education

Department:
Education
North West Provincial Government
REPUBLIC OF SOUTH AFRICA

PROVINCIAL ASSESSMENT

GRADE 12

GEOGRAPHY P1

JUNE 2025

MARKS: 150

TIME: 3 hours

This question paper consists of 20 pages.

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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: SETTLEMENT GEOGRAPHY (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 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 must 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 topographic 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 topographic map represents the area covered by the orthophoto map.

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

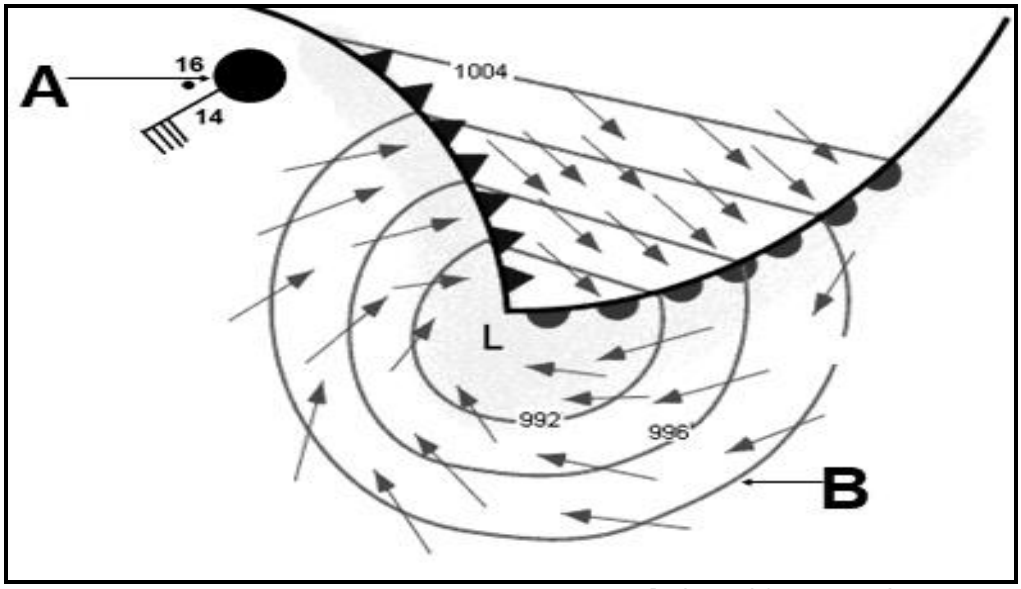
17. You must hand in the topographic and orthophoto map to the invigilator at the end of this examination.

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SECTION A: CLIMATE & WEATHER, GEOMORPHOLOGY AND SETTLEMENT GEOGRAPHY

QUESTION 1: CLIMATE AND WEATHER

1.1 Refer to sketch below. Various options are provided as possible answers to the following questions based on synoptic weather map 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.



[Adapted from: weathersa.co.za]

1.1.1 The above mid-latitude cyclone is in … stage.

A initial
B development
C mature
D occlusion

1.1.2 The atmospheric pressure at **B** is …

A 992 hPa.
B 996 hPa.
C 1 000 hPa.
D 1 004 hPa.

1.1.3 Line labelled **B** on the sketch is a …

A contour line.
B isotherms.
C isobar.
D latitude.

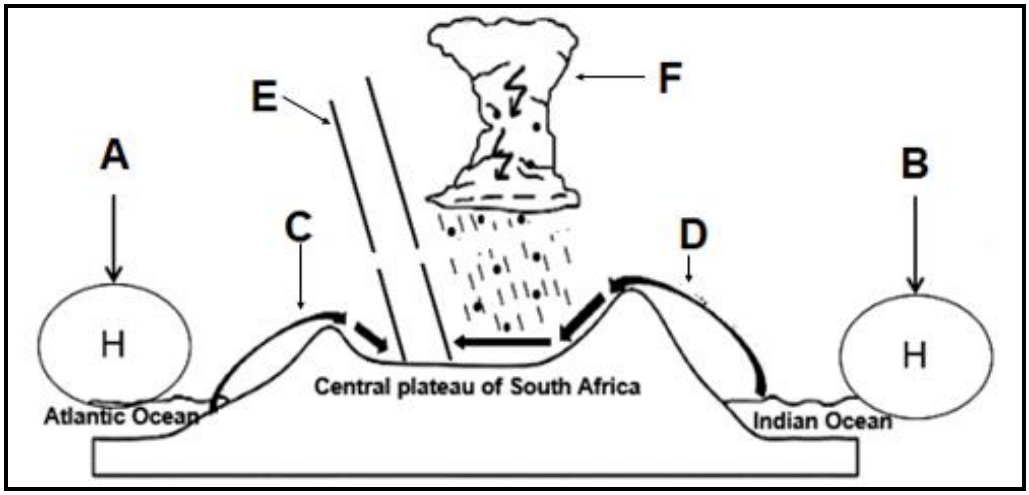
1.1.4 Isobaric interval of synoptic weather map/chat in sketch above is … hPa.

