basic education

Department:
Basic Education
**REPUBLIC OF SOUTH AFRICA**

# NATIONAL SENIOR CERTIFICATE

## GRADE 12

## GEOGRAPHY P2

## NOVEMBER 2022

**MARKS: 150**

**TIME: 3 hours**

Stanmorephysics

**This question paper consists of 19 pages.**

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## INSTRUCTIONS AND INFORMATION

1. This question paper consists of TWO sections.

   SECTION A
   QUESTION 1: RURAL AND URBAN SETTLEMENTS (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 the 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 topographic map 2931CA VERULAM and a 1 : 10 000 orthophoto map 2931 CA 11 VERULAM are provided.

15. The area demarcated in RED/BLACK on the topographic map represents the area covered by the orthophoto map.

16. Marks will be allocated for steps in calculations.

17. You must hand in the topographic and orthophoto map to the invigilator at the end of this examination.

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

## QUESTION 1: RURAL AND URBAN SETTLEMENTS

1.1 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.

1.1.1 Rural settlements are associated with … activities.

A primary
B secondary
C tertiary
D quaternary

1.1.2 A dispersed settlement pattern develops when there is …

A one dominant water source.
B an abundance of water.
C a narrow river valley.
D communal ownership of land.

1.1.3 An advantage of a rural nucleated settlement:

A Sharing of farm equipment
B Large, commercial plots of land
C Making independent decisions
D Making large profits

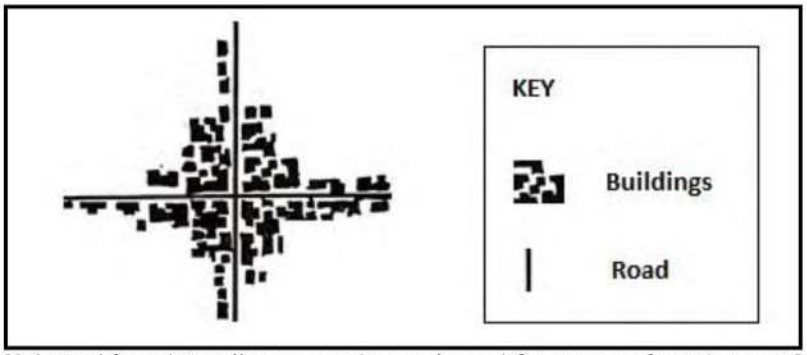
1.1.4 A … is the location of a settlement in relation to the surrounding area.

A gap
B site
C bridging point
D situation

1.1.5 A dry-point settlement is located … water because water is …

A far from; scarce.
B far from; a threat.
C near; a threat.
D near; scarce.

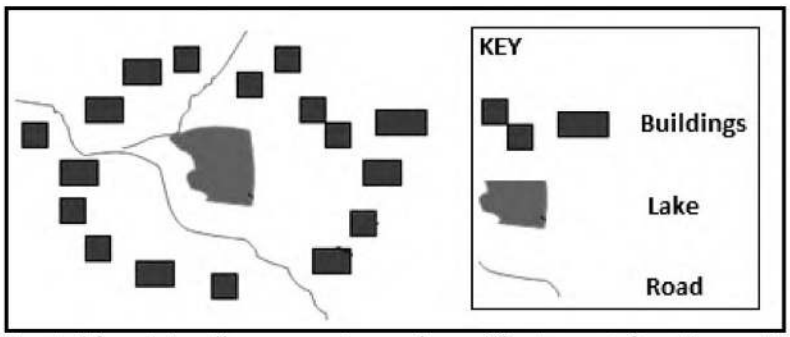
1.1.6 The sketch below refers to a … shaped settlement.




[Adapted from https://www.google.com/search?q=types+of+settlements]

A round
B semi-circular
C crossroad
D linear

1.1.7 The circular shape of the settlement below is influenced by the …




[Adapted from https://www.google.com/search?q=types+of+settlements]

A lake.
B coastline.
C terrain.
D roads.

