



NATIONAL SENIOR CERTIFICATE EXAMINATION
MAY 2023

GEOGRAPHY: PAPER I

Time: 3 hours

200 marks

PLEASE READ THE FOLLOWING INSTRUCTIONS CAREFULLY

1. This question paper consists of 24 pages. Please check that your question paper is complete.
 2. Read the questions carefully.
 3. **ALL THREE SECTIONS ARE COMPULSORY.**
 4. Credit will be awarded for the following:
 - interpretation
 - explanation
 - evidence of personal observations where this is appropriate to the question.
 5. You are encouraged to use sketch maps, diagrams and other explanatory drawings to support your answers wherever relevant.
 6. Pay attention to the mark allocation.
 7. Number your answers exactly as the questions are numbered.
 8. It is in your own interest to write legibly and to present your work neatly.
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SECTION A INTEGRATED QUESTION: THE GEOGRAPHY OF THE NORTHERN CAPE

QUESTION 1 PHYSICAL GEOGRAPHY

1.1 Climate True and False

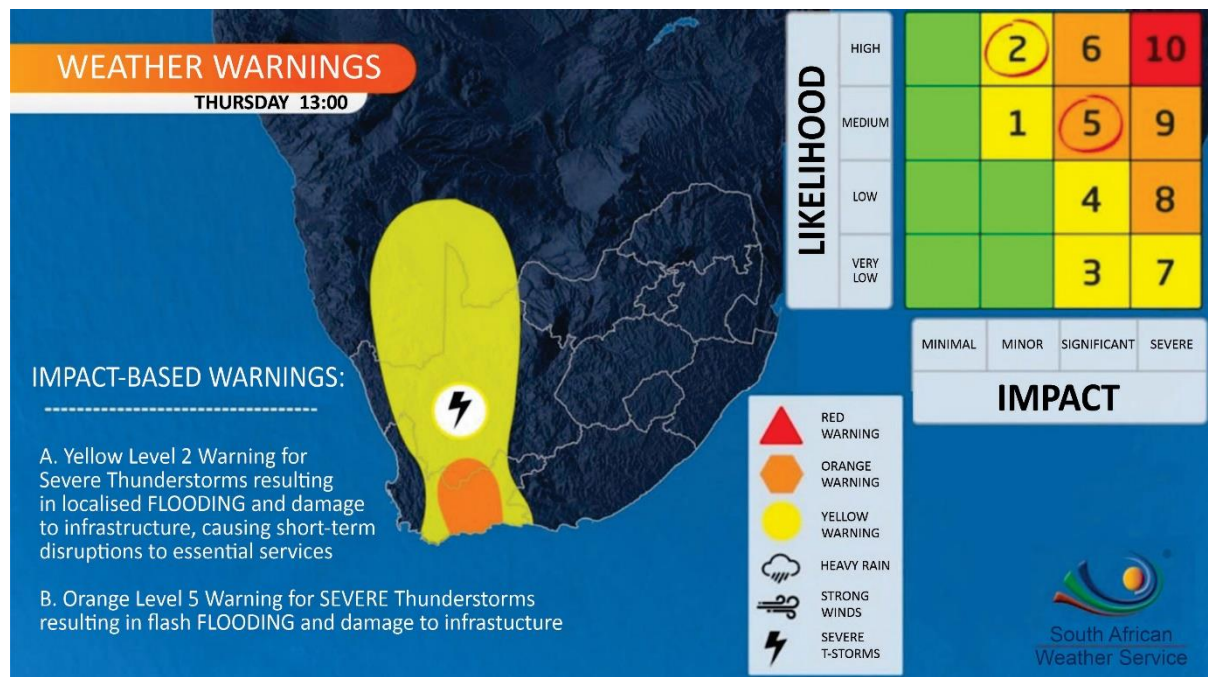
State whether the following statements are TRUE or FALSE. Write only the number of the question and True or False, e.g. 1.1.6 False.

- 1.1.1 The bottom of the valley is warmest early in the morning. (1)
- 1.1.2 Urban areas are warmer than rural areas because of the building materials. (1)
- 1.1.3 Berg winds are a result of adiabatic heating. (1)
- 1.1.4 Frost is formed in winter as a result of high pressure over the interior. (1)
- 1.1.5 The Cape Doctor is created by the ridging of the South Indian high-pressure system. (1)

1.2 Subtropical Anticyclones and Associated Weather Conditions

Study Figure 1, a weather warning by the South African Weather Service.

Figure 1



[Source: SAWS]

1.2.1 Select a bold word between brackets that would make the statement correct. Write only the question number and the selected word, e.g., (e) freeze.

(a) The Northern Cape receives (**summer / winter**) rainfall. (1)

(b) The Northern Cape is to the (**west / east / south**) of the 500 mm isohyet. (1)

(c) The (**interior anticyclone / low-pressure trough / tropical low**) is responsible for the formation of the thunderstorm in Figure 1. (1)

(d) Thunderstorms form over the Northern Cape because of (**frontal / orographic / convectional**) rainfall. (1)

1.2.2 Describe how line thunderstorms form over South Africa. (4)

1.2.3 Explain why thunderstorms are important to the interior of South Africa. (2)

1.3 Subtropical Anticyclones and Associated Weather Conditions

Study Figure 2, a tweet about a cut-off low that affected the Northern Cape and the rest of the country, and Figure 3, a synoptic chart generated at the same time.

Figure 2

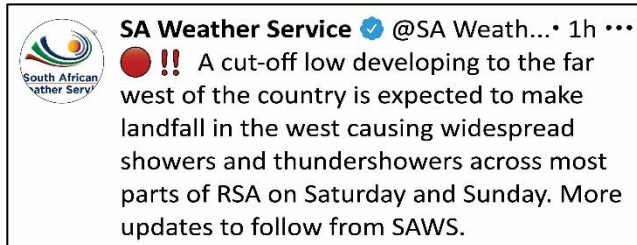
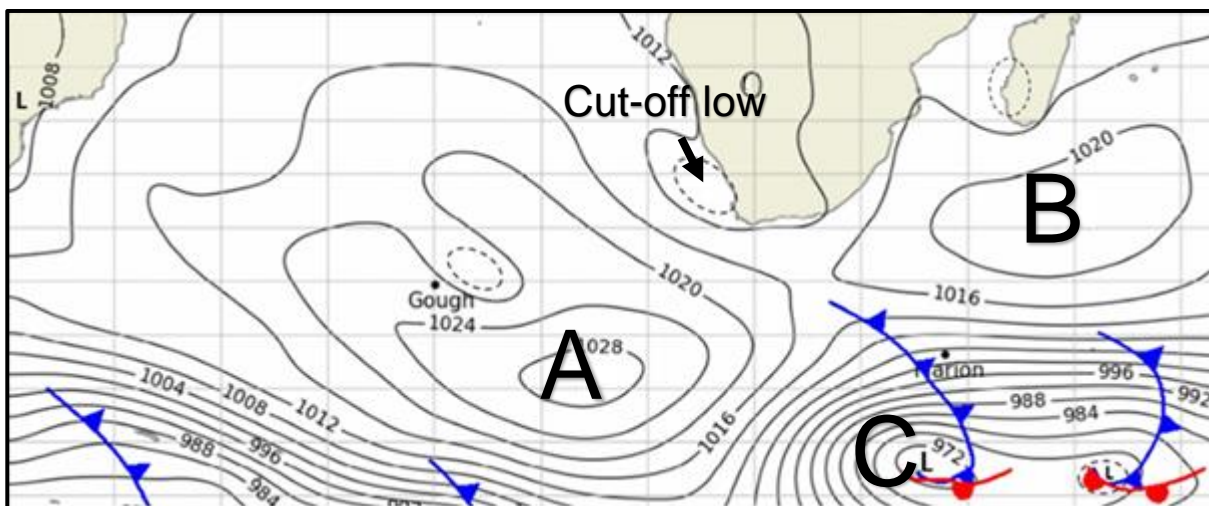


