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GRADE 12

GEOGRAPHY P1

FEBRUARY/MARCH 2015

MARKS: 225

TIME: 3 hours

This question paper consists of 12 pages and an annexure of 12 pages.

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. Number the answers in the centre of the line.
7. ENCIRCLE the questions that you have answered on the front cover of the ANSWER BOOK.
8. Do NOT write in the margins of the ANSWER BOOK.
9. Illustrate your answers with labelled diagrams, where possible.
10. 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 Study FIGURE 1.1 which shows two common pressure systems (**A** and **B**) that occur over South Africa. Match each of the statements below to either pressure cell **A** or **B**.

- 1.1.1 Known as the heat low pressure cell
- 1.1.2 Also referred to as an anticyclone
- 1.1.3 Associated with unstable weather conditions
- 1.1.4 Causes south-easterly winds to blow over the east coast of South Africa
- 1.1.5 Air diverges from this pressure cell
- 1.1.6 Dominates the land in summer
- 1.1.7 Associated with convection thunderstorms (7 x 1) (7)

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

COLUMN A		COLUMN B	
1.2.1	Streams that have their source in high rainfall areas and flow through desert areas	A	episodic
		B	permanent
1.2.2	River flow that occurs in thin layers	C	turbulent
1.2.3	Upper limit of ground water	D	water table
1.2.4	Rivers that flow only after heavy rainfall	E	mouth
1.2.5	Point where two or more streams meet	F	source
1.2.6	River flow that occurs in a swirling motion	G	confluence
		H	laminar
1.2.7	Rivers that flow throughout the year	I	exotic
1.2.8	Point of origin of a river		

(8 x 1) (8)

- 1.3 Refer to the sketch in FIGURE 1.3 which shows aspect in a valley in the Southern Hemisphere and answer the questions that follow.
- 1.3.1 Define the term *aspect*. (1 x 1) (1)
- 1.3.2 What evidence suggests that this valley is situated in the Southern Hemisphere? (1 x 1) (1)
- 1.3.3 Explain why area **A** is referred to as the shadow zone. (1 x 2) (2)
- 1.3.4 Explain how wind **B** will develop during the day. (2 x 2) (4)
- 1.3.5 In a paragraph of approximately EIGHT lines, give advice to a farmer on how to plan the usage of the land at place **C** and place **D** effectively, taking into account the influence of aspect and resultant winds. (4 x 2) (8)
- 1.4 Study FIGURE 1.4 which shows a synoptic weather map.
- 1.4.1 Does the map show a typical summer or winter condition? (1 x 1) (1)
- 1.4.2 Draw the symbol present on the synoptic weather map indicating the eye of Tropical Cyclone Haruna. (1 x 1) (1)
- 1.4.3 What evidence suggests that Tropical Cyclone Haruna is in its mature stage? (1 x 2) (2)
- 1.4.4 Describe the weather associated with the eye of the cyclone. (2 x 2) (4)
- 1.4.5 How do warm oceans contribute to the development of these cyclones? (1 x 2) (2)
- 1.4.6 Suggest TWO precautions the people of Maputo need to take within the next 24 hours. (2 x 2) (4)
- 1.5 FIGURE 1.5 is a sketch based on river capture.
- 1.5.1 What is a *watershed*? (1 x 1) (1)
- 1.5.2 Why is the watershed not a permanent feature? (1 x 2) (2)
- 1.5.3 What does it mean when a stream erodes *headwards*? (1 x 2) (2)
- 1.5.4 Give TWO reasons why tributary **C** is energetic. (2 x 2) (4)
- 1.5.5 Draw a plan view sketch (as seen from above) to show the landscape after river capture has taken place. Label at least TWO features of river capture. (2 x 2) (4)
- 1.5.6 Which of the streams will become rejuvenated after river capture has taken place? (1 x 2) (2)

