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NATIONAL SENIOR CERTIFICATE EXAMINATION
NOVEMBER 2022

GEOGRAPHY: PAPER I

Time: 3 hours | 200 marks

PLEASE READ THE FOLLOWING INSTRUCTIONS CAREFULLY

1. This question paper consists of 25 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 GQEBERHA REGION AND SUNDAYS RIVER VALLEY

QUESTION 1 PHYSICAL GEOGRAPHY

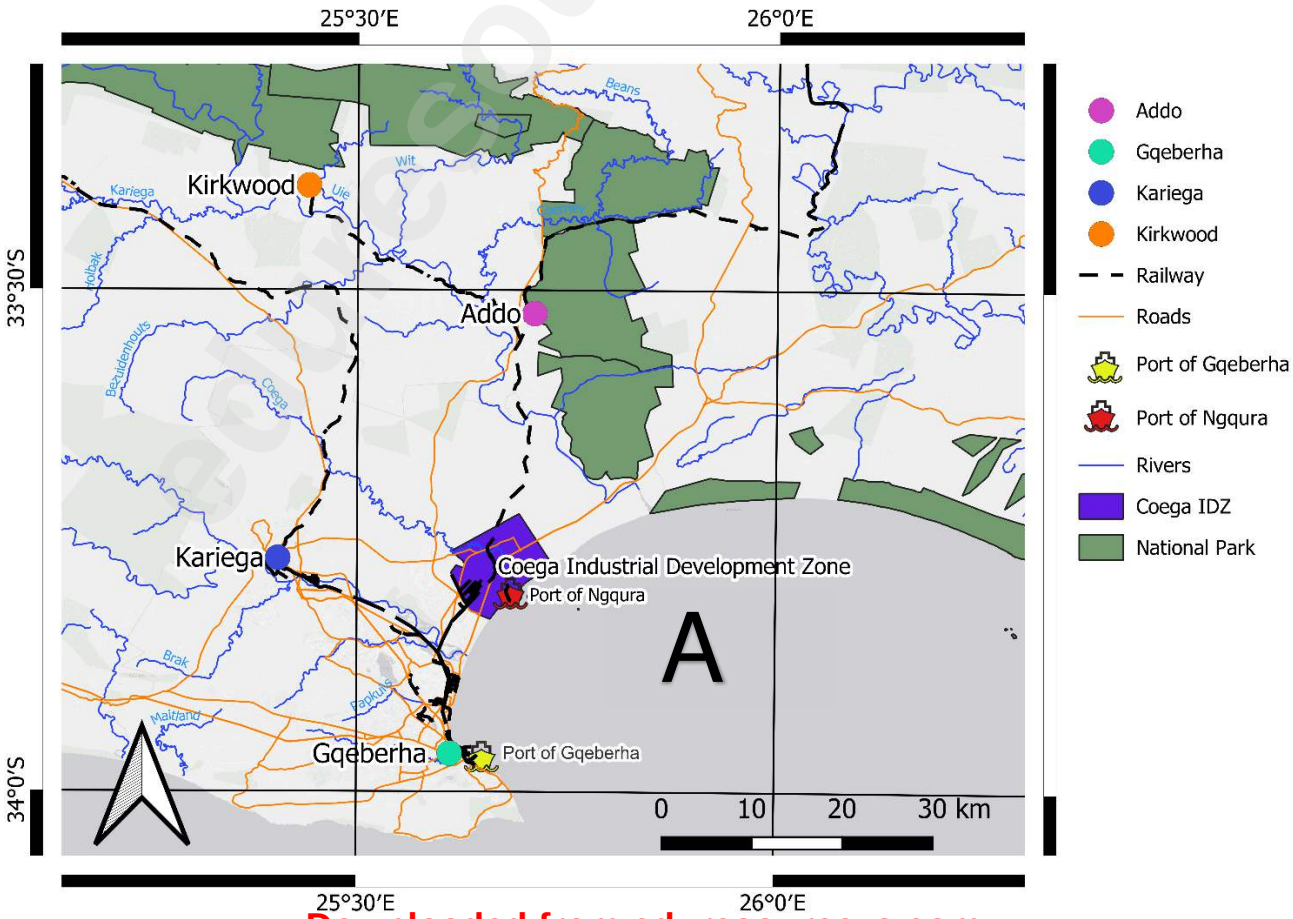
Read Fact File 1 and study the Gqeberha and Sundays River area map (Figure 1).

FACT FILE 1

- The town of Kirkwood (see map below, Figure 1) is situated in the heart of the Sundays River Valley.
- It is considered the citrus capital of the Eastern Cape, South Africa.
- Kirkwood boasts a fine lookout point with sweeping vistas over the valley. During the picking season (April to September), tractors with trailers brimming with oranges rumble into town.
- Activities in Kirkwood include a 9-hole golf course.
- The Lookout is well known as a site where large dinosaur fossils have been dug up by palaeontologists.
- The first complete dinosaur fossil in South Africa was located not far from Kirkwood and aptly named Kirky, because it looked like a turkey.
- Kirkwood is also host to the Wildsfees (Wildlife Festival) held annually towards the end of June.
- Accommodation includes B&Bs, guesthouses, self-catering establishments and game lodges.

[Source: <www.route-62-info.co.za>]

Figure 1 – Area map of Gqeberha and Sundays River



Downloaded from eduresourceza.com [Source: Examiner's map]

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1.1 Geographical Skills

Study Figure 1 and complete 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 Determine the bearing from Kirkwood to Gqeberha.

A 25°
B 65°
C 165°
D 345° (1)

1.1.2 Calculate the distance from Kirkwood to the port in the Coega Industrial Development Zone (IDZ).

A 20 km
B 45 km
C 100 km
D 300 km (1)

1.1.3 Ocean A, in Figure 1, is the ... Ocean.

A Benguela
B Indian
C Atlantic
D Pacific (1)

1.1.4 The number of visitors per day to the Addo National Park is known as what type of data?

A Raster
B Vector
C Geo
D Attribute (1)

1.1.5 The town of Addo is represented as what type of vector data?

A Line
B Point
C Polygon
D Buffer (1)

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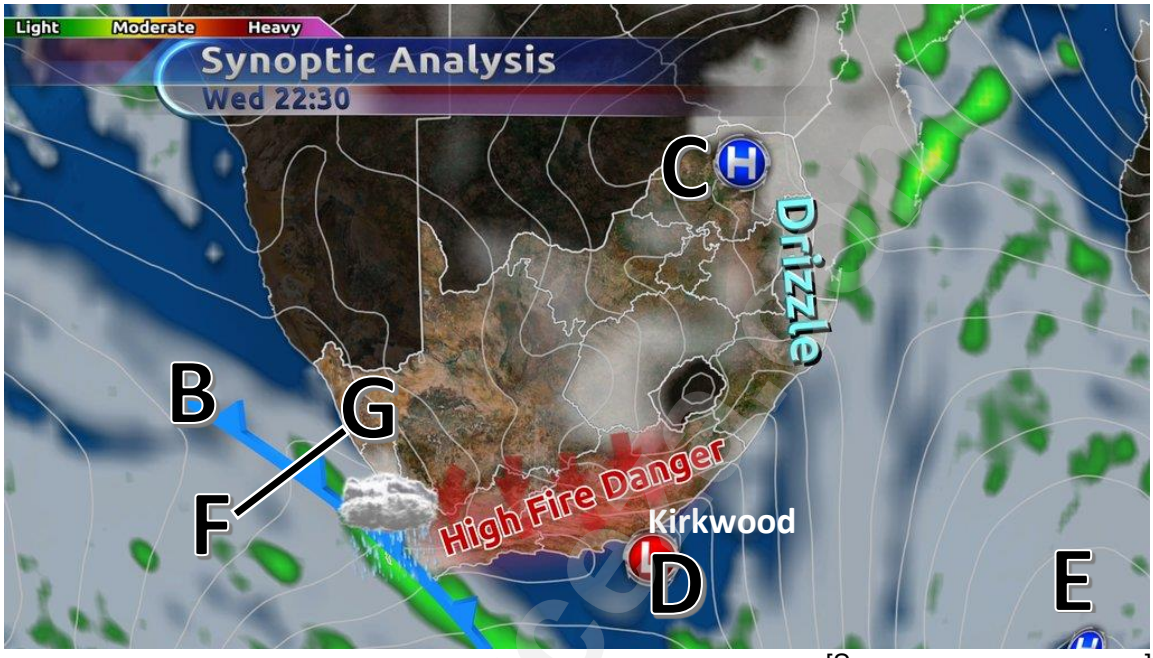
1.2 Mid-latitude Cyclones

Study Figure 2, a synoptic weather map of South Africa.

