GAUTENG PROVINCE
EDUCATION
REPUBLIC OF SOUTH AFRICA

PREPARATORY EXAMINATION

2024

10782

GEOGRAPHY

(PAPER 2)

GEOGRAPHY: Paper 2

10782E

TIME: 3 hours

MARKS: 150

22 pages

X05

INSTRUCTIONS AND INFORMATION

1. This question paper consists of TWO SECTIONS.

   SECTION A
   QUESTION 1: RURAL AND URBAN SETTLEMENT (60)
   QUESTION 2: ECONOMIC GEOGRAPHY OF SOUTH AFRICA (60)

   SECTION B
   QUESTION 3: GEOGRAPHICAL SKILLS AND TECHNIQUES (30)

2. Answer ALL THREE questions.
3. ALL diagrams are included in the QUESTION PAPER.
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. Do NOT write in the margins of the ANSWER BOOK.
8. Draw fully-labelled diagrams when instructed to do so.
9. Answer in FULL SENTENCES, except when you have to state, name, identify or list.
10. Units of measurement MUST be indicated in your final answer, e.g. 1 020 hPa, 14 °C and 45 m.
11. You may use a non-programmable calculator.
12. You may use a magnifying glass.
13. Write neatly and legibly.

SPECIFIC INSTRUCTIONS AND INFORMATION FOR SECTION B

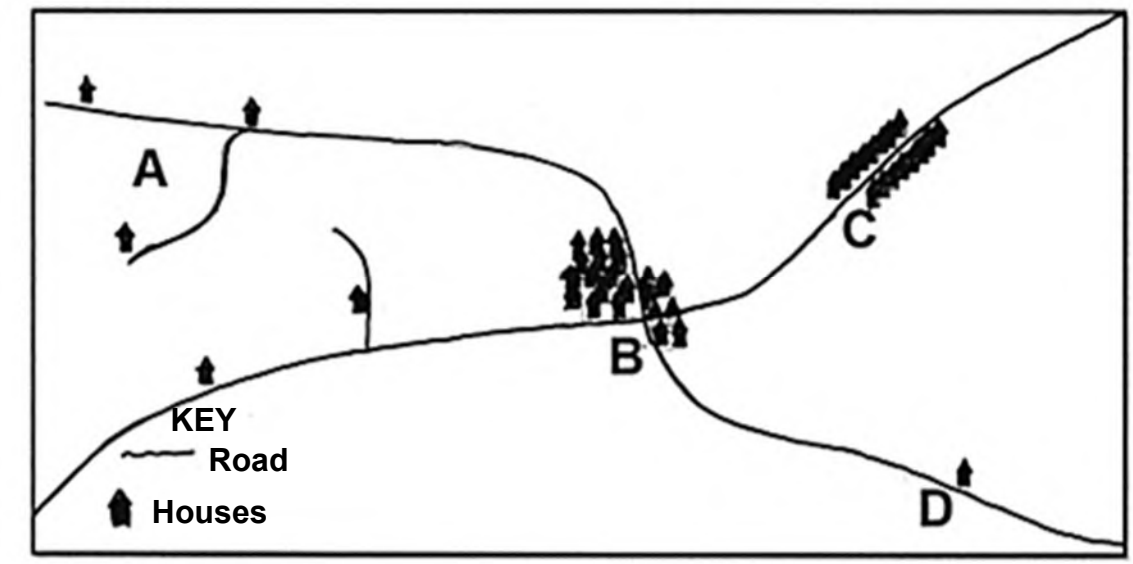
14. A 1: 50 000 topographical map VANRHYNSDORP (VREDENDAL) 3118DA and a 1: 10 000 orthophoto map VREDENDAL 3118 DA 11 and 16 are provided.
15. The area demarcated in RED/BLACK on the topographical map represents the area covered by the orthophoto map.
16. Marks will be allocated for steps in calculations.
17. You must hand in the topographical and orthophoto maps to the invigilator at the end of this examination session.

SECTION A: RURAL AND URBAN SETTLEMENTS AND THE ECONOMIC GEOGRAPHY OF SOUTH AFRICA

QUESTION 1: RURAL AND URBAN SETTLEMENTS

1.1 Refer to the FIGURE below.

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 numbers (1.1.1 to 1.1.8) in the ANSWER BOOK, e.g. 1.1.9 D.



[Source: Examiner's own sketch]

1.1.1 The pattern of the settlement at **A** is …

A isolated farmsteads.
B dispersed.
C nucleated.
D village.