1.6 Refer to FIGURE 1.6 showing a river bend.

- | | | | |
|-------|--|---------|-------------|
| 1.6.1 | What term is used to describe a river channel that winds and bends? | (1 x 1) | (1) |
| 1.6.2 | Name TWO dimensions of a river that are visible in the cross-profile. | (2 x 1) | (2) |
| 1.6.3 | Name the slope of the river at B . | (1 x 2) | (2) |
| 1.6.4 | Why does the fish think that both boys are idiots? | (1 x 2) | (2) |
| 1.6.5 | In a paragraph of approximately EIGHT lines, give a detailed explanation to account for the difference in the formation of slope A and slope B . | (4 x 2) | (8) |
| | | | [75] |

QUESTION 2

2.1 FIGURE 2.1 is an extract from a synoptic weather map showing weather conditions for Marion Island.

- | | | | |
|-------|---|---------|-----|
| 2.1.1 | Write down the recorded air temperature. | | |
| 2.1.2 | State the dew point temperature. | | |
| 2.1.3 | What is the wind direction experienced on the island? | | |
| 2.1.4 | How fast is the wind blowing on the island? | | |
| 2.1.5 | Write down the air pressure experienced on the island. | | |
| 2.1.6 | Describe the cloud cover. | | |
| 2.1.7 | Name the type of precipitation experienced on the island. | (7 x 1) | (7) |

2.2 Refer to FIGURE 2.2 showing three different types of rivers and answer the following questions.

- | | | | |
|-------|--|--|--|
| 2.2.1 | Which river (A , B or C) is an episodic river? | | |
| 2.2.2 | Which river (A , B or C) is periodic? | | |
| 2.2.3 | Which river (A , B or C) is exotic in its lower course? | | |
| 2.2.4 | In which picture (A , B or C) is the river bed always below the water table? | | |
| 2.2.5 | In which picture (A , B or C) does the groundwater never contribute to stream flow? | | |

- 2.2.6 In which picture (**A**, **B** or **C**) does the river flow only during the rainy season?
- 2.2.7 In which picture (**A**, **B** or **C**) does the river flow only after heavy showers?
- 2.2.8 In which picture (**A**, **B** or **C**) does the river always intersect the water table? (8 x 1) (8)
- 2.3 Study the plan view of and the cross-section through a mid-latitude cyclone in FIGURE 2.3.
- 2.3.1 In which general direction does this cyclone move in the Southern Hemisphere? (1 x 1) (1)
- 2.3.2 Give TWO pieces of evidence to support the statement that the cyclone is in its mature stage. (2 x 2) (4)
- 2.3.3 Why does the warm front (**C**) have very little influence on the weather of South Africa? (1 x 2) (2)
- 2.3.4 In a paragraph of approximately EIGHT lines, explain the process of occlusion and associated weather conditions of a mid-latitude cyclone. (4 x 2) (8)
- 2.4 FIGURE 2.4 shows a moisture front across South Africa.
- 2.4.1 What is a *moisture front*? (1 x 1) (1)
- 2.4.2 Distinguish between the moisture contents of the winds at **A** and **B**. (2 x 1) (2)
- 2.4.3 Name the type of thunderstorm that occurs along the moisture front. (1 x 2) (2)
- 2.4.4 On which side of the moisture front do the thunderstorms form? (1 x 2) (2)
- 2.4.5 Explain your answer to QUESTION 2.4.4. (2 x 2) (4)
- 2.4.6 Describe the hazards/dangers associated with these thunderstorms for farmers in the interior. (2 x 2) (4)

- 2.5 FIGURE 2.5 is based on a drainage basin with a high surface run-off.
- 2.5.1 Define the term *drainage basin*. (1 x 1) (1)
- 2.5.2 What is the meaning of the term *surface run-off*? (1 x 1) (1)
- 2.5.3 Give TWO possible reasons for the high surface run-off that is experienced in a drainage basin. (2 x 2) (4)
- 2.5.4 There is a third-order river where the river flows into the sea.
- (a) Will the stream order increase or decrease during periods of high rainfall? (1 x 2) (2)
- (b) Explain your answer to QUESTION 2.5.4(a). (2 x 2) (4)
- 2.6 River deltas often form where the river enters the sea.
- 2.6.1 In which course of a river does a delta form? (1 x 1) (1)
- 2.6.2 Write down a term for the point where a river enters the sea. (1 x 1) (1)
- 2.6.3 Explain why the river deposits its load as it enters the sea. (2 x 2) (4)
- 2.6.4 State TWO conditions that lead to the formation of a delta. (2 x 2) (4)
- 2.6.5 In a paragraph of approximately EIGHT lines, evaluate the economic importance of deltas for many countries throughout the world. (4 x 2) (8)
- [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 Study FIGURE 3.1 which shows the hierarchy of settlements.