Figure 3



[Source: SAWS]

1.3.1 Provide labels for the following on Figure 3.

- (a) Name the anticyclones **A** and **B**. (2)
- (b) Name the weather feature at **C**. (1)

1.3.2 Choose the definition of a cut-off low (write only the letter). (1)

- A A low-pressure system that has become displaced from the westerly wind belt and moves independently.
- B An elongated region of relatively low atmospheric pressure.
- C A low that forms on the west coast and moves along the coast.

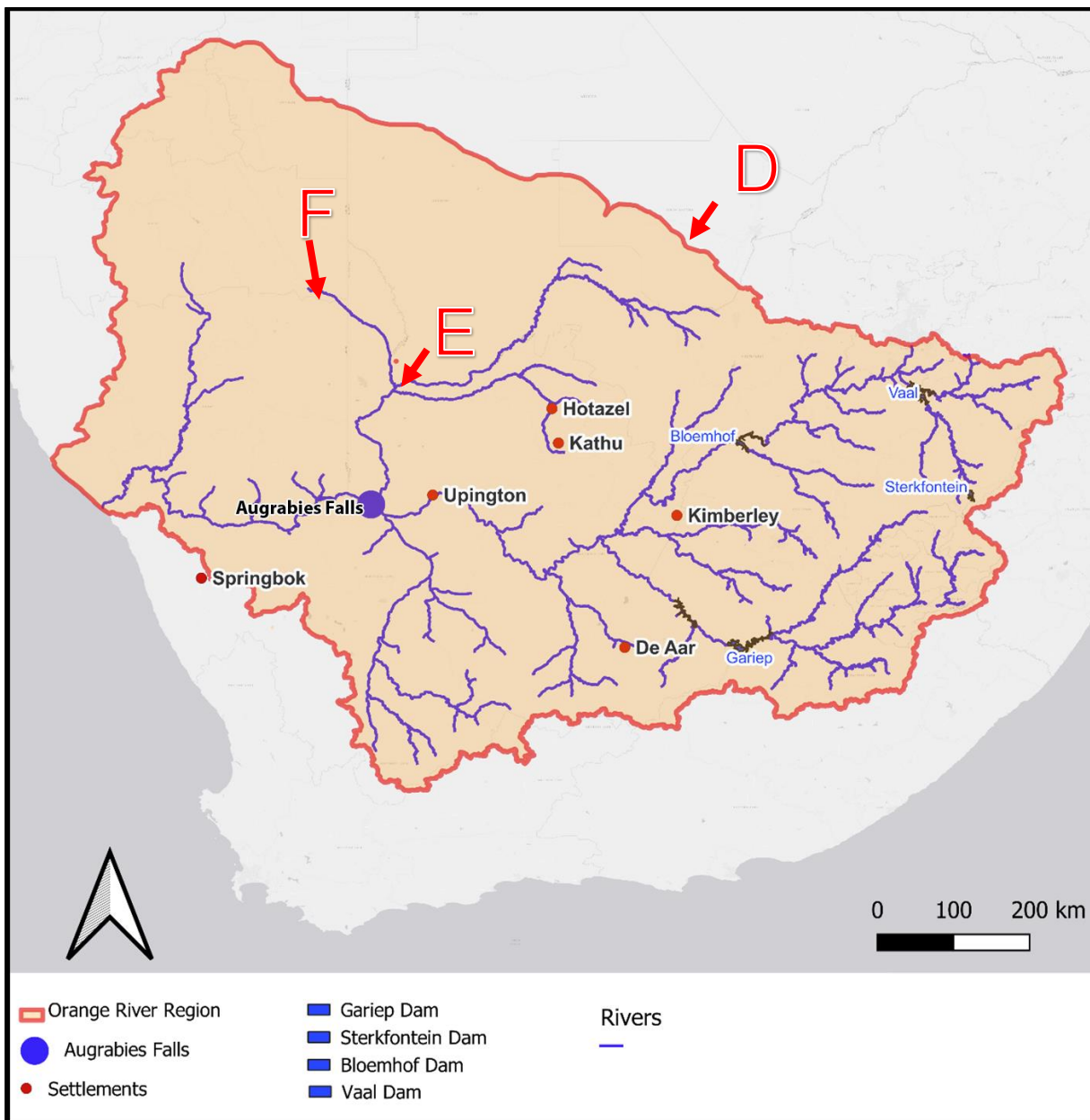
1.3.3 Outline TWO effects of cut-off lows. (2)

1.3.4 Discuss the roles that anticyclones play in the formation of a cut-off low. (4)

1.4 Drainage Systems in South Africa

Study Figure 4, a map of the Orange River basin.

Figure 4



[Source: Examiner's map]

1.4.1 Match the letters **D**, **E** and **F** in Figure 4 to the following elements. Write only the question number and the letter of your choice, e.g., (d) C.

- | | | |
|-----|------------|-----|
| (a) | Watershed | (1) |
| (b) | Confluence | (1) |
| (c) | Tributary | (1) |

1.4.2 Explain why the Orange River is considered an exotic river. (2)

1.4.3 Name TWO neighbouring countries that fall within the Orange River drainage basin. (2)

1.4.4 Analyse the role of dams such as the Vaal Dam and the Gariep Dam in drainage basin management. (4)

1.5 Catchment and River Management

Study Photograph 1 of a man-made canal along the Orange River in the Northern Cape.

Photograph 1



[Source: Examiner's photograph]

- 1.5.1 What is the purpose of the canal as shown in Photograph 1? (1)
- 1.5.2 Analyse ONE effect that canals along the Orange River could have on the discharge of the river. (2)
- 1.5.3 Discuss the benefit of canals to the agricultural industry. (4)

1.6 Fluvial Processes

Study Photograph 2 of the Augrabies Falls to the west of Upington, as well as Figure 4 on page 5, the map of the Orange River basin.

Photograph 2



[Source: Examiner's photograph]

1.6.1 Select the bold word between brackets that would make the statement correct. Write only the question number and the selected word, e.g., (d) rock.