1.1.2 The shape of the settlement at **B** is …

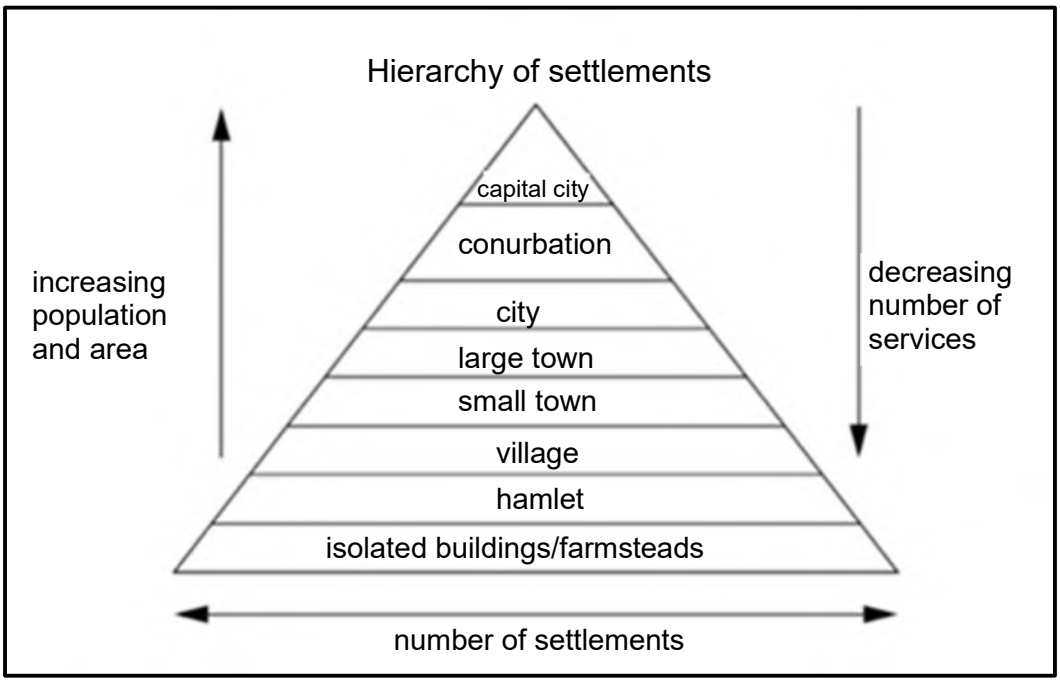
A T-shaped.
B a crossroad.
C nucleated.
D round.

1.1.3 The shape of the settlement at **C** was determined by the …

A proximity to the CBD.
B need for privacy.
C river.
D road.

1.1.4 Refer to the hierarchy of settlements below to answer the following question.

The settlement at **D** (in the image on pg. 3) is … on the hierarchy due to … in the number of services.

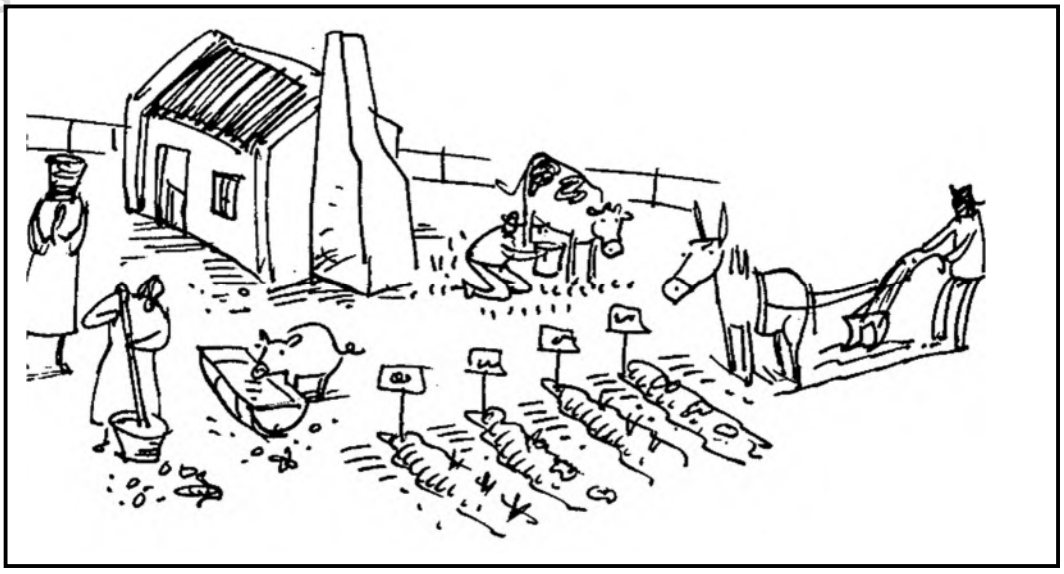


[Source: *https://www.buddinggeographers.com/rural-and-urban-settlement*]

(i) higher
(ii) lower
(iii) an increase
(iv) a decrease

A (i) and (iv)
B (i) and (iii)
C (ii) and (iv)
D (ii) and (iii)

1.1.5 In the diagram below, the … farmer is practising … farming.



[Source*: https://forestrypedia.com/difference-between-substance-farming-and-subsistence-farming/#google_vignette*]

(i) subsistence
(ii) commercial
(iii) monoculture
(iv) mixed

A (i) and (iii)
B (i) and (iv)
C (ii) and (iii)
D (ii) and (iv)

1.1.6 The choice of site for a rural settlement can be determined by the …

A aspect.
B closeness to a railway station.
C connection to other settlements.
D existing infrastructure.

1.1.7 Urbanisation refers to the …

A movement of people from rural areas to cities for better opportunities.
B increasing percentage of the total population living in urban areas.
C decrease in the number of people living in rural areas.
D number of people living in an urban area.

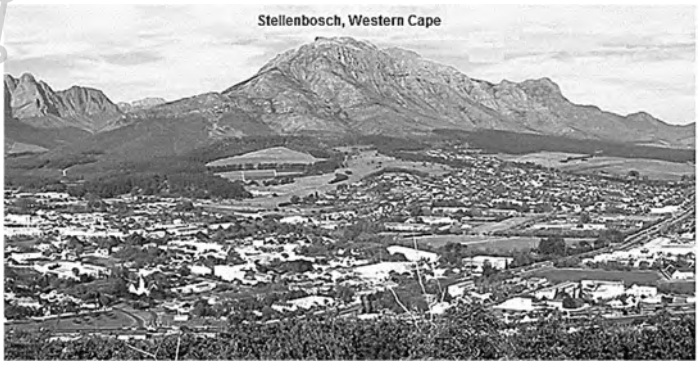
1.1.8 A central place provides goods and services to the surrounding …

A suburbs.
B towns.
C rural areas.
D cities. (8 x 1) (8)

1.2 Choose the word/term from COLUMN B that matches the picture in COLUMN A. Write only the letter **Y** or **Z** next to the question numbers (1.2.1 to 1.2.7) in the ANSWER BOOK, e.g. 1.2.8 **Z**.

