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GRADE 12

GEOGRAPHY P1

NOVEMBER 2017

MARKS: 225

TIME: 3 hours

This question paper consists of 13 pages and an 11-page annexure.

INSTRUCTIONS AND INFORMATION

1. This question paper consists of FOUR questions.
2. Answer ANY THREE questions of 75 marks each.
3. All diagrams are included in the ANNEXURE.
4. Leave a line between 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. Number the answers in the centre of the line.
8. Do NOT write in the margins of the ANSWER BOOK.
9. Draw fully labelled diagrams when instructed to do so.
10. Answer in FULL SENTENCES, except where you have to state, name, identify or list.
11. Write neatly and legibly.

SECTION A: CLIMATE, WEATHER AND GEOMORPHOLOGY

Answer at least ONE question in this section. If you answer ONE question in SECTION A, you must answer TWO questions in SECTION B.

QUESTION 1

- 1.1 Choose a term in COLUMN B that matches the climatological description in COLUMN A. Write only the letter (A–I) next to the question number (1.1.1–1.1.8) in the ANSWER BOOK, for example 1.1.9 J.

COLUMN A		COLUMN B	
1.1.1	The inversion layer is higher than the plateau in this season	A	ridging
1.1.2	The temperature at which water vapour condenses	B	saddle
1.1.3	Pressure cell that causes clear and stable conditions over the interior of the country in winter	C	line thunderstorms
1.1.4	Forms when the cold front of a mid-latitude cyclone is cut off from the rest of the cyclone	D	Kalahari high
1.1.5	A weak low pressure associated with drizzle and unstable weather conditions along the South African coastline	E	cut-off low
1.1.6	Forms when warm, moist air from the Indian Ocean is undercut by cold, dry air from the Atlantic Ocean	F	summer
1.1.7	Indicated by elongated isobars from a high-pressure cell	G	coastal low
1.1.8	Zone of constant pressure between two anticyclones	H	dew point
		I	winter

(8 x 1) (8)

- 1.2 Study FIGURE 1.2 based on a river system.
- 1.2.1 Name the drainage pattern in the upper course of the river in area **A**.
 - 1.2.2 Name the underlying rock structure likely to be found in area **A**.
 - 1.2.3 Is area **A** the catchment area or the mouth of the river?
 - 1.2.4 State the type of erosion that causes deep valleys in area **A**.
 - 1.2.5 Name a natural feature that forms at a knick point (in area **B**).
 - 1.2.6 In which course of the river does deposition dominate?
 - 1.2.7 Name the landform that is likely to form from the sand deposits at the river mouth. (7 x 1) (7)
- 1.3 Refer to FIGURE 1.3 based on a cold front.
- 1.3.1 What evidence in the diagram indicates that **X** is a rapidly deepening low pressure? (1 x 1) (1)
 - 1.3.2 Describe the predicted change in temperature and air pressure that Cape Town will experience. (2 x 1) (2)
 - 1.3.3 Account for the cumulonimbus cloud that will form at **Y**. (1 x 2) (2)
 - 1.3.4 Why have beach-goers been warned to stay away from the beach? (2 x 2) (4)
 - 1.3.5 How can residents of the Cape coastal regions reduce the negative impact of the cold front? (2 x 2) (4)
- 1.4 FIGURE 1.4 shows the impact of berg winds on coastal temperatures.
- 1.4.1 (a) Give the lowest temperature recorded at Vredendal on 27 October. (1 x 1) (1)
(b) Give the exact time when this temperature was recorded. (1 x 1) (1)
 - 1.4.2 Give the highest temperature recorded on the graph. (1 x 1) (1)
 - 1.4.3 Determine the temperature range experienced at Vredendal on 27 October. (1 x 2) (2)
 - 1.4.4 Explain how the abnormally large temperature range experienced at Vredendal on 27 October was caused by berg winds. (2 x 2) (4)
 - 1.4.5 In a paragraph of approximately EIGHT lines, outline precautionary measures that the inhabitants of Vredendal should have in place in advance when a berg wind approaches. (4 x 2) (8)

