eduresourceza.com

Downloaded from eduresourceza.com

NATIONAL SENIOR CERTIFICATE EXAMINATION
NOVEMBER 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.

Downloaded from eduresourceza.com

IEB Copyright © 2023

Downloaded from eduresourceza.com

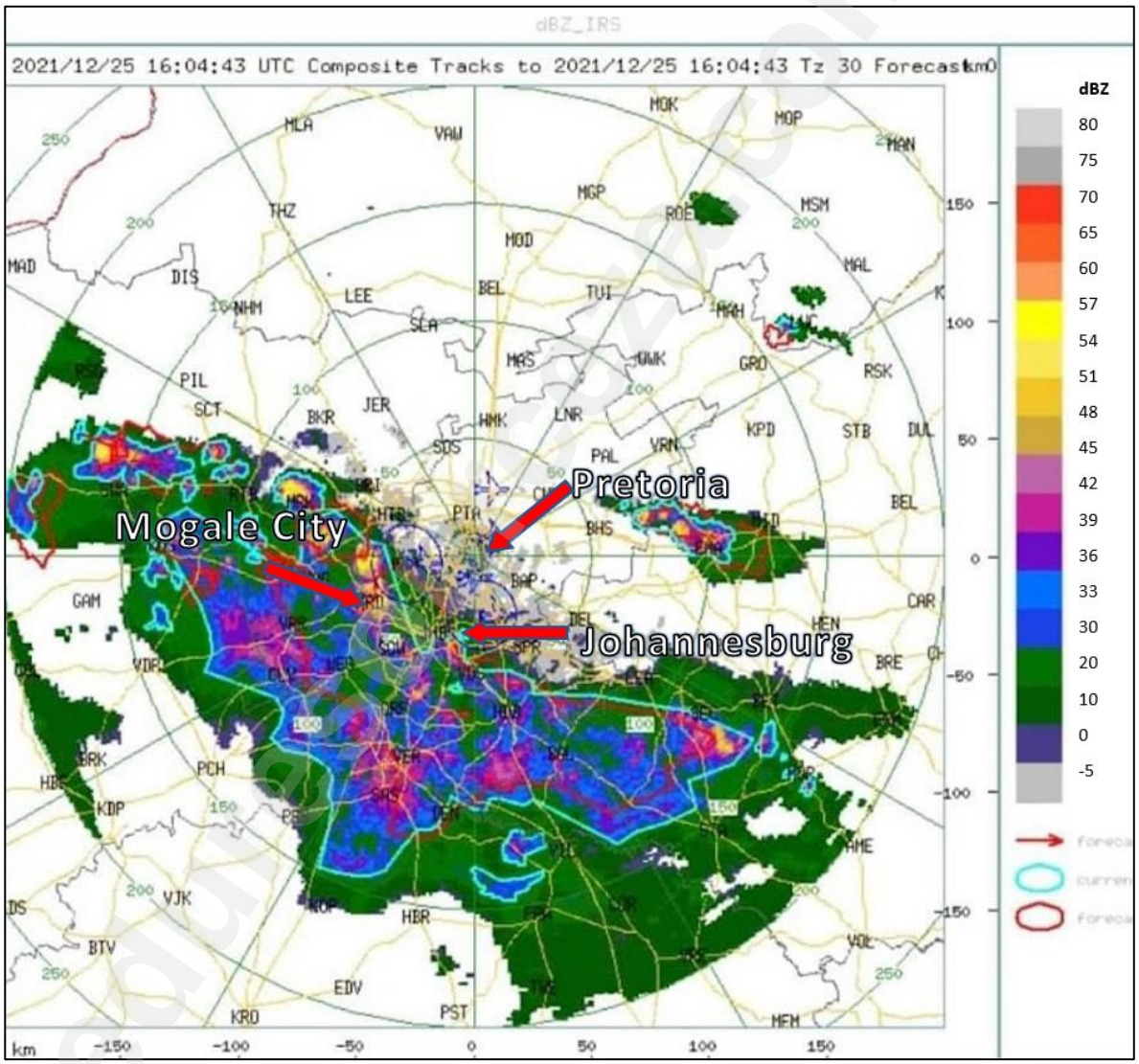
SECTION A INTEGRATED QUESTION: GEOGRAPHY OF THE VAAL DRAINAGE BASIN AND GAUTENG CITY REGION

QUESTION 1 PHYSICAL GEOGRAPHY

1.1 Subtropical anticyclones and associated weather conditions

Study Figure 1, a radar image of a line thunderstorm over Gauteng in 2021.

Figure 1



[Source: SAWS]

Study Figure 1 and answer the following questions by selecting the correct answer in each instance. Write the number of the question and the letter corresponding to your answer, for example, 1.1.0 A.

1.1.1 The primary type of cloud associated with line thunderstorms.

A Nimbostratus
B Cirrus
C Stratus
D Cumulonimbus (1)

Downloaded from eduresourceza.com
IEB Copyright © 2023

Downloaded from eduresourceza.com

1.1.2 Based on evidence from Figure 1, identify which area will be impacted the most.

A Johannesburg
B Mogale City
C Pretoria
D Cullinan (1)

1.1.3 The feature over the interior where the air masses meet is known as …

A a polar front.
B jet streams.
C a moisture front.
D wind shear. (1)

1.1.4 Draw an annotated diagram where you illustrate how line thunderstorms are formed over the interior of South Africa. (5)

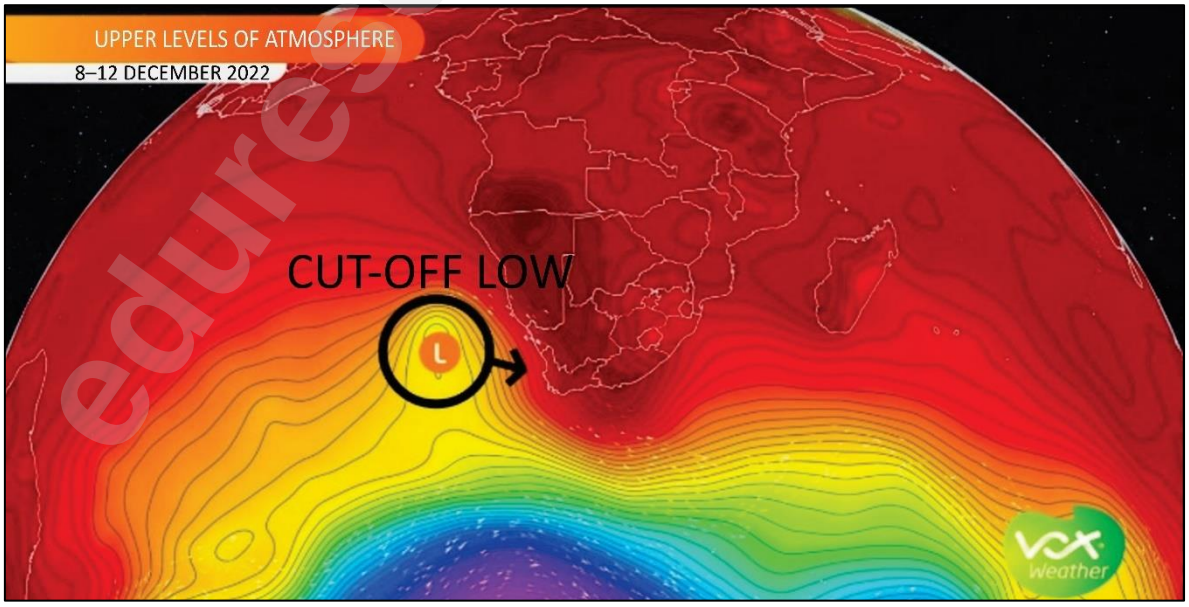
1.1.5 Discuss the benefits of line thunderstorms to the economy of Gauteng. (2)

1.1.6 Explain why line thunderstorms only occur in summer over the interior. (2)

1.2 Subtropical anticyclones and associated weather conditions

Study Figure 2, a weather prediction; Figure 3, a weather warning and Figure 4, a Tweet about the effects of a cut-off low that formed and caused flooding across Gauteng and Johannesburg.