A 2
B 4
C 6
D 8

1.1.5 Outward curve or elongation of isobars away from a low pressure cell is …

A ridge.
B trough.
C Saddle.
D moisture front. (5 x 1) (5)

1.2 Refer to the sketch showing the formation of line thunderstorms. Match the statements in COLUM A with the options in COLUMN B. Write only **Y** or **Z** next to the question numbers (1.2.1 to 1.2.5) in the ANSWER BOOK, e.g. 1.2.6 **Z**.



[Source: Examiner's own sketch]

COLUMN A	COLUMN B
1.2.1 Air mass labelled **D** can reach central plateau because inversion layer is … the escarpment.	**Y:** above **Z:** below
1.2.2 Ocean current in the Indian Ocean is … current.	**Y:** Cold Benguela **Z:** Warm Mozambique
1.2.3 The temperature and moisture content of air mass labelled **C** is … air.	**Y:** warm moist **Z:** cold dry
1.2.4 The density of air mass labelled **C** is …	**Y:** less dense **Z:** more dense
1.2.5 Line thunderstorms occurs on … side of the moisture front	**Y:** western **Z:** eastern

(5 x 1) (5)

1.3 Refer to extract on tropical cyclone 'Filipo'.

NORTHERN KWAZULU NATAL BEARS A BRUNT OF TROPICAL STORM FILIPO

Date: 14 March 2024

Families living in the northern Kwazulu Natal districts had to evacuate their homes after torrential downpours and gusty winds, brought by tropical storm Filipo ripped through the area on Wednesday. The heavy rains accompanied by strong winds began in the early hours in the extreme north of the province and it has caused a massive damage in low lying areas.

Bridges are damaged, roads inaccessible, households in the Umhlabuyalingana area have been flooded leading to family members seeking temporary shelter with relatives and neighbours. There were also reports that trees are falling on the roads.

"Our teams are on the ground monitoring the situation closely, we appreciate the co-operation from the communities, the risk is not over yet, let us all prioritise safety and avoid travelling during this period" said the Gogta MEC.

[Adapted from: iol.co.za]

1.3.1 In which season do tropical cyclones generally occur? (1 x 1) (1)

1.3.2 Give evidence from the extract to support your answer to QUESTION 1.3.1. (1 x 1) (1)

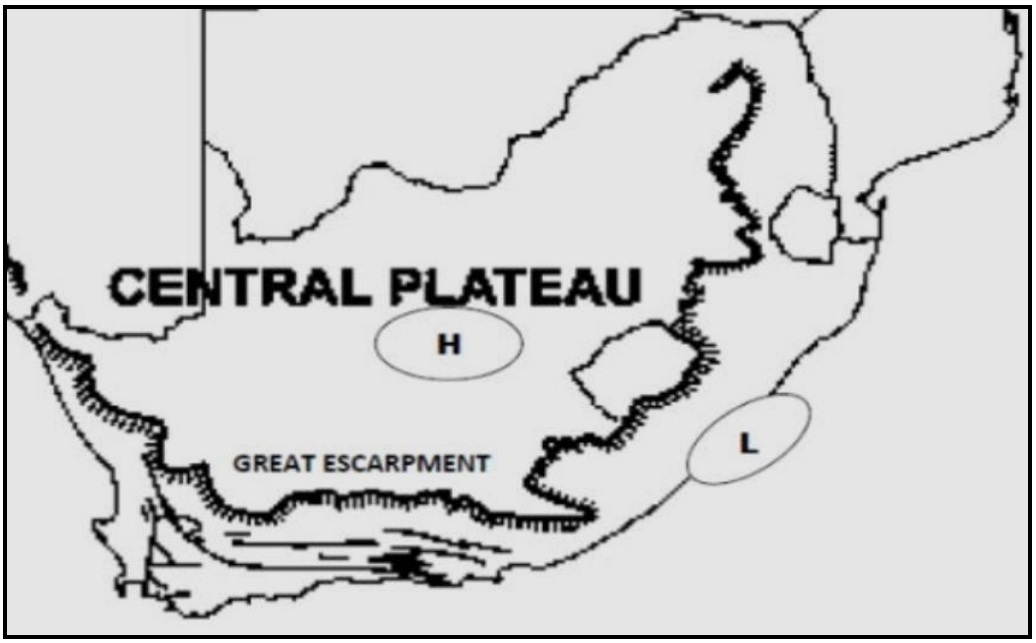
1.3.3 Do tropical cyclones travel eastwards/westwards? (1 x 1) (1)

