

SECTION A: CLIMATE, WEATHER AND GEOMORPHOLOGY**QUESTION 1**

- 1.1 Refer to FIGURE 1.1 showing air movement associated with valley climates. Match the descriptions below with winds A and B. Write only the letter A or B next to the question numbers (1.1.1 to 1.1.7) in the ANSWER BOOK, e.g. 1.1.8 B.

- 1.1.1 The air movement associated with upslope flow
- 1.1.2 Air movement that occurs at the night
- 1.1.3 Air movement that originates due to the rate of insolation
- 1.1.4 Air movement that mostly reduces air pollution at the bottom of the valley
- 1.1.5 Air movement associated with dense, heavy air
- 1.1.6 Air movement associated with the formation of frost on the valley floor
- 1.1.7 The direction of air movement determined by gravitational forces

(7 x 1) (7)

- 1.2 Choose a term from COLUMN B that matches the characteristic/description in COLUMN A. Write only the letter (A–I) next to the question numbers (1.2.1 to 1.2.8) in the ANSWER BOOK, e.g. 1.2.9 J.

COLUMN A		COLUMN B	
1.2.1	Drainage pattern that is common along steep slopes of ridge or hills	A	trellis
1.2.2	Drainage pattern found in areas where glaciers have occurred	B	dendritic
1.2.3	The main stream has right angle bends in this drainage pattern	C	radial
1.2.4	Drainage pattern associated with streams that flow towards a central low-lying area	D	rectangular
1.2.5	Drainage pattern associated with a dome feature	E	deranged
1.2.6	Drainage pattern that originates in areas with alternative layers of hard and soft rock	F	antecedent
1.2.7	Drainage pattern that is usually uniform and tributaries join at acute angles	G	centripetal
1.2.8	The river is younger than the underlying rock structure over which it flows	H	superimposed
		I	parallel

(8 x 1) (8)

- 1.3 FIGURE 1.3 shows a mid-latitude cyclone on a synoptic weather map of Southern Africa.
- 1.3.1 Give evidence from the diagram that suggests that weather system **A** is a mid-latitude cyclone. (1 x 1) (1)
- 1.3.2 Why does this weather system originate at the polar front? (1 x 2) (2)
- 1.3.3 Give a reason for the direction of movement of this weather system. (1 x 2) (2)
- 1.3.4 Why is the cold front associated with severe weather conditions? (1 x 2) (2)
- 1.3.5 Explain the formation of the stage of development shown in FIGURE 1.3 of the mid-latitude cyclone. (4)
- 1.3.6 Why does the cold front of the mid-latitude cyclone have a positive impact on agricultural activities in the Western Cape? (2 x 2) (4)
- 1.4 FIGURE 1.4 shows the presence of a line thunderstorm across South Africa.
- 1.4.1 Does the line thunderstorm obtain its source of moisture from ocean **A** or **B**? (1 x 1) (1)
- 1.4.2 Why is cold, dry air fed in from the South Atlantic High-Pressure Cell? (1 x 2) (2)
- 1.4.3 Explain how the formation of the moisture front at **C** results in line thunderstorms. (2 x 2) (4)
- 1.4.4 In a paragraph of approximately EIGHT lines, explain the destructive (harmful) nature of line thunderstorms. (4 x 2) (8)
- 1.5 FIGURE 1.5 is an extract on deltas.
- 1.5.1 Where do deltas form? (1 x 1) (1)
- 1.5.2 What evidence in the extract indicates that deltas are densely populated? (1 x 1) (1)
- 1.5.3 According to the extract, how are cities disturbing the natural formation of deltas? (1 x 1) (1)
- 1.5.4 Discuss the importance of protecting deltas. (2 x 2) (4)
- 1.5.5 A recent environmental impact assessment has highlighted concerns about the future sustainability of deltas. In a paragraph of approximately EIGHT lines, suggest strategies to protect areas like deltas from the negative impact of human activities. (4 x 2) (8)