Figure 2



[Source: Vox Weather]

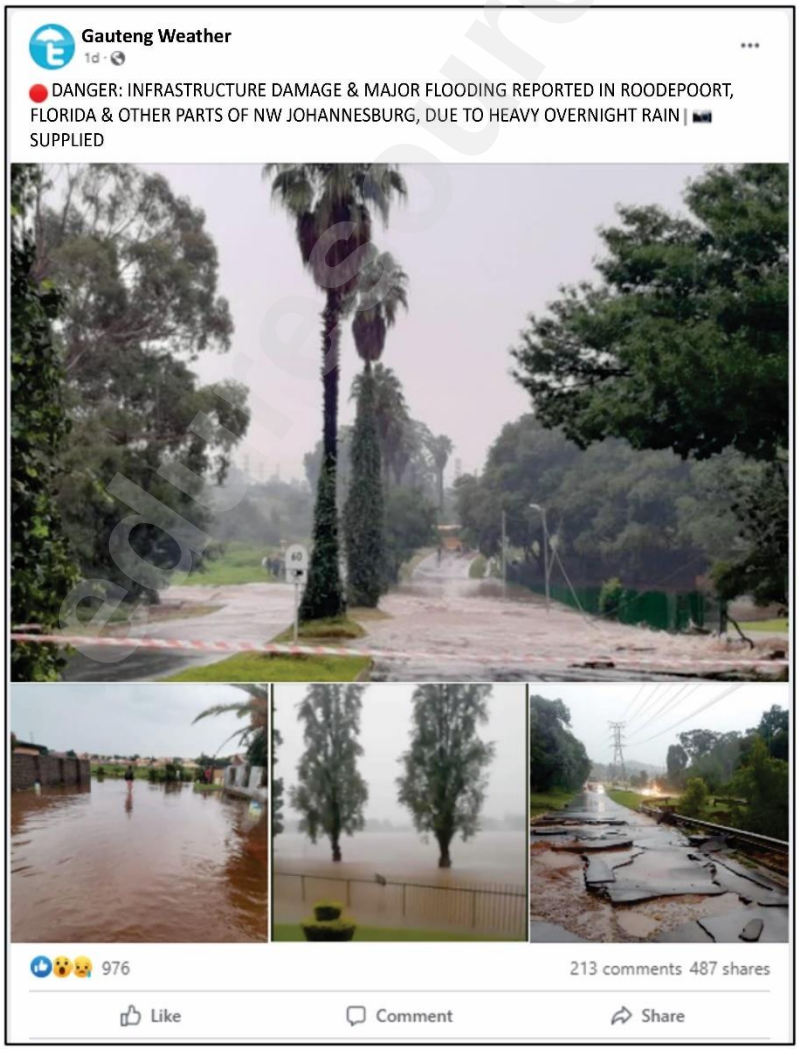
Downloaded from eduresourceza.com

Downloaded from eduresourceza.com

Figure 3

[Source: Vox Weather]

Figure 4



[Source: Gauteng Weather]

Downloaded from eduresourceza.com

Downloaded from eduresourceza.com

1.2.1 Explain how a *cut-off low* is formed. (4)

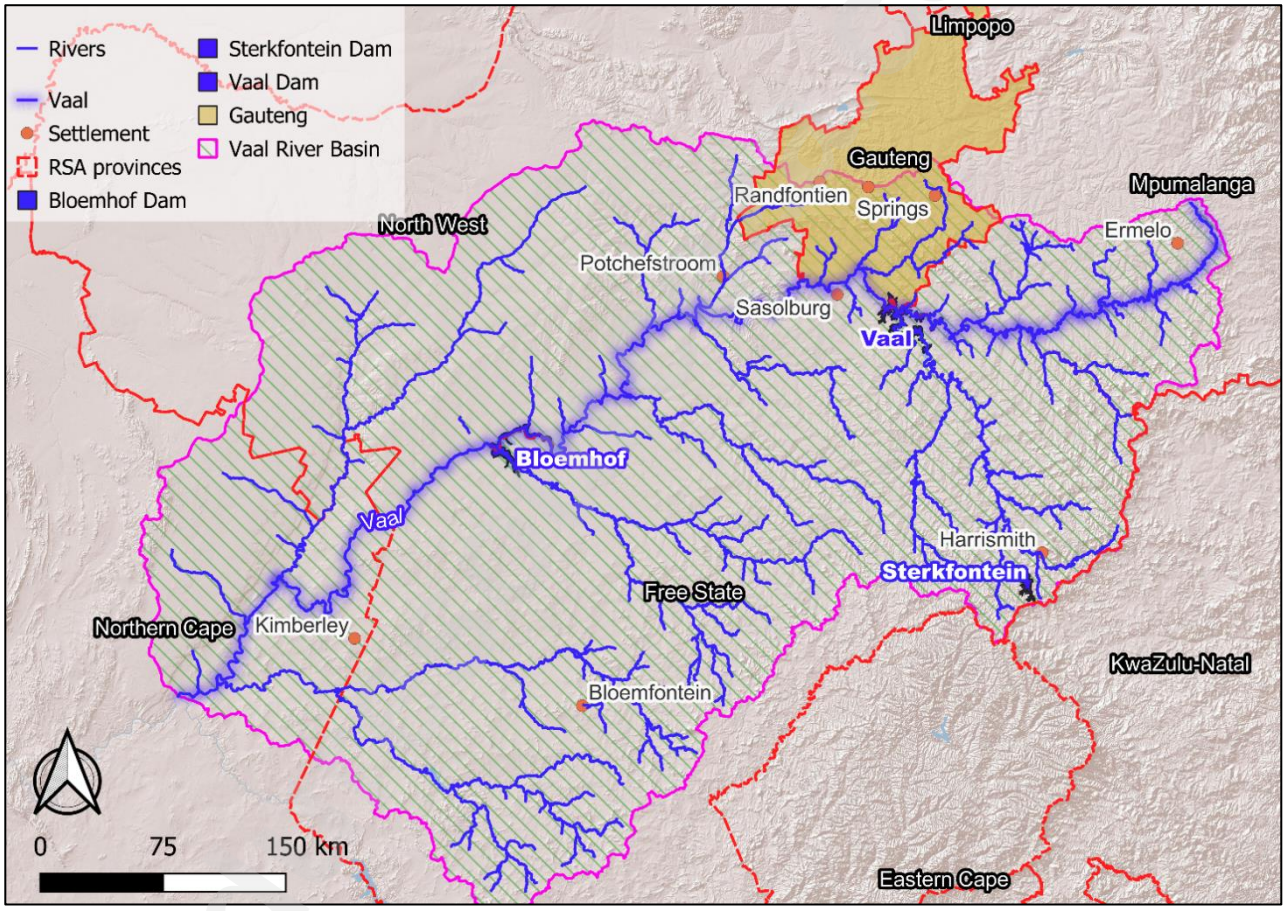
1.2.2 Evaluate how municipalities like Johannesburg can plan for the negative effects of a cut-off low. (4)

1.2.3 Compile a Tweet where you warn people about the possible weather hazards, mentioned in Question 1.2.2, people would experience. (5)

1.3 Drainage systems in South Africa

Study Figure 5, a map of the Vaal River system.

Figure 5



[Source: Map by Examiner using QGIS]

Study Figure 5 and answer the following questions by selecting the correct answer in each instance. Write the number of the question and the letter corresponding to your answer, for example, 1.3.0 A.

1.3.1 Determine the drainage pattern of the Vaal River.

A Trellis
B Dendritic
C Deranged
D Centripetal (1)

Downloaded from eduresourceza.com

Downloaded from eduresourceza.com

1.3.2 Name ONE tributary of the Vaal River.

A Orange
B Tugela
C Klip
D Limpopo (1)

1.3.3 Name the main mountains that are the Vaal River's watershed.

A Witwatersrand
B Waterberg
C Sneeuberg
D Lebombo (1)

1.3.4 Discuss the hydrological and environmental impact of the Gauteng urban regions on the Vaal River system. (6)

1.4 Fluvial processes

Photograph 1 shows the Vaal Dam with some sluice gates open.

Photograph 1

[Source: Examiner's Photograph]

1.4.1 Name TWO uses for dams. (2)

1.4.2 A dam creates rejuvenation; explain what rejuvenation of a river is. (2)

1.4.3 With reference to Photograph 1, explain why a dam is considered a temporary base level of erosion. (4)

1.4.4 Discuss TWO drawbacks of building dams along a river system. (4)

1.4.5 Evaluate whether flooding within a river system can effectively be prevented. (4)

[50]

Downloaded from eduresourceza.com
IEB Copyright © 2023

Downloaded from eduresourceza.com

QUESTION 2 HUMAN GEOGRAPHY

2.1 Human Geography terminology

Match the description in Column B with the term in Column A. Write only the question number and the description's corresponding letter, for example, 2.1.0 A.