1.3.4 Give reason for your answer in QUESTION 1.3.3. (1 x 2) (2)

1.3.5 Fewer tropical cyclones have occurred in this season, substantiate this view. (2 x 2) (4)

1.3.6 In a paragraph of approximately SIX lines, explain negative physical (natural) impact of torrential downpours (heavy rainfalls) associated with tropical cyclones. (3 x 2) (6)

1.4 Refer to sketch below showing South African Berg winds.



[Source: http://www.studyx.com]

1.4.1 Are berg winds an example of (onshore/offshore) winds? (1 x 1) (1)

1.4.2 Identify TWO conditions visible on the sketch under which berg winds originate. (2 x 1) (2)

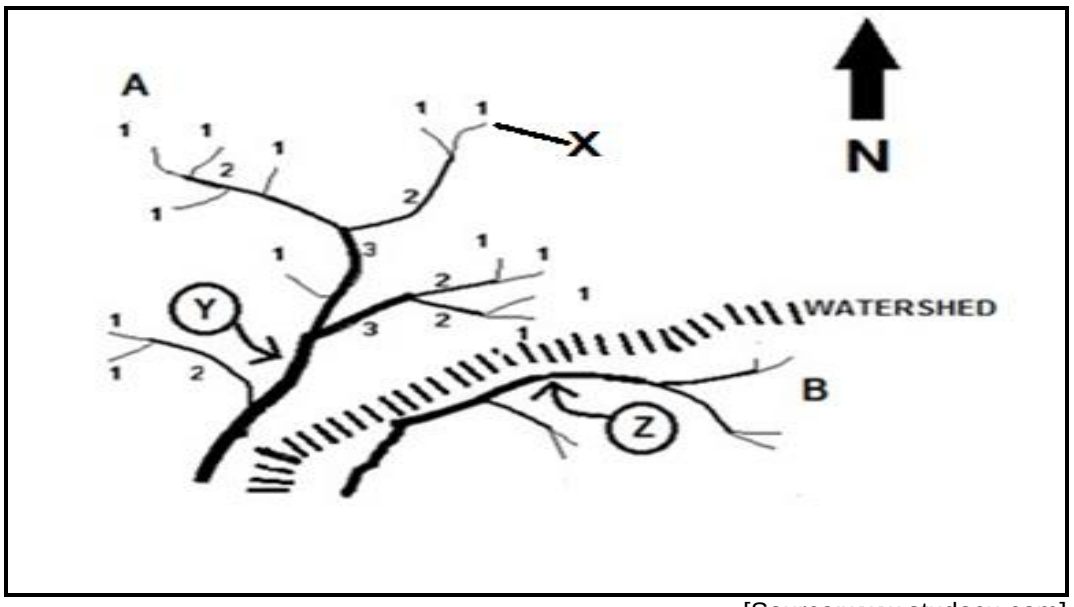
1.4.3 Draw a labelled cross-section to explain the formation of berg winds along the east coast of South Africa. (4 x 1) (4)

1.4.4 In a paragraph of approximately EIGHT lines, explain the impact of berg wind conditions on the physical (natural) environment. (4 x 2) (8)

[40]

QUESTION 2: GEOMORPHOLOGY

2.1 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 (2.1.1 to 2.1.5) in the ANSWER BOOK, e.g. 2.1.6 D.



[Source:www.studocu.com]

2.1.1 Watershed refers to …

A a high lying area separating two drainage systems.
B igneous rock that has many joints.
C igneous rock has been affected by volcanic activity.
D rock beneath the stream that has no particular structure.

2.1.2 The stream order at **Z** is … order.

A 1st
B 2nd
C 3rd
D 4th

2.1.3 The drainage density of the drainage basin **A** (north of the watershed) is high because it is influenced by the river flowing in areas of … and …

(i) less vegetation
(ii) high porosity
(iii) high rainfall
(iv) high permeability