Figure 2



[Source: <www.enca.com>]

1.2.1 Link the letters in Figure 2 with the weather features below. Write only the question number and the appropriate letter, for example, (e) A.

(a) South Indian High Pressure (1)

(b) Coastal Low Pressure (1)

(c) Cold front (1)

(d) An extended ridge of High Pressure (1)

1.2.2 Name the winds responsible for the fire warning in the Kirkwood region. (1)

1.2.3 Describe how the winds referred to in Question 1.2.2 are formed. (4)

1.2.4 Analyse the effect these winds (Question 1.2.2) have on the businesses and residents of the Sundays River Valley. (2)

1.2.5 Explain how feature **B** is formed. (4)

1.2.6 Name TWO weather conditions that feature **B** brings to the Western Cape. (2)

1.2.7 Name the type of cloud found along feature **B**. (1)

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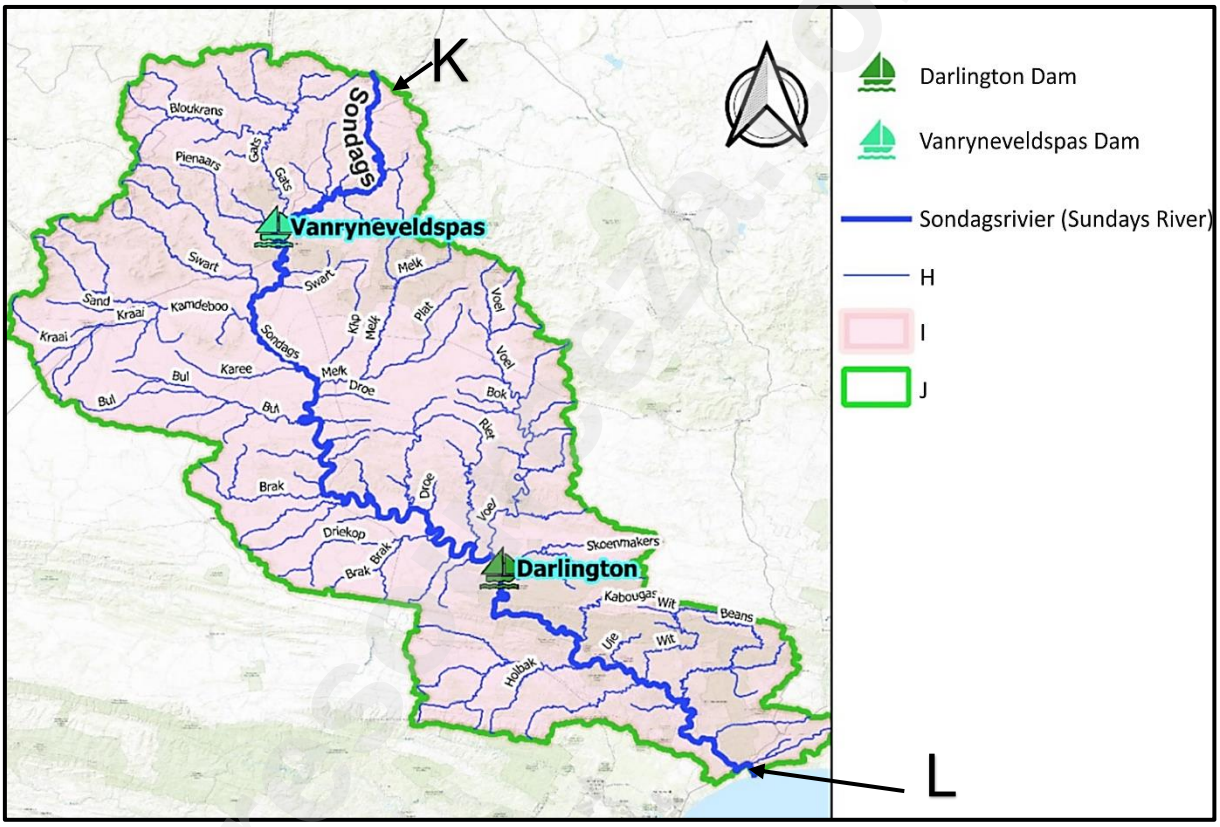
1.2.8 Discuss ONE way in which feature **B** will disrupt residents in the Western Cape. (2)

1.2.9 Evaluate the importance of feature **B** to the socio-economic well-being in the Cape region. (4)

1.3 Drainage Systems in South Africa

Study Figure 3, a map of the Sundays River basin.

Figure 3



[Source: Examiner's map]

1.3.1 Match letters **H**, **I** and **J** with the three terms below to complete the legend for Figure 3. Write only the question number and the appropriate letter, for example, (e) H.

(a) Sundays River watershed (1)

(b) Sundays River system (1)

(c) Sundays River drainage basin (1)

1.3.2 Name the drainage pattern of the Sundays River system. (1)

1.3.3 Would you describe the drainage density as low or medium? (1)

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1.3.4 Draw a sketch of the longitudinal profile of the Sundays River from **K** to **L**. (2)

Your sketch must include:

(a) Temporary base level(s) of erosion (2)

(b) Permanent base level of erosion (1)

(c) Stages along the river (3)

1.3.5 The Sundays River has an ungraded profile. Explain this statement. (2)

1.3.6 With the aid of a diagram, analyse how the following aspects will affect the shape of a storm hydrograph.

(a) Precipitation (2)

(b) Land use (2)

(c) Gradient (2)