- 1.6 Refer to FIGURE 1.6 showing river rejuvenation.
- 1.6.1 What is *river rejuvenation*? (1 x 1) (1)
- 1.6.2 Which stage (course) of the river is illustrated in FIGURE 1.6? (1 x 1) (1)
- 1.6.3 Give evidence from FIGURE 1.6 to support your answer to QUESTION 1.6.2. (1 x 1) (1)
- 1.6.4 Why is there an increase in the rate of erosion in the river after rejuvenation? (2 x 2) (4)
- 1.6.5 Identify the changes to the following features after river rejuvenation took place:
- (a) River channel (1 x 2) (2)
- (b) Meander (1 x 2) (2)
- 1.6.6 Discuss the possible negative impact of river rejuvenation on storage dams in the lower course after the point of rejuvenation (knickpoint). (2 x 2) (4)
- [75]**

QUESTION 2

- 2.1 Refer to FIGURE 2.1 showing a high pressure and low pressure cell in the Southern Hemisphere. Match the statements below with the **high pressure cell** or **low pressure cell**. Write down your answer next to the question numbers (2.1.1 to 2.1.8) in the ANSWER BOOK, e.g. 2.1.9 low-pressure cell.

2.1.1 Associated with rising air

2.1.2 Air diverges on the surface from this pressure cell

2.1.3 Associated with the clockwise movement of air

2.1.4 Unstable weather conditions over the interior

2.1.5 Associated with ridging

2.1.6 Associated with heavy rain and hail

2.1.7 Dominates the land in winter

2.1.8 Berg wind conditions develop when it interacts with a coastal low

(8 x 1) (8)

- 2.2 Choose a concept/term from COLUMN B that matches the description in COLUMN A. Write only the letter (A–H) next to the question numbers (2.2.1 to 2.2.7) in the ANSWER BOOK, e.g. 2.2.8 I.

COLUMN A		COLUMN B	
2.2.1	Area drained by a river and its tributaries	A	catchment area
		B	interfluve
2.2.2	High-lying area that separates two different drainage basins	C	confluence
2.2.3	Starting point of a river	D	drainage basin
2.2.4	Term that describes the main river and its tributaries	E	river system
		F	watershed
2.2.5	Point where the river enters the sea	G	river source
2.2.6	Elevated land that separates streams in the same drainage basin	H	river mouth
2.2.7	Point along the river where two or more streams meet		

(7 x 1) (7)

- 2.3 Refer to FIGURE 2.3, which shows the path of a tropical cyclone.
- 2.3.1 Give evidence that this tropical cyclone is in the Southern Hemisphere. (1 x 1) (1)
- 2.3.2 Why is the Mozambique Channel usually ideal for the increase in temperature within the tropical cyclone? (1 x 2) (2)
- 2.3.3 Explain how the intensity of the tropical cyclone increased as it moved from area **A** to area **B**. (2 x 2) (4)
- 2.3.4 Discuss the conditions that could have caused the cyclone to weaken as it reached area **C**. (2 x 2) (4)
- 2.3.5 Evaluate the physical (natural) negative impact of tropical cyclones along the coastline of Mozambique. (2 x 2) (4)
- 2.4 Refer to FIGURE 2.4, an extract based on urban heat islands.
- 2.4.1 Define the concept *urban heat island*. (1 x 1) (1)
- 2.4.2 Give TWO quotations from the extract that suggests that poor planning is responsible for increasing temperatures in cities. (2 x 1) (2)
- 2.4.3 Why is the urban heat island effect more concentrated at night? (2 x 2) (4)
- 2.4.4 In a paragraph of approximately EIGHT lines, provide sustainable green strategies, as referred to in the extract, that can reduce the heat island effect. (4 x 2) (8)
- 2.5 Refer to FIGURE 2.5, which shows river capture (stream piracy).
- 2.5.1 Define the concept *river capture* as shown in sketch **B**. (1 x 1) (1)
- 2.5.2 Identify features **1** and **2** of river capture in sketch **B**. (2 x 1) (2)
- 2.5.3 What could have caused the captor stream to erode through the watershed? (2 x 1) (2)
- 2.5.4 Explain the process that resulted in the formation of the misfit stream. (2 x 2) (4)
- 2.5.5 Describe the change in the flow characteristics of the captor stream. (3 x 2) (6)
- 2.6 FIGURE 2.6 shows a river profile.
- 2.6.1 Is the river profile in FIGURE 2.6 graded or ungraded? (1 x 1) (1)
- 2.6.2 Give evidence for your answer to QUESTION 2.6.1. (1 x 2) (2)
- 2.6.3 Why will there be more erosion than deposition at **A**? (2 x 2) (4)
- 2.6.4 In a paragraph of approximately EIGHT lines, explain the fluvial processes that a river undergoes to reach a graded profile. (4 x 2) (8)