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

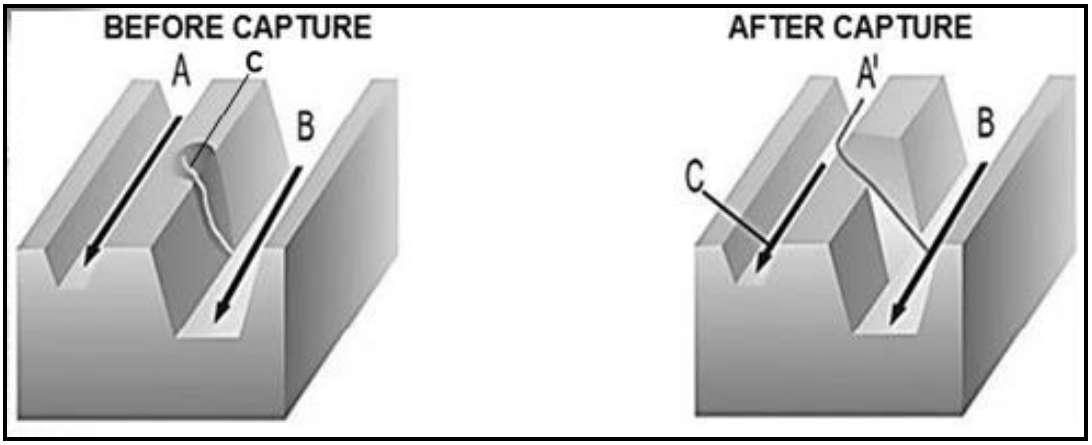
2.1.4 A point where two of more rivers meet is known as a …

A river catchment.
B drainage basin.
C river confluence.
D surface run-off.

2.1.5 The region of higher land between two rivers that are in the same drainage system is a/an …

A watershed.
B interfluve.
C water table.
D source. (5 x 1) (5)

2.2 Refer to the sketches below. Complete the statements in COLUMN A with the options in COLUMN B. Write only **Y** or **Z** next to the question numbers (2.2.1 to 2.2.5) in the ANSWER BOOK, e.g. 2.2.6 **Y**.

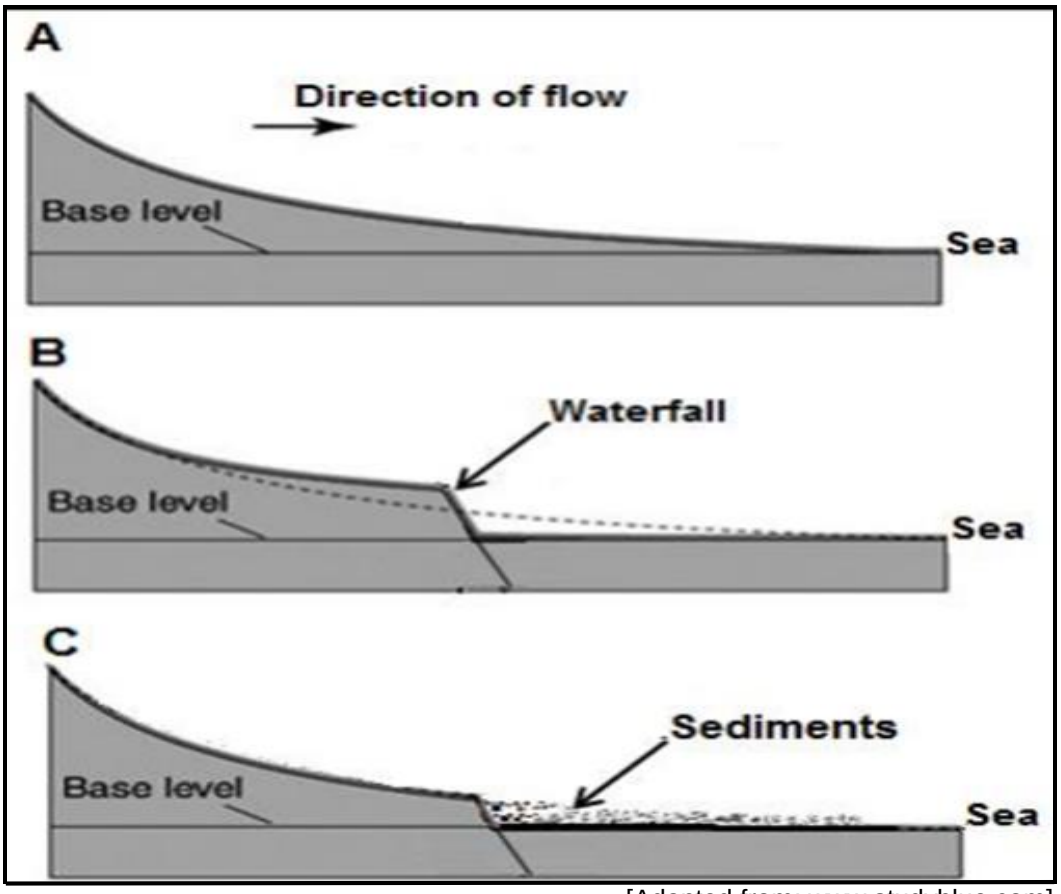


[Source: www.studocu.com]

COLUMN A	COLUMN B
2.2.1 Area labelled **C** is …	**Y:** lateral erosion. **Z:** headward erosion.
2.2.2 River **B** is …	**Y:** less energetic. **Z:** more energetic.
2.2.3 River **B** flows on a …	**Y:** lower gradient. **Z:** higher gradient.
2.2.4 Elbow of capture is evident …	**Y:** before capture. **Z:** after capture.
2.2.5 River capture may lead to …	**Y:** river rejuvenation. **Z:** graded stream.