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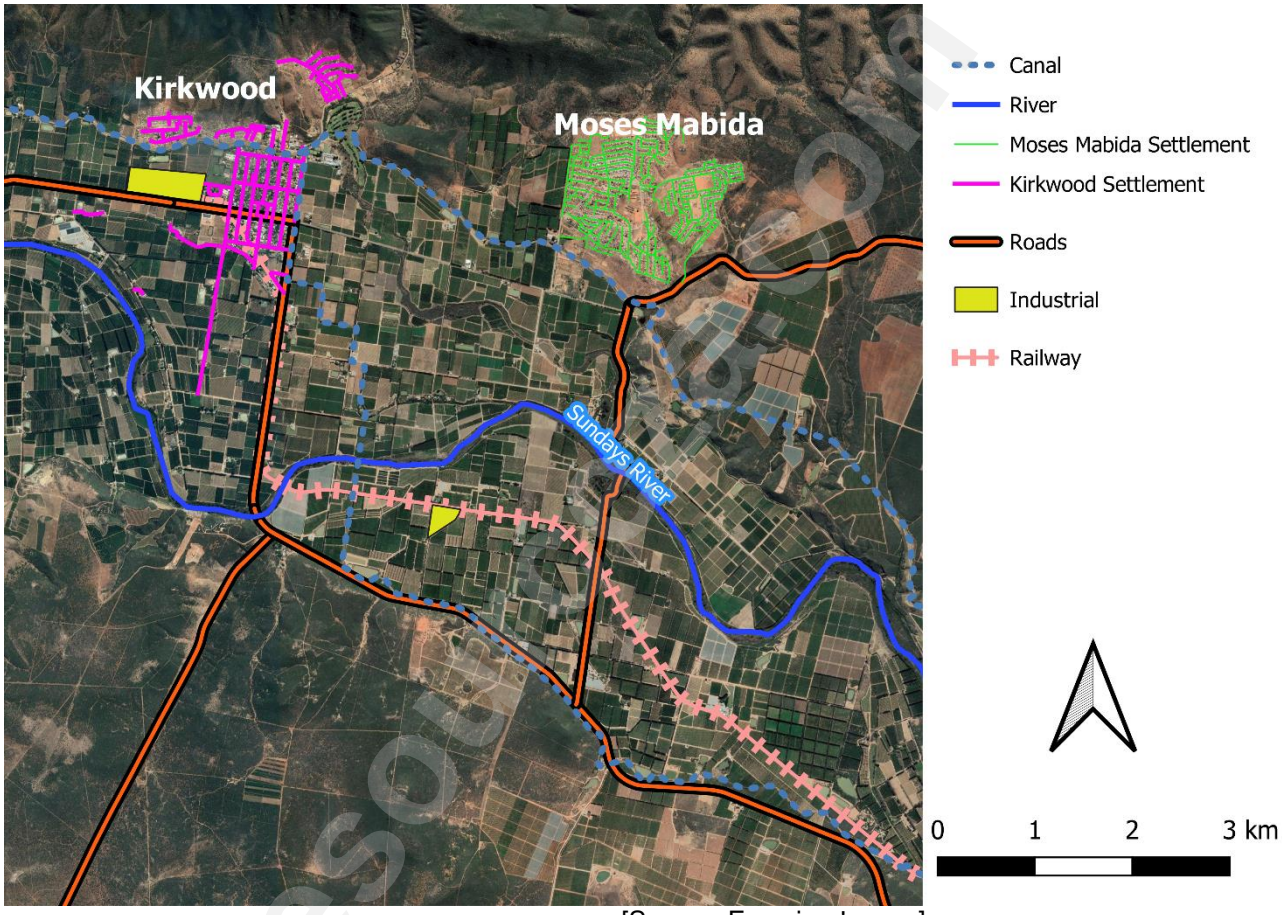
QUESTION 2 HUMAN GEOGRAPHY

2.1 Urban Structure and Patterns

Study Figure 4, a map of the Sundays River Valley.

Figure 4



[Source: Examiner's map]

2.1.1 Match the words in the block below with the statements provided. Write only the question number and the appropriate word(s), for example, (e) break of bulk

Gridiron	**Unplanned irregular**		**Gap town**
Radial	**Central place**	**City**	**Village**

(a) Street pattern of Kirkwood (1)

(b) Street pattern of Moses Mabida (1)

(c) Settlement hierarchy of Kirkwood (1)

(d) Kirkwood would be regarded as what type of settlement? (1)

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2.1.2 Is Kirkwood a dry- or wet-point settlement? (1)

2.1.3 Provide an explanation for your answer to Question 2.1.2. (2)

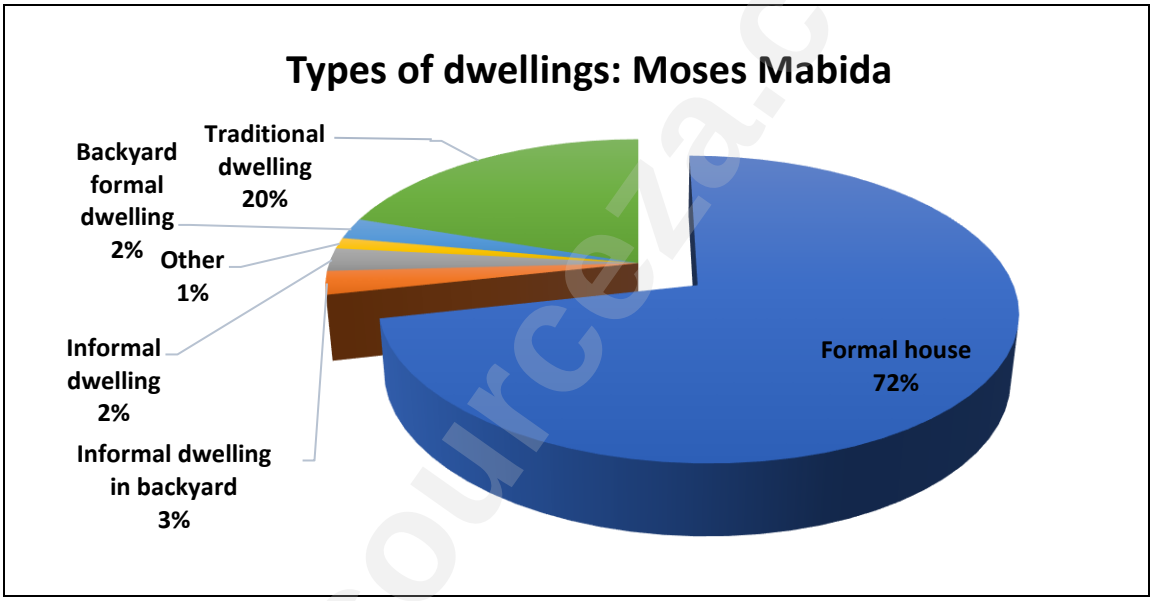
2.1.4 Identify TWO site factors for Kirkwood. (2)

2.1.5 Explain how services are linked to the size of a settlement. (2)

2.2 Informal Settlements

Study Figure 5, a graph of the types of dwellings found in Moses Mabida.

Figure 5



[Source: Census 2011]

2.2.1 State the percentage of informal dwellings in Moses Mabida. (1)

2.2.2 Define an *informal settlement*. (1)

2.2.3 Why do a significant number of people still live in informal settlements? (2)

2.2.4 Assess how the building material used in informal settlements increases the risk from extreme weather conditions. (2)

2.2.5 Describe TWO issues that develop as a result of the growth of informal settlements. (4)

2.2.6 How can local municipalities reduce the challenges associated with informal settlements? (4)

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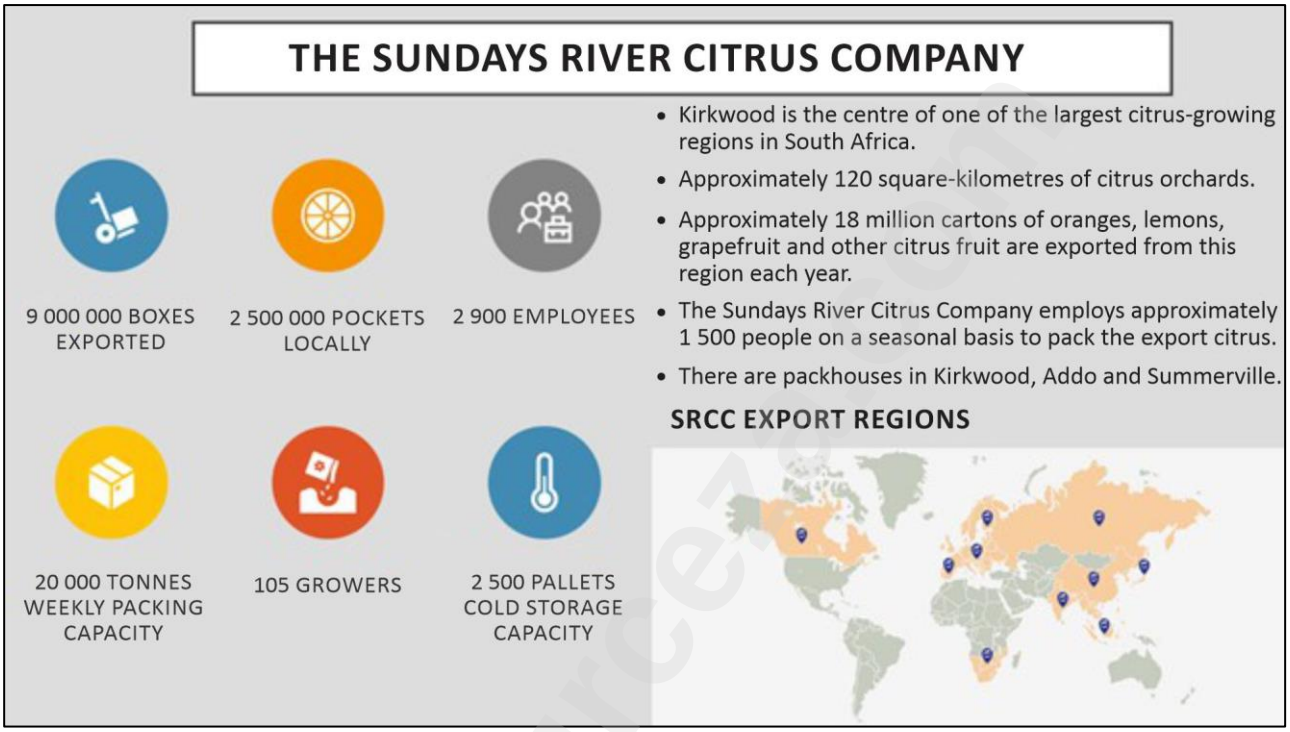
2.3 Strategies for Industrial Development

