basic education

Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

NATIONAL SENIOR CERTIFICATE

GRADE 12

GEOGRAPHY P1

NOVEMBER 2024

MARKS: 150

TIME: 3 hours

This question paper consists of 17 pages.

INSTRUCTIONS AND INFORMATION

1. This question paper consists of TWO sections.

   SECTION A
   QUESTION 1: CLIMATE AND WEATHER (60)
   QUESTION 2: GEOMORPHOLOGY (60)

   SECTION B
   QUESTION 3: GEOGRAPHICAL SKILLS AND TECHNIQUES (30)

2. Answer ALL THREE questions.

3. ALL diagrams are included in the QUESTION PAPER.

4. Leave a line between the subsections of questions answered.

5. Start EACH question at the top of a NEW page.

6. Number the answers 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, e.g. 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 2829DB LADYSMITH and a 1 : 10 000 orthophoto map 2829 DB 6 LADYSMITH are provided.

15. The area demarcated in RED/BLACK on the topographical map represents the area covered by the orthophoto map.

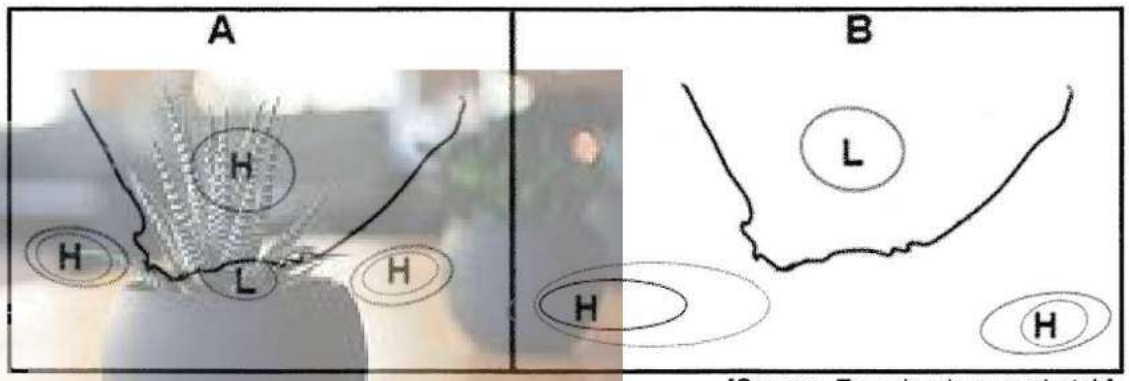
16. Show ALL calculations. Marks will be allocated for steps in calculations.

17. You must hand in the topographical and orthophoto map to the invigilator at the end of this examination.

SECTION A: CLIMATE AND WEATHER AND GEOMORPHOLOGY

QUESTION 1: CLIMATE AND WEATHER

1.1 Refer to sketches **A** and **B** below. Various options are provided as possible answers to the following questions based on the influence of anticyclones in South Africa. Choose the answer and write only the letter (A–D) next to the question numbers (1.1.1 to 1.1.8) in the ANSWER BOOK, e.g. 1.1.9 D.



[Source: Examiner's own sketch]

1.1.1 Sketch **A** shows typical ... conditions.

A summer
B spring
C winter
D autumn

1.1.2 The low-pressure system in sketch **B** forms due to ... over the land.

A low evaporation
B intense heating
C cold dense air
D heavy rainfall

1.1.3 ... is the concept used to describe the elongation of the isobars associated with the South Atlantic anticyclone in sketch **B**.

A Backing
B Divergence
C Ridging
D Convergence

1.1.4 The anticyclones in sketch **A** and **B** change their positions seasonally because of the ...

A rotation of the Earth.
B frictional drag.
C shifting of the ITCZ.
D Coriolis force.

1.1.5 The South Indian anticyclone in sketch **B** is likely to feed more moisture over the east coast in comparison with sketch **A** because it ...

A is a blocking high.
B has a larger fetch (distance).
C diverges dry air.
D has a smaller fetch (distance).

1.1.6 The low-pressure system in sketch **A** will move in a ... direction.

A northerly
B westerly
C easterly
D southerly

1.1.7 Berg winds are most likely to develop in sketch **A** because of the presence of the ... and ...

(i) Kalahari anticyclone
(ii) coastal low
(iii) South Indian anticyclone
(iv) heat low

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

1.1.8 The inversion layer that forms over the escarpment in sketch **B** will favour the formation of ... and ...

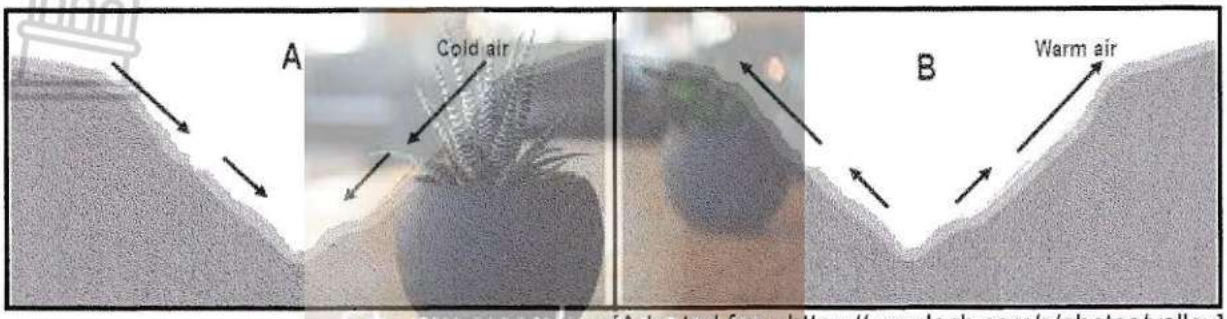
(i) frost
(ii) rainfall
(iii) fog
(iv) hail

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

(8 x 1) (8)

1.2 Match the descriptions below with sketches **A** and **B**. Write only **A** or **B** next to the question numbers (1.2.1 to 1.2.7) in the ANSWER BOOK, e.g.1.2.8 B.

Refer to sketches **A** and **B** on valley climates below to answer QUESTIONS 1.2.1 to 1.2.4.



[Adapted from https://unsplash.com/s/photos/valley]

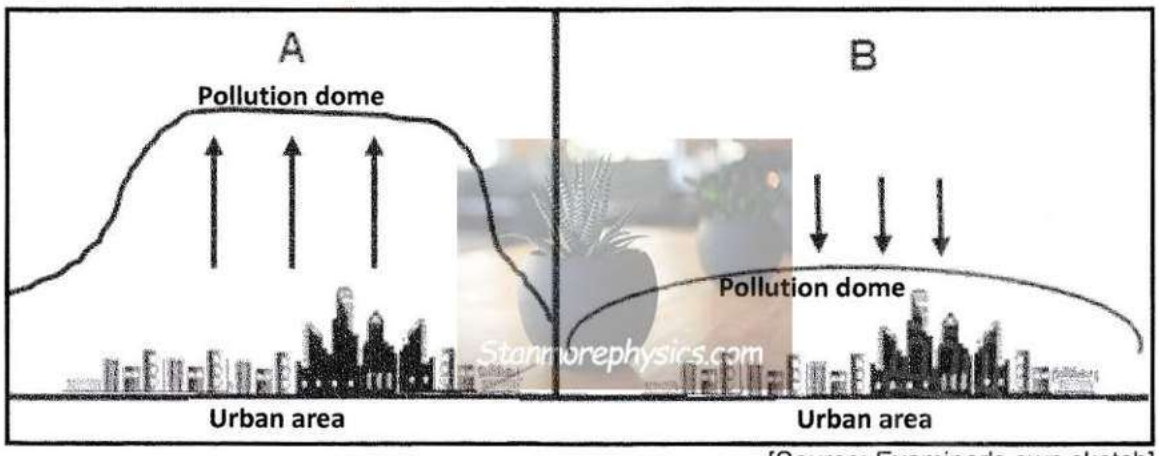
1.2.1 Represents an anabatic wind

1.2.2 Cold air forces the warm air to rise which forms an inversion layer

1.2.3 Occurs during the day due to insolation

1.2.4 Frost forms on the valley floor when the temperature drops below 0 °C

Refer to sketches **A** and **B** on pollution domes below to answer QUESTIONS 1.2.5 to 1.2.7.