- (a) A waterfall is known as a (**temporary** / permanent / knick) base level of erosion. (1)
- (b) A waterfall will result in (**headward erosion** / lateral erosion / **deposition**) along the river channel. (1)
- (c) A waterfall is an example of (**rejuvenation** / grading / **a profile**). (1)

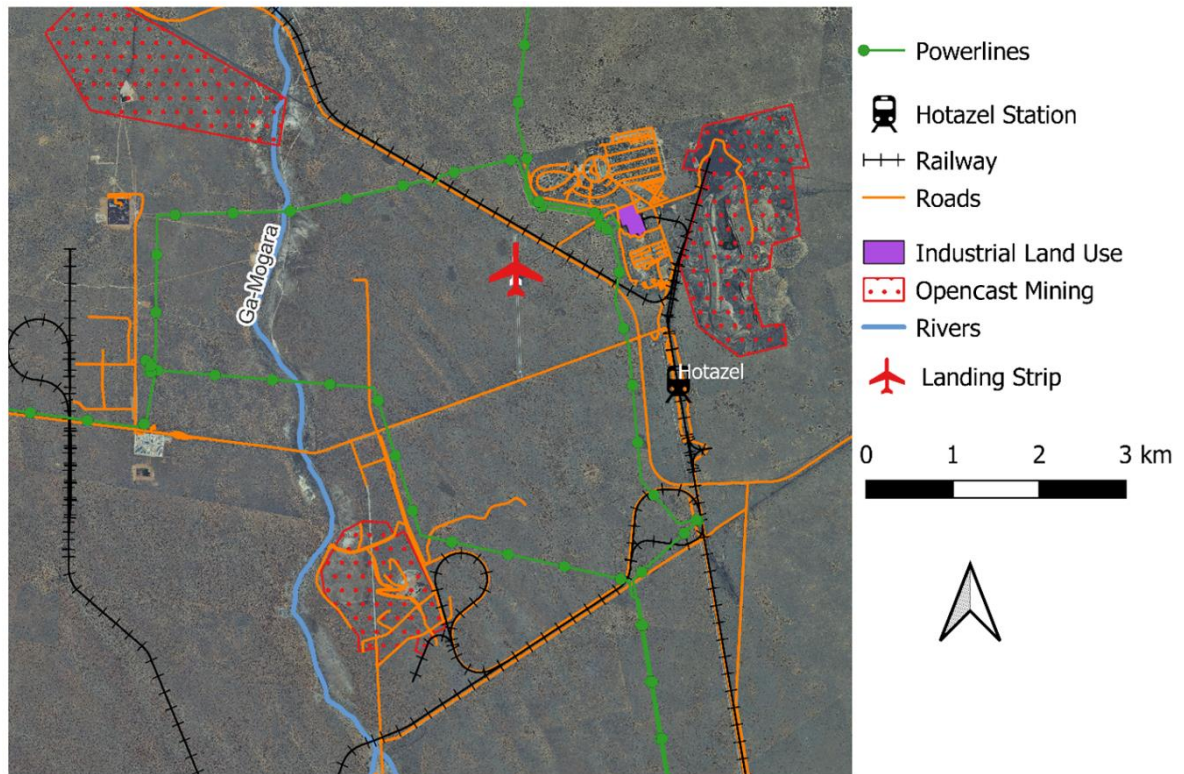
1.6.2 Explain how a waterfall is formed along a river system. (4)
[50]

QUESTION 2 Human Geography

2.1 Study of Settlements

Study Figure 5, a map of the Hotazel region in the Northern Cape.

Figure 5



[Source: Examiner's map]

- 2.1.1 Name TWO street patterns in the settlement of Hotazel that are visible on the map. (2)
- 2.1.2 Match a word in Column B to the statement in Column A. Write only the question number and the word of your choice, e.g. (d) metro. (3)

Column A		Column B
(a)	Main economic activity in the region	mining / commerce / shipping
(b)	Settlement classification	isolated farmstead / town / conurbation
(c)	Type of urban settlement	central place / gap town / mining town

2.2 Structure of the Economy

Study Figure 5 on page 8 and use your knowledge of South Africa. Select the correct answer in each instance. Write the number of the question and the letter corresponding to your answer, e.g., 2.2.0 A.

2.2.1 Mining close to the surface, such as near Hotazel, is known as ... mining.

- A deep-level
- B subsistence
- C opencast
- D zama zama (1)

2.2.2 Mining is in the ... economic sector.

- A primary
- B secondary
- C tertiary
- D quaternary (1)

2.2.3 ... refers to the difference in value between imports and exports.

- A Trade agreement
- B Balance of trade
- C Local trade
- D International trade (1)

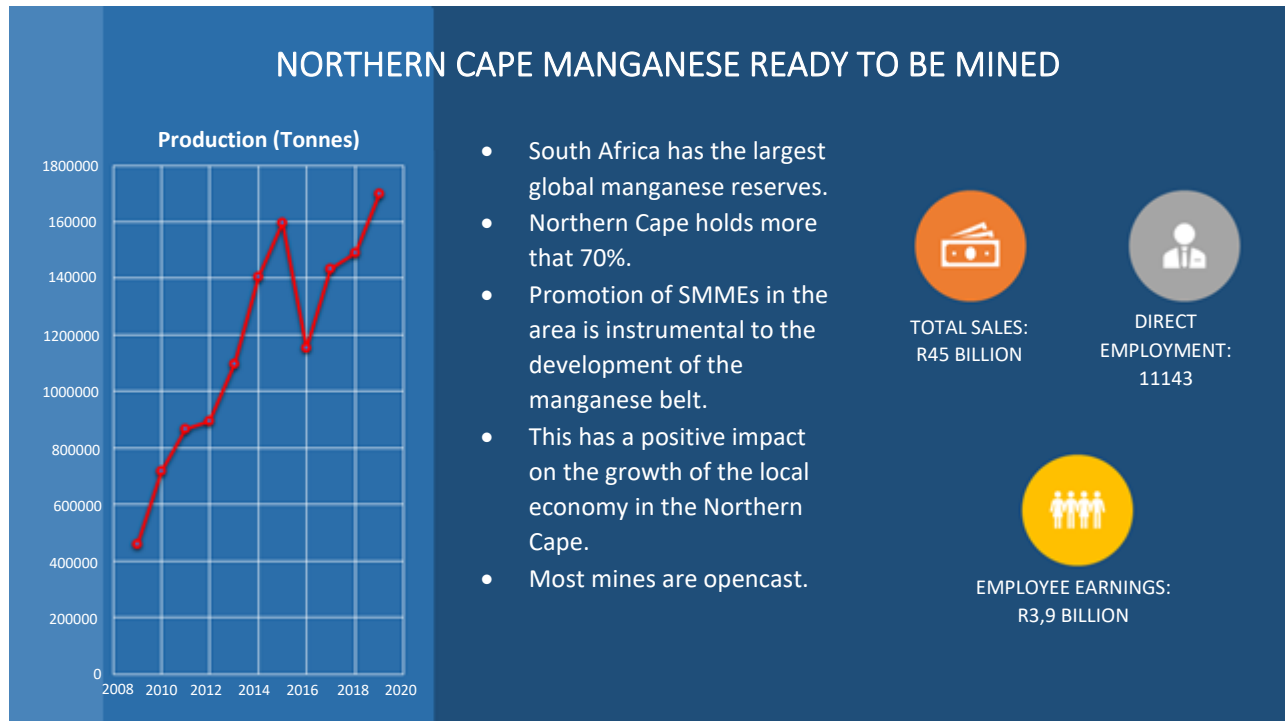
2.2.4 A settlement where the mode of transport for goods changes is known as a ...