Study Figure 6, an infographic about the Sundays River Citrus Company (SRCC).

Figure 6



[Source: <https://www.srcc.co.za/>]

2.3.1 Explain *trade balance*. (1)

2.3.2 Discuss the importance of SRCC in terms of the socio-economic impact on the region. (4)

[30]

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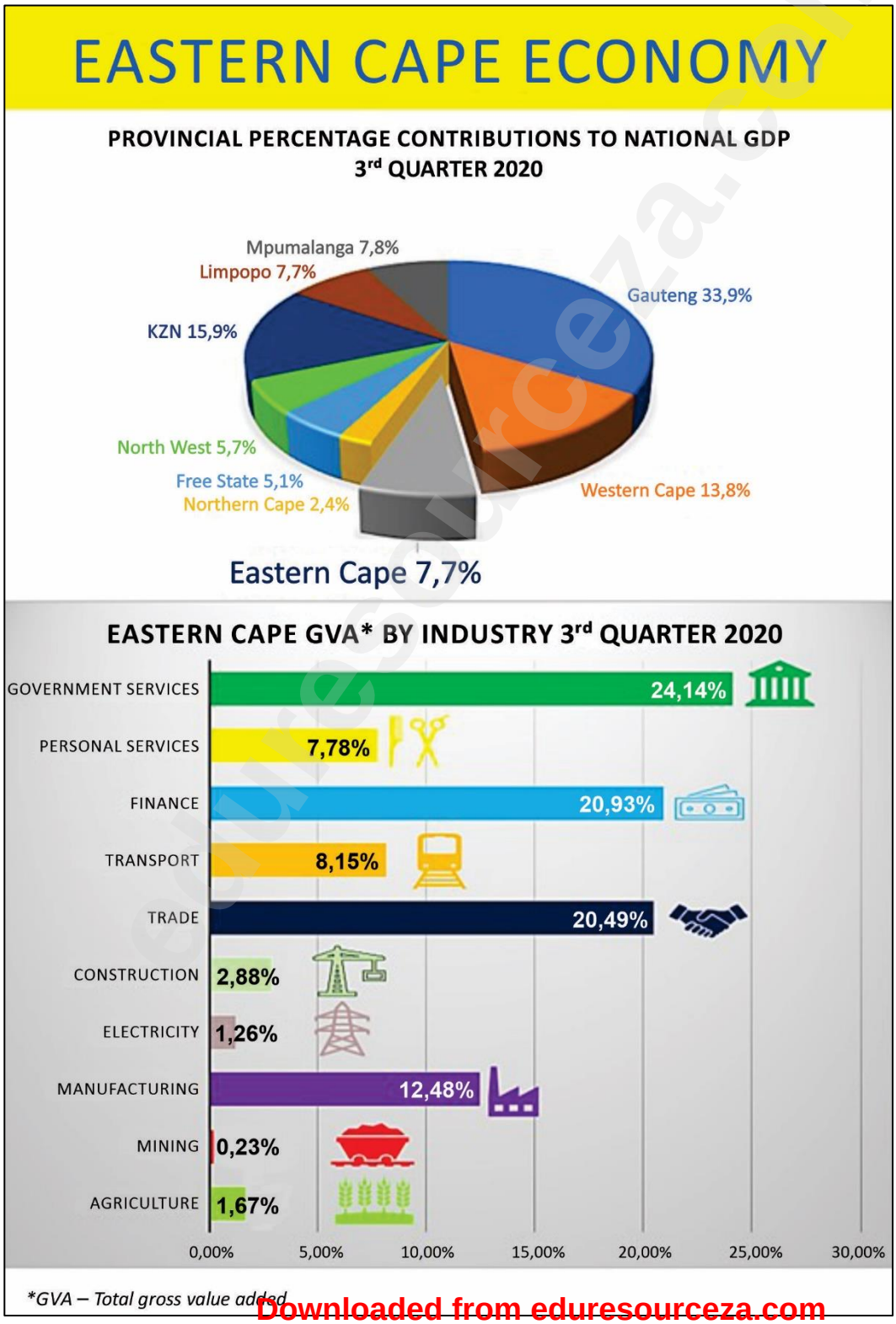
QUESTION 3 EXTENDED WRITING

Strategies for Industrial Development

Study Figure 7, an infographic on the economy of the Eastern Cape, and Fact File 2 (p. 11) about the Gqeberha-Kariega industrial region and the nearby Special Economic Zone. Use Fact File 1 (p. 2) and 2, as well as Figures 1 to 7, to assist you in writing the report described on page 12.

Figure 7



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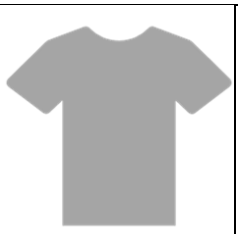
FACT FILE 2

The main industries in the Gqeberha-Kariega include:

The main industries in the Gqeberha-Kariega precinct/metropole

				
Motor Vehicles • Car assembly plant • Main linked industries – car parts – tyres – windscreens	**Textiles** • Wool and cotton	**Leather** • Shoe factories • Car upholstery	**Fruit canning**	**Salt works**

Coega Special Economic Zone (SEZ) (Eastern Cape)

- The Coega IDZ is the largest in Southern Africa.
- It was designated in 2001 and became South Africa's first IDZ.
- It is strategically located in the Nelson Mandela Bay Metropolitan Municipality.
- The Coega IDZ leverages public-sector investment to attract foreign and domestic direct investment in the manufacturing sector, with an export orientation.
- The IDZ has attracted investment in the agroprocessing, automotive, aquaculture, energy, metals, logistics and business-processing services sectors.
- This has advanced socio-economic development in the Eastern Cape through skills development, technology transfer and job creation.

[Source: StatsSA]

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As an advisor to the Gqeberha-Kariega industrial development council, you are tasked with writing a report explaining the benefits and drawbacks of development in the region, including the Sundays River regions.

- Outline the benefits of developing an IDZ and Spatial Development Zone (SDI) in a region.
- Assess how the Coega IDZ could aid industries such as the citrus industry around Kirkwood.
- Assess the challenges industrial development in the Gqeberha-Kariega region could face.
- Analyse how the Eastern Cape government could drive more development in the region.

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

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SECTION B CLIMATE, WEATHER AND GEOMORPHOLOGY

QUESTION 4 Climate and Weather

4.1 Climate Terminology

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.