1.1.8 The following physical factors determine the site of a settlement:

(i) Accessibility to transport
(ii) Distance to market
(iii) Relief
(iv) Fertile soil

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

(8 x 1) (8)

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

| | COLUMN A | | COLUMN B |
|---|---|---|---|
| 1.2.1 | Process whereby an increasing percentage of the country's population is concentrated in urban areas | **Y**<br>**Z** | urbanisation<br>level of urbanisation |
| 1.2.2 | Increase in the number of people living in urban areas | **Y**<br>**Z** | rate of urbanisation<br>urban growth |
| 1.2.3 | Process whereby people move from urban areas into surrounding rural areas | **Y**<br>**Z** | centralisation<br>counter-urbanisation |
| 1.2.4 | Increase in the actual physical size of an urban area | **Y**<br>**Z** | urban expansion<br>urban hierarchy |
| 1.2.5 | Unplanned spread of urban areas | **Y**<br>**Z** | urban sprawl<br>urban decay |
| 1.2.6 | Decreasing number of people living in rural areas | **Y**<br>**Z** | rural-urban migration<br>rural depopulation |
| 1.2.7 | Arrangement of settlements in an area from the smallest to the largest | **Y**<br>**Z** | hierarchy<br>metropolis |

(7 x 1) (7)

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

**A FRESH APPROACH TO LAND REFORM**

South Africa currently faces a problem as the process of land reform has advanced too slowly and much of the land that has been transferred has become economically inactive.

Conflicting (different) views cause South Africans to have questions about land reform. What is the future of land reform in South Africa? Can the process be accelerated? Will it produce equal outcomes? Whose interests will be served?

At a South African agricultural congress, a panel discussion on the future of land reform agreed that, when it comes to successful land reform, intense negotiations and compromises are necessary. This is in keeping with the three pillars of land reform, namely redistribution, tenure and restitution. Land restitution provides a challenge as funding needs to be allocated to compensate dispossessed communities for land previously lost. Well-managed land reform can create assets for the poor, stabilise relationships and promote development. On the other hand, if it is poorly managed, it destroys assets, causes poverty to communities and weakens the economy.

[Adapted from http://www.landreformfutures.org/]

| Poorly managed | Well managed |
|---|---|
|   |   |

[Adapted from http://www.landreformfutures.org/]

1.3.1 What is *land reform*? (1 x 2) (2)

1.3.2 According to the extract, what is the benefit of well-managed land reform? (1 x 1) (1)

1.3.3 (a) Why is land restitution considered a challenge? (1 x 2) (2)

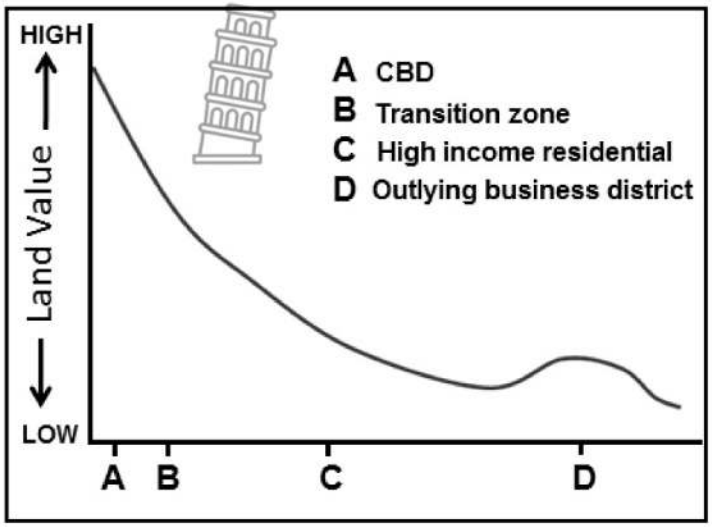
(b) How does **B** illustrate the successful process of land restitution? (1 x 2) (2)

1.3.4 Which factors have caused the 'process of land reform' to advance too slowly? (2 x 2) (4)

1.3.5 Explain the social benefits of well-managed land reform for people living in rural areas. (2 x 2) (4)

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1.4 Refer to the infographic below on the central business district (CBD) of Johannesburg as a land-use zone.




The CBD of Johannesburg has experienced a decline in economic investment over the past 20 years. This has been due to problems such as crime, inefficient public transport, decay, decreased accessibility, etc. These factors force businesses to relocate to outlying business districts, giving rise to commercial decentralisation. In spite of this, the land values remain high in the CBD. The transition zone is generally dilapidated, but maintains high land values.