- A break-of-bulk.
- B harbour.
- C central place.
- D junction. (1)

2.3 Mining

Study Figure 6, an infographic about manganese in the Northern Cape.

Figure 6



[Source: <www.miningweekly.com>]

*SMME – Small, Medium and Micro Enterprises

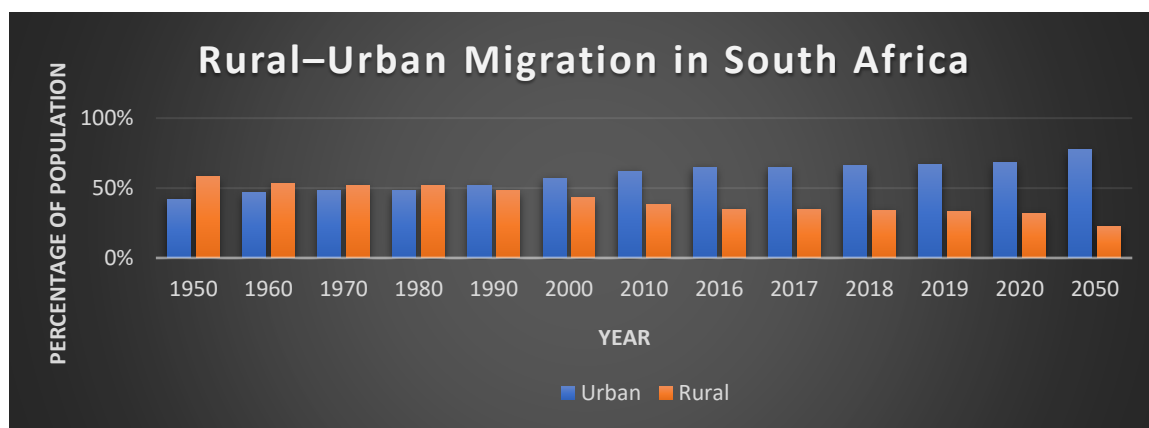
- 2.3.1 Name the main port from which manganese is exported. (1)
- 2.3.2 Name TWO uses of manganese. (2)
- 2.3.3 Name ONE forward linkage and ONE backward linkage of manganese mining. (2)
- 2.3.4 How does the location of the manganese mines in the Northern Cape increase the export costs? (2)
- 2.3.5 Discuss the importance of mining to the economy of the Northern Cape. (4)
- 2.3.6 Discuss TWO factors that limit mining in the Northern Cape. (4)
- 2.3.7 Predict how SMMEs can be used to arrest social justice issues. (6)
- [30]**

QUESTION 3 Extended Writing

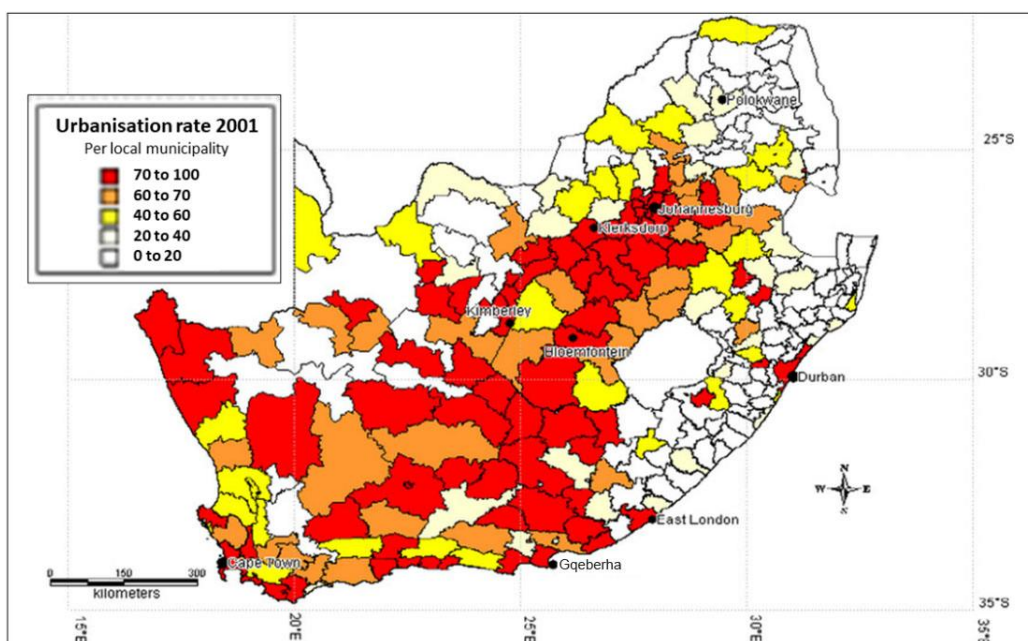
Study Photograph 3, the town of Bitterfontein, a junction town between Springbok and Cape Town along the N7. It is a typical town struggling with rural depopulation. Study figures 7 and 8.

Photograph 3

[Source: Examiner's photograph]

Figure 7

[Source: Stats SA]

Figure 8

[Source: <<https://www.researchgate.net/>>]

Use Photograph 3, Figure 7 and Figure 8 on page 11 and any other sources from Questions 1 and 2. Write a report for the Northern Cape government to discuss the impact of rural–urban migration on the province. Use any additional information to help you discuss the following subheadings:

- Outline the factors that cause rural–urban migration.
- Assess the negative economic impact of rural–urban migration on rural areas.
- Predict the difficulties rural migrants experience in urban areas and the impact on their quality of life.

Note: You may draw on any examples you have studied to support your discussion. Use the rubric below to guide the planning and structure of your report.

CRITERIA	MARKS
<i>Writing skills</i> <ul style="list-style-type: none"> • Take into consideration structure and presentation. • Use of brief introduction and conclusion. • Logical discussion and use of sub-headings. 	4
<i>Content knowledge</i> <ul style="list-style-type: none"> • Correct use of geographical terminology and concepts. • Adherence to topic and sub-headings. 	12
<i>Supporting evidence – analysis and understanding</i> <ul style="list-style-type: none"> • The ability to analyse and evaluate the topic. • Reference made to case study material/fact file/source material provided. • If appropriate, reference must be made to familiar/local or other examples. 	4