1.5 Refer to FIGURE 1.5 based on the water table.

- 1.5.1 Define the term *water table*. (1 x 1) (1)
- 1.5.2 (a) Describe the position of the water table in FIGURE 1.5A in relation to the Earth's surface. (1 x 1) (1)
- (b) Account for the position of the water table in FIGURE 1.5A that was mentioned in QUESTION 1.5.2(a). (1 x 2) (2)
- 1.5.3 (a) How has urban development changed the position of the water table in relation to the Earth's surface in FIGURE 1.5B? (1 x 2) (2)
- (b) Explain why urban development changed the position of the water table in FIGURE 1.5B that was mentioned in QUESTION 1.5.3(a). (2 x 2) (4)
- 1.5.4 Suggest measures that can be introduced after urban development to maintain the water table as illustrated in FIGURE 1.5A. (2 x 2) (4)

1.6 Refer to FIGURE 1.6 showing a stream channel.

- 1.6.1 Identify the stream channel pattern shown in FIGURE 1.6. (1 x 1) (1)
- 1.6.2 In which course of the river is the illustrated stream channel pattern most likely to be found? (1 x 1) (1)
- 1.6.3 Give ONE reason why the illustrated stream channel pattern will develop in the course of the river named in QUESTION 1.6.2. (1 x 2) (2)
- 1.6.4 Draw a simple, labelled cross-section of the meander between points **A** and **B**. (2 x 2) (4)
- 1.6.5 You would like to develop a campsite along the banks of the illustrated river. After careful consideration, you choose a site along slope/bank **A** rather than along slope/bank **B**. In a paragraph of approximately EIGHT lines, explain why the site along slope/bank **A** is the better choice. (4 x 2) (8)

[75]

QUESTION 2

- 2.1 Refer to FIGURE 2.1 that displays four weather stations. Match the statements below with weather stations **A** to **D**. Write only the letter (A–D) next to the question number (2.1.1–2.1.7) in the ANSWER BOOK, for example 2.1.8 A.

- 2.1.1 Thunderstorms are likely to be experienced.
- 2.1.2 Wind speed is 25 knots.
- 2.1.3 Indicates clear skies.
- 2.1.4 Wind direction is south-westerly.
- 2.1.5 Associated with stable conditions over the interior in winter.
- 2.1.6 Conditions that prevail on the west coast of South Africa in winter.
- 2.1.7 The expected precipitation is drizzle. (7 x 1) (7)

- 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 number (2.2.1–2.2.8) in the ANSWER BOOK, for example 2.2.9 A.

- 2.2.1 Refers to the main river and its tributaries:
- A Drainage basin
 - B Confluence
 - C Catchment area
 - D River system
- 2.2.2 The flow of water in a mountainous stream is likely to be ...
- A laminar.
 - B smooth.
 - C turbulent.
 - D layered.
- 2.2.3 The main geomorphological process in the lower course of a river is ...
- A erosion.
 - B deposition.
 - C saltation.
 - D abstraction.
- 2.2.4 The lowest point to which a river can erode is called the ...
- A permanent base level.
 - B source.
 - C temporary base level.
 - D knickpoint.

2.2.5 The term used to describe the changing position of a watershed:

- A River capture
- B Rejuvenation
- C Deposition
- D Abstraction

2.2.6 A stream that is now too small to have eroded the valley in which it flows:

- A Antecedent stream
- B Captured stream
- C Superimposed stream
- D Misfit stream

2.2.7 Forms when a stream deposits its load and blocks its own path:

- A Braided stream
- B Levee
- C Flood plain
- D Marsh

2.2.8 Rivers that only flow in the rainy season are called ... rivers.

- A exotic
- B periodic
- C episodic
- D perennial

(8 x 1) (8)