4.1.1 Smoke and pollution become trapped in a valley due to the formation of a(n) (**thunderstorm** / **inversion layer** / **frost pocket**). (1)

4.1.2 The warmest slopes in the southern hemisphere are (**south** / **west** / **north**) facing. (1)

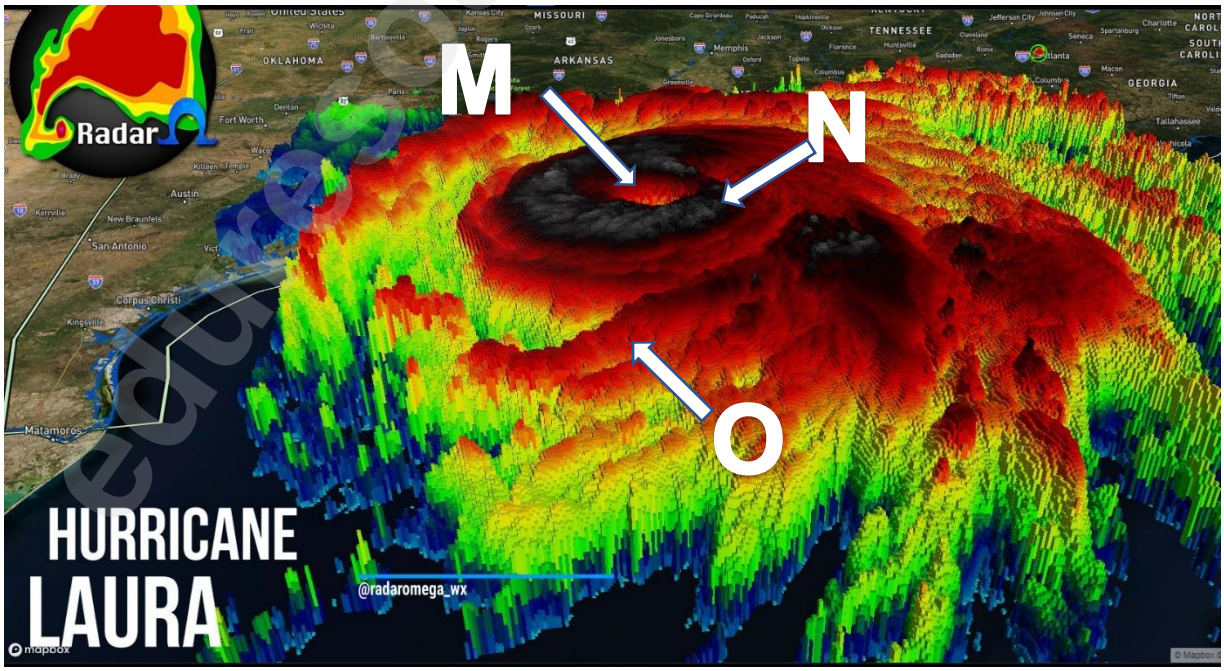
4.1.3 Winds that form a frost pocket at the bottom of a valley are known as (**katabatic winds** / **anabatic winds** / **föhn winds**). (1)

4.1.4 The weather condition that brings heavy rains to different regions of South Africa is a (**Cape Doctor** / **cut-off low** / **berg wind**). (1)

4.2 Tropical Cyclones

Study Figure 8, a 3-D model of Hurricane Laura, which made landfall along the American Coast.

Figure 8



[Source: RadarOmega]

4.2.1 Provide a possible name for the next storm to affect the Atlantic region. (1)

4.2.2 Explain why hurricanes (tropical cyclones) dissipate when they make landfall. (1)

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4.2.3 Match the letters **M**, **N** and **O** on Figure 8 (p. 13) with the following features. Write only the question number and the corresponding letter, for example, (d) **Z**.

(a) Eye (1)

(b) Rainbands (1)

(c) Eye wall (1)

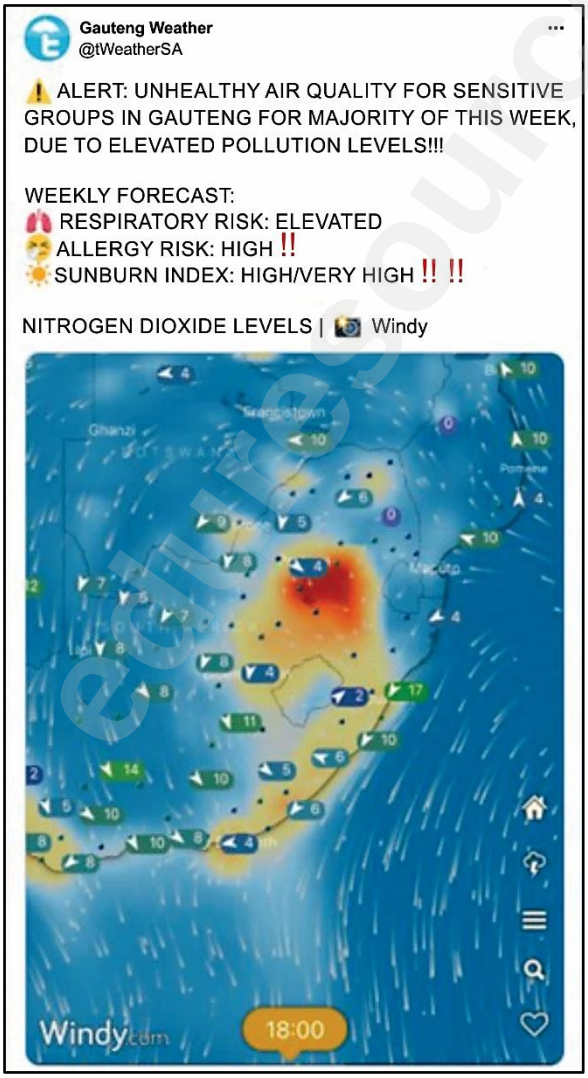
4.2.4 Explain why the eye has calm and clear conditions. (2)

4.2.5 Explain why regions hit by the leading quadrant would have experienced the most significant impact from Hurricane Laura. (4)

4.3 Subtropical Anticyclones and Associated Weather Conditions

Study the tweet in Figure 9 below by Gauteng Weather, warning people about the potential of poor air conditions over the interior.

Figure 9



[Source: GautengWeather]

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4.3.1 Identify whether poor air conditions are more likely to occur in summer or in winter. (1)