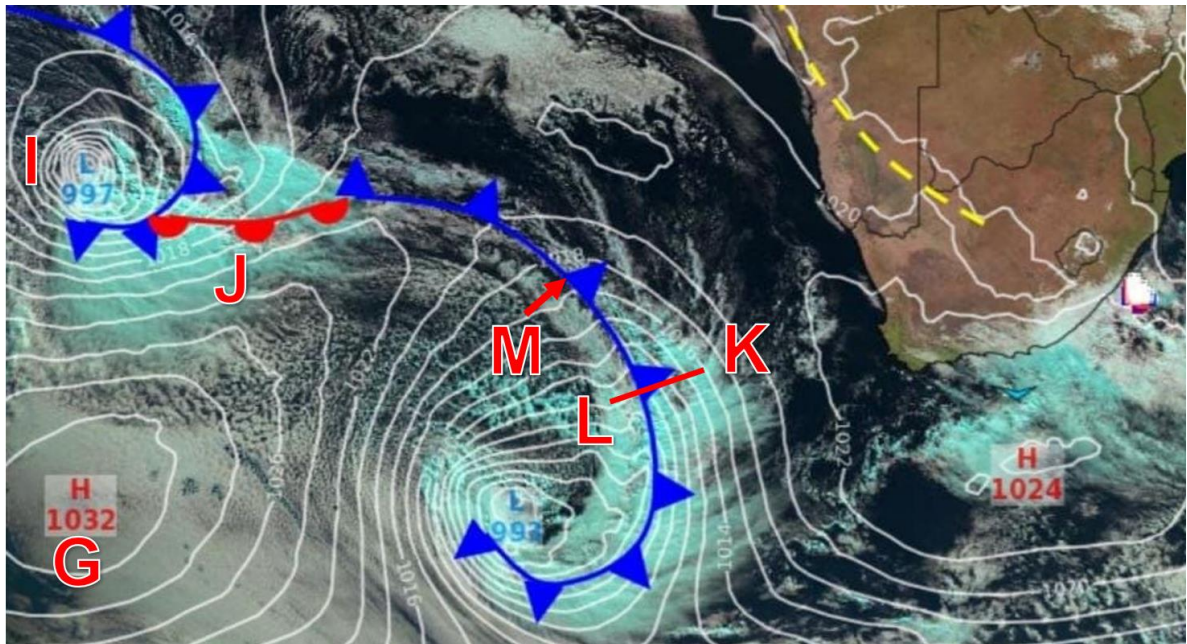
[20]

100 marks

SECTION B CLIMATE, WEATHER AND GEOMORPHOLOGY**QUESTION 4 Climate****4.1 Mid-latitude Cyclone**

Study Figure 9, a synoptic chart produced by AfricaWeather.

Figure 9



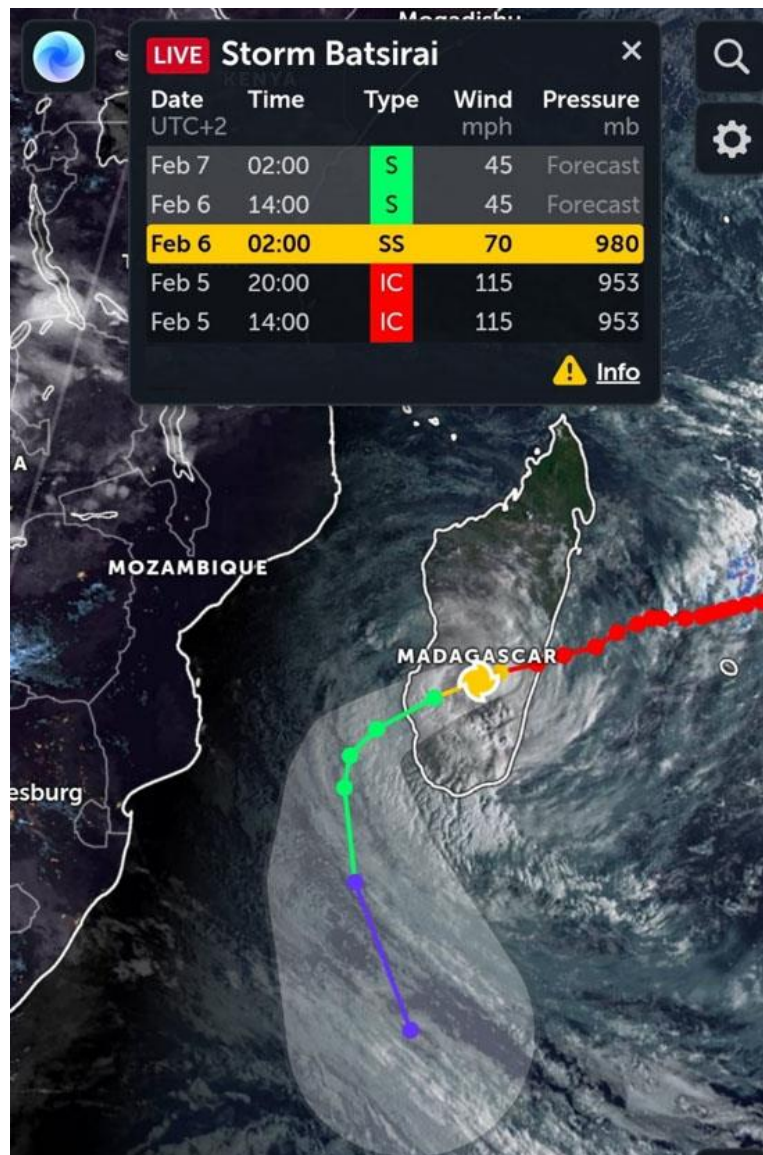
[Source: AfricaWeather]

- 4.1.1 Identify whether Figure 9 represents typical summer or winter conditions. (1)
- 4.1.2 Give ONE piece of evidence for your answer to Question 4.1.1. (1)
- 4.1.3 Provide names for the following:
- (a) Anticyclone labelled **G** (1)
 - (b) Low-pressure system labelled **I** (1)
 - (c) Front labelled **J** (1)
- 4.1.4 Draw a cross-section from L to K. (5)
- 4.1.5 How and why do the weather conditions for Cape Town change as the cold front **M** passes over the city. (4)

4.2 Tropical Cyclone

Tropical cyclone Batsirai was one of the most significant Indian Ocean storms in 2022. Study Figure 10 showing the path of the storm across Madagascar.

Figure 10



S – Storm

SS – Severe Tropical Storm

IC – Intense Tropical Cyclone

[Source: YouTube]

- 4.2.1 Describe the movement of tropical cyclone Batsirai. (2)
- 4.2.2 Describe TWO impacts Batsirai would have had when it made landfall over Madagascar. (4)
- 4.2.3 Name THREE requirements for the formation of a tropical cyclone. (3)
- 4.2.4 Give TWO reasons why Batsirai weakened as it moved west. (2)

[25]

QUESTION 5 Geomorphology

5.1 Fluvial Terminology

Match the term in Column B with the description in Column A. Write only the question number and the letter of your choice, e.g., 5.1.0 A.