COLUMN A	COLUMN B
1.2.1  **[Source: *https://www.hellogardenroute.co.za/about-the-garden-route/about-plettenberg-bay/*]**	**Y** Specialised town **Z** Central place
1.2.2  **[Source: *https://www.gettyimages.com/detail/photo/shipping-and-trucking-transportation-industry-royalty-free-image/ 98154502?adppopup=true*]**	**Y** Gateway town/Gap town **Z** Break of bulk town

1.2.3	 **[Source: Google Earth]**	**Y** Gap town/Gateway town **Z** Junction town
1.2.4	 **[Source: *https://za.pinterest.com/pin/732538695644573803/*]**	**Y** Specialised town **Z** Central place
1.2.5	 De Aar is a major junction where the Cape Town–Kimberley main line meets a line from Port Elizabeth and another from Upington and Namibia.	**Y** Junction town **Z** Gap town/Gateway town

1.2.6	 The first school opened in 1683, but education in the town began in earnest in 1859 with the opening of the oldest school for girls in South Africa. **[Source: *https://en.wikipedia.org/wiki/ Stellenbosch*]**	**Y** Central place **Z** Specialised town
1.2.7	 **[Source*: https://www.exportersec.co.za/ 2020/09/10/port-of-pe-making-its-mark-in-the-bumper-fruit-season/*]**	**Y** Gateway town/Gap **Z** Town Trade and transport town

(7 x 1) (7)

1.3 Refer to the infographic below on land reform in South Africa.

LAND REDISTRIBUTION CAN CREATE NEW JOBS IN AGRICULTURE IN SOUTH AFRICA

Land reform is necessary in post-apartheid South Africa to help address inherited historical injustices, especially those resulting from the land dispossession of the black majority. It involves the restitution of land to individuals and communities who lost their homes and land due to forced removals. It also creates secure rights to land held by the black majority. In addition, the process aims to create a more equitable pattern of land ownership.

[Source: ***https://mg.co.za/news/2020-06-08-study-shows-land-redistribution-can-create-new-jobs-in-agriculture-in-south-africa/***



[Source*: https://www.landreformfutures.org/*]

1.3.1 Define the term *land redistribution*. (1 x 2) (2)

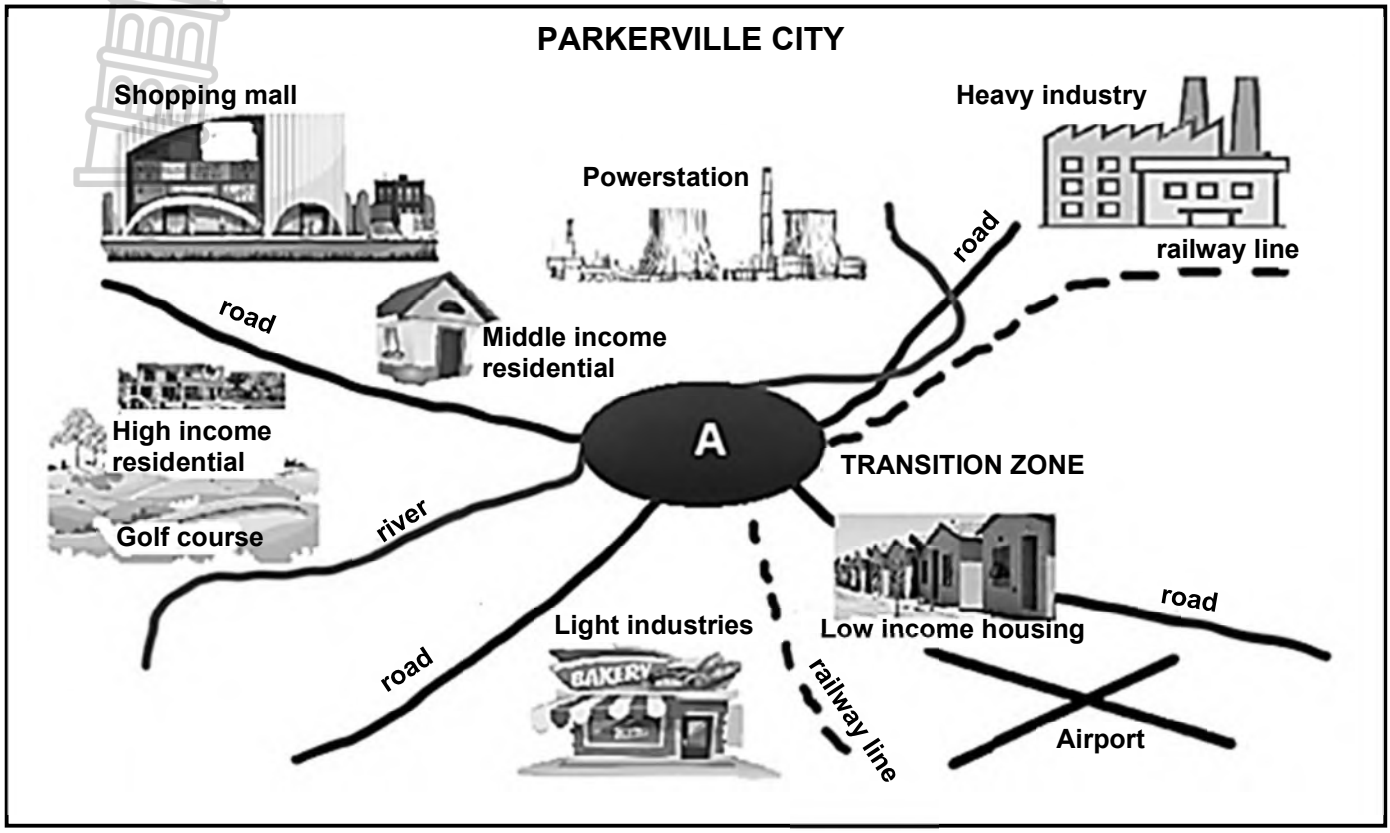
1.3.2 Quote from the passage above, why land reform is necessary in post-apartheid South Africa. (1 x 1) (1)