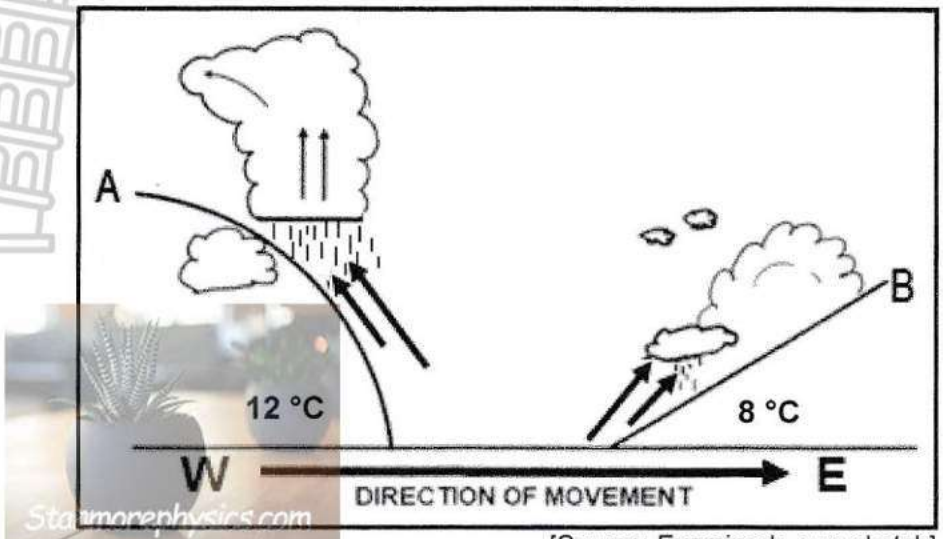
[Source: Examiner's own sketch]

1.2.5 Represents a pollution dome at night

1.2.6 Pollutants are dispersed

1.2.7 Denser concentration of pollutants over the urban area (7 x 1) (7)

1.3 Refer to the cross-section below of a mid-latitude cyclone.



[Source: Examiner's own sketch]

1.3.1 In which general direction do mid-latitude cyclones move? (1 x 1) (1)

1.3.2 Give a reason for your answer to QUESTION 1.3.1. (1 x 2) (2)

1.3.3 How does front **A** give rise to the formation of cumulonimbus clouds? (2 x 2) (4)

1.3.4 In a paragraph of approximately EIGHT lines, explain strategies that can be put in place to manage the negative environmental impact of the heavy rainfall associated with mid-latitude cyclones. (4 x 2) (8)

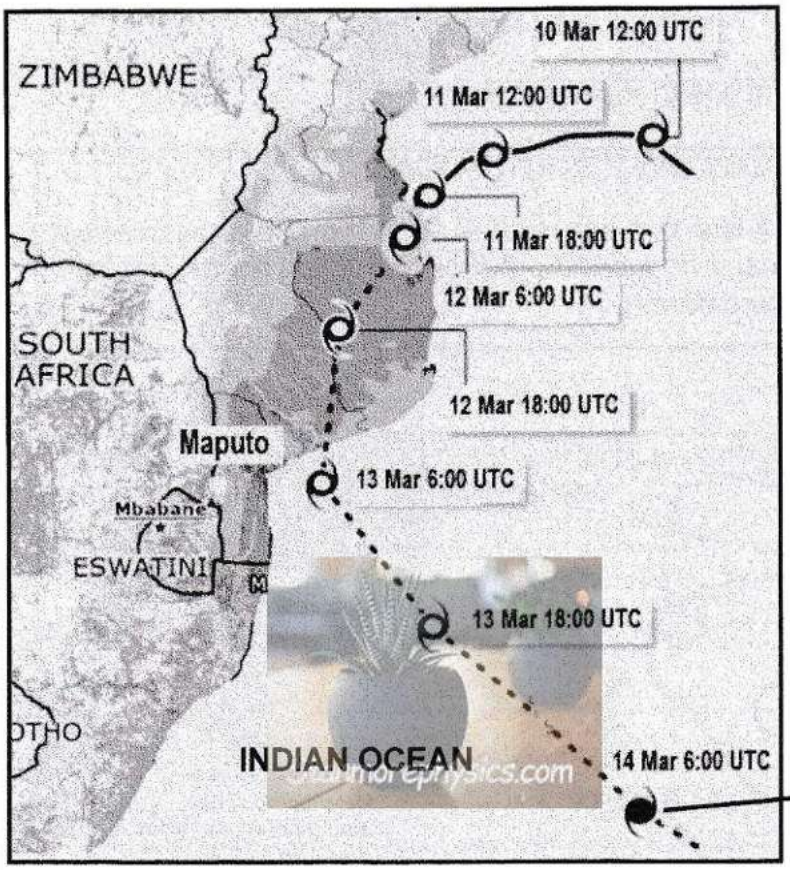
1.4 Refer to the infographic below based on Tropical Cyclone Filipo.

TROPICAL CYCLONE FILIPO

The tropical storm made landfall in Mozambique on 12 March after strengthening off the coast of southeast Africa, bringing strong winds and heavy rain to Mozambique.

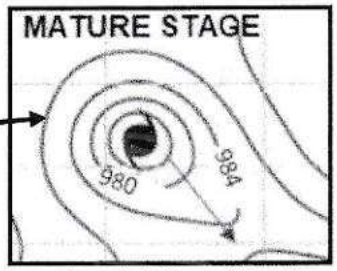
On 13 March, Tropical Storm Filipo moved back over the ocean and developed into a tropical cyclone on 14 March.

PATH OF TROPICAL CYCLONE FILIPO



INFORMATION ON THE PATH OF TROPICAL CYCLONE FILIPO

DATE	TIME	WIND
10 Mar	12:00 UTC	63 km/h
11 Mar	12:00 UTC	95 km/h
11 Mar	18:00 UTC	116 km/h
12 Mar	06:00 UTC	95 km/h
12 Mar	18:00 UTC	74 km/h
13 Mar	06:00 UTC	84 km/h
13 Mar	18:00 UTC	106 km/h
14 Mar	06.00 UTC	127 km/h



[Source: South African Weather Services]

1.4.1 State ONE condition that could have led to the development of Tropical Cyclone Filipo. (1 x 1) (1)

1.4.2 Give evidence from the map and table of information that Tropical Cyclone Filipo had strengthened from 10 to 11 March. (2 x 1) (2)

1.4.3 Give TWO reasons for the decrease in wind speed from 06:00 to 18:00 on 12 March. (2 x 2) (4)

1.4.4 On 14 March, Tropical Cyclone Filipo reached the mature stage. Draw a labelled cross-section of Tropical Cyclone Filipo in its mature stage. Marks will be awarded for the following:

(a) Cross-section (1 x 1) (1)

(b) Cloud type (1 x 1) (1)

(c) Eye (1 x 1) (1)