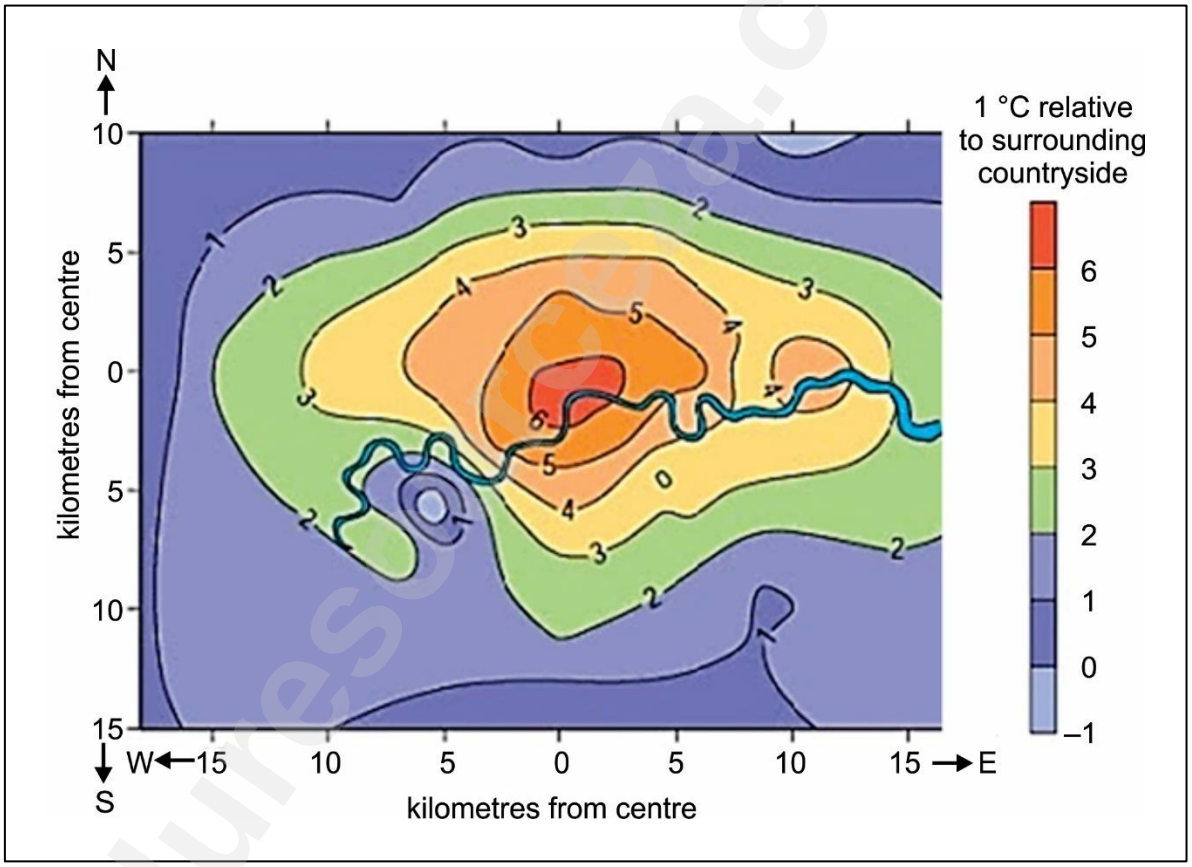
4.3.2 Provide an explanation for your answer to Question 4.3.1. (2)

4.3.3 Identify TWO human causes of the high levels of pollution. (2)

4.4 Urban Climates

Study Figure 10, an isotherm map showing the temperature of the centre of London relative to the temperatures of the surrounding areas.

Figure 10



[Source: <www.smartcitiesdive.com>]

4.4.1 Explain why London is warmer than the surrounding areas. (1)

4.4.2 Recommend TWO solutions to reduce this temperature range. (4)

[25]

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QUESTION 5 GEOMORPHOLOGY

5.1 Fluvial 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. 5.1.0 A.

Column A		Column B	
5.1.1	Abrasion	A.	A drainage system that has maintained its general direction across an area of localised uplift.
5.1.2	Throughflow	B.	A tributary stream is prevented from joining the main river because of the levees that flank the latter.
5.1.3	Antecedent drainage	C.	A pattern established on an earlier surface that was subsequently lowered by river incision to lie across geologic structures to which it is unrelated.
5.1.4	Wind gap	D.	Water movement through the soil by percolation through interconnecting pore spaces.
5.1.5	Baseflow	E.	Sustained, low, or fair-weather streamflow is often primarily derived from groundwater flow.
		F.	The mechanical wearing down of a rock surface by friction from the collision between particles during their transport.
		G.	Occurs when there is more water than the land can absorb. The excess liquid flows across the land.
		H.	An area where a waterway once flowed is now dry due to stream capture.

(5)

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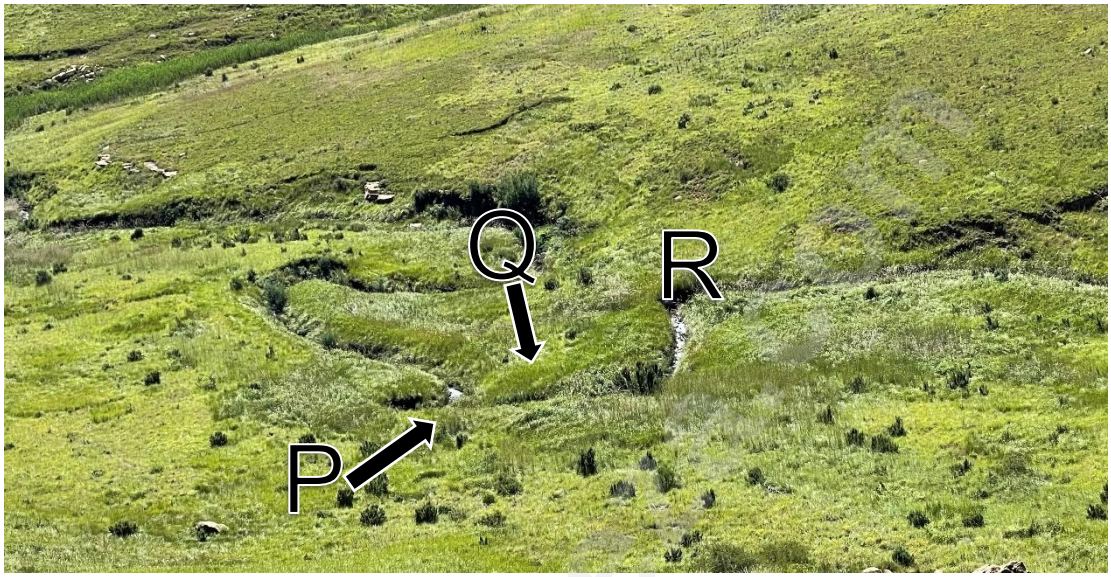
5.2 Fluvial Processes

Study Photograph 1 of a river channel in the Drakensberg region.

Photograph 1



[Source: Examiner's photograph]

5.2.1 Identify the fluvial feature in Photograph 1. (1)

5.2.2 Indicate if there is (write only the letter as your answer) …

(a) deposition along the bank at **P** or **Q**. (1)

(b) erosion along the bank at **P** or **Q**. (1)

5.2.3 Explain why hydraulic action will most likely occur at **P**. (2)

5.2.4 Explain what will happen along the river channel at **R**. (2)

5.2.5 Name the feature that will form after the event referred to in Question 5.2.4. (1)

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5.3 Catchment and River Management

Study Photograph 2 of a weir along the Berg River in Paarl.

Photograph 2

[Source: Examiner's photograph]

5.3.1 State whether deposition would occur at **S** or **T**. (1)

5.3.2 Identify ONE purpose of building a weir. (1)

5.3.3 Explain how a weir causes rejuvenation along a river course. (2)

5.3.4 Discuss how we use geospatial *buffering* in river flood management. (2)

5.3.5 Assess how we can use geospatial analysis to identify and limit human activity that affects a river system. (6)

[25]

50 marks

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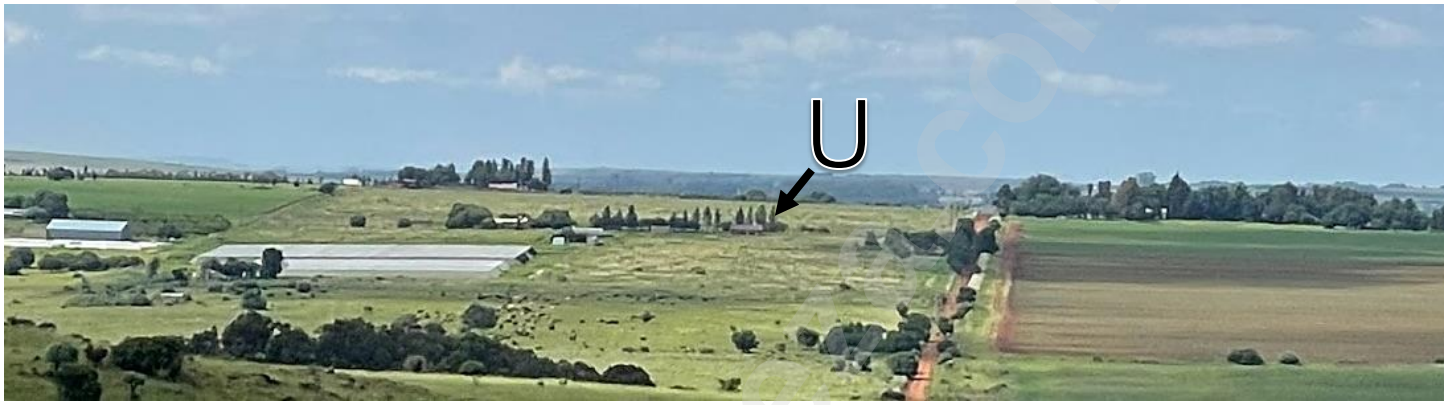
SECTION C RURAL AND URBAN SETTLEMENT AND ECONOMIC GEOGRAPHY OF SOUTH AFRICA

QUESTION 6 Rural and Urban Settlement

6.1 Rural Settlement

Study Photograph 3 of a settlement near Magaliesberg, Gauteng.