[Adapted from businesstech.co.za]



[Adapted from *The Journal of the Helen Suzman Foundation,* Issue 69, June 2013]

1.4.1 State TWO characteristics of the Johannesburg CBD that is evident in the photograph. (2 x 1) (2)

1.4.2 Which land-use zone has the highest land value, as indicated on the graph? (1 x 1) (1)

1.4.3 How does the land value (answer to QUESTION 1.4.2) influence the building density of the CBD? (1 x 2) (2)

1.4.4 Why is the transition zone generally dilapidated despite high land values? (2 x 2) (4)

1.4.5 Why is the outlying business district (OBD) attractive for the relocation of businesses? (3 x 2) (6)

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1.5 Refer to the extract below on informal settlements.

**FLOODS CAUSE DESTRUCTION TO INFORMAL SETTLEMENTS IN ETHEKWINI MUNICIPALITY**

**18 April 2022 – 12:45**



The recent flooding in Ethekwini and surrounding areas has claimed hundreds of lives. Families were displaced from informal settlements, worsening the housing problem many already face.

Rapid urbanisation and government failure to deliver sufficient formal housing are among the driving forces behind the increased number of informal settlements. The unavailability of suitable land for housing is due to limited progress made with regard to land policies. This, in turn, is slowing down the ability of local governments to provide sufficient housing in areas that are not prone to disasters like flooding.

The result is that a quarter of South Africa's urban population is living in informal settlements built wherever people find open spaces that are prone to disasters. They lack basic amenities and infrastructure, such as proper roads and storm-water drainage systems. Many informal settlements are situated near water sources and low-lying areas which increases the flood risk.

[Adapted from ewn.co.za]

1.5.1 What is an *informal settlement*? (1 x 2) (2)

1.5.2 Quote a reason from the extract for the increase in the number of informal settlements in Ethekwini. (1 x 1) (1)

1.5.3 Why are informal settlements in Ethekwini at risk of flooding? (1 x 2) (2)

1.5.4 How would the lack of proper roads negatively impact on emergency services to reach informal settlements in times of disasters, like floods? (1 x 2) (2)

1.5.5 In a paragraph of approximately EIGHT lines, suggest measures to prevent flood-related disasters in informal settlements in the Ethekwini Municipality. (4 x 2) (8)

**[60]**

## QUESTION 2: ECONOMIC GEOGRAPHY OF SOUTH AFRICA

2.1 Refer to the table below based on economic activities. 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 (2.1.1 to 2.1.8) in the ANSWER BOOK, e.g. 2.1.9 D.

| | 2020 | 2021 |
|---|---|---|
| **GROSS DOMESTIC PRODUCT** | **R301,92 billion** | **R351,43 billion** |
| | **RANDS IN MILLIONS** | |
| Utilities | 100 789 | 104 317 |
| Transport | 342 443 | 335 001 |
| Services | 1 052 692 | 10 607 113 |
| Public administration | 368 503 | 369 805 |
| Mining | 213 459 | 220 293 |
| Manufacturing | 520 626 | 506 343 |
| Construction | 108 604 | 111 021 |
| Agriculture | 127 960 | 114 030 |

[Adapted from https://www.statssa.gov.za/?p=15273]

2.1.1 The … of a country refers to the total value of goods and services produced by the permanent inhabitants of the country.

A gross national product
B gross domestic product
C balance of trade
D trade agreement

2.1.2 South Africa's gross domestic product (GDP) enables one to compare …

A employment rates.
B economies of other countries.
C standards of living.
D imports and exports.