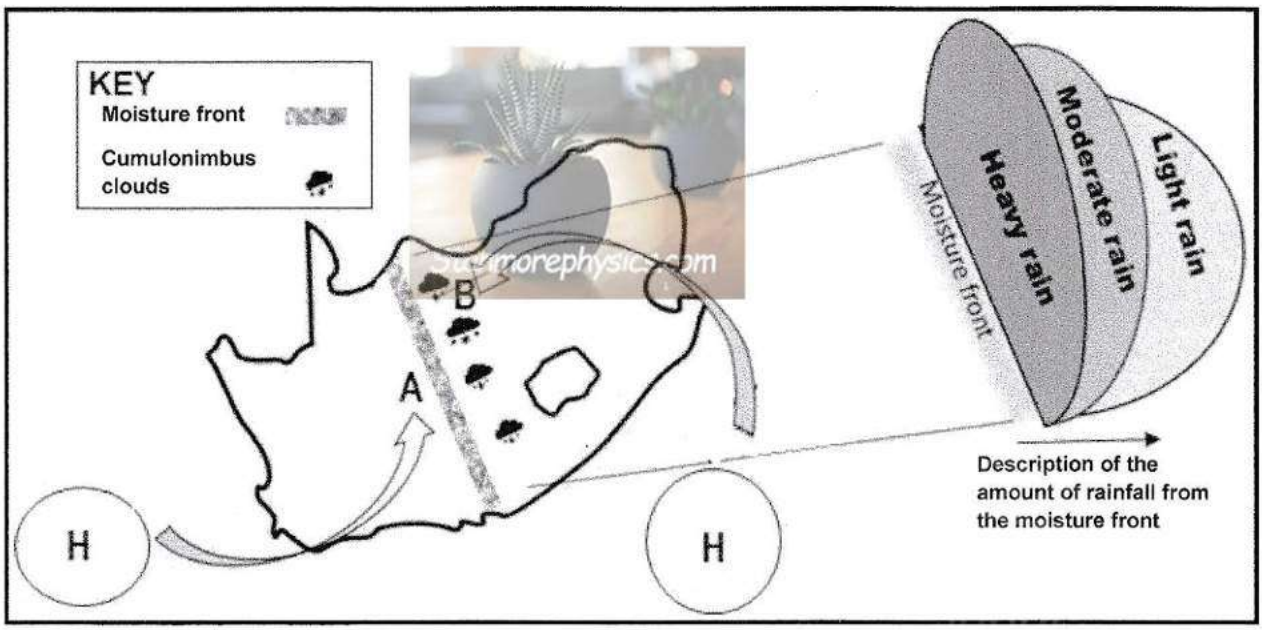
(d) Air movement in the eye (1 x 1) (1)

1.4.5 Account for the lack of rainfall and clouds in the eye of the tropical cyclone. (2 x 2) (4)

1.5 Refer to the source below based on line thunderstorms.

LINE THUNDERSTORMS OVER SOUTH AFRICA

During summer, thunderstorms can form a line that can extend for hundreds of kilometres. These line thunderstorms can persist for many hours and produce damaging winds and hail, which impacts negatively on the natural environment.



[Adapted from https://www.noaa.gov/jetstream/tstrmtypes and examiner's own sketch]

1.5.1 According to the extract, in which season do line thunderstorms commonly occur? (1 x 1) (1)

1.5.2 Describe the temperature and moisture content of wind **A** and wind **B** that led to the formation of the line thunderstorm. (2 x 2) (4)

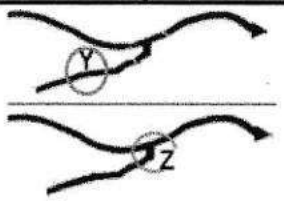
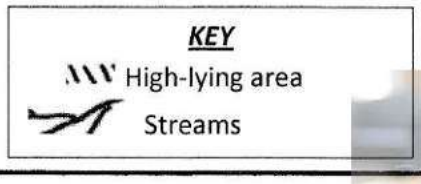
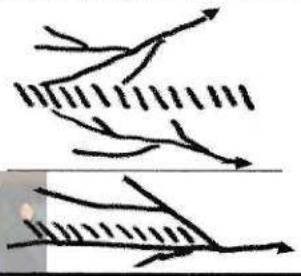
1.5.3 Explain why the heaviest rainfall occurs closest to the moisture front, as evident in the source. (2 x 2) (4)

1.5.4 Explain the negative physical (natural) impact of line thunderstorms. (3 x 2) (6)

[60]

QUESTION 2: GEOMORPHOLOGY

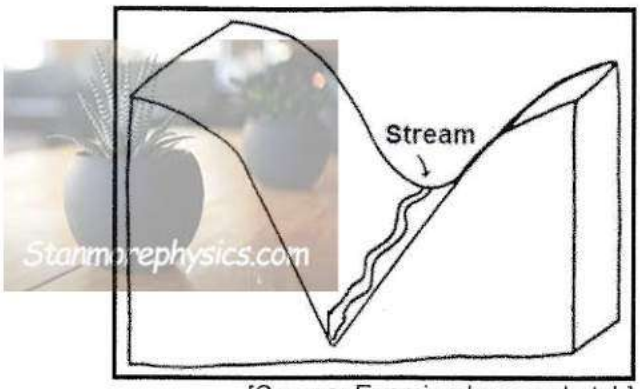
2.1 Match the statements in COLUMN A with the options in COLUMN B on drainage basins. Write only **Y** or **Z** next to the question numbers (2.1.1 to 2.1.7) in the ANSWER BOOK, e.g. 2.1.8 Y.

	COLUMN A		COLUMN B
2.1.1	Area drained by a river and its tributaries	**Y** **Z**	catchment area drainage basin
2.1.2	Promotes a rapid rise in the water table	**Y** **Z**	gentle gradient steep gradient
2.1.3	The upper level of ground water	**Y** **Z**	water table through flow
2.1.4	Seepage of water into the ground	**Y** **Z**	infiltration run-off
2.1.5	Causes reduction of surface run-off	**Y** **Z**	impermeable rocks dense vegetation
2.1.6	The confluence is located at **Y/Z**	**Y** **Z**	
2.1.7	High-lying area separating two tributaries in the same river system 	**Y** **Z**	

(7 x 1) (7)

2.2 Various options are provided as possible answers to the following questions on fluvial processes and landforms/features. Choose the answer and write only the letter (A–D) next to the question numbers (2.2.1 to 2.2.8) in the ANSWER BOOK, e.g. 2.2.9 D.

2.2.1 … is responsible for the shape of the river valley below.



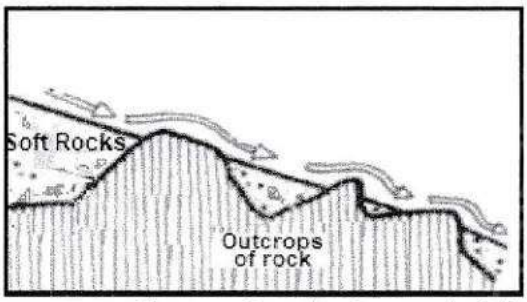
[Source: Examiner's own sketch]

A Deposition
B Lateral erosion
C Weathering
D Vertical erosion

2.2.2 A … forms at the base of a waterfall.

A braided stream
B delta
C gorge
D plunge pool

2.2.3 The fluvial landform/feature depicted in the sketch is a …



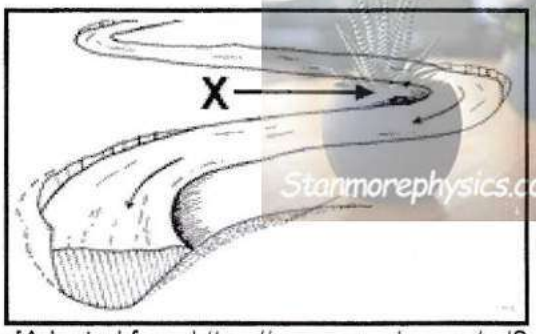
[Source: Examiner's own sketch]

A waterfall.
B valley.
C rapid.
D cliff.