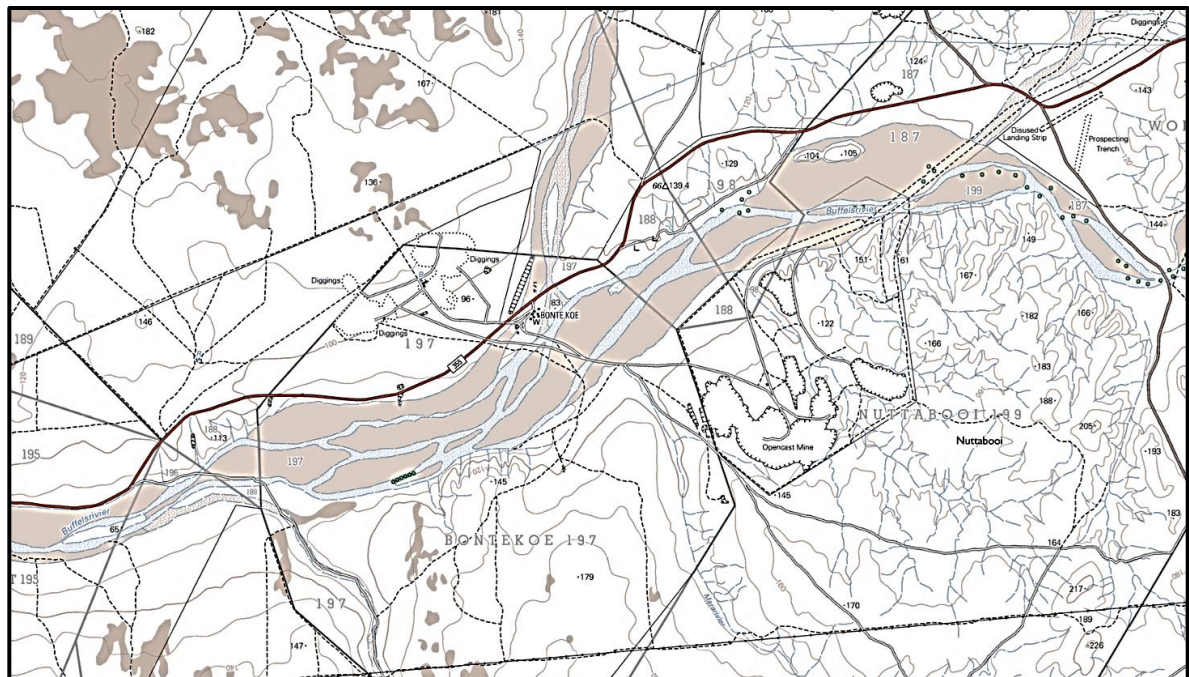
(4)

Column A		Column B
5.1.1.	Water movement in which the flow lines are erratic and mixed, and the flow direction changes frequently.	A. Stream order
5.1.2.	Relating to the banks of a stream.	B. Abrasion
5.1.3.	Scraping or grinding away a surface by friction ensues from the collision between particles during their transport.	C. Turbulent flow
5.1.4.	The line that extends down a channel that follows the lowest elevation of the bed.	D. Swamp
		E. Riparian zone
		F. Thalweg

5.2 Fluvial Processes

Figure 11 is a topographical map extract showing the Buffalo River in the northern Cape region.

Figure 11



[Source: NGI]

Select a bold word between brackets that would make the statement correct. Write only the question number and the selected word, e.g., 5.2.0 freeze.

5.2.1 The stream channel pattern is (**braided** / meandering / rock controlled). (1)

5.2.2 The main reason for this pattern is (**less gradient** / rejuvenation / flooding). (1)

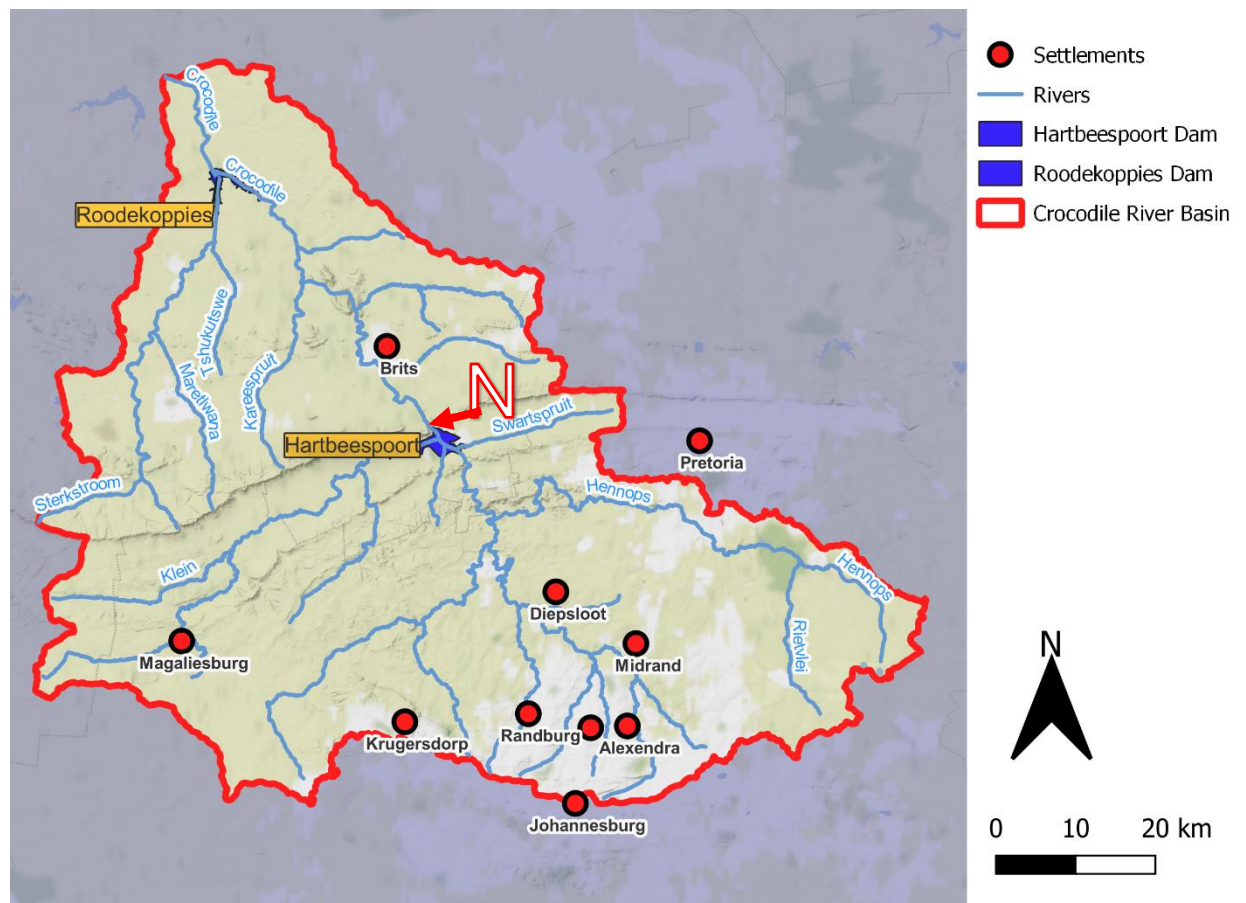
5.2.3 The main cause of this pattern is (**erosion** / deposition / transportation). (1)

5.2.4 This pattern forms (**distributaries** / oxbow lakes / potholes). (1)

5.3 Drainage Systems in South Africa

Study Figure 12, a map of the Crocodile River basin.