2.1.3 The primary economic activity that contributed the most to the GDP in 2020 and 2021:

A Utilities
B Agriculture
C Services
D Mining

2.1.4 The tertiary economic activity that contributes the most to South Africa's GDP:

A Services
B Utilities
C Public administration
D Transport

2.1.5 Construction is an example of a … economic activity.

A primary
B secondary
C tertiary
D quaternary

2.1.6 The economic activity that showed a decrease from 2020 to 2021:

A Utilities
B Services
C Construction
D Agriculture

2.1.7 The economic activity that contributed the most to the secondary sector in 2021:

A Construction
B Services
C Manufacturing
D Utilities

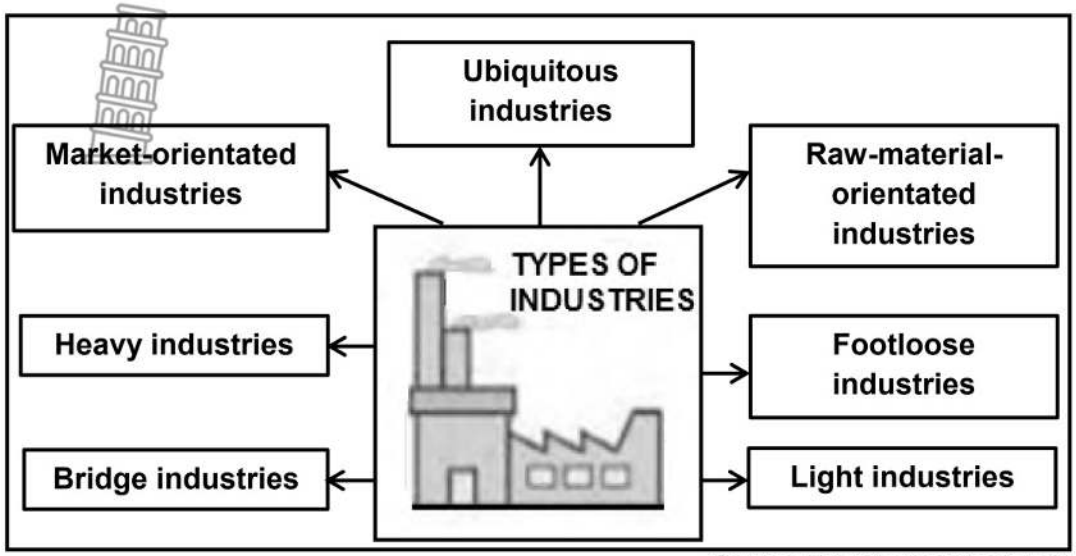
2.1.8 TWO statements below are TRUE with respect to the sector contributions made to South Africa's GDP:

(i) Primary sector contributes the least.
(ii) Secondary sector contributes the least.
(iii) Quaternary sector contributes the most.
(iv) Tertiary sector contributes the most.

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

(8 x 1) (8)

2.2 Match each type of industry in the diagram below with the descriptions that follow. Write only the type of industry next to the question numbers (2.2.1 to 2.2.7) in the ANSWER BOOK, e.g. 2.2.8 Factory.




[Source: Examiner's own sketch]

2.2.1 Located close to customers

2.2.2 The availability of different modes of transport is important

2.2.3 Need large amounts of flat land on the outskirts of built-up areas

2.2.4 Location is not determined by any specific factors

2.2.5 Located in built-up areas as there is little air and noise pollution

2.2.6 Location is determined by bulky unprocessed materials

2.2.7 Telkom is an example of this type of industry (7 x 1) (7)

2.3 Refer to the extract below on food security.

**FOOD SECURITY IN SOUTH AFRICA 2020–2021**

According to a report released by Statistics South Africa, *Measuring Food Security in South Africa: Applying the Food Insecurity Experience Scale*, almost 23,6 per cent of South Africans were affected by moderate to severe food insecurity in 2021.

Statistics South Africa (Stats SA) has been working on improving its measurement of food security and recently introduced the Food Insecurity Experience Scale. Since food insecurity is a global phenomenon, it is important to measure it using tools that guarantee comparability across countries.

Health pandemics, such as Covid-19, has denied many South Africans their right to adequate food as indicated in the South African Constitution. This has undermined the efforts that have been made to meet the National Development Plan's goal of 'Zero Hunger' by 2030.

[Adapted from https://www.statssa.gov.za/?p=15273]