3.1.1 Name the settlement type that will be found at **A**.

3.1.2 Why will **B** have a larger sphere of influence?

3.1.3 Which is the smallest settlement on the hierarchy?

3.1.4 Will the town or the city have a higher threshold population?

3.1.5 What is the name of the settlement that is larger than a conurbation?

3.1.6 Give a reason for the conurbation having a large sphere of influence.

3.1.7 Will settlement **A** or **B** have more high-order functions?

3.1.8 Which urban settlement offers the fewest services? (8 x 1) (8)

3.2 Choose a type of industry from COLUMN B that matches the description in COLUMN A. Write only the letter (A–H) next to the question number (3.2.1–3.2.7) in the ANSWER BOOK, for example 3.2.8 I.

COLUMN A		COLUMN B	
3.2.1	Located all over the geographical area without concentration in one particular area	A	heavy
		B	light
3.2.2	Located close to the source of raw materials as it produces perishable goods	C	footloose
		D	ubiquitous
3.2.3	Manufactures smaller products with little or no pollution	E	bridge
		F	raw material-orientated
3.2.4	Produces bulky products and located close to the market	G	market-orientated
3.2.5	Requires flat land situated next to specialised transport facilities	H	decentralised
3.2.6	Industries that relocated outside an existing industrial area		
3.2.7	Located where one means of transport is replaced by another		

(7 x 1) (7)

- 3.3 Refer to FIGURE 3.3 showing a nucleated village.
- 3.3.1 Describe the shape of the village. (1 x 1) (1)
- 3.3.2 Discuss TWO disadvantages for farmers living in this village. (2 x 2) (4)
- 3.3.3 Discuss ONE advantage for farmers living in this village. (1 x 2) (2)
- 3.3.4 Write a paragraph of approximately EIGHT lines in which you suggest sustainable measures to prevent people from leaving this village to live in cities. (4 x 2) (8)
- 3.4 Read the extract in FIGURE 3.4 relating to land-use management and answer the questions that follow.
- 3.4.1 Give the meaning of the term *land-use management*. (1 x 1) (1)
- 3.4.2 How can one ensure that the land is managed properly? (1 x 2) (2)
- 3.4.3 Why are open-space zones important in cities? (2 x 2) (4)
- 3.4.4 Name TWO zones in the list in FIGURE 3.4 that are compatible (could exist next to one another). (1 x 2) (2)
- 3.4.5 Give ONE reason for your answer to QUESTION 3.4.5. (1 x 2) (2)
- 3.4.6 Explain why transport zones must be well maintained and upgraded regularly. (2 x 2) (4)
- 3.5 Read the extract in FIGURE 3.5 about the Saldanha Bay IDZ and answer the questions that follow.
- 3.5.1 In which South African province is Saldanha Bay situated? (1 x 1) (1)
- 3.5.2 Why are IDZs located away from major metropolitan areas? (1 x 2) (2)
- 3.5.3 Give TWO reasons why the Saldanha Bay IDZ has the potential for economic growth. (2 x 2) (4)
- 3.5.4 As an industrialist, identify any TWO incentives which would attract you to locate your industry within an IDZ. (2 x 2) (4)
- 3.5.5 State TWO advantages that this area will enjoy with the development of the wind energy projects. (2 x 2) (4)

- 3.6 Refer to FIGURE 3.6 which is a map of South Africa that shows where various minerals are mined and main industrial areas are found.
- 3.6.1 Which industrial area is situated in the centre of a number of mines? (1 x 1) (1)
- 3.6.2 How do the mines support industrial growth in the area mentioned in QUESTION 3.6.1? (2 x 2) (4)
- 3.6.3 Give ONE reason why three of the four industrial regions are located along the coastline. (1 x 2) (2)
- 3.6.4 In a paragraph of approximately EIGHT lines, discuss how industrial area 4 contributes to the economic development of South Africa. (4 x 2) (8)
- [75]**