1.3.3 State an advantage of land reform, evident in the image. (1 x 2) (2)

1.3.4 Suggest challenges experienced in the implementation of land reform in South Africa (2 x 2) (4)

1.3.5 Explain the positive impact of land reform on rural communities in South Africa. (3 x 2) (6)

1.4 Refer to the diagram below on land use zones.



[Source: Examiner's own sketch]

1.4.1 Identify the land-use zone indicated by **A** in the diagram. (1 x 1) (1)

1.4.2 Provide evidence from the sketch to support your answer to QUESTION 1.4.1. (1 x 2) (2)

1.4.3 Identify a commercial activity in Parkerville City that has been decentralised. (1 x 2) (2)

1.4.4 Explain why the activity mentioned in QUESTION 1.4.3 has been decentralised. (1 x 2) (2)

1.4.5 The land-use model depicted in the sketch above closely resembles the (multiple nuclei/Third World City). (1 x 2) (2)

1.4.6 Give a reason for your answer to QUESTION 1.4.5. (1 x 2) (2)

1.4.7 Discuss TWO factors, evident in the diagram, that influenced the location of the high-income residential zone. (2 x 2) (4)

1.5 Refer to the article on service delivery in urban areas and answer the questions that follow.

BASIC WATER SERVICES IN SOUTH AFRICA ARE IN DECAY AFTER YEARS OF PROGRESS

The water situation in South Africa has deteriorated. The reliability of water services and infrastructure, as shown by frequent water supply interruptions, has been on a downward trend.

The deterioration of the country's water infrastructure and the actual delivery of a reliable and safe water supply can be attributed to under-investment in infrastructure maintenance and delays in the renewal of old infrastructure. Other contributing factors include poor management, limited budgets, poor revenue management by local municipalities, misappropriation of funds, and a lack of capacity or necessary technical skills related to water services and sanitation operation and maintenance.

[Source: *https://theconversation.com/basic-water-services-in-south-africa-are-in-decay-after-years-of-progress-185616*]

1.5.1 Why is the water supply in urban areas seen as an injustice? (1 x 2) (2)

1.5.2 Identify a reason, from the passage, for the deterioration of the country's water infrastructure and the actual delivery of reliable and safe water. (1 x 1) (1)

1.5.3 Explain how urbanisation contributes to the poor water supply in urban areas. (1 x 2) (2)

1.5.4 Describe the social impact of poor water supply in urban areas. (1 x 2) (2)

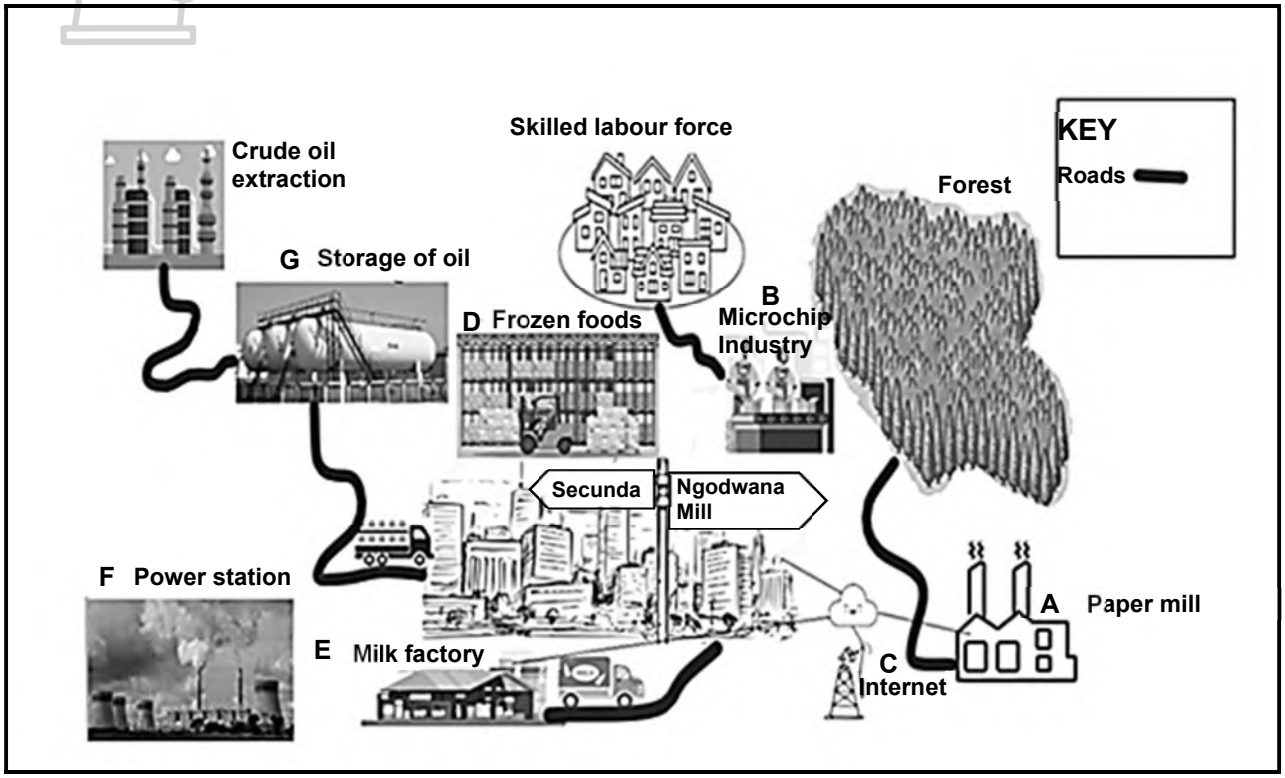
1.5.5 In a paragraph of approximately EIGHT lines, suggest how local municipalities can avoid a major water crisis and improve water security. (4 x 2) (8)