2.2.4 The flat, low-lying area along the banks of a river in the lower course is a/an ...

A meander.
B delta.
C flood plain.
D alluvial fan.

2.2.5 The slope at **X** on the inner bank of a meander is also referred to as a/an ... slope.



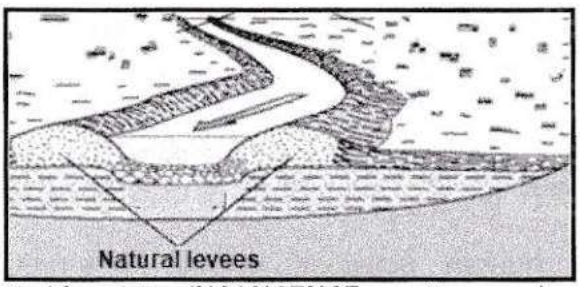
[Adapted from https://www.google.com/url?sa=www.quora.com%2F]

A steep
B undercut
C concave
D slip-off

2.2.6 A/An ... forms when the meander loop is cut off from the main stream.

A delta
B rapid
C ox-bow lake
D flood plain

2.2.7 The benefit of natural levees is ... on the flood plain.



[Adapted from https:/%3A%2F%2Frossettgeography.weebly.com%2F-levees]

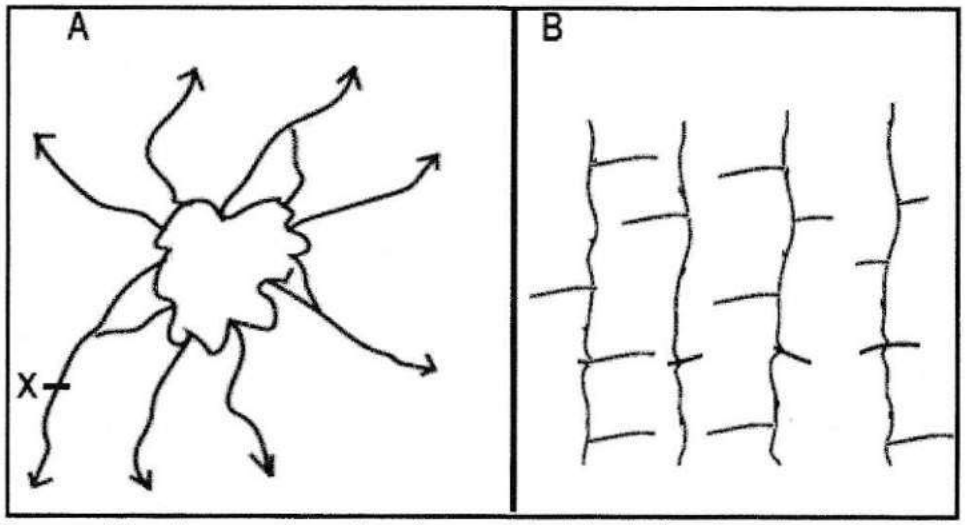
A increased deposition
B reduced flooding
C reduced fertility
D increased flooding

2.2.8 Deltas form at the river mouth when the following conditions occur:

(i) Shallow sea bed
(ii) Steep sea bed
(iii) Strong currents
(iv) Small tidal range

A (i) and (ii)
B (ii) and (iii)
C (iii) and (iv)
D (i) and (iv) (8 x 1) (8)

2.3 Refer to drainage patterns **A** and **B** below.



[Source: https://courses.lumenlearning.com/geo/chapter/reading-types-of-stream]

2.3.1 Identify drainage pattern **A**. (1 x 1) (1)

2.3.2 Determine the stream order of **X** in drainage pattern **A**. (1 x 2) (2)

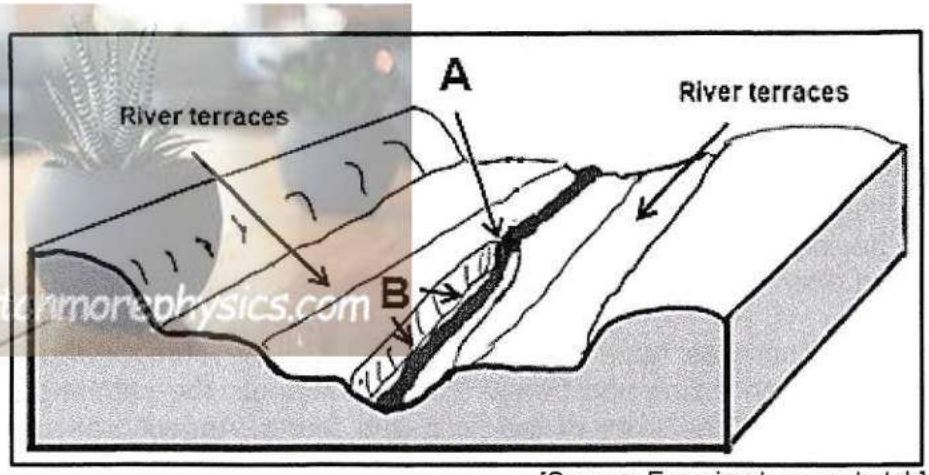
2.3.3 Give a reason for the direction in which streams flow in drainage pattern **A**. (1 x 2) (2)

2.3.4 How does the joining of the tributaries to the mainstream differ in drainage patterns **A** and **B**? (1 x 2) (2)

2.3.5 State TWO conditions associated with the underlying rock that contributed to the formation of trellis drainage pattern **B**. (2 x 2) (4)

2.3.6 Why are human activities limited in areas where drainage patterns **A** and **B** are found? (2 x 2) (4)

2.4 Refer to the sketch below on river rejuvenation.



[Source: Examiner's own sketch]

2.4.1 Define the term *river rejuvenation*. (1 x 2) (2)

2.4.2 Identify the feature at **A**. (1 x 1) (1)

2.4.3 How does feature **A** indicate that river rejuvenation has taken place? (1 x 2) (2)

2.4.4 Describe the change that river rejuvenation has made to the landscape at **B**. (1 x 2) (2)

Refer to the river terraces in the sketch above.

2.4.5 How do river terraces form? (2 x 2) (4)

2.4.6 Why are some river terraces not suitable for farming? (2 x 2) (4)

2.5 Refer to the extract below on catchment and river management.

MANAGEMENT OF CATCHMENT AREAS AND RIVER NETWORKS (SYSTEMS)

River catchments are under severe pressure in some parts of South Africa. The plentiful water they provide has meant that the fertile ground surrounding them is an ideal place for agricultural activities. They are areas of natural beauty and often support both plant and animal species.

Unfortunately, humans have not always recognised the importance of river catchments. When toxins and heavy metals leach into the catchment areas, they can endanger the lives of the flora and fauna. Agricultural run-off can carry chemicals into river catchments, creating an imbalance in nutrient levels and impacts on different species in different ways.

Fortunately, we are now beginning to pay attention to the conservation of these vital natural resources.