2.3.1 Define the concept *food security*. (1 x 2) (2)

2.3.2 What percentage of South Africans experienced food insecurity in 2021? (1 x 1) (1)

2.3.3 What is the importance of the Food Insecurity Experience Scale according to the extract? (1 x 2) (2)

2.3.4 Suggest how health pandemics, such as Covid-19, lead to food insecurity in South Africa. (1 x 2) (2)

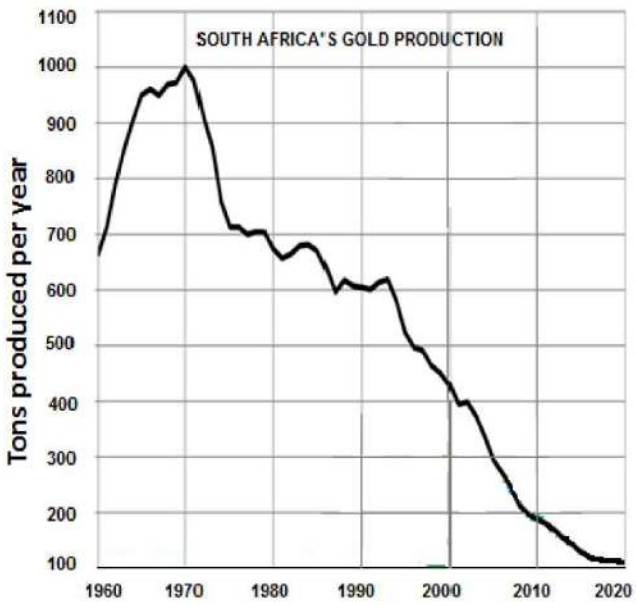
2.3.5 In a paragraph of approximately EIGHT lines, explain how the South African government can assist farmers in achieving 'Zero Hunger' by 2030. (4 x 2) (8)

2.4 Refer to the infographic below based on gold production in South Africa between 1970 and 2020.

South Africa was the world's largest producer of gold, as only 50 years ago, South Africa produced more than 1 000 tons of gold per year. Production peaked in 1970, but has since then been falling steadily and sharply. Labour issues, such as strike actions, have also contributed to reduced gold production.

The nearly 80% fall in South African gold production has led to it being overtaken by China, Australia and the United States of America recently.

[Adapted from https://www.google.com/search?q=gold+mining+statistics+South+Africa]




**COMPARISON OF GOLD PRODUCTION PER TONS PRODUCED**

| | 1970 | 1990 | 2020 |
|---|---|---|---|
| South Africa | 1 000 | 600 | 101 |
| China | 10 | 100 | 380 |
| Russia | 0 | 150 | 300 |
| Australia | 40 | 230 | 330 |
| United States of America | 50 | 300 | 190 |

[Adapted from https://www.researchgate.net/figure/Top-Five-Gold-Producing-Countries]

2.4.1 According to the graph, state the trend in South Africa's gold production from 1970 to 2020. (1 x 1) (1)

2.4.2 How many tons of gold did South Africa produce in 2020, according to the table? (1 x 1) (1)

2.4.3 According to the table, which country was the leading gold producer in 2020? (1 x 1) (1)

2.4.4 State TWO physical factors that favoured South Africa as the leading producer of gold in 1970. (2 x 2) (4)

2.4.5 Suggest TWO factors that resulted in a reduction of gold production from 1990 to 2020. (2 x 2) (4)

2.4.6 Explain how a reduction in South Africa's gold production will impact negatively on its economic growth. (2 x 2) (4)

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2.5 Refer to the infographic below on the Dube TradePort Industrial Development Zone (IDZ).