2.3 Study FIGURE 2.3 that contains information about a typhoon in Taiwan.

2.3.1 Which sketch, **A** or **B**, shows the typhoon that struck Taiwan? (1 x 1) (1)

2.3.2 Give ONE reason for your answer to QUESTION 2.3.1. (1 x 2) (2)

2.3.3 What evidence suggests that Taiwan experiences typhoons regularly? (1 x 2) (2)

2.3.4 Why are people moved to safety at the approach of a typhoon? (1 x 2) (2)

2.3.5 Explain TWO factors that would have led to Meranti developing into a super (extremely strong) typhoon. (2 x 2) (4)

2.3.6 Evaluate the impact of 800 mm of rain being dumped (falling in large amounts) in the mountainous areas of Taiwan. (2 x 2) (4)

2.4 FIGURE 2.4 is a representation of a city's climate.

- 2.4.1 Which sketch, **A** or **B**, represents the daytime city climate? (1 x 1) (1)
- 2.4.2 Give ONE reason to support your answer to QUESTION 2.4.1. (1 x 2) (2)
- 2.4.3 Give ONE reason for the occurrence of smog in sketch **B**. (1 x 2) (2)
- 2.4.4 Suggest ONE reason for the absence of smog in sketch **A**. (1 x 2) (2)
- 2.4.5 In a paragraph of approximately EIGHT lines, discuss various sustainable solutions to limit the formation of smog in a city. (4 x 2) (8)

2.5 Refer to FIGURE 2.5 that shows river capture on a superimposed landscape.

- 2.5.1 What is a *superimposed stream*? (1 x 1) (1)
- 2.5.2 What evidence suggests that river **S** and river **Y** are superimposed streams? (1 x 2) (2)
- 2.5.3 Draw a labelled cross-section to show how the abstraction process resulted in river capture in FIGURE 2.5B. (2 x 2) (4)
- 2.5.4 In a paragraph of approximately EIGHT lines, explain the changes that the captured stream will undergo downstream of the elbow of capture. (4 x 2) (8)

2.6 Study FIGURE 2.6 based on river rejuvenation in the lower course of a river.

- 2.6.1 State ONE characteristic of a rejuvenated river. (1 x 1) (1)
- 2.6.2 What evidence in the sketch indicates that the river has been rejuvenated? (2 x 1) (2)
- 2.6.3 Give TWO possible causes of river rejuvenation. (2 x 2) (4)
- 2.6.4 Describe the impact that rejuvenation will have on the meander in FIGURE 2.6. (1 x 2) (2)
- 2.6.5 Suggest ONE negative impact of rejuvenation on the future development of infrastructure. (1 x 2) (2)
- 2.6.6 Give evidence in FIGURE 2.6 to support the statement that terraces, even though they are flat, are not always suitable for farming. (2 x 2) (4)

[75]

SECTION B: RURAL AND URBAN SETTLEMENTS AND SOUTH AFRICAN ECONOMIC GEOGRAPHY

Answer at least ONE question in this section. If you answer ONE question in SECTION B, you must answer TWO questions in SECTION A.

QUESTION 3

3.1 Refer to FIGURE 3.1. Match the descriptions below with settlement **A** or **B**. Choose the answer and write only the letter A or B next to the question number (3.1.1–3.1.7) in the ANSWER BOOK, for example 3.1.8 A.

- 3.1.1 Associated with dispersed farmsteads
- 3.1.2 Allows for the sharing of farm equipment and ideas
- 3.1.3 Have fragmented plots of land
- 3.1.4 Needs large amounts of capital to be sustained
- 3.1.5 Lack of privacy in this settlement type
- 3.1.6 Shows a nucleated pattern
- 3.1.7 Greater security risk in this settlement type (7 x 1) (7)

3.2 Refer to FIGURE 3.2 based on two core industrial areas in South Africa.

- 3.2.1 Name industrial area **A**.
- 3.2.2 State ONE physical factor that industrial areas **A** and **B** have in common.
- 3.2.3 Name industrial area **B**.
- 3.2.4 Name the main agricultural product (crop) farmed in area **B**.
- 3.2.5 Is industrial area **A** or **B** known for the processing of fruit?
- 3.2.6 Will industrial area **A** or **B** be closer to the Asian markets?
- 3.2.7 Does area **A** or **B** experience rainfall mainly in winter?
- 3.2.8 Is area **A** or **B** the second largest industrial area in South Africa? (8 x 1) (8)