[Adapted from https://www.envirotech-online.com/news/water-wastewater/9/breaking-news/what-is-classed-as-a-river-58892]

2.5.1 What is *river management*? (1 x 2) (2)

2.5.2 Name ONE human activity in the extract that has a negative impact on South Africa's catchment areas. (1 x 1) (1)

2.5.3 How does the human activity (answer to QUESTION 2.5.2) negatively impact the health (water quality) of a catchment area? (2 x 2) (4)

2.5.4 In a paragraph of approximately EIGHT lines, suggest sustainable strategies the government can put in place to preserve river catchment areas. (4 x 2) (8)

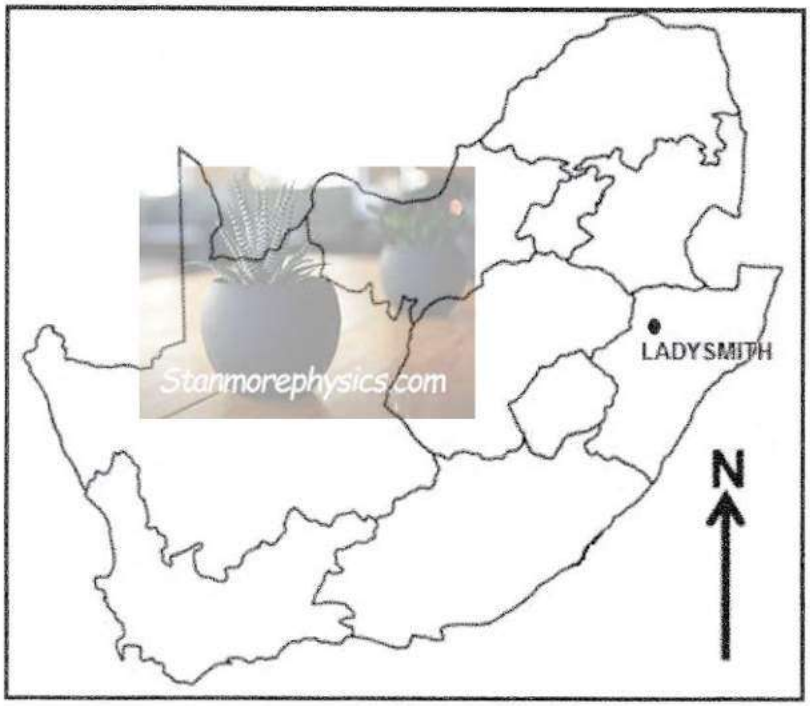
[60]

TOTAL SECTION A: 120

SECTION B

QUESTION 3: GEOGRAPHICAL SKILLS AND TECHNIQUES

GENERAL INFORMATION ON LADYSMITH



Coordinates: 28°33'S; 29°46'E

Ladysmith is a city in the Uthukela District of KwaZulu-Natal. It is situated along the Klip River. The climate is warm and temperate with the highest rainfall recorded in summer. The average annual temperature is 17,3 °C. The average annual precipitation is approximately 1 057 mm. This climate provides ideal conditions for agricultural raw materials.

[Adapted from https://en.wikipedia.org/wiki/LADYSMITH]

The following English terms and their Afrikaans translations are shown on the topographical map:

ENGLISH	AFRIKAANS
Furrow	Voor
Aerodrome	Vliegveld
Klip River	Kliprivier
Sewage works	Rioolwerke
Weir	Studam

3.1 MAP SKILLS AND CALCULATIONS

3.1.1 The town closest to Ladysmith is ...

A Glencoe.
B Harrismith.
C Newcastle.
D Colenso. (1 x 1) (1)

3.1.2 The feature located at grid reference (coordinates) 28°31'32"S and 29°47'22" E is ...

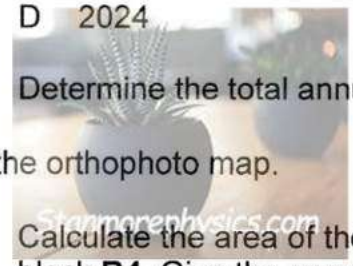
A cultivated land.
B perennial water.
C a road.
D a reservoir. (1 x 1) (1)

3.1.3 The mean magnetic declination for the year ... was 21°03' west of true north.

A 2000
B 1995
C 2001
D 2024 (1 x 1) (1)

3.1.4 Determine the total annual change for 2024. (2 x 1) (2)

Refer to the orthophoto map.



3.1.5 Calculate the area of the demarcated feature **6** in blocks **A4/A5** and block **B4**. Give the answer in km².

Use the following information: Length is 3,0 cm.

Formula: **Length x Breadth** (4 x 1) (4)

3.1.6 Give a reason why the expansion of the demarcated feature **6** (answer to QUESTION 3.1.5) is limited in a south-easterly direction? (1 x 1) (1)

3.2 MAP INTERPRETATION

Refer to **F** in block **C2** and **G** in block **D4** on the topographical map.

3.2.1 (a) The temperature at **F** in the centre of the town is 2 °C higher than at **G**. Name the concept that describes this difference. (1 x 1) (1)

(b) Give ONE reason why the high density of buildings at **F** generally contributes to the higher temperatures. (1 x 2) (2)

Refer to blocks **D2** and **D3** on the orthophoto map.

3.2.2 Explain how aspect of slope determined the location of Rose Park at **7** on the orthophoto map. (1 x 2) (2)

Refer to the dam **H** in block **B1** on the topographical map.

3.2.3 The dam wall indicates that the river is flowing in a … direction.

A south-westerly
B north-easterly
C north-westerly
D south-easterly (1 x 1) (1)

Refer to the weir at I in block **A3** on the topographical map.

3.2.4 A weir is used to regulate (control) the flow of water in a river. Explain why the construction of the weir was necessary. (1 x 2) (2)

Refer to the section of the Klip River from **8** in block **A2** to **9** in block **A5** on the orthophoto map.

3.2.5 Identify the fluvial landform/feature. (1 x 1) (1)

3.2.6 Give evidence why this fluvial landform/feature (answer to QUESTION 3.2.5) developed in this area. (1 x 1) (1)

Refer to block **C5** on the orthophoto map.

3.2.7 Why will more erosion take place at **11** than at **10**? (1 x 2) (2)

3.3 GEOGRAPHICAL INFORMATION SYSTEMS (GIS)

3.3.1 The vertical aerial photograph used to make the orthophoto map has a (high/low) resolution. (1 x 1) (1)

3.3.2 The reference of the topographical map represents (spatial/attribute) data. (1 x 1) (1)

3.3.3 How does this data (answer to QUESTION 3.3.2) assist in identifying feature **J** on the topographical map? (1 x 2) (2)

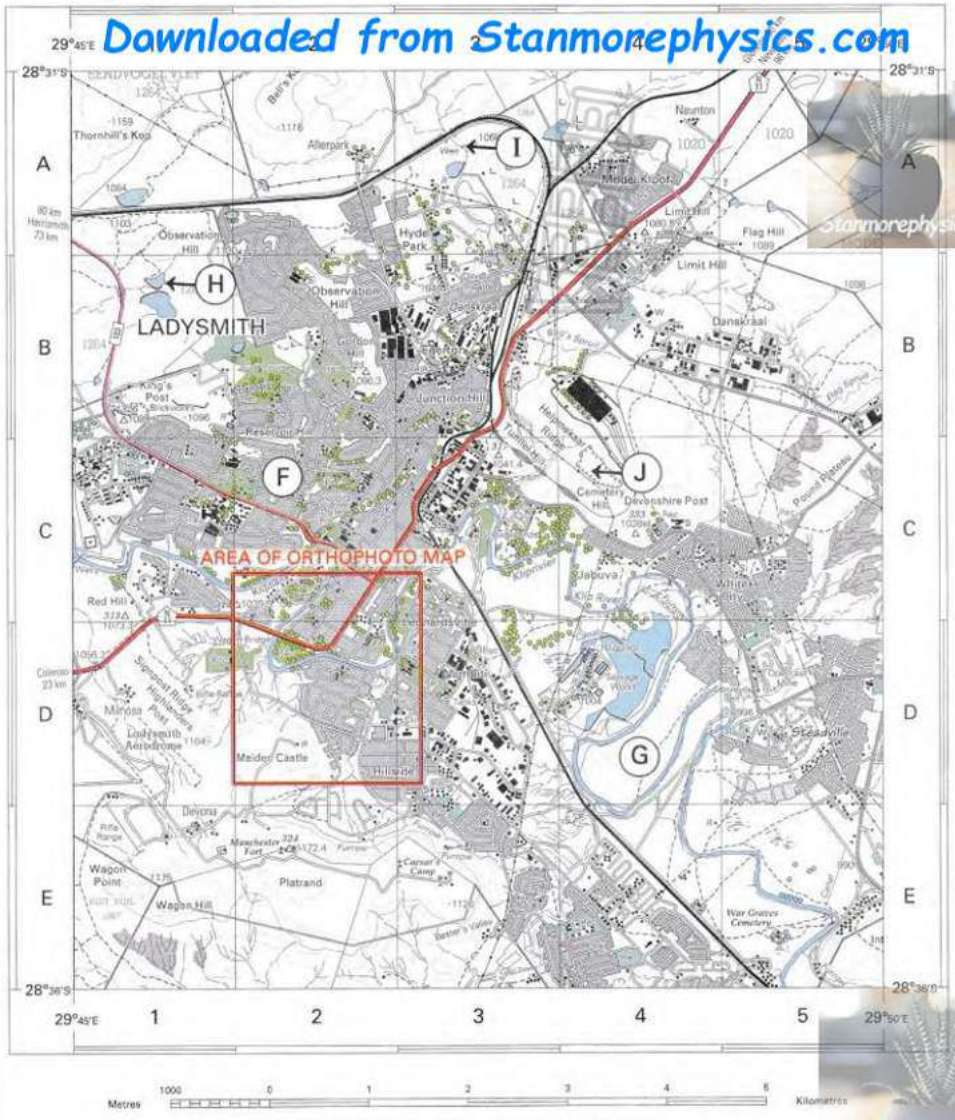
Refer to **12** in block **C2** on the orthophoto map.