Column A		Column B	
2.1.1	Wet-point settlement	A.	A rural area is economically tied to an urban catchment area.
2.1.2	Site	B.	The land upon which a settlement is built.
2.1.3	Threshold population	C.	Farming or work, where all production is used to maintain the owner and their family, leaves little surplus for sale or trade.
2.1.4	Village	D.	A settlement close to a water supply, usually in an area with limited water.
2.1.5	Counter urbanism	E.	The small rural settlement is made up of a cluster of homes.
2.1.6	Hinterland	F.	The process by which people migrate from urban to rural communities.
2.1.7	Subsistence	G.	The settlement's location with reference to other settlements and the features of the surrounding area.
2.1.8	Market-related industry	H.	The area that people travel from to use a service.
2.1.9	Primary sector	I.	The minimum number of people necessary before a particular good or service can be provided in an area.
2.1.10	Informal sector	J.	Situated close to the customers or the market to make it easy for customers to access the goods.
		K.	Industries that are inseparable from their immediate markets and are widely distributed.
		L.	The part of any economy that is neither taxed nor monitored by the government.
		M.	The economy includes any industry that extracts and produces raw materials, such as farming, logging, fishing, forestry and mining.

(10)

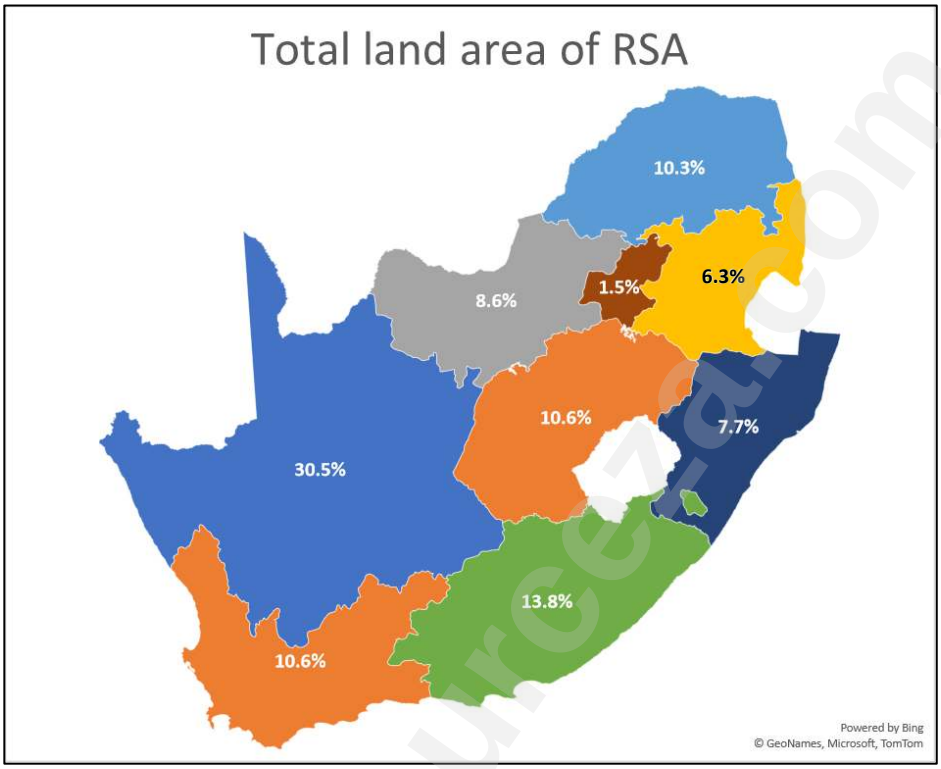
Downloaded from eduresourceza.com

Downloaded from eduresourceza.com

2.2 Structure of the economy

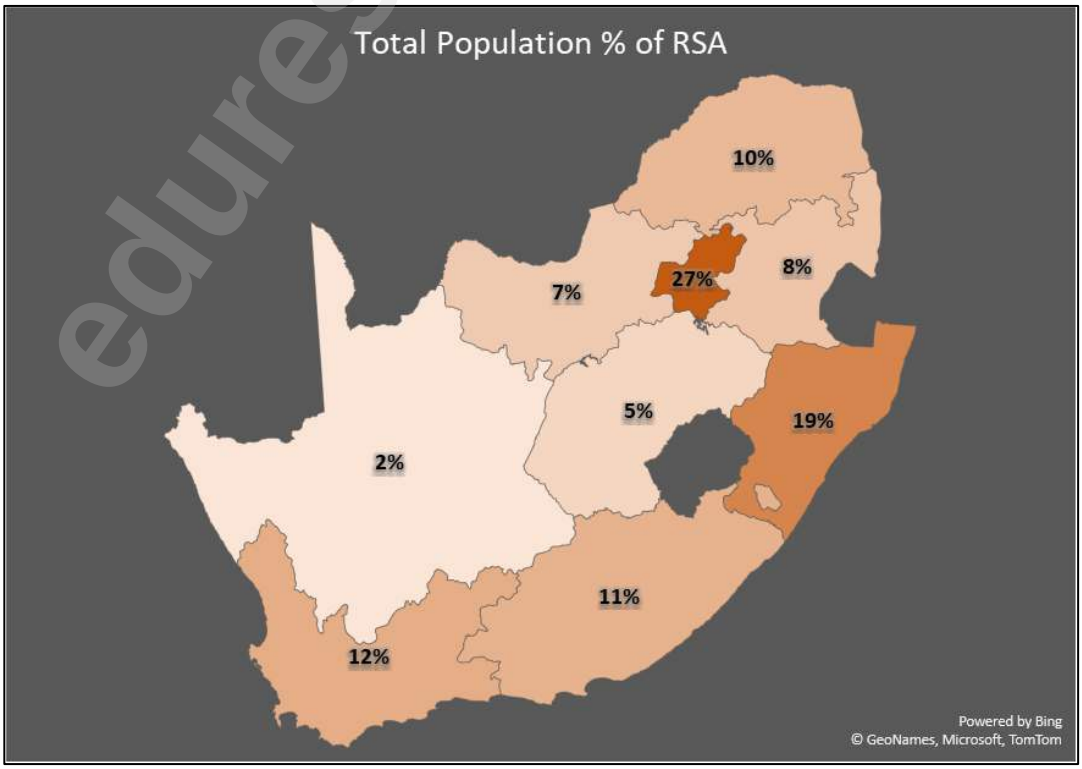
Study Figure 6, land area per province; Figure 7, percentage of population per province and Figure 8, breakdown of Gauteng industries.

Figure 6



[Source: <southafrica-info.com/>]

Figure 7

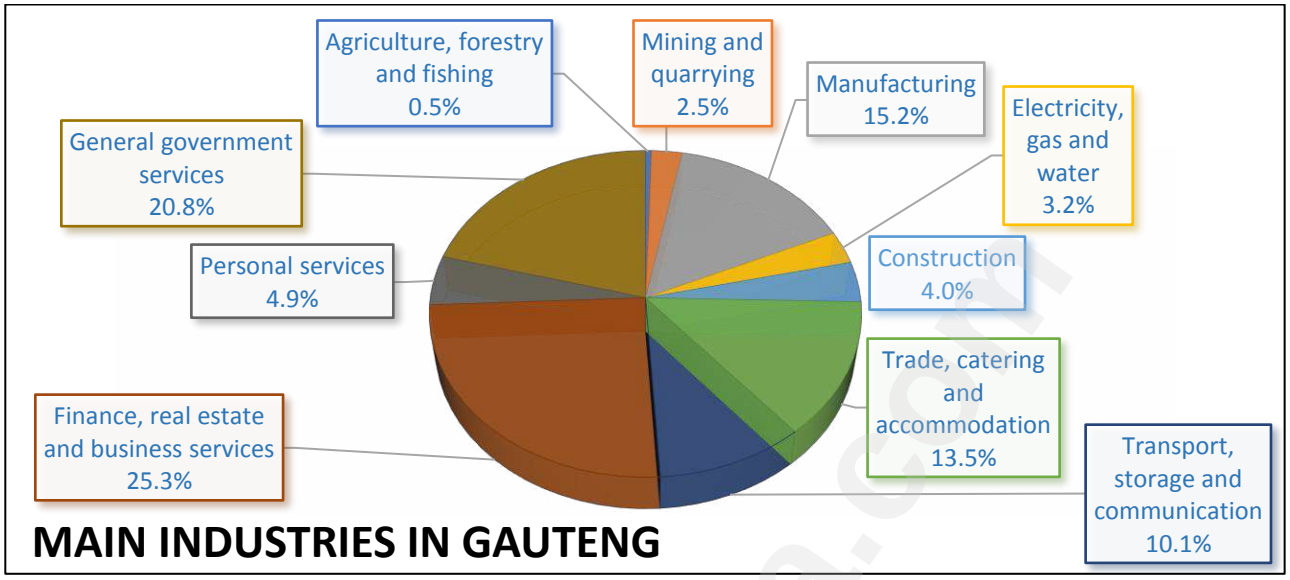


[Source: <southafrica-info.com/>]

Downloaded from eduresourceza.com
IEB Copyright © 2023

Downloaded from eduresourceza.com

Figure 8



[Source: <southafrica-info.com/>]

2.2.1 State whether the statements below are true or false. Write only the question number and whether the statement is true or false, for example, 2.2.0 False.