[75]

SECTION B: RURAL AND URBAN SETTLEMENTS AND SOUTH AFRICAN ECONOMIC GEOGRAPHY**QUESTION 3**

3.1 Refer to FIGURE 3.1 showing models of urban structure. Choose the correct answer from the options given in brackets to make the statement TRUE. Write only your answer next the question numbers (3.1.1 to 3.1.7) in the ANSWER BOOK, e.g. 3.1.8 concentric zone.

3.1.1 The model which shows land use arranged in wedges is known as the (multiple nuclei/sector) model.

3.1.2 In the (multiple nuclei/concentric zone) model the CBD is the focal point around which the urban area develops.

3.1.3 Industries and low-cost housing develop along main roads or railways in the (concentric zone/sector) model.

3.1.4 The (sector/multiple nuclei) model is most applicable to modern cities.

3.1.5 The (sector/concentric zone) model does not consider development along transport routes.

3.1.6 Cities that have several focal points around which urban development occurs are examples of the (concentric zone/multiple nuclei) model.

3.1.7 The (sector/multiple nuclei) model displays characteristics of the concentric zone model. (7 x 1) (7)

3.2 Various options are provided as possible answers to the following statements. Choose the answer and write only the letter (A–D) next to the question numbers (3.2.1 to 3.2.8) in the ANSWER BOOK, e.g. 3.2.9 D.

3.2.1 The economic sector associated with the provision of transport is referred to as the ... sector.

- A primary
- B secondary
- C tertiary
- D quaternary

3.2.2 The total value of all goods and services produced in one year within a country is called the ...

- A per capita income.
- B gross domestic product.
- C gross national product.
- D gross domestic income.

3.2.3 An example of an economic activity concerned with the extraction of raw material is ...

- A transport.
- B construction.
- C mining.
- D research.

3.2.4 An exchange of goods and services between countries is referred to as ...

- A international trade.
- B domestic trade.
- C foreign exchange.
- D trade balance.

3.2.5 ... refers to goods that are brought into the country.

- A Exports
- B Imports
- C Market
- D Trade

3.2.6 The domestic market is also known as the ... market.

- A regional
- B foreign
- C provincial
- D home

3.2.7 Income generated by a country through exports refers to ...

- A per capita income.
- B foreign exchange.
- C export-orientated industries.
- D export market.

3.2.8 An example of a quaternary economic activity is ...

- A fishing.
- B ship building.
- C service provision.
- D research.

(8 x 1) (8)