3.3.4 Define the term *buffering*. (1 x 2) (2)

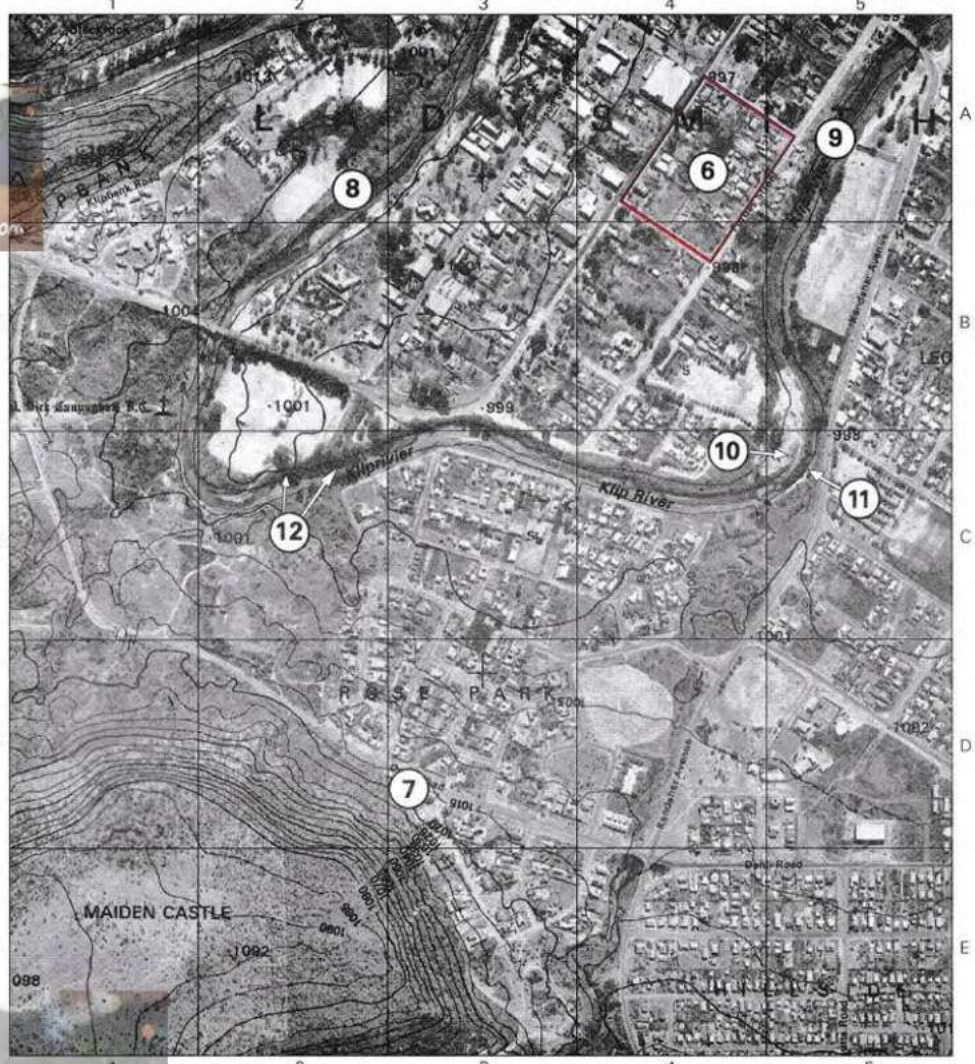
3.3.5 How would buffering at **12** protect the quality of the water in the Klip River? (1 x 2) (2)

TOTAL SECTION B: 30
GRAND TOTAL: 150

EXTRACT FROM 2829DB LADYSMITH 1:50 000



EXTRACT FROM 2829 DB 6 LADYSMITH ortho - rectified image 1:10 000



Mean magnetic declination 21°03' West of True North (July 2001).
Mean annual change 8' Westwards (1995 - 2000).

CONTOUR INTERVAL 20 METRES - KONTOERTUSSENRUIMTE 20 METER

REFERENCE

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

CONTOUR INTERVAL 5 METRES - KONTOERTUSSENRUIMTE 5 METER

VERKLARING

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

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REPUBLIC OF SOUTH AFRICA

NATIONAL SENIOR CERTIFICATE

GRADE 12

GEOGRAPHY P1

NOVEMBER 2024

MARKING GUIDELINES

MARKS: 150

Name	Designation	Signature	Date
Mrs. ZPL SHABALALA	Umalusi External Moderator		17/11/2024
Mr. J MEYER	Umalusi External Moderator		17/11/2024
Ms. T MAGSON	DBE Internal Moderator		17/11/2024
Mr. R DAVECHAND	DBE Internal Moderator		17/11/2024

These marking guidelines consist of 12 pages.

30

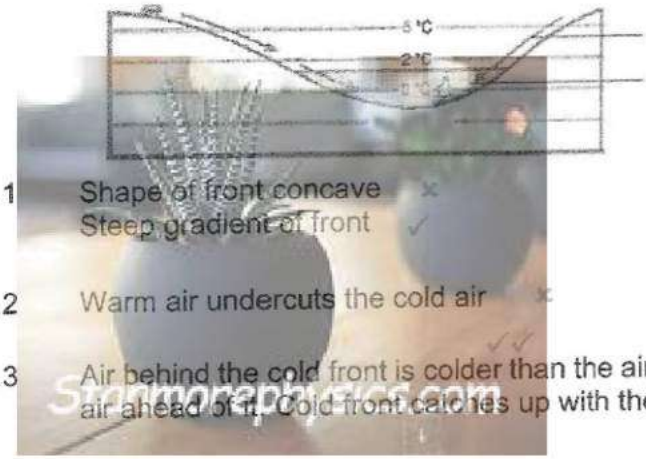
QUESTION 1

1.1.1 A (South Atlantic High) (1) ✓
1.1.2 B (Kalahari High) (1) ✓
1.1.3 B (South Indian) (1) ✗ 2

1.2.1 Melting snow ✓
1.2.2 Mouth ✗
1.2.3 Third order ✓ 2

1.3.1 Katabatic ✗
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 Shape of front concave ✗
Steep gradient of front ✓

