicles release heat and pollutants at J / less vehicles releasing heat and pollutants at K (2)
Surfaces at J (accept examples) absorb heat / natural surfaces (accept examples) at K do not absorb as much heat (2)
Less vegetation cover reduces shading and cooling at J / more vegetation at K provides shade and cooling (2)
No moderating effect of water at J / Presence of water at K creates moderating effect (2)
[ANY TWO] (2 x 1) (2)

- 4.2.3 M (1) (1 x 1) (1)
- 4.2.4 2 / second (2) (1 x 2) (2)
- 4.2.5 More tributaries / additional 1st-order streams / finger-tip streams develop upstream (of point N) (2) (1 x 2) (2)
- 4.2.6 B (1) (1 x 1) (1)
- 4.2.7 Found in residential area (1)
Sufficient parking (1)
One-stop shopping in attractive surrounding (1)
Shops are grouped together in a relatively small area (1)
Closer to residential streets / not close to major transport nodes (1)
[ANY ONE] (1)
- 4.3 4.3.1 Remote sensing is the process of gathering information about an area from a distance / without making physical contact (2)
[CONCEPT] (1 x 2) (2)
- 4.3.2 Satellite (1)
Drone (1)
Camera mounted on aircraft (1)
[ANY ONE] (1 x 1) (1)
- 4.3.3 **Cheaper** as it allows data collection without physical presence in mountainous are (2)
Safer to collect data in areas that are inaccessible (2)
Faster / immediate data collection in areas that are difficult to access
[ANY ONE] (1 x 2) (2)
- 4.3.4 Raster (1) (1 x 1) (1)
- 4.3.5 High resolution shows more detail / better clarity / more accurately represented (2)
Low resolution shows less detail / slopes appear smoother / less precise and accurate (2)
[ANY ONE] (1 x 2) (2)
[30]

TOTAL SECTION B: 30
GRAND TOTAL: 150