[60]

QUESTION 2: ECONOMIC GEOGRAPHY

2.1 Match each type of industry in the diagram below with the descriptions that follow.

Write only the letter (A – G) next to the question numbers (2.1.1 to 2.1.7) in the ANSWER BOOK, e.g. 2.1.8 H.



[Source:*https://www.godigit.com/business-insurance/business-terms/different-types-of-industries, ttps://www.dreamstime.com/illustration/paper-mill.html, https://www.freepik.com/free-photos-vectors/milk-factory*]

2.1.1 This industry links processes such as refining and producing parts that are essential to the final product.

2.1.2 This type of industry provides communication services, including mobile and internet connectivity.

2.1.3 This industry based its location on access to highly skilled workers.

2.1.4 This industry is located close to the customers as their products are perishable.

2.1.5 Industries that are located close to the natural resources required for manufacturing

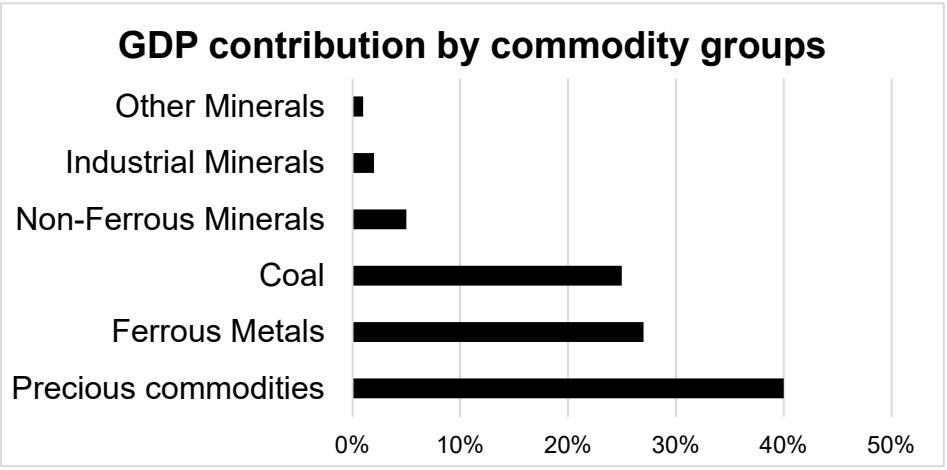
2.1.6 This industry can have environmental implications due to resource extraction, waste generation, and emissions (pollution).

2.1.7 This industry manufactures products for everyday use.

(7 x 1) (7)

2.2 Refer to the infographic below on coal mining in South Africa.

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 numbers (2.2.1 to 2.2.8) in the ANSWER BOOK, e.g. 2.2.9 A.



Coal mining occurs predominantly in Mpumalanga and Limpopo. As of 30 June 2023, there is an estimated 5 106 Mt of coal reserves from operational mines. Approximately 48% of these reserves are based in Mpumalanga and 50% are based in Limpopo, largely concentrated in one mine which has declared reserves of approximately 2 568 Mt.

ELECTRICITY PRODUCTION

Coal is mainly used as fuel to generate electricity through combustion. Thermal coal is used in power stations to generate electricity.



[Source: *https://www.energy.gov.za/files/docs/SA-Mining-Sector-Performance-Quarter1of2023.pdf, https://www.news24.com/fin24/economy/sa-still-heavily-reliant-on-coal-for-electricity-report-20220405, https://www.energy.gov.za/files/docs/SA-Mining-Sector-Performance-Quarter1of2023.pdf*]

2.2.1 Most South African coal reserves are found in …

A Gauteng.
B the Eastern Cape.
C Limpopo.
D the Western Cape.