3.3 Study FIGURE 3.3 showing urban land-use.

- 3.3.1 Define the term *urban land-use*. (1 x 1) (1)
- 3.3.2 Name land-use zone **A**. (1 x 1) (1)
- 3.3.3 What evidence indicates that land-use zone **A** has a high degree of accessibility? (1 x 2) (2)
- 3.3.4 Discuss TWO problems that land-use zone **A** experiences due to its high accessibility. (2 x 2) (4)
- 3.3.5 In a paragraph of approximately EIGHT lines, analyse the role that green belts play in reducing the environmental problems that land-use zone **A** experiences as a result of its accessibility. (4 x 2) (8)

3.4 Refer to FIGURE 3.4, an extract based on urban blight, which is an urban issue related to rapid urbanisation.

- 3.4.1 What do you understand by the term *urban blight*? (1 x 1) (1)
- 3.4.2 State ONE cause of urban blight. (1 x 1) (1)
- 3.4.3 Why have the inhabitants of 120–128 Bromwell Street not vacated (left) their homes yet? (1 x 2) (2)
- 3.4.4 Why do residents feel that urban renewal of the Woodstock Hub is destroying their lives? (1 x 2) (2)
- 3.4.5 Give TWO reasons why the transition zone requires urban renewal. (2 x 2) (4)
- 3.4.6 Explain why urban renewal will change 120–128 Bromwell Street from a low- to a middle- or a high-income residential area. (2 x 2) (4)

3.5 Refer to FIGURE 3.5 based on industrial development zones (IDZ), which create opportunities for industrial decentralisation.

- 3.5.1 Give an example of an IDZ in South Africa. (1 x 1) (1)
- 3.5.2 What is the main aim of an IDZ? (1 x 1) (1)
- 3.5.3 How does an IDZ create the opportunity for industrial decentralisation? (2 x 2) (4)
- 3.5.4 State TWO advantages of industrial decentralisation for the core industrial regions in South Africa. (2 x 2) (4)
- 3.5.5 Explain how an IDZ will improve local socio-economic conditions. (2 x 2) (4)

- 3.6 FIGURE 3.6 is a table showing South Africa's position on the global food security index.
- | | | | |
|-------|---|---------|-------------|
| 3.6.1 | Describe the change in South Africa's food security index score from 2012 to 2016. | (1 x 1) | (1) |
| 3.6.2 | State the change in South Africa's world ranking in terms of the food security index from 2012 to 2016. | (1 x 1) | (1) |
| 3.6.3 | When is a country considered to be food secure? | (1 x 2) | (2) |
| 3.6.4 | Explain the positive impact of having food security in South Africa. | (2 x 2) | (4) |
| 3.6.5 | Write a paragraph of approximately EIGHT lines in which you analyse the reasons for South Africa's low food security index. | (4 x 2) | (8) |
| | | | [75] |

QUESTION 4

- 4.1 Refer to FIGURE 4.1 on street patterns. Match the descriptions below with street pattern **A** or **B**. Choose the answer and write only the letter A or B next to the question number (4.1.1–4.1.8) in the ANSWER BOOK, for example 4.1.9 A.
- | | | | |
|-------|---|---------|-----|
| 4.1.1 | Longer streets with fewer intersections | | |
| 4.1.2 | Planned to facilitate a smooth flow of traffic | | |
| 4.1.3 | A feature of new urban developments | | |
| 4.1.4 | Makes building easier due to the regular shaped plots | | |
| 4.1.5 | Not suitable for steep and hilly land | | |
| 4.1.6 | Saves fuel and travelling time | | |
| 4.1.7 | Easier to find places | | |
| 4.1.8 | Associated with the oldest part of a settlement | (8 x 1) | (8) |

- 4.2 Choose a term in COLUMN B that matches the description in COLUMN A. Write only the letter (A–H) next to the question number (4.2.1–4.2.7) in the ANSWER BOOK, for example 4.2.8 J.