(5 x 1) (5)

2.3 Refer to the sketches showing the profile and grading of a river.



[Adapted from: www.studyblue.com]

2.3.1 Define the term *longitudinal profile.* (1 x 2) (2)

2.3.2 Identify a temporary base level of erosion in sketch **B**. (1 x 1) (1)

2.3.3 How does the temporary base level of erosion in QUESTION 2.3.2 occur? (1 x 2) (2)

2.3.4 Draw a labelled free-hand cross section of an ungraded river profile.

Marks will be allocated for following:

(a) Shape of an ungraded profile (1 x 1) (1)

(b) Any THREE labels (3 x 1) (3)

2.3.5 Describe the processes that the river in sketches **B** and **C** would undergo to reach a graded state. (3 x 2) (6)

2.4 Refer to the infographic below on catchment and river management.

Location	
Country	South Africa
Province	Eastern Cape Province
Physical characteristics	
• location	Drakensberg, Eastern Cape
• elevation	2,050 m (6,730 ft)
Mouth	Indian Ocean
• location	Port St. Johns
• coordinates	31°37'S 29°32'E / 31.617°S 29.533°E / -31.617; 29.533
• elevation	0 m (0 ft)
Length	250 km (160 mi)
Basin size	19,853 km2 (7,665 sq mi)
Basin features	
Tributaries	
• left	Kinira, Thina, Tsitsa
• right	Mzintlava

Umzimvubu River is one of the most important rivers in South Africa. It is located in the Eastern Cape Province. The river has its source in the northern region of the Eastern Cape, in the Matatiele and Mount Fletcher area near the Lesotho border. The Umzimvubu flows with meanders and bends in a generally southeasterly direction and flows into the Indian Ocean through an impressive gorge known as the "Gates of St John" into a mouth located at Port St. Johns. It is approximately 400 km long with a catchment area of 19 853 km².

Although it is one of South Africa's major rivers, the Umzimvubu and its basin are largely undeveloped. Presently this river is part of the Umzimvubu to Keiskamma Water Management Area. The river is facing a number of challenges originating from illegal sand dealers who are tempering with river banks, illegal dumping, unauthorised fishing and lack of water testing points, as a results, the quality of water in this river have been deteriorating.

[Source: https://af.wikipedia.org/wiki/Umzimvubu]

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

2.4.2 What are the challenges faced by Umzimvubu river, according to the extract? (1 x 1) (1)

2.4.3 Why are water testing points important? (1 x 2) (2)

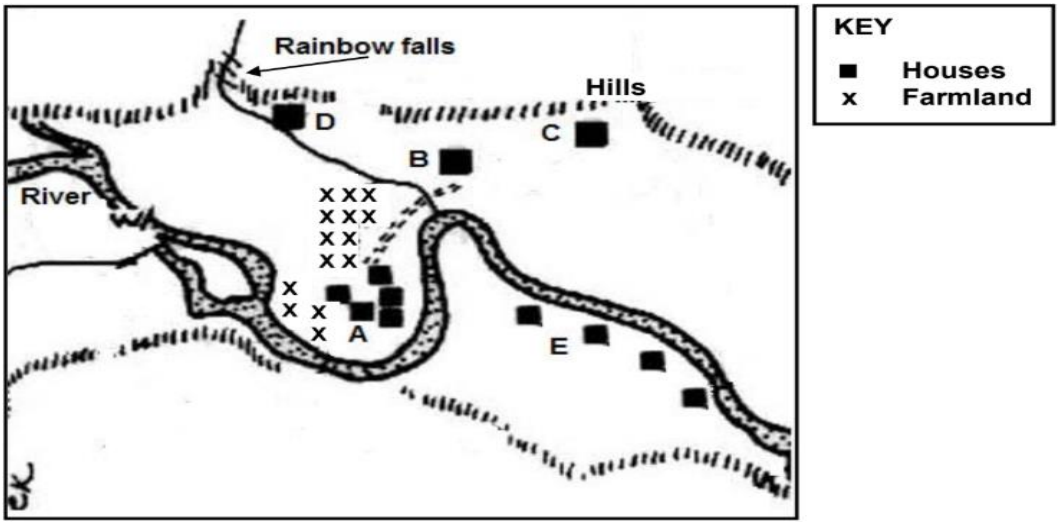
2.4.4 Umzimvubu river is on the lower course, substantiate this view. (1 x 2) (2)