(a) The most used harbour for export from Gauteng is Cape Town. (1)

(b) General government services are in the tertiary sector. (1)

(c) The largest sector in Gauteng is transport, storage and communication. (1)

(d) Gauteng has the highest population of all the provinces. (1)

(e) Gauteng has the lowest population density. (1)

2.2.2 With a table, list to contrast TWO factors that promote and TWO that hinder industrial development in Gauteng. (4)

2.2.3 Evaluate why Gauteng is known as South Africa's economic powerhouse. (2)

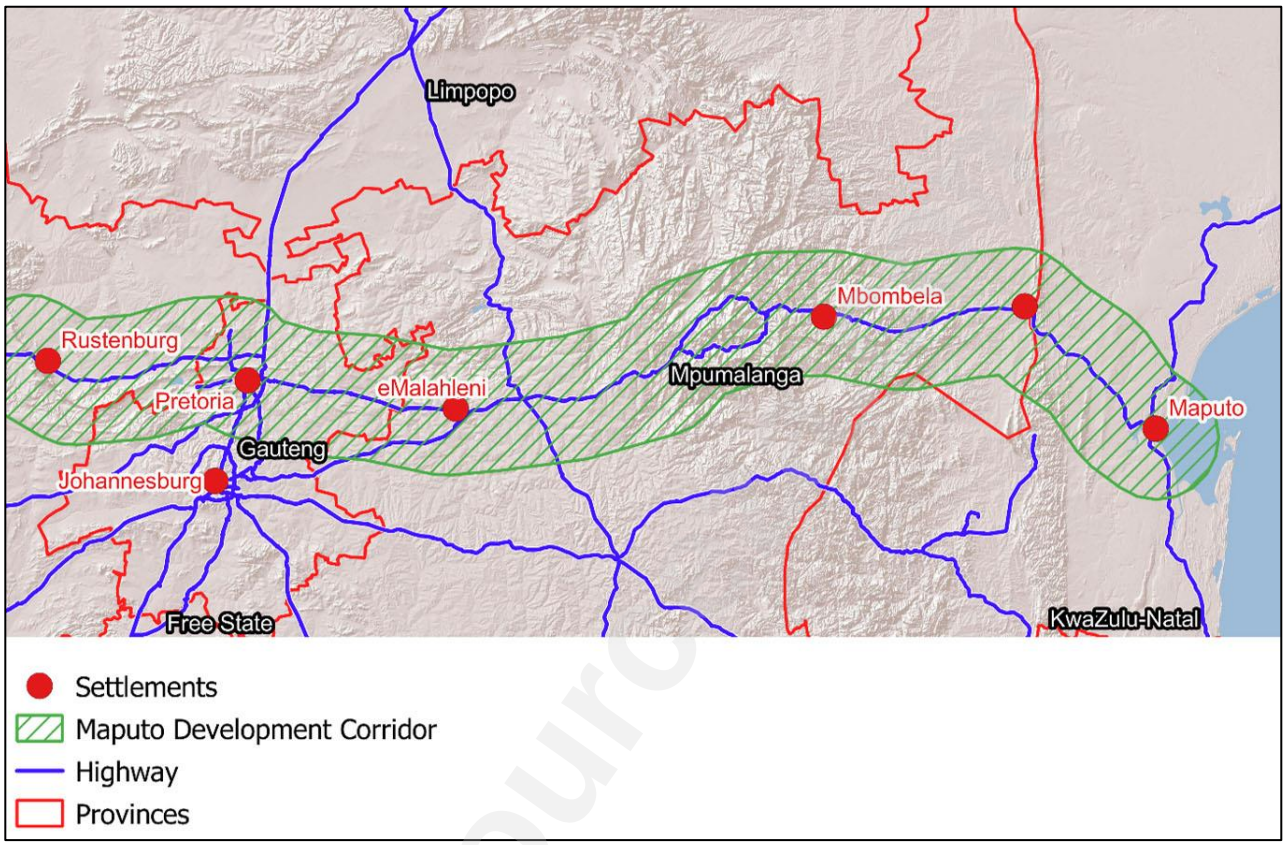
Downloaded from eduresourceza.com

Downloaded from eduresourceza.com

2.3 Strategies for industrial development

Study the map below, Figure 9, of the Maputo N4 SDI Development Corridor.

Figure 9



[Source: Map by the examiner using QGIS]

2.3.1 Explain the concept of an *SDI*. (1)

2.3.2 Assess the importance of the Maputo Development Corridor to the people living in the region. (4)

2.3.3 Discuss the advantages of the Maputo Development Corridor for Gauteng. (4)

[30]