- 3.3 Refer to FIGURE 3.3, a graph on rural depopulation.
- 3.3.1 Define the concept *rural depopulation*. (1 x 1) (1)
- 3.3.2 Determine the number of people living in the rural areas of South Africa in 2004. (1 x 1) (1)
- 3.3.3 Is the rural population showing an increase or a decrease from 2004 to 2020? (1 x 1) (1)
- 3.3.4 How will this trend (the answer to QUESTION 3.3.3) have a negative impact on the standard of living of the rural population? (2 x 2) (4)
- 3.3.5 Explain TWO social factors that contributed to rural depopulation in South Africa. (2 x 2) (4)
- 3.3.6 Suggest TWO sustainable strategies to encourage people to return to rural areas. (2 x 2) (4)
- 3.4 Refer to FIGURE 3.4, a cartoon based on an urban issue related to rapid urbanisation.
- 3.4.1 Identify the urban issue shown in the cartoon. (1 x 1) (1)
- 3.4.2 Give a reason for your answer to QUESTION 3.4.1. (1 x 2) (2)
- 3.4.3 Why is the urban issue in the cartoon common in most cities? (2 x 2) (4)
- 3.4.4 In a paragraph of approximately EIGHT lines, discuss the negative impact of this urban issue on motorists. (4 x 2) (8)
- 3.5 Refer to the extract in FIGURE 3.5 based on cattle farming in South Africa.
- 3.5.1 Identify ONE problem from the extract that poses a challenge to cattle farmers. (1 x 1) (1)
- 3.5.2 Why, according to the extract, is the Bonsmara breed ideal for cattle farming? (2 x 1) (2)
- 3.5.3 Suggest TWO ways in which the government can assist small-scale cattle farmers to increase beef production. (2 x 2) (4)
- 3.5.4 In a paragraph of approximately EIGHT lines, discuss how an increase in beef production can contribute to food security in South Africa. (4 x 2) (8)

- 3.6 Refer to FIGURE 3.6 and study the information on the PWV (Gauteng) Industrial Region.
- 3.6.1 Which of the urban settlements in the PWV (Gauteng) Industrial Region shown in FIGURE 3.6 started out as a gold mining settlement? (1 x 1) (1)
- 3.6.2 Quote TWO statistics from FIGURE 3.6, which indicates that the PWV (Gauteng) Industrial Region is the economic heartland of South Africa. (2 x 1) (2)
- 3.6.3 Discuss TWO factors that have favoured the development of industries in the PWV (Gauteng) Industrial Region. (2 x 2) (4)
- 3.6.4 The PWV (Gauteng) Industrial Region faces many challenges, including high levels of unemployment and water shortages.
- (a) Why has water supply hindered the development of the PWV (Gauteng) Industrial Region? (1 x 2) (2)
- (b) How did the PWV (Gauteng) Industrial Region overcome the shortage of water supply for industries? (1 x 2) (2)
- (c) Why does the PWV (Gauteng) Industrial Region face challenges of unemployment despite the high concentration of industries in this industrial region? (2 x 2) (4)
- [75]**

QUESTION 4

- 4.1 Refer to FIGURE 4.1 showing rural settlement patterns and shapes. Choose the correct answer from the options given in brackets to make the statement TRUE. Write only your answer next the question numbers (4.1.1 to 4.1.8) in the ANSWER BOOK, e.g. 4.1.9 dispersed.
- 4.1.1 A (dispersed/nucleated) settlement pattern is associated with large machinery.
- 4.1.2 The settlement pattern that encourages more community activities is (nucleated/dispersed).
- 4.1.3 The lack of safety and an increased vulnerability to crime is more predominant in (nucleated/dispersed) settlement patterns.
- 4.1.4 (Nucleated/Dispersed) settlement patterns are commonly associated with privately owned land.
- 4.1.5 The settlement that develops at the intersection of transport routes has as a (linear/crossroads) shape.
- 4.1.6 (Circular/Linear) shaped settlements develop around a focal point.
- 4.1.7 A (circular/linear) shaped settlement forms along transport routes.
- 4.1.8 The settlement shape responsible for the greatest accessibility is a (linear/crossroads) settlement. (8 x 1) (8)
- 4.2 Various options are provided as possible answers to the following statements. Choose the answer and write only the letter (A–D) next to the question numbers (4.2.1 to 4.2.7) in the ANSWER BOOK, e.g. 4.2.8 D.
- 4.2.1 ... is the staple food of many people in South Africa.
- A Fruit
B Maize
C Wheat
D Beef
- 4.2.2 Agricultural activities are associated with the ... economic sector.
- A quaternary
B secondary
C tertiary
D primary

4.2.3 ... is when people in a country have access to enough nutritious food.