2.2.2 Coal mining contributes to … poverty and leads to the … of the natural environment.

(i) reduced
(ii) increased
(iii) degradation
(iv) conservation

A (i) and (iii)
B (ii) and (iii)
C (iii) and (iv)
D (i) and (iv)

2.2.3 Coal mining is classified under the … economic sector.

A primary
B secondary
C tertiary
D quaternary

2.2.4 Coal contributes … % towards the GDP of South Africa.

A 5
B 25
C 35
D 39

2.2.5 Fluctuations in coal prices impact South Africa's economy in the following manner:

A They have no significant impact on the economy.
B Higher prices lead to an increased GDP, while lower prices reduce the GDP.
C Lower prices lead to an increased GDP, while higher prices reduce the GDP.
D Fluctuations in coal prices only affect the mining sector.

2.2.6 A factor favouring the mining of coal in South Africa is:

A Rock layers have higher temperatures
B Coal reserves are near the surface
C Fluctuation in prices
D Nationalisation of mines

2.2.7 Coal in South Africa is predominantly used for the production of …

A electricity.
B cement.
C steel.
D paper.

2.2.8 The positive economic impact of coal mines includes:

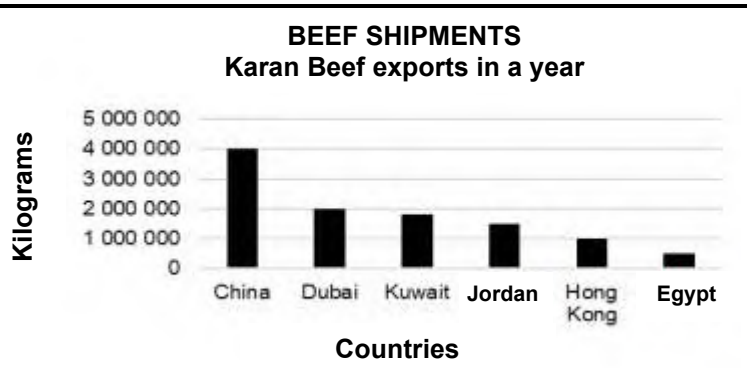
A Stimulates economic growth in surrounding areas
B Overutilisation of existing infrastructure
C Strikes for higher wages
D Encourages illegal mining

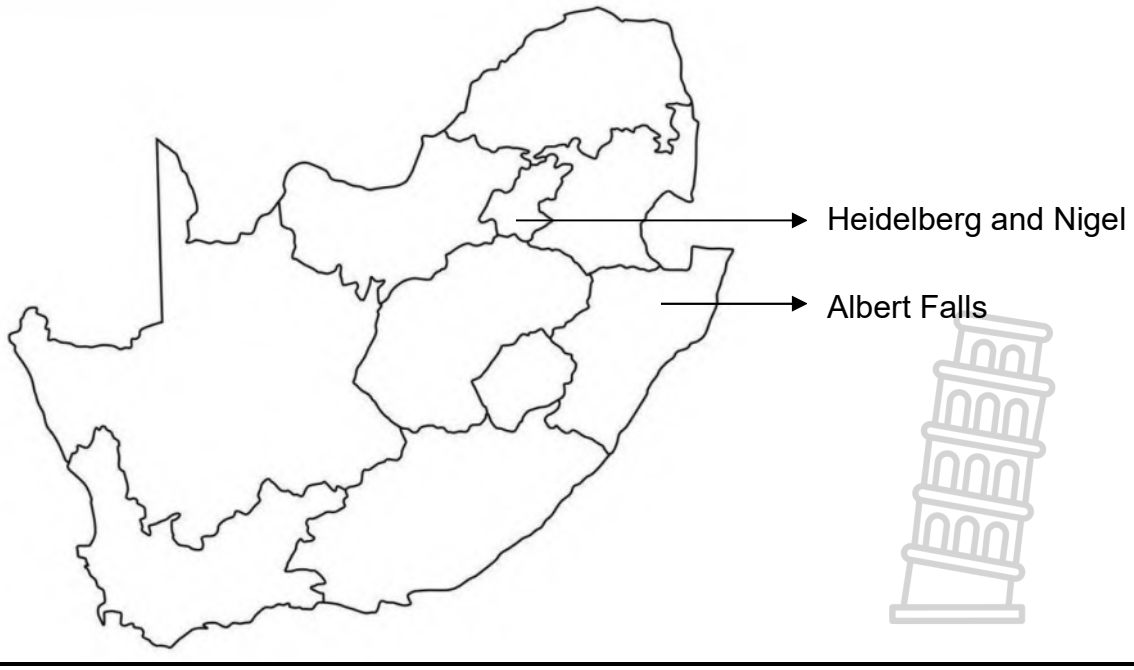
(8 x 1) (8)

2.3 Refer to the infographic below showing information about Karan Beef and answer the questions that follow.

KARAN BEEF IN SOUTH AFRICA

Our cattle feedlots are located at the Heidelberg, Nigel, and Albert Falls cattle farms. The Heidelberg farm is the largest feedlot in the world at 2 330 hectares.





[Source: *https://www.karanbeef.com/*]

2.3.1 (a) Name TWO provinces in which Karan Beef is located. (2 x 1) (2)

(b) Identify ONE climatological factor that favours beef farming in the provinces identified in QUESTION 2.3.1 (a) (1 x 2) (2)

2.3.2 According to the graph, how many kilograms of beef does Karan Beef export to China? (1 x 1) (1)

2.3.3 Explain how drought conditions will negatively impact beef exports. (2 x 2) (4)

2.3.4 Discuss the social and economic impact of beef production in South Africa. (3 x 2) (6)

2.4 Study the image and article below on Saldanha Bay IDZ and answer the questions that follow.

SALDANHA BAY'S IDZ HAS ATTRACTED MORE THAN R3 BILLION IN INVESTMENTS.