Figure 12



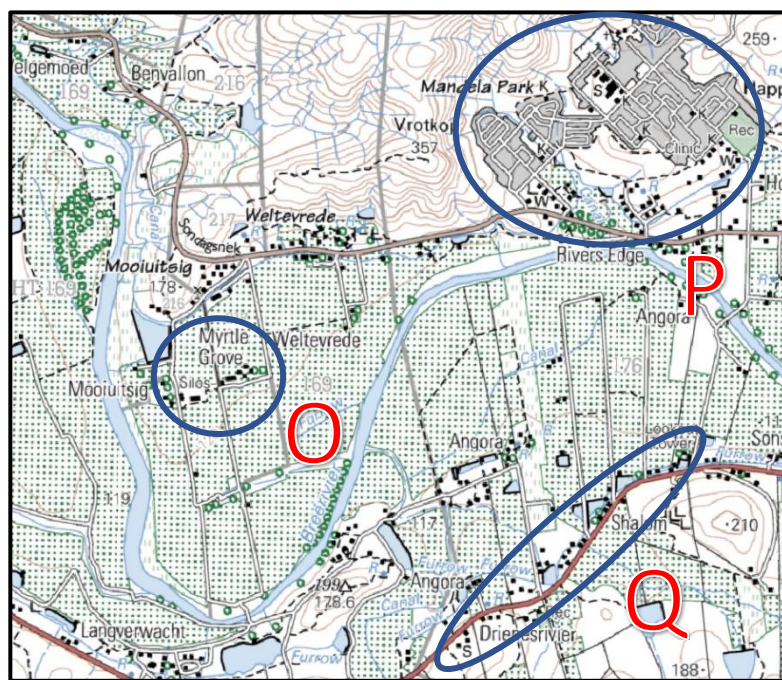
[Source: Examiner's map]

- 5.3.1 Determine the stream order of the Crocodile River. (2)
- 5.3.2 Assess whether the Crocodile River is graded or ungraded. (3)
- 5.3.3 As the river passes through the Hartbeespoort Dam and Magaliesberg Mountains at **N**, it is regarded as having a *superimposed drainage pattern*.

Explain how a *superimposed drainage pattern* is formed. Refer to the Crocodile River in your explanation. (4)
- 5.3.4 Analyse TWO effects a dam has on a river system. (4)
- 5.3.5 Evaluate how urbanisation along a river system affects a storm hydrograph. (4)
- [25]**

SECTION C HUMAN GEOGRAPHY**QUESTION 6 Settlement****6.1 Rural Settlement**

Study the topographical map extract (Figure 13) of a region in the southwestern Cape. Three settlements on the map are labelled O, P and Q.

Figure 13

[Source: NGI]

6.1.1 Match the correct word(s) or letter from Column B to the statement in Column A. Write only the question number and the word(s) or letter of your choice. E.g. (h) site.

	Column A (Statement)	Column B (Select one word/term)		
(a)	Settlement O is classified as a/an ...	isolated farmstead	city	village
(b)	Settlement P is classified as a/an ...	isolated farmstead	city	village
(c)	Settlement ... has the higher-order services.	O	P	Q
(d)	Settlement ... has the largest range.	O	P	Q
(e)	The shape of settlement Q is described as ...	linear	round	cross roads
(f)	Settlement O is a ... settlement.	wet-point	dry-point	
(g)	Settlement O practices ... farming.	commercial	subsistence	

(7)

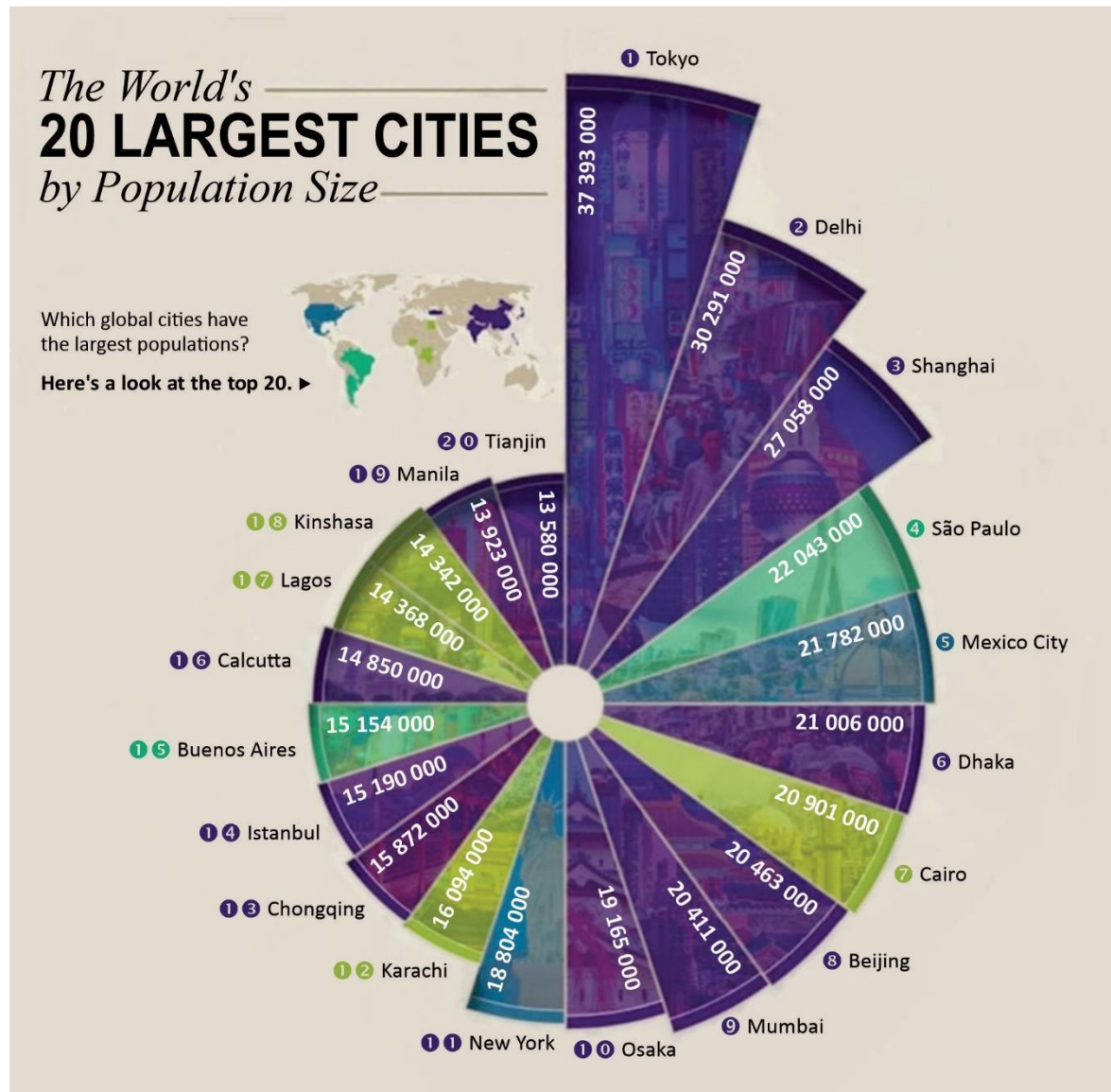
6.1.2 Describe TWO situation factors for settlement **O**.