QUESTION 4

- 4.1 FIGURE 4.1 represents an urban profile and street patterns.
- 4.1.1 Name the street pattern at **A**.
- 4.1.2 Name the street pattern at **B**.
- 4.1.3 Give ONE historical reason for the particular layout of the street pattern at **B**.
- 4.1.4 Give ONE reason why urban planners have chosen street pattern **A** in modern times.
- 4.1.5 State ONE characteristic of the land-use zone at **C**.
- 4.1.6 Give ONE reason why the height of the buildings decreases from **C** to the periphery.
- 4.1.7 Is the density of buildings at **C** high or low? (7 x 1) (7)
- 4.2 Study FIGURE 4.2 which is a table of statistics showing the contribution of various economic activities to the gross domestic product in South Africa.
- 4.2.1 Which economic activity contributed the least to South Africa's GDP?
- 4.2.2 What percentage did the primary sector contribute?
- 4.2.3 Does the primary or tertiary sector contribute a greater percentage to the economy?
- 4.2.4 Name the economic activity that falls into the secondary sector.

- 4.2.5 Which economic sector must have the highest percentage to indicate that a country has a developed economy?
- 4.2.6 Do the statistics for South Africa show a developed country or a developing country?
- 4.2.7 Name the highest contributing economic activity in the tertiary sector.
- 4.2.8 Give another name for the *tertiary sector*. (8 x 1) (8)
- 4.3 Refer to FIGURE 4.3 which is based on central places.
- 4.3.1 What is a *central place*? (1 x 1) (1)
- 4.3.2 What is the main function of a market town? (1 x 1) (1)
- 4.3.3 What is the relationship between the size of central places and the number of central places? (1 x 2) (2)
- 4.3.4 State TWO differences between a high-order service and a low-order service. (2 x 2) (4)
- 4.3.5 A threshold population is the minimum number of customers required to support a service or a function.
- (a) Determine the relationship between the threshold population and the order of service. (1 x 2) (2)
- (b) Explain the impact of locating a high-order service in an area with a low threshold population. (2 x 2) (4)
- 4.4 Refer to the land-use model in FIGURE 4.4.
- 4.4.1 Name the land-use model in FIGURE 4.4. (1 x 1) (1)
- 4.4.2 Is the residential land-use zone at **C** a low-, middle- or high-income area? (1 x 1) (1)
- 4.4.3 Explain why the land value at **A** is high. (2 x 2) (4)
- 4.4.4 Give a reason why the industrial zone and zone **B** are not compatible. (1 x 2) (2)
- 4.4.5 In a paragraph of approximately EIGHT lines, analyse how this model compares with a typical South African city. (4 x 2) (8)

- 4.5 Study FIGURE 4.5 which is a cartoon showing how the world leaders of the eight most economically developed countries view the problem of food security.
- 4.5.1 What do we call the group of countries seated around the table? (1 x 1) (1)
- 4.5.2 What evidence in the cartoon shows that the eight people around the table have little regard for food security? (1 x 1) (1)
- 4.5.3 State TWO factors that the eight countries have in common. (2 x 1) (2)
- 4.5.4 Explain TWO reasons why some countries have problems with food security. (2 x 2) (4)
- 4.5.5 How can the use of genetically modified crops improve food security in poor countries? (3 x 2) (6)
- 4.6 Read the extract in FIGURE 4.6 about apartheid and post-apartheid industrial development strategies and answer the questions that follow.
- 4.6.1 Define the term *decentralisation*. (1 x 1) (1)
- 4.6.2 What is a *growth point*? (1 x 1) (1)
- 4.6.3 Give ONE reason why unemployment was predicted as a massive problem in the homelands. (1 x 2) (2)
- 4.6.4 Discuss the main aims of the government establishing growth points. (2 x 2) (4)
- 4.6.5 In a paragraph of approximately EIGHT lines, discuss the advantages of post-apartheid industrial development strategies, such as industrial development zones, for economic development in South Africa. (4 x 2) (8)
- GRAND TOTAL: 225**
- [75]**