Downloaded from eduresourceza.com
IEB Copyright © 2023

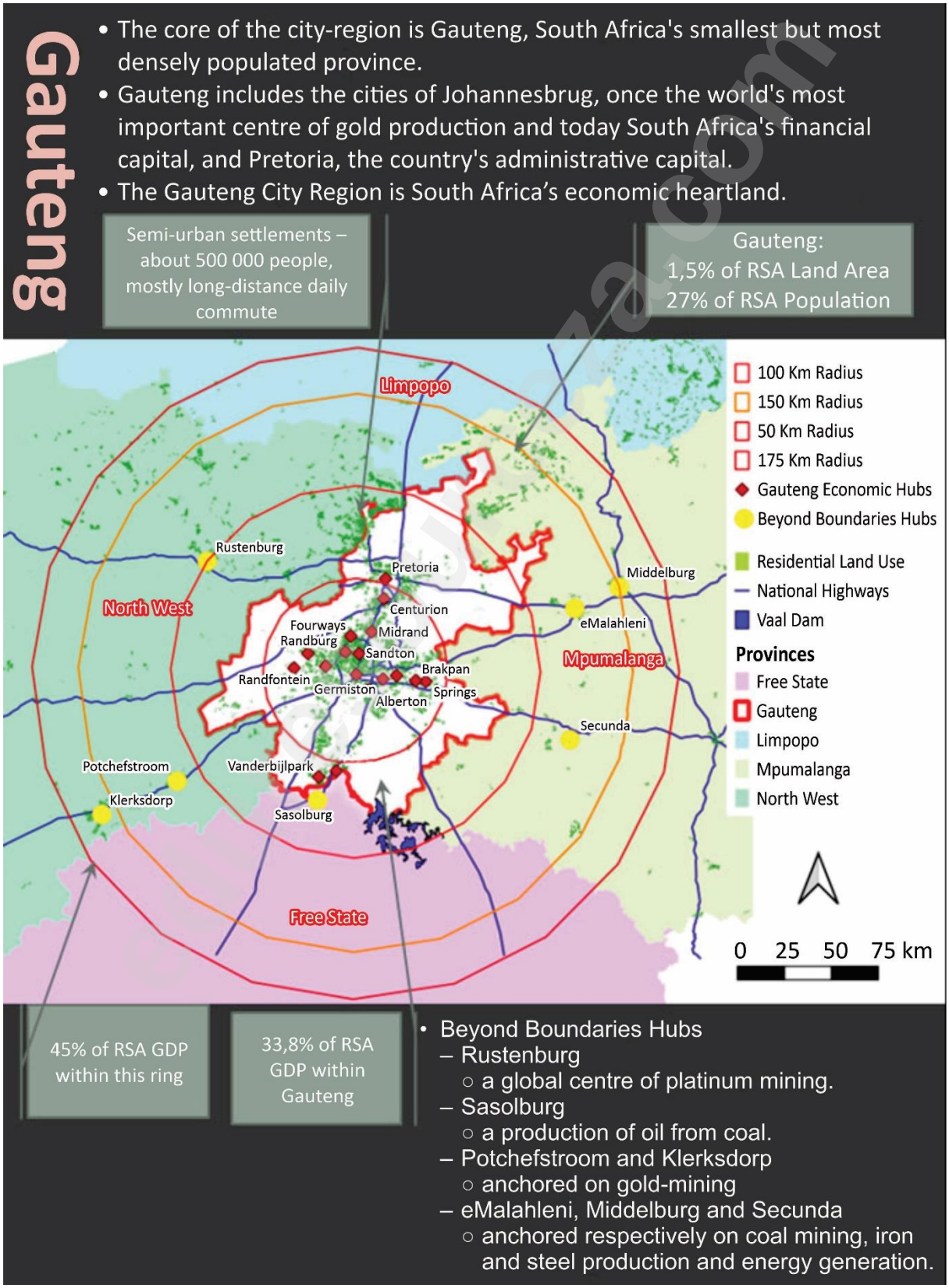
Downloaded from eduresourceza.com

QUESTION 3 EXTENDED WRITING

Urban Studies

Use Figure 10, as well as Figures 11 and 12, to assist you in writing the report described on page 13.

Figure 10

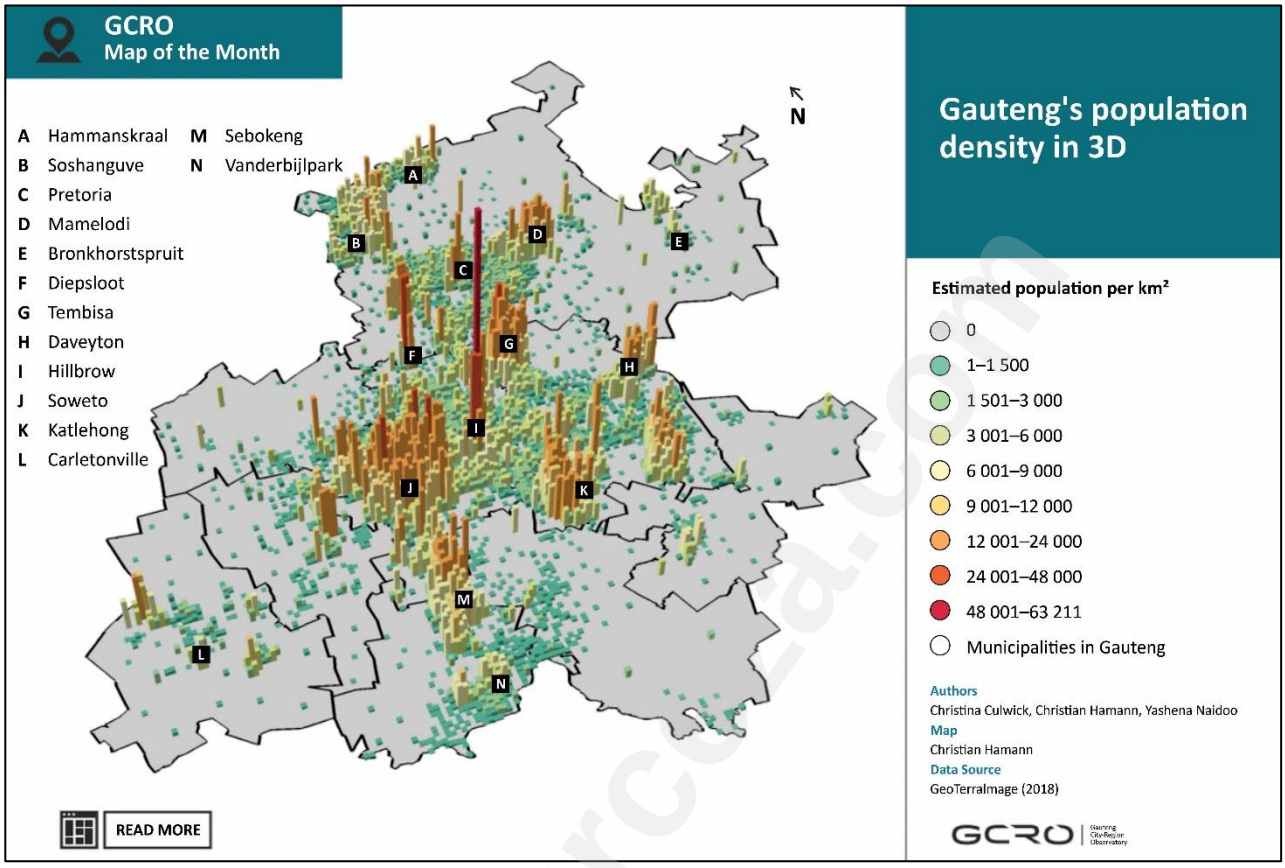


[Source: GCRO]

Downloaded from eduresourceza.com

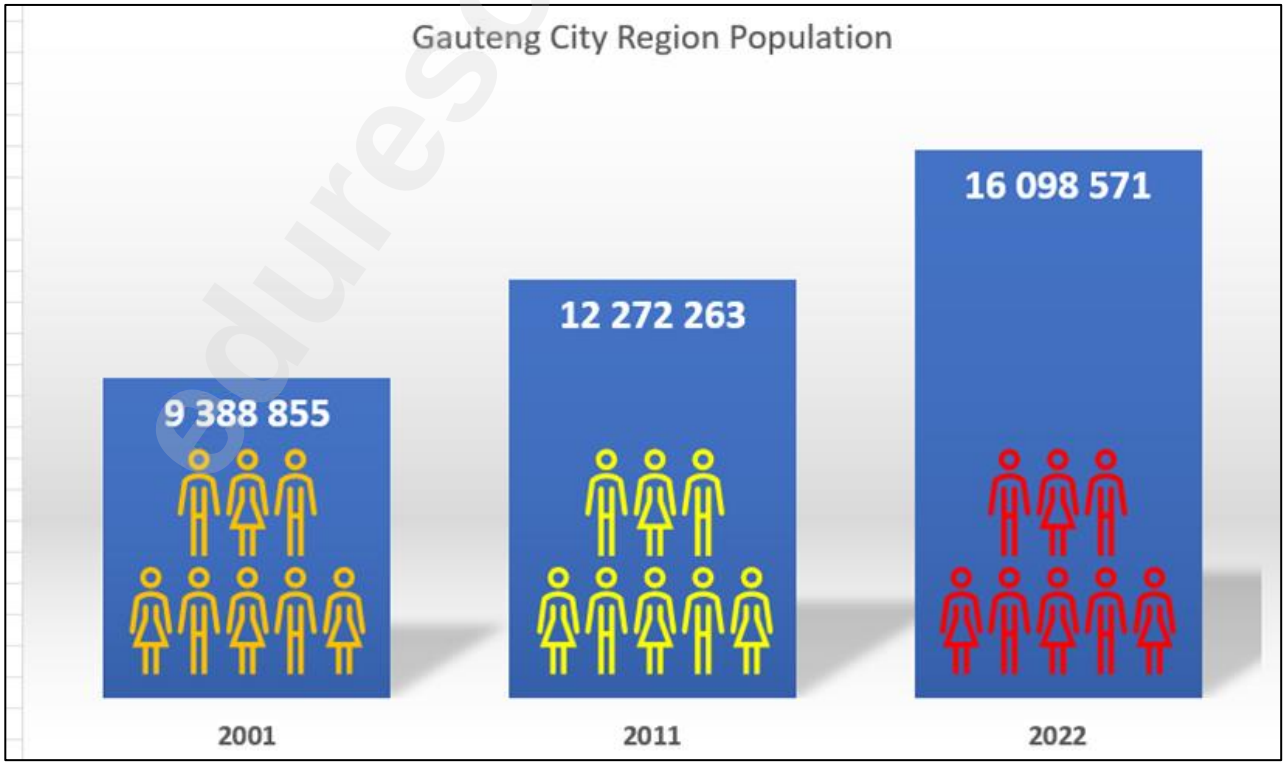
Downloaded from eduresourceza.com

Figure 11



[Source: GCRO]

Figure 12



[Source: GCRO]

Downloaded from eduresourceza.com
IEB Copyright © 2023

Downloaded from eduresourceza.com

Gauteng today is seen as one interconnected urban area. Write a report for the Gauteng City Region (GCRO) to analyse Johannesburg and the Gauteng City Region. Use all the sources found in Section A (Figure 1 to 12). Write the report using the following sections as a guide:

- Site and situation factors that influenced the location of Johannesburg.
- Factors that limit and promote urban growth in Johannesburg.
- How cities like Johannesburg can deal with social justice issues.
- The relationship between population size and higher-order services.