Investment agreements in the Saldanha Bay Industrial Development Zone (IDZ) totals over R3bn. The economy of the Saldanha Bay IDZ is based on the manufacturing, agricultural/fishing, tourism and harbour industries. Land-based and some marine infrastructures are established, and collaboration with Transnet for additional port facilities is underway. The investments are seen as fostering industrial value chains and promoting local economic growth.

[Adapted from *https://www.businesslive.co.za/bd/national/2019-02-19-saldanha-bays-idz--has-attracted-more-than-r3bn-in-investments/#google_vignette*]

2.4.1 Define the term *Industrial Development Zone*. (1 x 2) (2)

2.4.2 With reference to the image, identify the infrastructure that has developed due to the economic activities in the Saldanha Bay IDZ. (1 x 2) (2)

2.4.3 According to the source, identify ONE industrial activity in the Saldanha Bay IDZ. (1 x 1) (1)

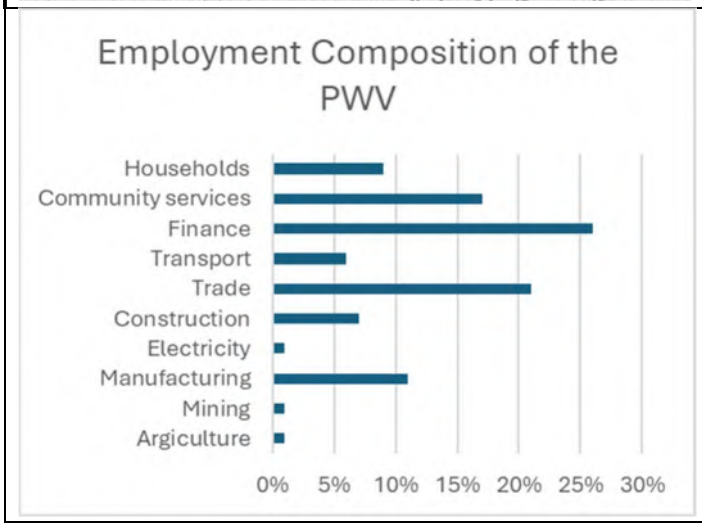
2.4.4 Discuss factors favouring the development of the Saldanha Bay IDZ. (2 x 2) (4)

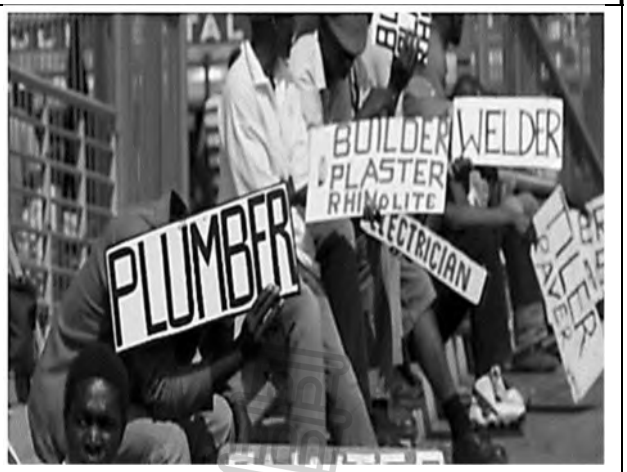
2.4.5 Explain how the Saldanha Bay IDZ impacts local communities. (3 x 2) (6)

2.5 Refer to the infographic below on the informal sector in an industrial region.



In the PWV region, 52,6% of the economically active population is employed, with 77% in the formal sector. The financial sector leads at 26,1%, followed by trade and retail at 22%. Community services employ 17%, while agriculture represents only 0,6%. Additionally, 3,8% work in the growing informal sector, notably in trade and self-employment.





[Source*: https://www.statssa.gov.za/publications/P0211/P02112ndQuarter2022.pdf, https://www.cfr.org/blog/south-africas-unemployment-grows and https://link.springer.com/article/10.1007/s11356-019-07104-8*]

2.5.1 Identify the industrial region shown in the infographic. (1 x 1) (1)

2.5.2 According to the infographic, how many people are currently employed in the informal sector? (1 x 1) (1)

2.5.3 Which employment sector, of the industrial region mentioned in QUESTION 2.5.1, employs the most people? (1 x 1) (1)

2.5.4 Give TWO examples of jobs in the informal sector that are displayed in the infographic. (2 x 1) (2)

2.5.5 How can the informal sector help to reduce the unemployment rate in the industrial region mentioned in QUESTION 2.5.1? (1 x 2) (2)

2.5.6 In a paragraph of approximately EIGHT lines, discuss factors favouring the economic development of the industrial region mentioned in the infographic. (4 x 2) (8)

[60]

TOTAL SECTION A: 120

SECTION B

QUESTION 3: GEOGRAPHICAL SKILLS AND TECHNIQUES

GENERAL INFORMATION ON VANRHYNSDORP (VREDENDAL)



Coordinates: 31°39'3,6"S ; 18°29'9,6"E

Vredendal is a town in the northern Olifants River Valley in the Western Cape province of South Africa. It lies 250 kilometres north of Cape Town and 205 km from the nearest harbour at Saldanha Bay. Vredendal is connected to the N7 national road by the R362 and R363 roads. Additionaly, Vredendal is served by the West Coast railway line which runs from Cape Town to Bitterfontein. Vredendal with its developed infrastructure, is home to the largest wine cellar in South Africa, as well as a number of boutique wineries and a dried fruit depot. Furthermore, Vredendal is known for the following agricultural products such as grapes, potatoes, tomatoes, onions, pumpkins, watermelons, and sweet melons.