(4)

6.2 Urban Hierarchies

Study Figure 14, an infographic showing the 20 largest cities by population.

Figure 14



[Source: Visual Capital]

- 6.2.1 Name the biggest city in Africa. (1)
- 6.2.2 State TWO reasons why cities around the world are growing rapidly. (2)
- 6.2.3 Discuss TWO consequences of such urban growth. (4)

6.3 Urban Structure and Patterns

Study Photograph 4, a view of the skyline of the Johannesburg CBD.

Photograph 4



[Source: Examiner's photograph]

6.3.1 Explain why taller buildings are found in the CBD. (1)

6.3.2 The Johannesburg CBD has been going through a period of gentrification. Elaborate on the effects that urban renewal has on an urban area.

(6)
[25]

QUESTION 7 Economy of South Africa**7.1 Agriculture**

Study Photograph 5 of a typical farm in the Western Cape.

Photograph 5

[Source: Examiner's photograph]

Choose FOUR of the following statements to describe the type of farming shown in this photograph. Write only the letters of the statements you choose. E.g., H, I, J and K.

- A Produces a low yield per hectare.
- B Focuses on food security in local communities.
- C Capital-intensive and uses advanced technology.
- D Associated with monoculture.
- E Small-scale farming.
- F Products for the home and export market.
- G Associated with extensive farming practices.

(4)

7.2 Strategies for Industrial Development

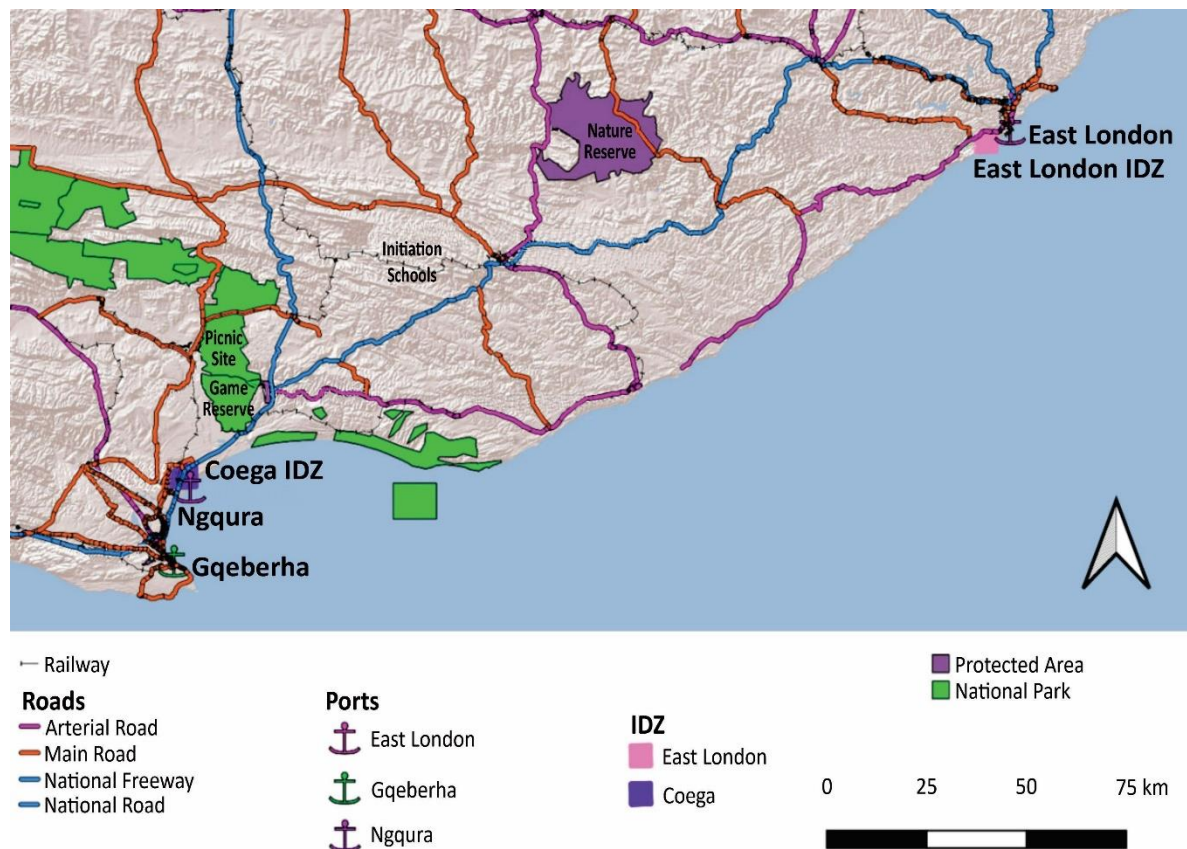
Read the following Fact File about the Fish River SDI, study Figure 15, a Fish River SDI location map, and Figure 16, an infographic about the Fish River SDI, and answer the questions on page 24.

FACT FILE: The Fish River SDI

- Fish River *Spatial Development Initiative* is spatially focused on the cities of Gqeberha and East London in the Eastern Cape.
- Significant elements of the SDI are the two IDZs.
- The SDI aims to create 'sustainable' jobs by increasing the region's profile as an international investment destination.
- The SDI is a nationally driven initiative attracting large, new export-oriented investment projects to the region.
- Ensuring industrial regeneration requires a regional industrial strategy that builds the region's capacity for learning and innovation.

[Source: <www.tandfonline.com & mg.co.za>]

Figure 15



[Source: Examiner's map]

Figure 16

Fish River SDI – Eastern Cape

INVESTMENT OPPORTUNITY

Automotive
components

Textile

Wool and
mohair

Food
processing

Timber and
wood
products

Three tourism projects



**GREAT FISH
RIVER NATURE
RESERVE**



**A FLY-FISHING
VENTURE NEAR KING
WILLIAM'S TOWN**



**A NATURE RESERVE
NEAR BATHURST**

SDI to create 1 325 jobs in:



Automotive



**Clothing and
textiles**



Transport



Tourism

[Source: <www.tandfonline.com & mg.co.za>]

- 7.2.1 Explain what an *IDZ* is. (Do not simply expand the abbreviation.) (1)
- 7.2.2 Discuss TWO benefits of an IDZ to a region like the Eastern Cape. (4)
- 7.2.3 Evaluate the importance of a port or harbour to an IDZ. (4)
- 7.2.4 Assess how tourism could aid in the development of the Fish River SDI. (4)
- 7.2.5 Discuss TWO hindrances to manufacturing in the Gqeberha region. (4)
- 7.2.6 Name TWO things that promote manufacturing in the Gqeberha region. (2)
- 7.2.7 Name TWO items manufactured in Gqeberha. (2)

[25]

100 marks

Total: 200 marks