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

CRITERIA	MARKS
Writing skills • Take into consideration structure and presentation. • Use a brief introduction and conclusion. • Logical discussion and use of sub-headings.	**4**
Content knowledge • Correct use of geographical terminology and concepts. • Adherence to topic and sub-headings.	**12**
Supporting evidence – analysis and understanding • The ability to analyse and evaluate the topic is assessed in this category. • Reference made to case study material / fact file / source material provided. • If appropriate, reference must be made to familiar / local / other examples.	**4**

[20]

100 marks

Downloaded from eduresourceza.com

Downloaded from eduresourceza.com

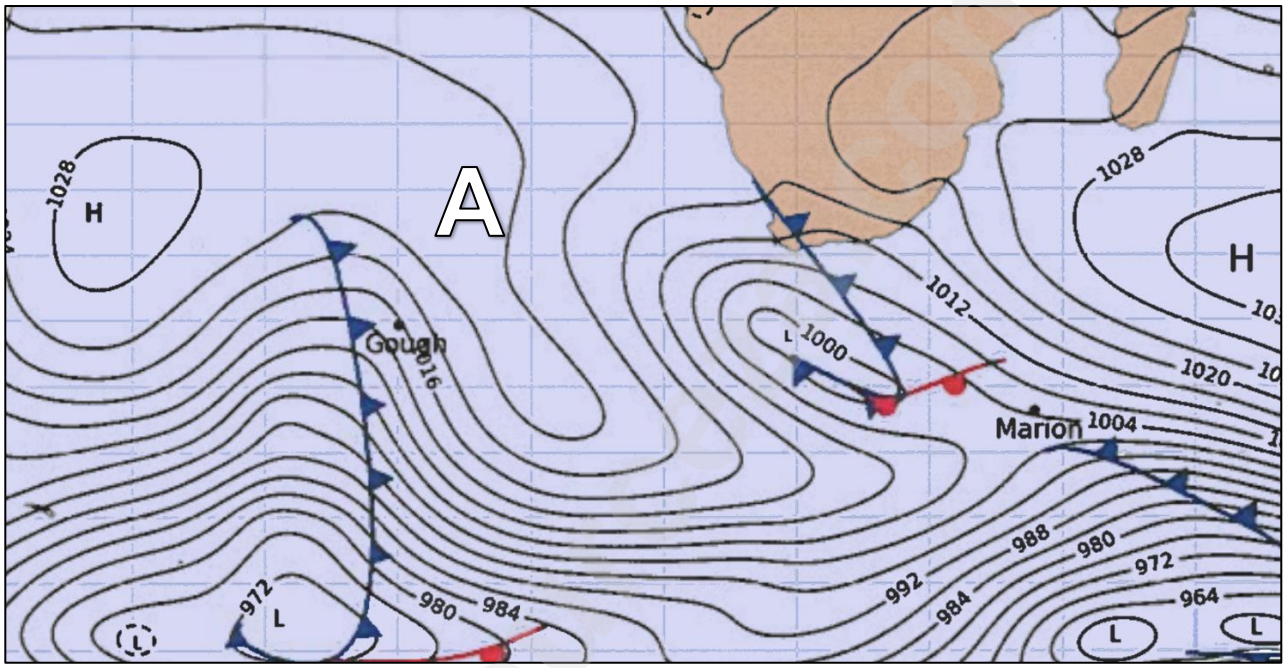
SECTION B CLIMATE, WEATHER AND GEOMORPHOLOGY

QUESTION 4 CLIMATE AND WEATHER

4.1 Mid-latitude cyclones

Study the synoptic chart extract below, Figure 13.

Figure 13



[Source: Adapted from SAWS]

4.1.1 Select the terms in bold that will make the statements TRUE. Write only the question number and the corresponding term, for example, 4.1.0 river.

(a) The (**cold** / **occluded** / **warm**) front is moving over the Western Cape. (1)

(b) The front brings (**warmer** / **colder** / **calmer**) conditions to the Western Cape. (1)

(c) It is associated with (**heavy rainfall** / **berg winds** / **frost pocket**). (1)

(d) and will also bring (**strong** / **gentle** / **still**) winds. (1)

(e) The high-pressure **A** is (**ridging** / **troughing** / **sliding**) behind the front. (1)

4.1.2 Discuss the benefits of mid-latitude cyclones to the Western Cape. (4)

4.1.3 List TWO drawbacks of mid-latitude cyclones in South Africa. (2)

Downloaded from eduresourceza.com
IEB Copyright © 2023

Downloaded from eduresourceza.com

4.2 Tropical cyclone

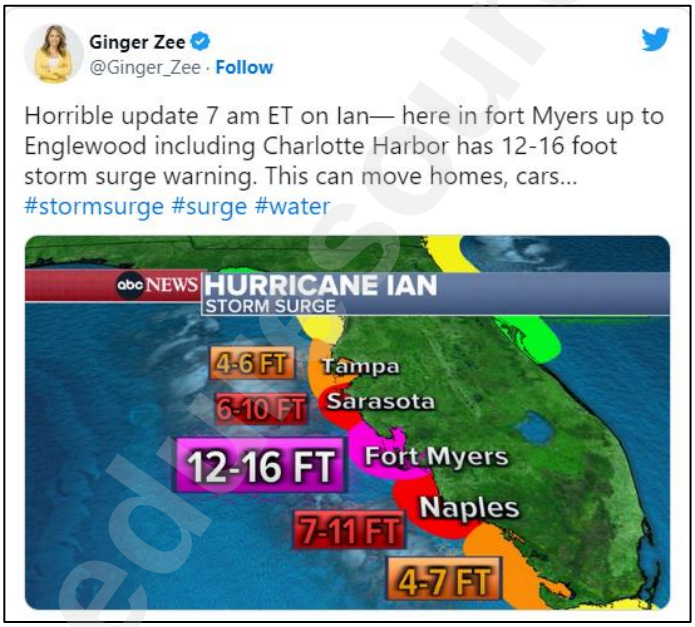
Read the following fact file and study Figure 14, with information about Hurricane Ian.

FACT FILE: HURRICANE IAN

- Hurricane Ian was the second deadliest storm to strike the continental U.S. this century, after Hurricane Katrina in 2005.
- At least 101 people were confirmed dead, including 92 in Florida, five in North Carolina, one in Virginia, and three in Cuba.
- Hurricane Ian made its initial landfall as a Category 3 storm on September 27, 2022, in Cuba, leaving the entire island without power.
- Ian strengthened to a Category 4 storm as it made landfall west of Fort Myers, Florida, on September 28, 2022.
- Only four Category 5 storms have made landfall in the U.S. with maximum sustained winds greater than 250 km/h.
- Hurricane Ian followed Hurricane Fiona, a Category 1 storm that made landfall in Puerto Rico on Sunday, September 18, 2022.

[Source: <www.worldvision.org>]

Figure 14



[Source: Tweeter]

4.2.1 Draw a labelled cross-section of a hurricane. (5)

4.2.2 Explain why hurricanes have such strong winds. (1)

4.2.3 Explain how a *storm surge* occurs in a hurricane. (2)

4.2.4 Tropical cyclones (hurricanes) cause much loss of life. Create ONE strategy to reduce loss of life and explain why it is usually more successful in more economically developed countries. (6)

[25]

Downloaded from eduresourceza.com

Downloaded from eduresourceza.com

QUESTION 5 GEOMORPHOLOGY

5.1 Fluvial processes

Study Photograph 2 below, which shows a feature along a river channel.

Photograph 2

[Source: Examiner's Photograph]

5.1.1 Select the terms in bold that will make the statements TRUE. Write only the question number and the corresponding term, for example, 5.1.0 river.