[Adapted from *https://en.wikipedia.org/wiki/Vredendal*]

The following English terms and their Afrikaans translations are shown on the topographic map:

ENGLISH	**AFRIKAANS**
Thorn swamp	Doringvlei
Middel farm	Middelplaas
River	Rivier

3.1 MAP SKILLS AND CALCULATIONS

Refer to the topographical map and the orthophoto map.

3.1.1 What is the name of the closest harbour to Vredendal? (1 x 1) (1)

3.1.2 Of which Spatial Development Initiative (SDI) does the town Vredendal form part?

A West Coast
B Maputo corridor
C Wild Coast
D Fish river (1 x 1) (1)

3.1.3 Vredendal is connected to the National Road (N7) by the …

A R361 and R362 roads.
B R362 and R363 roads.
C railway and R361.
D National road and R361. (1 x 1) (1)

3.1.4 Refer to the topographical map.

Identify the land-use located at 31°38'24''S ; 18°31'19''E. (1 x 2) (2)

Refer to the topographical map

3.1.5 (a) Calculate the average gradient between ∆167 in block **A1** and ∆ 217 in block **A4** on the topographical map.

Use the following information:

Vertical interval: 110,8 m – 95,9 M = 14,9 m

Formula: $\frac{\textbf{Vertical Interval (VI)}}{\textbf{Horizontal equivalent (HE)}}$ (3 x 1) (3)

(b) How does your answer to QUESTION 3.1.5 (a) favour the location of the landing strip in block **A3**, on the topographical map? (1 x 2) (2)

3.2 MAP INTERPRETATION

Refer to the topographical map.

3.2.1 (a) Name the street pattern at **X** in Block **A2**, on the topographical map. (1 x 1) (1)

(b) Provide evidence from the topographical map that supports the construction of the street pattern mentioned in QUESTION 3.2.1 (a). (1 x 2) (2)

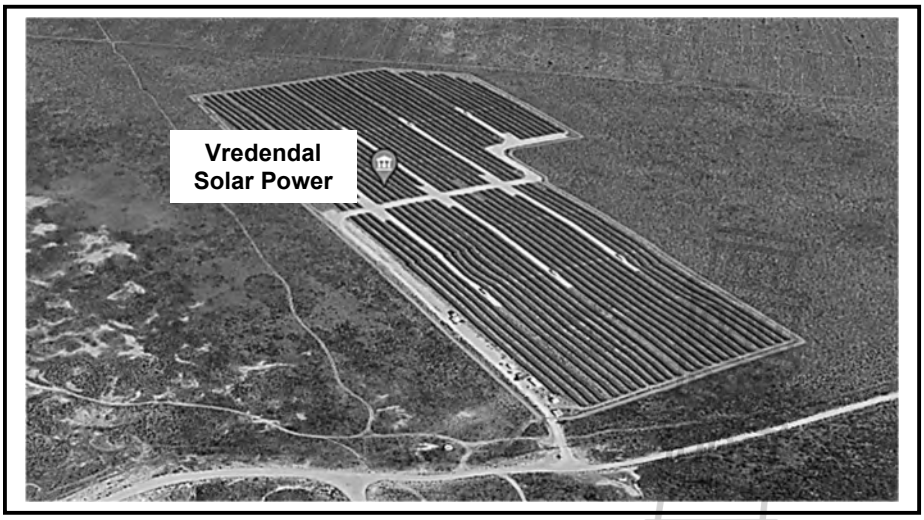
3.2.2 Refer to the Sewage Works **1** in Block **B4**, on the orthophoto map and block **B3**, on the topographical map.

(a) Why does this land-use appear larger on the orthophoto than the topographical map? (1 x 2) (2)

(b) In which land-use zone is the sewage works located? (1 x 1) (1)

(c) Provide evidence from the topographical map to support the statement that the sewage works is ideally located. (1 x 2) (2)

Refer to the photograph below showing the Vredendal Solar Power Park in block **A1** on the topographical map.



[Source: Google Earth]

3.2.3 (a) What are the factors making solar power production possible in this area? (1 x 2) (2)

(b) Suggest an economic advantage of the Solar Power Park to the businesses in Vredendal. (1 x 2) (2)

3.3 GEOGRAPHICAL INFORMATION SYSTEMS (GIS)

Refer to the landing strip in block **A3** on the topographic map.

3.3.1 The landing strip is an example of a (human-made/natural) line feature. (1 x 1) (1)

3.3.2 Which GIS process describes the demarcation of the landing strip?

A Buffering
B Manipulation
C Security
D Querying (1 x 1) (1)

Refer to the picture below of open cast mines in blocks **C4** and **C5** on the topographical map.



[Source: Google Earth]

3.3.3 Is the above picture an example of a (high or low) oblique aerial photograph? (1 x 1) (1)

3.3.4 With reference to block **C4** and **C5** on the topographical map, identify ONE infrastructural data layer that was considered by GIS specialists when developing the mines. (1 x 1) (1)

3.3.5 Why was it important for GIS specialists to consider the data layer identified in QUESTION 3.3.4? (1 x 2) (2)

3.3.6 The picture above is an example of remote sensing. How can remote sensing be used to monitor the impact of the mine on the environment? (1 x 2) (2)

TOTAL SECTION B: 30

TOTAL: 150

END