1.4.2 Warm air undercuts the cold air ✗

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. ✓✓ ✓✓ 7

1.5.1 (a) A river that only flows all year round ✗

(b) The river channel is wide ✗

(c) Regularity of rainfall and the soil type over which the streams flow. Rainfall occurs regularly ✓✓ ✓✓ ✓ ✗

1.5.2 Gauteng and the Eastern Cape

1.5.3 The cost of food production will increase at 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 included in electricity prices. Costs will increase the price of electricity during production. There will be less clean water to generate hydro-electricity. ✓✓ ✓✓ ✓✓ 13

SECTION A: CLIMATE AND WEATHER AND GEOMORPHOLOGY

QUESTION 1: CLIMATE AND WEATHER

1.1 1.1.1 C (1)

1.1.2 B (1)

1.1.3 C (1)

1.1.4 C (1)

1.1.5 B (1)

1.1.6 C (1)

1.1.7 A (1)

1.1.8 C (1) (8 x 1) (8)

1.2 1.2.1 B (1)

1.2.2 A (1)

1.2.3 B (1)

1.2.4 A (1)

1.2.5 B (1)

1.2.6 A (1)

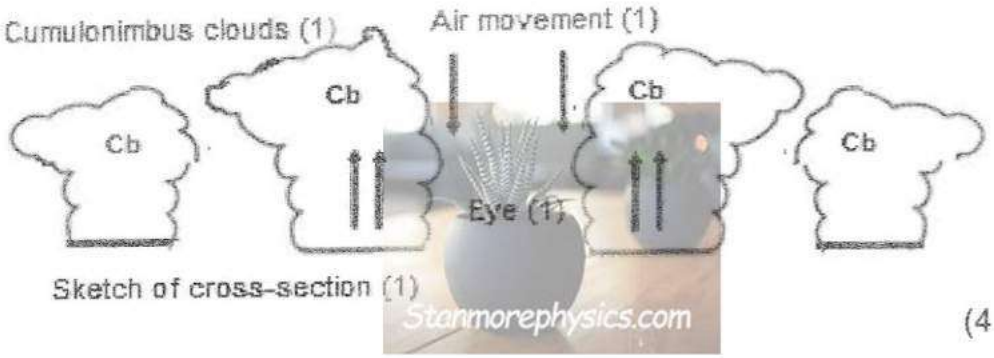
1.2.7 B (1) (7 x 1) (7)

1.3	1.3.1 Direction	West to east (1) Eastwards (1) **[ANY ONE]**	(1 x 1)	(1)
	1.3.2 Reason	Driven by the westerlies (2) Occurs in the westerly wind belt (2) **[ANY ONE]**	(1 x 2)	(2)
	1.3.3 How does front A form cb cloud?	Cold front will undercut the warm air (ahead of it) (2) The steeper gradient will cause rapid uplift of the warm air (2) Cooling and condensation occurs (2) **[ANY TWO]**	(2 x 2)	(4)
	1.3.4 PARAGRAPH Explain strategies to manage negative environmental impact of heavy rainfall from MLC	Maintain natural vegetation (2) Encourage afforestation (2) Buffering of the area (2) Create effective drainage systems (2) Use of sandbags (2) Building of retaining walls (accept examples) (2) Use of catch nets (areas prone to rockfalls) (2) Use of canopies (areas prone to rockfalls (2) Construction of gabions (2) Construct dams (wall) / weir (2) Construct artificial levees/ barriers (2) Conserve wetlands/marshes/swamps (2) Implement contour ploughing (2) Terracing of slopes (2) Widening river channels (water management systems) (2) Canalising rivers (2) Educate people about environmental conservation (2) Awareness/early warnings systems (2) **[ANY FOUR]**	(4 x 2)	(8)
1.4	1.4.1 State ONE condition for development	Presence of a low-pressure system/ convergence of air (1) Presence of Coriolis force (1) Sea surface temperatures of 26,5 °C or more (1) Calm conditions over the oceans (1) Unstable conditions/ High rates of evaporation over the oceans / high humidity (1) Production of latent heat (1) Upper air divergence (1) **[ANY ONE]**	(1 x 1)	(1)
	1.4.2 Give evidence from map and table that TC strengthened from 10 to 11 March	Exposed to more moisture over the ocean from 10 to 11 March (1) Wind speed increased from 63 km/h to 95km/h/116 km/h (1)	(2 x 1)	(2)

1.4.3 Give TWO reasons for decrease in wind speed from 6:00-18:00

Moved over the land /less moisture (2)
More friction (2)
Less latent heat (2)
Starting to dissipate (2)
[ANY TWO] (2 x 2) (4)

1.4.4 Sketch Labelled Cross-section Cloud type Eye Air movement in the eye



(4 x 1) (4)

1.4.5 Account for lack of rainfall and clouds in the eye

Air subsides (2)
The air heats up (2)
Moisture gets evaporated/air is dry (2)
No condensation takes place (2)
[ANY TWO] (2 x 2) (4)

1.5 1.5.1 Summer (1) (1 x 1) (1)

1.5.2 Describe the temp and moisture content of wind A and B

WIND A (south-westerly)
cold and dry (2)

WIND B (north-easterly)
warm and moist (2) (2 x 2) (4)

INSTRUCTIONS FOR PART MARKING
WIND A (south-westerly)
cold (1) or dry (1)

WIND B (north-easterly)
warm (1) or moist (1)
[MAXIMUM OF TWO MARKS]

1.5.3 Explain why the heaviest rainfall occurs closest to the moisture front as evident in the source

Close to the moisture front:
Rapid uplift of air along the moisture front (2)
Greater (vertical) condensation (2)
(Dense line of) cumulonimbus clouds form (2)
OR
Further from the moisture front:
Less uplift of air further from the moisture front (2),
Less (vertical) condensation (2)
Less clouds form (2)
[ANY TWO-MUST REFER TO EITHER CLOSE TO OR FURTHER FROM MOISTURE FRONT] (2 x 2) (4)

1.5.4 Explain the negative (physical) impact of line thunder storms

Natural habitats will be destroyed (2)
Ecosystems will be destroyed (2)
Biodiversity will be reduced (2)
Top soil will be washed away/soil erosion (2)
Mass movements can be triggered (accept examples) (2)
Wildlife would be displaced/drowned (2)
Trees/natural vegetation can be uprooted/destroyed (2)
Water quality will be reduced (2)
Increased leaching of soil (2)
Sinkholes form (2)
Silting up/ deposition of material (2)
[ANY THREE] (3 x 2) (6)

[60]

QUESTION 2: GEOMORPHOLOGY

2.1	2.1.1	Z (1)		
	2.1.2	Y (1)		
	2.1.3	Y (1)		
	2.1.4	Y (1)		
	2.1.5	Z (1)		
	2.1.6	Z (1)		
	2.1.7	Z (1)	(7 x 1)	(7)
2.2	2.2.1	D (1)		
	2.2.2	D (1)		
	2.2.3	C (1)		
	2.2.4	C (1)		
	2.2.5	D (1)		
	2.2.6	C (1)		
	2.2.7	B (1)		
	2.2.8	D (1)	(8 x 1)	(8)
2.3	2.3.1	Radial (accept centrifugal) (1)	(1 x 1)	(1)
	2.3.2	2nd (2)	(1 x 2)	(2)
	2.3.3 Reason	Radiates outwards from a high-lying central point (accept examples of landforms) (2)	(1 x 2)	(2)
	2.3.4 Joining of tributaries	The tributaries join the main river at acute angles at **A** and at right angles at **B** (2)	(1 x 2)	(2)
	2.3.5 TWO conditions	Alternate layers of hard and soft rock (varying resistance) (2) Folded rocks (2)	(2 x 2)	(4)
	2.3.6 Why are human activities limited in areas where A and B are?	Land is steep/ uneven (2) Prone to soil erosion/thin soils (2) Infertile soils (2) Risk of mass movements (2) High cost of developing land (2) **[ANY TWO]**	(2 x 2)	(4)