COLUMN A		COLUMN B	
4.2.1	Associated with scientific methods of farming	A	urban agriculture
4.2.2	Type of farming where every available piece of land is cultivated	B	labour intensive
4.2.3	Crops grown in residential areas	C	large-scale farming
4.2.4	Farms that depend heavily on manual labour	D	monoculture
4.2.5	Products manufactured for sale to other countries	E	intensive farming
4.2.6	Products sold within South Africa	F	export market
4.2.7	Farming that grows one product (crop)	G	home market
		H	import market

(7 x 1) (7)

- 4.3 Refer to FIGURE 4.3 based on high- and low-order urban centres and their spheres of influence.

- 4.3.1 Define the term *sphere of influence*. (1 x 1) (1)
- 4.3.2 Compare the size of the city's sphere of influence with that of the town. (1 x 1) (1)
- 4.3.3 What determines the size of the sphere of influence of an urban settlement? (1 x 1) (1)
- 4.3.4 Give TWO possible reasons for the overlap of the town's sphere of influence with that of the city. (2 x 2) (4)
- 4.3.5 Explain why the range (distance) of different goods and services offered in city **B** is not the same. (2 x 2) (4)
- 4.3.6 According to the urban hierarchy of settlements, why are there more low-order centres (towns) than high-order centres (cities)? (2 x 2) (4)

- 4.4 Study FIGURE 4.4 showing a cartoon strip on rural-urban migration.

- 4.4.1 Name the push factor in the cartoon that caused rural-urban migration. (1 x 1) (1)
- 4.4.2 Name the pull factor that attracted John to the city. (1 x 1) (1)

- 4.4.3 Refer to the cartoon (frame 4). Why was Joan surprised by John's attraction to the city? (1 x 1) (1)
- 4.4.4 State TWO other expectations John had that were NOT met when he moved to the city. (2 x 2) (4)
- 4.4.5 Local government (municipalities) must increase their yearly budgets to provide for an influx of rural migrants. Explain this statement in a paragraph of approximately EIGHT lines. (4 x 2) (8)
- 4.5 Read the extract in FIGURE 4.5 referring to the development of the Dube Trade Port, which is said to boost the development of the Durban-Pinetown industrial region.
- 4.5.1 In which province is the Durban-Pinetown industrial region located? (1 x 1) (1)
- 4.5.2 What, according to President Jacob Zuma, played an important role in developing the Dube Trade Port? (1 x 1) (1)
- 4.5.3 Name any TWO major industrial products produced in the Durban-Pinetown industrial region that may benefit from the development of the Dube Trade Port. (2 x 1) (2)
- 4.5.4 Excluding coastal location, discuss any TWO factors that favoured the development of the Durban-Pinetown industrial region. (2 x 2) (4)
- 4.5.5 In a paragraph of approximately EIGHT lines, outline the importance of launching the agriculture zone and cargo terminal for future industrial development in the Durban-Pinetown industrial region. (4 x 2) (8)
- 4.6 Study FIGURE 4.6 showing the percentage of Gauteng's activities in the tertiary sector in South Africa.
- 4.6.1 Define the term *tertiary economic activities*. (1 x 1) (1)
- 4.6.2 Which tertiary activity in Gauteng contributes the most to South Africa's economy? (1 x 1) (1)
- 4.6.3 Give a reason for the economic activity that contributes the highest percentage to the tertiary sector. (1 x 2) (2)
- 4.6.4 Comment on the contribution of the tertiary sector of Gauteng to the economy of South Africa, based on the information in FIGURE 4.6. (1 x 2) (2)
- 4.6.5 Why is it preferable for a country to have a stronger tertiary sector than a primary sector? (2 x 2) (4)
- 4.6.6 Explain the role that transport plays in strengthening the tertiary sector in Gauteng. (2 x 2) (4)

[75]**GRAND TOTAL: 225**