(a) The fluvial feature **B** is a (**waterfall** / **rapid** / **dam**). (1)

(b) The area along the bank is known as the (**riparian zone** / **weir** / **yazoo**). (1)

(c) The course you are most likely to find this feature in is the (**upper** / **middle** / **lower**). (1)

(d) The river at **B** has (**turbulent** / **laminar** / **thalweg**) flow. (1)

(e) The main form of energy is (**erosion** / **deposition** / **transportation**). (1)

5.1.2 Explain what will happen to this feature in the future. (4)

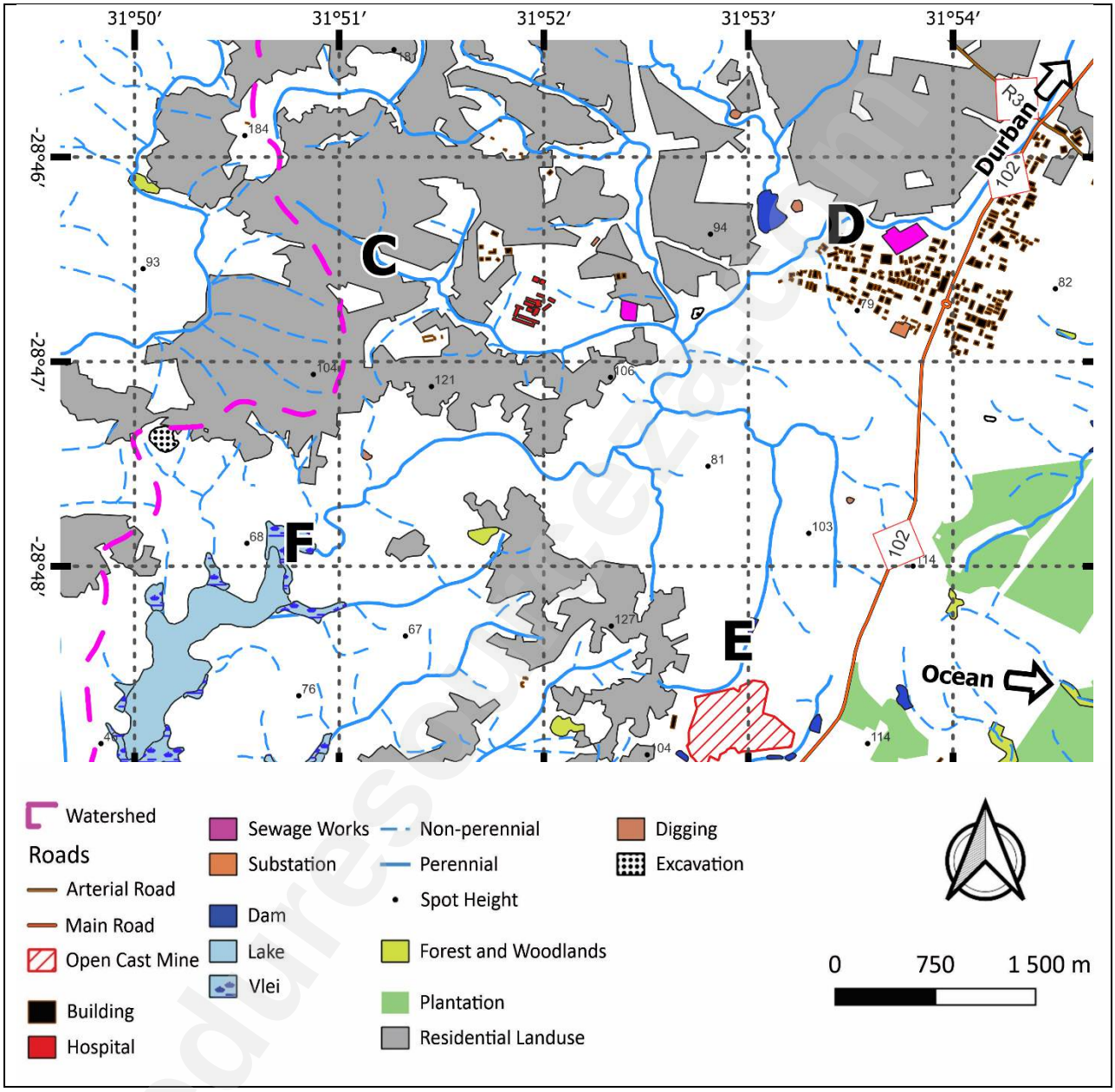
Downloaded from eduresourceza.com
IEB Copyright © 2023

Downloaded from eduresourceza.com

5.2 Catchment and river management

Study Figure 15, a river system map near the Durban CBD and harbour.

Figure 15



[Source: Map by the examiner using QGIS]

5.2.1 During a rain event, identify which river **C**, **D** or **E** would have the ... . (Only write the correct letter of the river for example, 5.2.1 (c) F).

(a) short lag time (1)

(b) lower flood peak (1)

5.2.2 Provide an explanation for each of your answers in Question 5.2.1. (4)

Downloaded from eduresourceza.com

Downloaded from eduresourceza.com

5.2.3 Regular checking has shown that there has been a decline in water quality at sampling site **F**.

(a) Identify TWO possible sources of river pollution. (2)

(b) State which source mentioned in Question 5.2.3 (a) could be the most significant and explain why. (4)

(c) Explain how using geospatial analysis of the region, we could find the main source of the decline in water quality. (4)

[25]

50 marks

Downloaded from eduresourceza.com
IEB Copyright © 2023

Downloaded from eduresourceza.com

SECTION C RURAL AND URBAN SETTLEMENT AND ECONOMIC GEOGRAPHY OF SOUTH AFRICA

QUESTION 6 SETTLEMENT

6.1 Settlement patterns

Match the term in Column B with the settlement picture in Column A. Write only the question number and the term's corresponding letter, for example, 6.1.0 A.

Column A		Column B
6.1.1		A Retail development B CBD C Office Park D Middle-income residential
6.1.2		A CBD B Industrial area C Mixed-use development D Residential area
6.1.3		A Village B Subsistence farm C Isolated farmstead D City
6.1.4		A Industrial estate B Housing estate C Informal settlement D Rural-urban fringe
6.1.5		A Informal settlement B Zone of transition C Edge city D High rise

(5)

[Source: Examiner's Photographs]

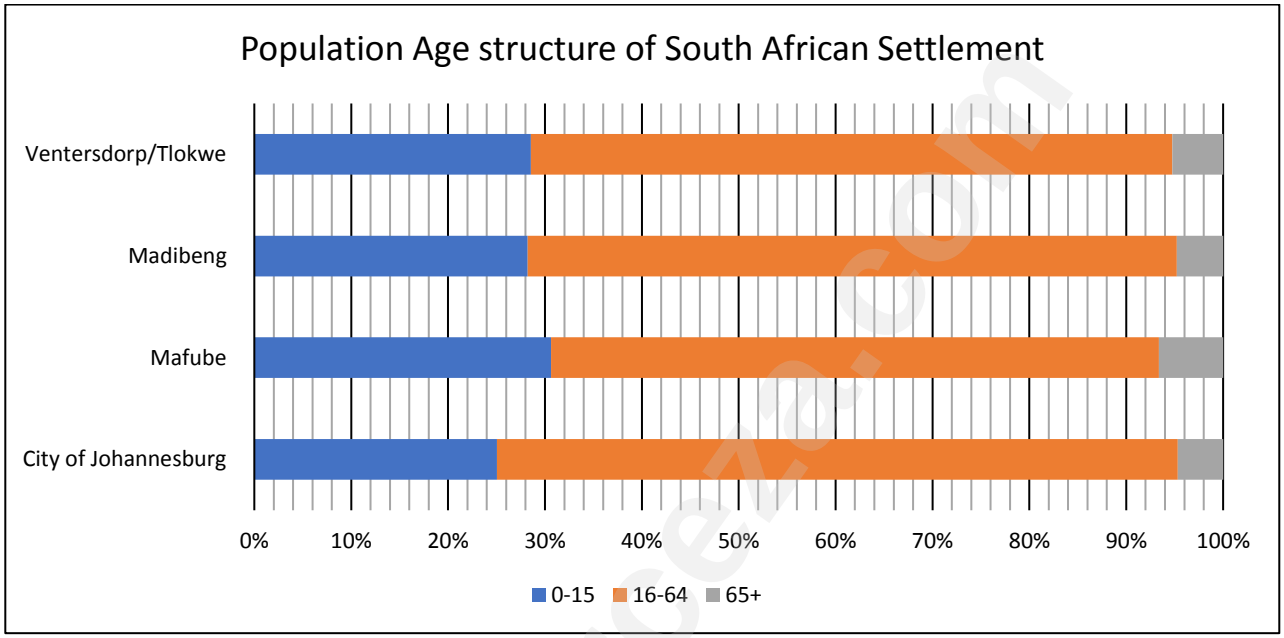
Downloaded from eduresourceza.com

Downloaded from eduresourceza.com

6.2 Rural settlement issues

Figure 16 is a graph showing the age structure of four settlements in South Africa.