Photograph 3



[Source: Examiner's photograph]

Select the correct answer in each instance. Write the number of the question and the letter corresponding to your answer, for example, 6.1.0 A.

6.1.1 The settlement in Photograph 3 would be classified as a(n) …

A megalopolis.
B village.
C isolated farmstead.
D city. (1)

6.1.2 The farming method around the settlement is …

A subsistence.
B small scale.
C hydroponic.
D commercial. (1)

6.1.3 The feature labelled **U** is known as a(n) …

A windbreak.
B canal.
C wind pump.
D orchard. (1)

6.1.4 This settlement has a … settlement pattern.

A dispersed
B nucleated
C linear
D clustered (1)

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6.2 Rural Settlement Issues

Read the article below about the changes in small towns around South Africa.

THESE FIVE ZOOM TOWNS IN THE WESTERN CAPE ARE ATTRACTING STRONG INTEREST

- Towns such as Paarl, Franschhoek, Stellenbosch, Wellington and Tulbagh have become popular 'zoom towns', attracting people from upcountry and the Cape metro looking to escape the city.
- They are also popular with semigration buyers from Gauteng.
- Boschenmeer Golf Estate, just outside Paarl, is very popular with out-of-towners and semigration buyers.
- Many self-catering establishments such as Airbnb and Booking.com are still looking to the long-term residential tenant market while waiting for tourism to bounce back.
- The most popular area is Franschhoek for local and hospitality industry prospects.
- Tenants are moving into the area from areas such as Gauteng to work remotely.

[Source:<businesstech.co.za>]

6.2.1 Link ONE of the underlined words in the text with the following definitions. Write only the number of the question and the appropriate word(s), for example, (z) Town.

(a) Small towns that people migrate to in order to work remotely from there. (1)

(b) The act of relocating within a country across provincial boundaries. (1)

(c) Access-controlled residential area with varied amenities, including restaurants and picturesque walkways. (1)

6.2.2 Outline TWO reasons for counter-urbanism. (2)

6.2.3 Evaluate TWO impacts this type of counter-urbanism will have on these towns. (4)

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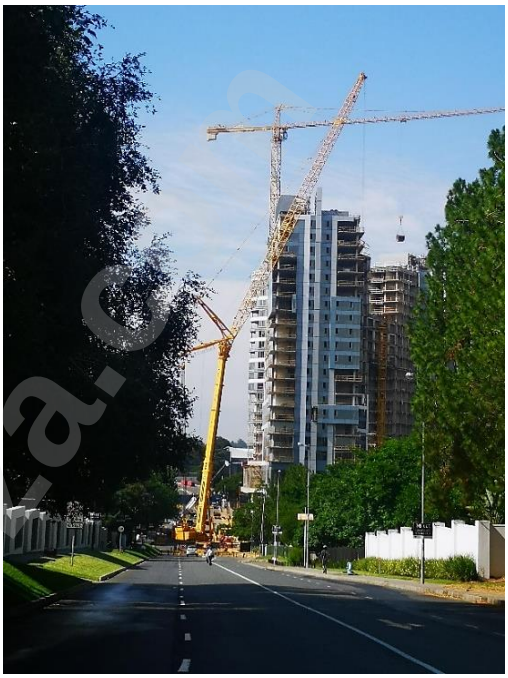
6.3 Urban Structure and Patterns

Study Photographs 4 and 5 that show a new development near the Sandton CBD.

Photograph 4

Photograph 5



[Source: Examiner's photographs]

6.3.1 Define a *mixed-use development*. (1)

6.3.2 Why is the CBD the most densified land use? (2)

6.3.3 Discuss ONE factor why construction of tall buildings like these is popular in Sandton. (2)

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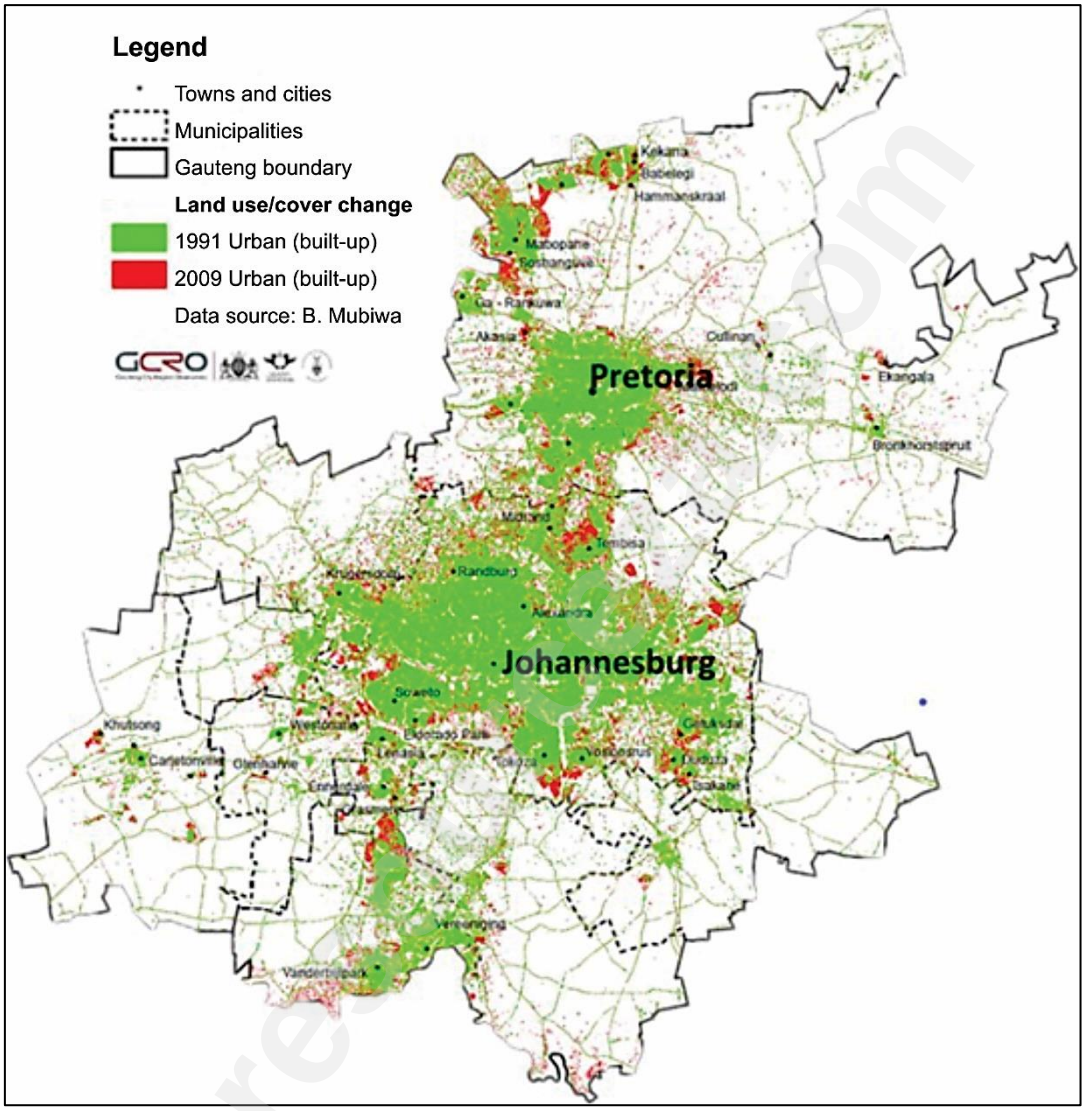
6.4 Urban Settlement Issues

Study Figure 11, showing the growth of urban areas across Gauteng.