2.4.5 In a paragraph of approximately EIGHT lines, explain strategies that could be implemented in order to make Umzimvubu river to become a sustainable source of water. (4 x 2) (8)

[40]

QUESTION 3: RURAL AND URBAN SETTLEMENTS

3.1 Refer to diagram below showing types of settlements. Match the descriptions below with the letters (A–E) in the sketch. You may use the same letter for more than one answer.



[Source: www.viaafrica.com]

3.1.1 A settlement with a linear shape.

3.1.2 A settlement located away from water, as water is a threat.

3.1.3 An isolated farmstead.

3.1.4 A settlement where farmers live in the village and not on their farms.

3.1.5 A settlement where a river meander provides protection from invasions. (5 x 1) (5)

3.2 Various options are provided as possible with 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 D.

3.2.1 ... is the maximum distance a customer is willing to travel to buy goods.

A Central place
B Sphere of influence
C Range
D Threshold

3.2.2 ... goods are used almost daily and are found in most types of settlements.

A High-order
B Threshold
C Low-order
D Comparative

3.2.3 An urban service centre supplying goods and services to the surrounding rural area is known as a ...

A central place.
B low-order centre.
C rural hamlet.
D high order centre.

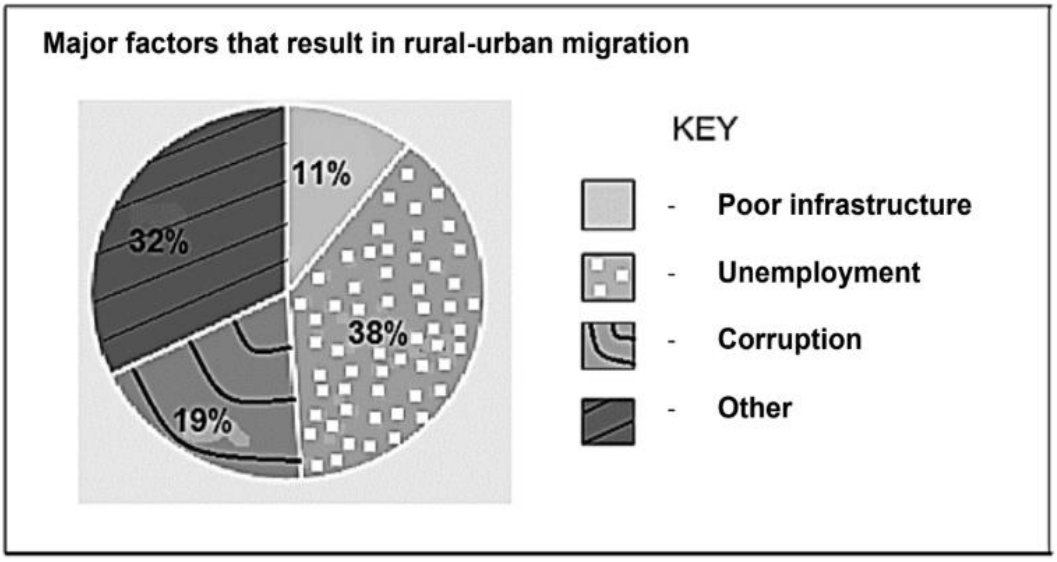
3.2.4 ... refers to the number of customers a business needs to be profitable.

A Sphere of influence
B Threshold population
C Urban population
D Range of population

3.2.5 The area from which a business draws its customers is a/an …

A range of goods.
B local service centre.
C sphere of influence.
D urban hierarchy. (5 x 1) (5)

3.3 Refer to the pie-chart below on reasons for rural urban migration.



[Adapted from:www.google.com/search?q=reasons+for+migration&safe Gram Vaani]