2.4	2.4.1	When the river experiences an increase in energy (erodes vertically) (2) **[CONCEPT]**	(1 x 2)	(2)
	2.4.2	Knickpoint (1) (accept waterfall)	(1 x 1)	(1)
	2.4.3 How does A indicate river rejuvenation?	Change/drop in gradient (2) Evidence of vertical erosion (2) Water flowing faster (2) Evidence of old and new river profiles (2) **[ANY ONE]**	(1 x 2)	(2)
	2.4.4 Describe the change rejuvenation has made on landscape B.	It formed a valley in a valley (2) The river channel got deeper/steeper/wider (2) **[ANY ONE]**	(1 x 2)	(2)
	2.4.5 How do river terraces form?	Vertical erosion occurs on the flood plain (2) A new river valley is formed (2) This creates a step like feature (known as a terrace) (2) The old flood plain is now the river terrace (2) **[ANY TWO]**	(2 x 2)	(4)
	2.4.6 Why are some terraces not suitable for farming?	Far from water sources (2) Difficult/expensive to build infrastructure (accept examples) (2) River terraces can be very narrow (2) Limit use of machinery (2) Decrease in soil fertility/thin soils (2) Uneven slopes/rugged landscape (2) Unstable soil/mass movement (accept examples) (2) **[ANY TWO]**	(2 x 2)	(4)
2.5	2.5.1 Definition	Monitoring and controlling (management) of water resources in a drainage basin/catchment area (2) **[CONCEPT]**	(1 x 2)	(2)
	2.5.2	Agriculture (1)	(1 x 1)	(1)
	2.5.3 How does the human activity negatively impact the health (water quality) of a catchment area?	Causes eutrophication/ reduction in oxygen levels (2) Imbalance in the nutrient levels in the river (2) Reduction in biodiversity (2) Reduction in fauna and flora (2) Water pollution (accept examples) (2) Increase in water borne diseases (2) Ecosystems/natural habitats are disrupted (2) Water table will be lowered (2) Increase in soil erosion (2) **[ANY TWO]**	(2 x 2)	(4)

2.5.4 PARAGRAPH Suggest sustainable strategies the government can put in place to preserve catchment areas

Educational programmes (2)
Awareness programmes (accept examples) (2)
Implement legislation/laws/conservation zones (accept examples) (2)
Impose fines (2)
Improve waste water/ grey water treatment (2)
Create buffer zones (accept examples) (2)
Encourage afforestation (2)
Remove alien vegetation (2)
Proper sewerage/water purification systems (2)
Maximise wastewater / grey water usage (2)
Frequent testing of water (2)
Conserve wetlands (2)
Recycle agricultural/domestic/industrial waste (2)
Maintain/construct water infrastructure (2)
Sustainable farming (accept examples) (2)
Encourage rain water harvesting (2)
[ANY FOUR] (4 x 2) (8)
[60]

TOTAL SECTION A: 120

SECTION B

QUESTION 3: GEOGRAPHICAL SKILLS AND TECHNIQUES

3.1	3.1.1	D (1)	(1 x 1)	(1)
	3.1.2	B (1)	(1 x 1)	(1)
	3.1.3	C (1)	(1 x 1)	(1)
	3.1.4	23 (1) years x 8' = 184'/ 3° 04' (1)	(2 x 1)	(2)
	3.1.5 Area calculation	(3,0 cm x 0,1) (2,2 (1) cm x 0,1) [range 2,1 cm – 2,3 cm] (0,30 (1) km x 0,22 (1) km) [range 0,21 km – 0,23 km] 0,066 (0,07) km² (1) [range 0,06 – 0,07 km²]	(4 x 1)	(4)
	3.1.6 Expansion limited from feature 6 in a SE direction	Due to the river (1) Row of trees forms a buffer zone (1) There is a recreational area (accept greenbelt) (1) **[ANY ONE]**	(1 x 1)	(1)
3.2	3.2.1	(a) Urban heat island (effect) (1)	(1 x 1)	(1)
	Why is the high density of buildings at F contributing to higher temps?	(b) Heat will get trapped (2) Reduced wind speed (2) Reduced air flow (2) Artificial surfaces (2) Multiple reflections (2) **[ANY ONE]**	(1 x 2)	(2)
	3.2.2 Aspect of slope	Rose Park at 7 is located on the north (east)-facing slope which is warmer / receives more insolation (2)	(1 x 2)	(2)
		INSTRUCTIONS FOR PART MARKING Rose Park at 7 is located on the north (east)-facing slope (1) **[MAXIMUM 1 MARK]**		
	3.2.3	A (accept D) (1)	(1 x 1)	(1)
	3.2.4 Explain why the construction of a weir was necessary. F+Q	To reduce the risk of flooding due to the confluence of rivers (2) To reduce the risk of flooding downstream (cultivated land, built up area, railway line, caravan park) (2) **[ANY ONE]**	(1 x 2)	(2)
		INSTRUCTIONS FOR PART MARKING To reduce the risk of flooding (1) **[MAXIMUM 1 MARK]**		

3.2.5	Meander (1)	(1 x 1)	(1)
3.2.6 Give evidence for dev of landform	Land is flat/ gentle (accept lower course) (1) Contour lines are far apart (1) **[ANY ONE]**	(1 x 1)	(1)
3.2.7 Why more erosion at 11 than 10	Water flows faster on the outer bank /11/ undercut slope (2) Water flows slower on the inner bank /10/ slip off slope (2) **[ANY ONE]**	(1 x 2)	(2)
3.3.1	High (1)	(1 x 1)	(1)
3.3.2	Attribute (1)	(1 x 1)	(1)
3.3.3 Reference assists in identifying feature	It indicates what feature **J** represents in reality (2) The reference shows that the symbol at **J** is an excavation (2) To distinguish between similar land-use features (mine dump and mine excavation) (2) **[ANY ONE]**	(1 x 2)	(2)
3.3.4 Buffering	The demarcation of an area around/along a geographical feature/ location (2) **[CONCEPT]**	(1 x 2)	(2)
3.3.5 Buffing-protect quality of water in river	Restrict development on the banks of the river (2) Decrease pollution from the built-up area (2) Reduces eroded soil from entering the river (2) Decreased eutrophication (2) Reduces salinity (2) The natural course/capacity of the river will be maintained (2) Biodiversity of the river will be preserved (2) **[ANY ONE]**	(1 x 2)	(2)
		TOTAL SECTION B:	**30**
		GRAND TOTAL:	**150**

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TOLERANCE RANGE: 2024 NSC NOV EXAMINATION

SUBJECT	GEOGRAPHY	PAPER	1

QUESTION NUMBER	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13
MAX MARK	60	60	30										
TOLERANCE RANGE PER QUESTION *Indicate the item at which the Tolerance Range will apply*	1.3.4 OR 1.5.3	2.3.6 OR 2.4.5	3.3.3										
	2	2	2										

OVERALL TOLERANCE RANGE FOR QUESTION PAPER	2 + 2 MARKS CAN BE APPLIED IN 2 OUT OF 3 QUESTIONS	TOTAL MARKS	4 MARKS 2.6%

APPROVED

DBE INTERNAL MODERATOR	DBE INTERNAL MODERATOR	UMALUSI INTERNAL MODERATOR	UMALUSI INTERNAL MODERATOR
R DAVECHAND	T MAGSON	Z SHABALALA	J MEYER

DATE: 17 NOVEMBER 2024