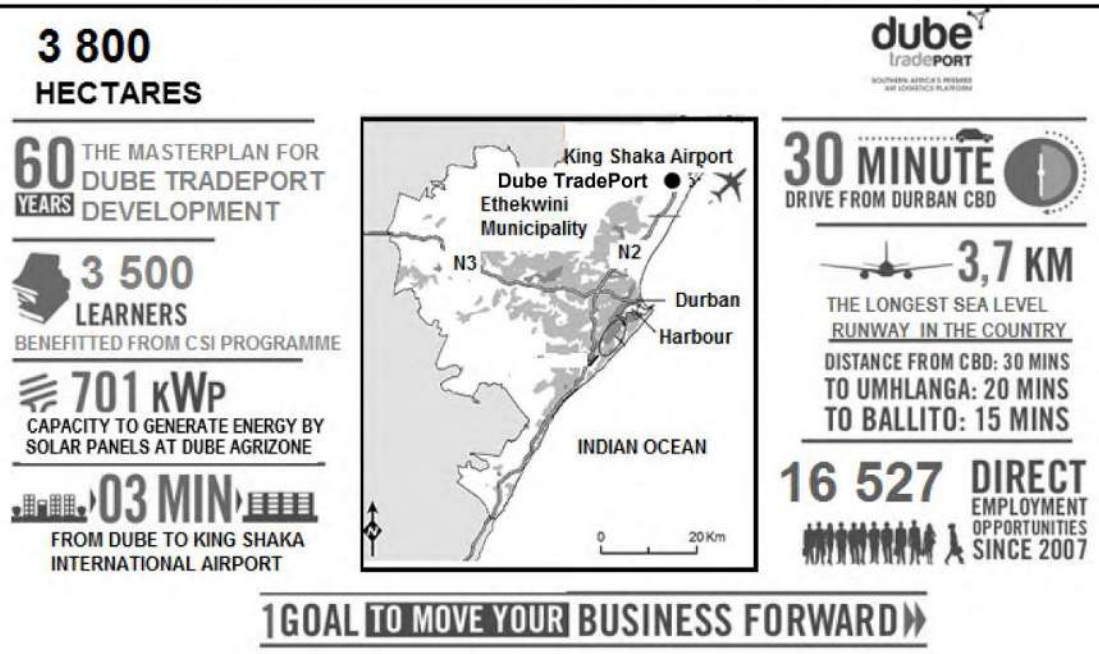
**FACT FILE: DUBE TRADEPORT**

- Largest greenfield airport development in Africa and the only one in South Africa covering more than 3 800 hectares (38 km²).
- Located 30 km north of Durban.
- 45 km away from the busiest cargo port in Africa, which is the Durban Harbour.
- Comprises five business zones: Dube TradeZone, Dube Cargo Terminal, Dube AgriZone, Dube City, Dube iConnect.

**NOTE:** A greenfield development takes place on a vacant site that has not been developed previously.

[Adapted from invest@dubetradeport.co.za]

**ADVERTISEMENT TO ATTRACT INVESTMENT AND INDUSTRIES TO THE DUBE TRADEPORT INDUSTRIAL DEVELOPMENT ZONE**




[Adapted from DubeTradePort.slideshare.net]

2.5.1 What is an *industrial development zone*? (1 x 2) (2)

2.5.2 What transport infrastructure makes the Dube TradePort IDZ unique compared to other IDZs in South Africa, according to the fact file? (1 x 1) (1)

2.5.3 State TWO factors on the map that resulted in greater accessibility to the Dube TradePort IDZ. (2 x 1) (2)

2.5.4 Describe TWO advantages regarding infrastructure that the Dube TradePort IDZ could offer to attract industries. (2 x 2) (4)

2.5.5 Explain how the Dube TradePort IDZ would upskill (improve) labour in the province. (3 x 2) (6)

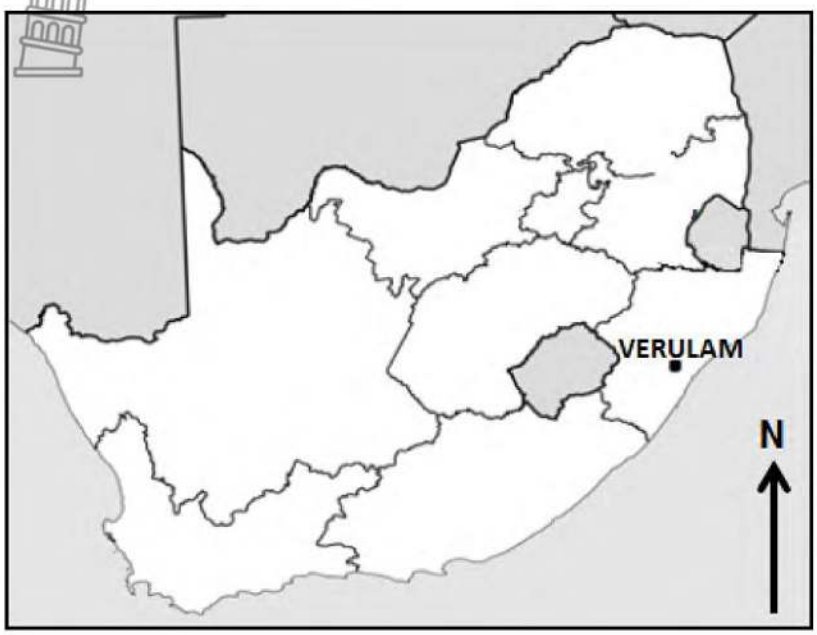
**[60]**

**TOTAL SECTION A: 120**

## SECTION B

## QUESTION 3: GEOGRAPHICAL SKILLS AND TECHNIQUES

### GENERAL INFORMATION ON VERULAM




**Coordinates: 29°35'S; 31°0'E**

The town of Verulam is 170 years old and located to the north of Durban. It has a population of over 60 000 people. Verulam consists of densely populated residential and industrial areas like Canelands. On the outskirts are large farming areas where the main crop grown is sugar cane. There has been slow but steady progress in modernising the town by providing improved infrastructure to the rural areas.