Figure 11



[Source: <www.gcro.ac.za>]

6.4.1 Select a word from the block to match each of the statements below. Write only the question number and the appropriate term, for example, (d) megalopolis.

Urban sprawl	**Congestion**	**Conurbation**	**Urbanisation**

(a) The rapid formless expansion of the geographic extent of urban areas. (1)

(b) Overcrowding on roads causes traffic jams. (1)

(c) A sizeable urban settlement resulting from towns and cities spreading and merging together. (1)

6.4.2 Predict TWO effects that rapid urban growth has on cities. (4)

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QUESTION 7 Economy of South Africa

7.1 Economy True or False

State whether the statements below are true or false. Write only the question number and whether the statement is true or false, for example, 7.1.0. False

7.1.1 Ubiquitous industries are factories found in almost every town across a region. (1)

7.1.2 Food security occurs when there is a lack of food that gives rise to starvation. (1)

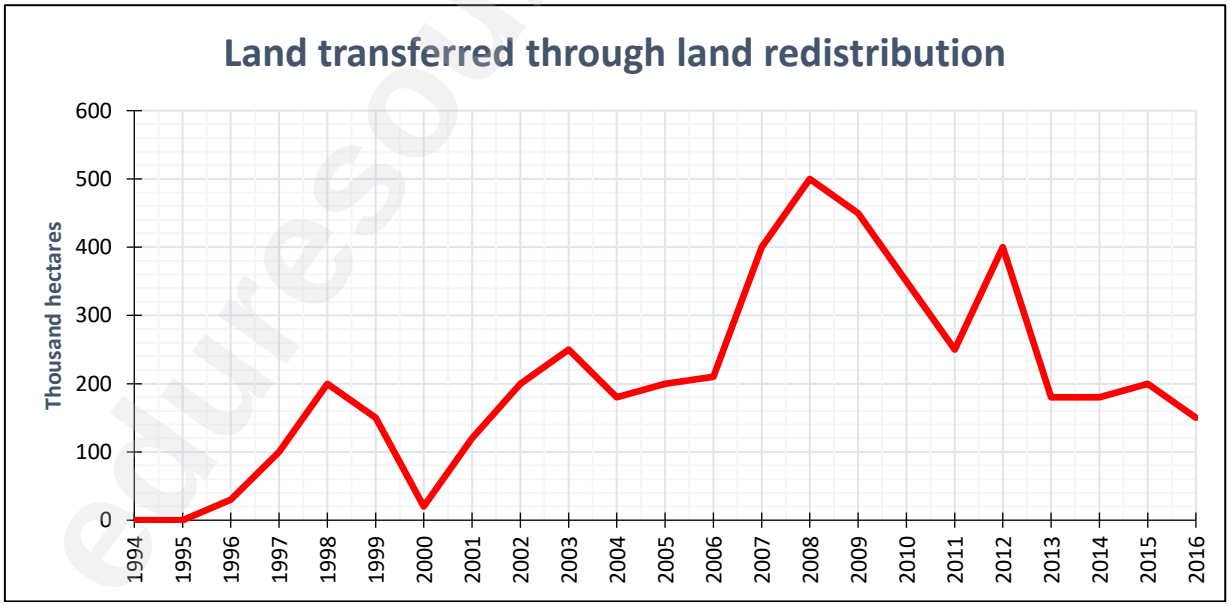
7.1.3 Infrastructure refers to the structures and facilities needed for the operation of a society. (1)

7.1.4 A territory behind and bordering a town on a coast or river is a break of bulk point. (1)

7.2 Rural Settlement Issues

Study Figure 12, showing the number of hectares of land redistributed between 1994 and 2016.

Figure 12



[Source: <dailybrief.oxan.com>]

7.2.1 Define *land redistribution*. (1)

7.2.2 In which year was the most land transferred? (1)

7.2.3 Discuss the benefits for the communities receiving land through a land claim. (4)

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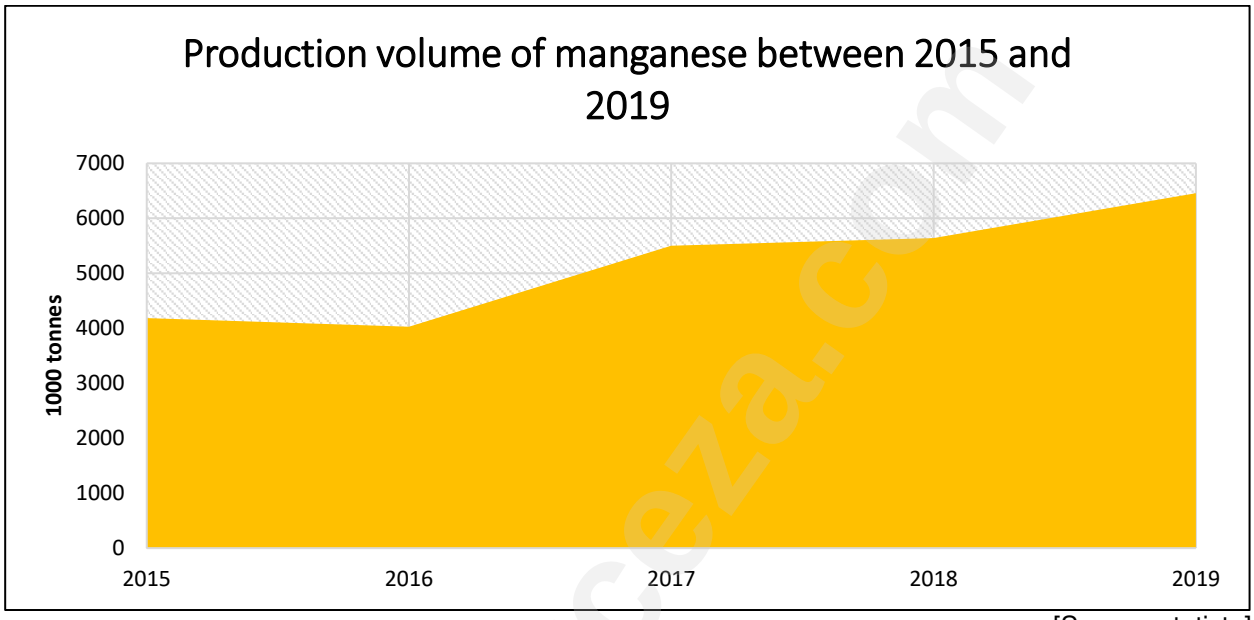
7.3 Mining

Study Figure 13, showing the production volumes of manganese in South Africa between 2015 and 2019.

Figure 13



[Source: statista]

7.3.1 Name the province where most of the manganese is mined. (1)

7.3.2 State the volume of manganese produced in 2019. (1)

7.3.3 Explain the relationship between the production of iron ore and manganese. (2)

7.3.4 Discuss TWO factors that influence mining in South Africa. (4)

7.3.5 Discuss ONE environmental issue caused by mining manganese. (2)

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7.4 Informal Sector

Study Photograph 6 of a trader on the side of the road in a town in South Africa.

Photograph 6

[Source: Examiner's photograph]

7.4.1 Define *the informal sector*. (1)

7.4.2 Discuss TWO drawbacks faced by people in the informal sector. (4)

[25]

50 marks

Total: 200 marks

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