- A Food insecurity
- B Malnutrition
- C Famine
- D Food security

4.2.4 An advantage of genetically modified (GM) crops is that they ...

- A have less nutritional value.
- B produce more food per hectare.
- C have a shorter storage life.
- D are less expensive.

4.2.5 Monoculture is a characteristic of ... farming.

- A small-scale
- B traditional
- C large-scale
- D subsistence

4.2.6 Sugar cane farming is mainly practised in ...

- A the Eastern Cape.
- B the Western Cape.
- C KwaZulu-Natal.
- D North West.

4.2.7 ... are factors that favour agricultural production in South Africa.

- A Floods and climate change
- B Research and climatic differences
- C Crime and labour strikes
- D Fluctuating prices and subsistence farming (7 x 1) (7)

4.3 FIGURE 4.3 shows urban sprawl.

4.3.1 Define the concept *urban sprawl*. (1 x 1) (1)

4.3.2 Give evidence from FIGURE 4.3 that suggests that urban sprawl is taking place. (1 x 2) (2)

4.3.3 Why do local authorities find it difficult to control urban sprawl? (2 x 2) (4)

4.3.4 In a paragraph of approximately EIGHT lines, discuss the unfavourable environmental conditions caused by urban sprawl in the rural-urban fringe. (4 x 2) (8)

- 4.4 Refer to FIGURE 4.4 based on an urban environmental justice issue.
- 4.4.1 Define the concept *environmental injustice*. (1 x 1) (1)
- 4.4.2 State the environmental injustice evident in FIGURE 4.4. (1 x 1) (1)
- 4.4.3 Give evidence from the photograph to support your answer to QUESTION 4.4.2. (1 x 1) (1)
- 4.4.4 Why is your answer to QUESTION 4.4.2 considered an environmental injustice? (2 x 2) (4)
- 4.4.5 Discuss how this environmental injustice will affect the local community. (2 x 2) (4)
- 4.4.6 Explain how local authorities can develop sustainable solutions to reduce the impact of this injustice issue on the environment. (2 x 2) (4)
- 4.5 FIGURE 4.5 is based on strategies for industrial development: the Saldanha Bay Industrial Development Zone (SBIDZ).
- 4.5.1 Name the new local investor in Saldanha Bay. (1 x 1) (1)
- 4.5.2 What will be the core function of the new investor in the Saldanha Bay IDZ? (1 x 1) (1)
- 4.5.3 State the physical (natural) factor that could have attracted the new investor to the Saldanha Bay IDZ. (1 x 1) (1)
- 4.5.4 Discuss how the new investment project in the Saldanha Bay IDZ would have a positive impact on transport infrastructure in the zone. (2 x 2) (4)
- 4.5.5 How will investments in the Saldanha Bay IDZ have an impact on the people seeking employment in this zone? (2 x 2) (4)
- 4.5.6 Suggest what social responsibility initiatives a new investment company should have towards the local community. (2 x 2) (4)

4.6 Refer to FIGURE 4.6 based on the informal sector.

- | | | | |
|-------|---|---------------|-------------|
| 4.6.1 | What example of informal trade, according to the extract, is shown in FIGURE 4.6? | (1 x 1) | (1) |
| 4.6.2 | How many people in South Africa are involved in the informal retail sector? | (1 x 1) | (1) |
| 4.6.3 | Quote evidence from the extract to suggest that the informal sector is a much easier option to gain employment. | (1 x 1) | (1) |
| 4.6.4 | According to the extract, why are so many women employed in the informal sector? | (2 x 2) | (4) |
| 4.6.5 | In a paragraph of approximately EIGHT lines, discuss the positive impact that the informal sector has on the economy of South Africa. | (4 x 2) | (8) |
| | | | [75] |
| | | TOTAL: | 225 |