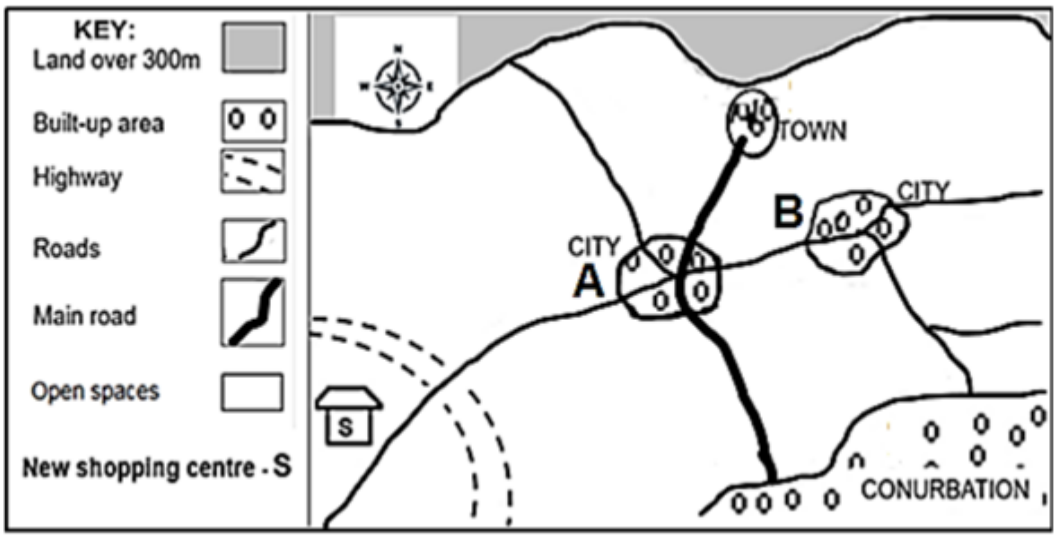
3.3.1 Define the term *rural-urban migration.* (1 x 2) (2)

3.3.2 Provide ONE physical push factor from the pie-chart that results in rural urban migration. (1 x 1) (1)

3.3.3 According to the diagram, 32% of rural-urban migration is caused by other reasons than those depicted in the diagram. Explain TWO other social factors in the rural areas, which can lead to rural-urban migration. (2 x 2) (4)

3.3.4 Write a paragraph of approximately EIGHT lines, in which you explain sustainable measures that the government can implement to prevent rural depopulation due to poor social conditions in rural areas. (4 x 2) (8)

3.4 Refer to sketch below on hierarchy of settlements.



[Source: Examiner's own sketch]

3.4.1 Define the concept *urban hierarchy*. (1 x 2) (2)

3.4.2 What will hinder (prevent) the town from expanding in a northerly direction? (1 x 1) (1)

3.4.3 Will more specialised goods city **A**, rather than city **B**? (1 x 1) (1)

3.4.4 Explain your answer to QUESTION 3.4.3. (1 x 2) (2)

3.4.5 Refer to the shopping centre.

(a) Is the new shopping centre a regional or a neighbourhood shopping centre. (1 x 1) (1)

(b) Comment on the suitability of the location of shopping centre to QUESTION 3.4.5 (a). (2 x 2) (4)

(c) Explain the impact of this shopping centre (answer to QUESTION 3.4.5 (a) on the threshold population of city **A**. (2 x 2) (4)

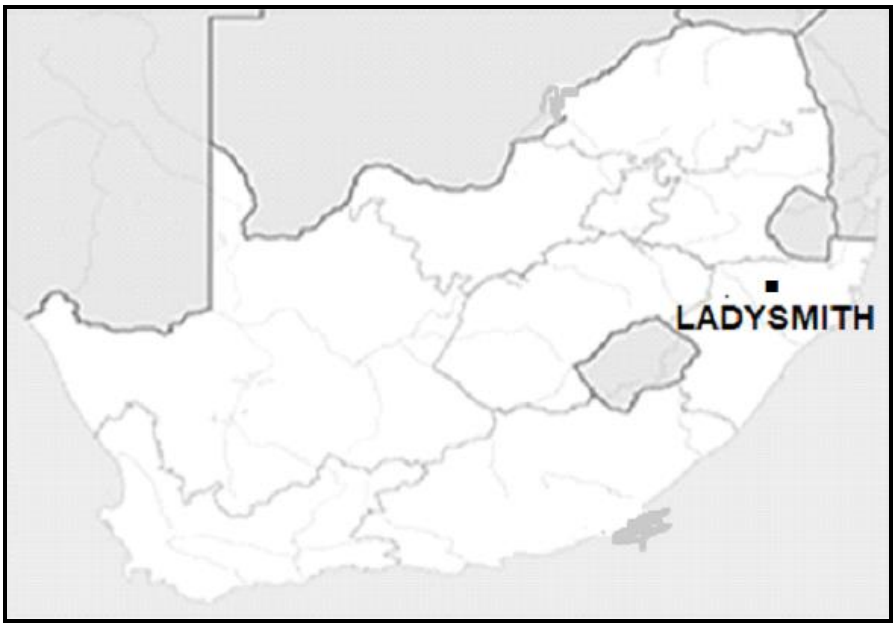
[40]

TOTAL SECTION A: 120

SECTION B

QUESTION 4: GEOGRAPHICAL SKILLS AND TECHNIQUES

GENERAL INFORMATION ON LADYSMITH



Co-ordinates: 28º 33' 35'' S; 29º 46' 50'' E

Ladysmith (uMnambithi) is a town in Uthukela district of KwaZulu' Natal. It lies 230 kilometres north west of Durban and 365 kilometres south east of Johannesburg. Important industries in the area include food processing, textile and tyre production.