Figure 16



[Source: <https://wazimap.co.za/>]

6.2.1 Which of these settlements is the most rural? (1)

6.2.2 State the percentage of young people in the City of Johannesburg. (1)

6.2.3 Why do rural settlements predominantly have young and old population groups? (2)

6.2.4 Explain ONE negative and ONE positive economic and environmental effect that rural-urban migration has on rural areas. (4)

Downloaded from eduresourceza.com
IEB Copyright © 2023

Downloaded from eduresourceza.com

6.3 Urban profile

Study Photograph 3 of the Cape Town CBD.

Photograph 3

[Source: Examiner's Photograph]

6.3.1 Which part of a city would have the most:

(a) higher order goods? (1)

(b) accessibility? (1)

6.3.2 Most cities today, including Cape Town, have developed OBDs (outlying business districts). Analyse TWO reasons why urban areas develop OBDs. (4)

6.3.3 A developer is planning a large new retail store in the centre of Cape Town. Evaluate how they would use the following concepts to select the most appropriate sites:

(a) Functional magnetism

(b) Functional prestige

(c) Functional convenience (6)

[25]

Downloaded from eduresourceza.com

Downloaded from eduresourceza.com

QUESTION 7 ECONOMY OF SOUTH AFRICA

7.1 Economic terminology

Match the term in Column B with the description in Column A. Write only the question number and the term's corresponding letter, for example, 7.1.0 A.

Column A		Column B	
7.1.1	When governments decide upon spending and taxation policies for an upcoming period, it significantly impacts the country's economic performance.	A.	Commodity
7.1.2	A particular branch of economics that examines the behaviour and performance of an economy.	B.	Fiscal policy
7.1.3	A primary material or product which can be purchased in large quantities to produce other goods and services.	C.	Unemployment
7.1.4	An industry not tied to any location or country and can relocate to another place without effect from factors of production such as resources, land, labour and capital.	D.	Macroeconomics
7.1.5	A state in which an individual actively seeks employment but is unsuccessful. It is said to be one of the critical measures of the economy's strength.	E.	Informal sector
		F.	Footloose industry
		G.	Ubiquitous industry

(5)

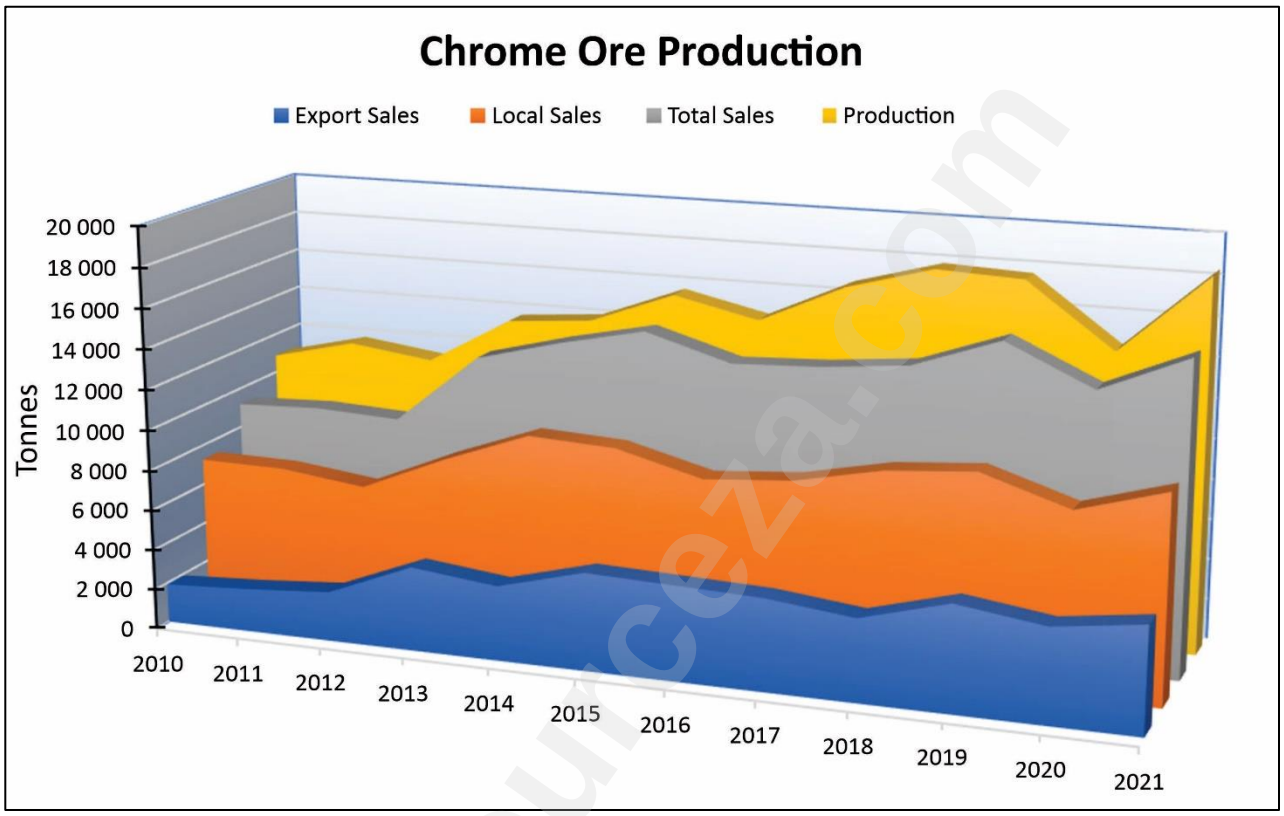
Downloaded from eduresourceza.com
IEB Copyright © 2023

Downloaded from eduresourceza.com

7.2 Primary activity

Study Figure 17, a graph showing chrome ore production in South Africa.

Figure 17



[Source: Mineral Council of South Africa]

7.2.1 State the year with the highest production. (1)

7.2.2 How much did South Africa export in 2019? (1)

7.2.3 Name the main chrome mining region in South Africa. (1)

7.2.4 Name TWO uses for chrome. (2)

7.2.5 Explain how the production of chrome could benefit from quaternary sector activities. (4)

Downloaded from eduresourceza.com

Downloaded from eduresourceza.com

7.3 Secondary and tertiary sectors

Read the fact file below on the OR Tambo International Airport Special Economic Zone found in Gauteng.

FACT FILE: OR TAMBO INTERNATIONAL AIRPORT SPECIAL ECONOMIC ZONE

- OR Tambo International Airport Special Economic Zone (SEZ) is competitively located at or in proximity to OR Tambo International Airport (ORTIA). In support of its competitive location, the value proposition of this SEZ is centred around the service offering of OR Tambo International including a break of bulk area.
- The Airport is within a 2-hour flight radius region, covering a population of 142m inhabitants, ensuring access to the SADC market.
- OR Tambo International is responsible for 84% of all air cargo traffic in Airport Company South Africa's network.
- Precinct 1, the development of a safe, secure and globally competitive metals beneficiation park.
- Precinct 2, located 3 km away from ORTIA, is the location for the manufacturing of perishable products exported through OR Tambo International.
- Springs Precinct, located 30 km away from ORTIA next to a platinum refinery, is ideal for the production and export of platinum beneficiated products.

7.3.1 Define the following underlined terms:

(a) Special Economic Zone (1)

(b) Break of bulk (1)

(c) Beneficiation (1)

7.3.2 Outline some of the effects that loadshedding has had on economic development in Gauteng. (2)

7.3.3 List TWO effects of this development on the economy of Gauteng. (2)

7.3.4 Discuss how the development of the OR Tambo International Airport Special Economic Zone will benefit the tertiary sector of the economy. (4)
[25]

50 marks

Total: 200 marks

Downloaded from eduresourceza.com
IEB Copyright © 2023