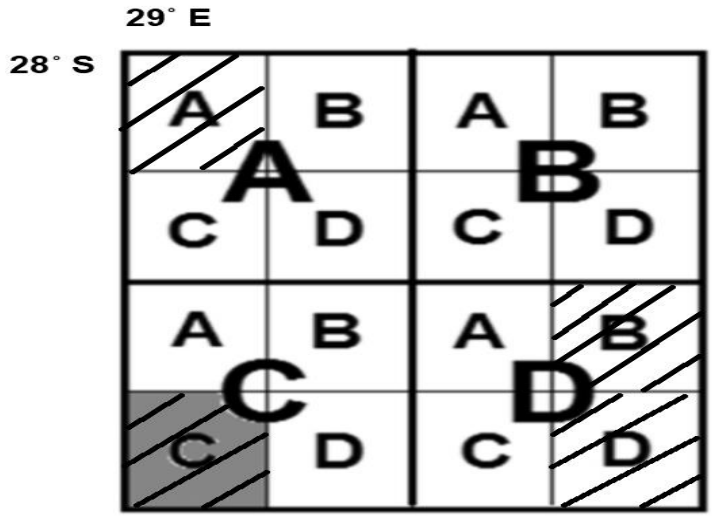
[Source: https://af.wikipedia.org/wiki/Ladysmith]

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

ENGLISH	**AFRIKAANS**
Diggings	Uitgrawings
River	Rivier
Sewerage works	Rioolwerke
Estate	Landgoed
Salt pan	Soutpan
Nature reserve	Natuurreservaat

4.1 MAP SKILLS AND CALCULATIONS

4.1.1 2829DB LADYSMITH topographical map index is found in …



A shaded block A.
B shaded block B.
C shaded block C.
D shaded block D. (1 x 1) (1)

4.1.2 29º on the sketch above represent lines of …

A latitude.
B longitude.
C contour lines.
D isotherms. (1 x 1) (1)

4.1.3 Refer to the topographical map and choose ONE word(s) from those in the brackets to answer the question below.

The direction to which Pound Spruit river in block **C5** flows is (South West/South East) and it also have a (high/low) drainage density. (2 x 1) (2)

4.1.4 Calculate the average gradient of the slope from spot height 1 001 in block **B2** to spot height 999 in block **B3** on the orthophoto map.

Show the following steps:

a) Vertical Interval (1)

b) Horizontal Equivalent (2)

c) Average gradient (3) (5)

4.1.5 What is the meaning of your answer in QUESTION 4.1.4? (1 x 1) (1)

4.2 MAP INTERPRETATION

Refer to white city in block **C5** and cultivated land in block **D4** on the topographical map.

4.2.1 Name the wind that blows down white city in block **C5** at night. (1 x 1) (1)

4.2.2 Explain how the wind identified in QUESTION 4.2.1 negatively influences crops grown on the valley floor at G in block **D4**.(1 x 2) (2)

4.2.3 Provide sustainable measures to put in place in order to assist farmers to be able to grow crops. (2 x 2) (4)

Refer to Hyde Park in block **A3**.

4.2.4 Define the concept *urban heat island*. (1 x 1) (1)

4.2.5 Discuss sustainable strategies that have been implemented in Hyde Park in order to reduce temperatures. (2 x 2) (4)

4.3 GEOGRAPHICAL INFORMATION SYSTEMS (GIS)

Refer to images of Ladysmith Secondary School and answer the questions that follow.

IMAGE A	IMAGE B
	

[Source: googlemaps.com]

4.3.1 Are images **A** and **B** are stored as (pixels/symbols)? (1 x 1) (1)

4.3.2 Which image, **A** or **B**, has a higher resolution? (1 x 1) (1)

4.3.3 Give a reason for your answer to QUESTION 4.3.2. (1 x 2) (2)

4.3.4 Define the concept *data layer.* (1 x 2) (2)

4.3.5 How will the drainage data layer encourage crop farming in area **G** in block **D4** on the topographical map? (1 x 2) (2)

TOTAL SECTION B: 30
GRAND TOTAL: 150

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