The Hazelmere Dam, just a few kilometres north of Verulam, is the main source of water for the area and is used for a variety of activities, such as watersports and fishing. One of the main rivers that flows through Verulam is the Mdloti River in which the Hazelmere Dam has been built. An interesting fact is that Verulam is the only town in the world where the main street (Wick Street) ends in a river.

[Adapted from https://www.google.com/search?q=map+of+verulam]

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

| ENGLISH | AFRIKAANS |
|---|---|
| International airport | Internasionale lughawe |
| River | Rivier |
| Bridge | Brug |
| Furrow | Voor |

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## 3.1 MAP SKILLS AND CALCULATIONS

Refer to the topographic map and the orthophoto map.

3.1.1 The contour interval of the orthophoto map is (5 m/20 m). (1 x 1) (1)

3.1.2 Which vertical exaggeration would give the most detailed indication of the landforms on a cross-section?

A 2 times
B 5 times
C 10 times
D 20 times (1 x 1) (1)

3.1.3 Complete the grid reference/coordinates of spot height **114** in block **C3** on the topographic map. Write down only the information that is not included in the question.

(a) __° 37' 42"S

(b) 31° __' __"E (3 x 1) (3)

Refer to the topographic map.

3.1.4 Calculate the average gradient between **F** and **G**.

Use the following information:

Vertical interval (VI): 119 m – 80 m = 39 m

Formula: $\textbf{Average gradient} = \frac{\textbf{Vertical interval (VI)}}{\textbf{Horizontal equivalent (HI)}}$ (4 x 1) (4)

3.1.5 Determine if the gradient between (**F** to **G**) is steeper or gentler than (**H** to **I**). (1 x 1) (1)

## 3.2 MAP INTERPRETATION

Refer to **J** in block **D4** on the topographic map.

3.2.1 Is the settlement pattern at **J** *dispersed* or *nucleated*? (1 x 1) (1)

3.2.2 State ONE site factor that favoured farming in this area. (1 x 1) (1)

Refer to residential area **K** in block **E3** on the topographic map and the photograph of the same area below.



[Source: https://www.google.com/search?q=residential=areas=in=verulam]

3.2.3 Area **K** is a (high/low)-income residential area. (1 x 1) (1)

3.2.4 Give evidence from the topographic map and/or photograph to support your answer to QUESTION 3.2.3. (1 x 2) (2)

3.2.5 How does the spacing of the contour lines indicate that residential area **K** is built on steep/hilly land? (1 x 1) (1)

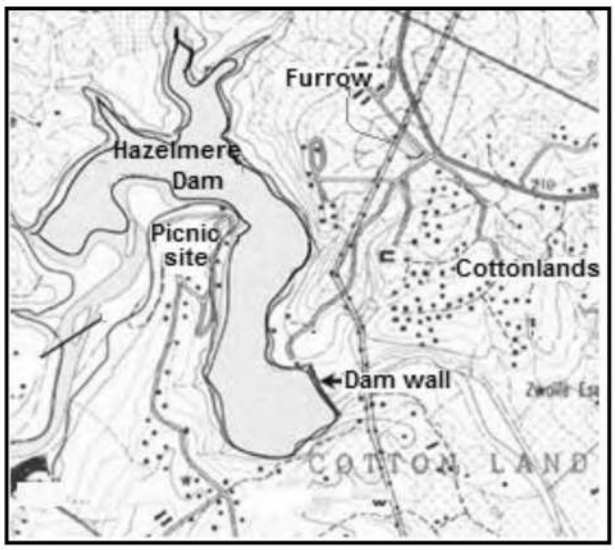
3.2.6 How did the steep/hilly land influence the type of street pattern in this area on the topographic map? (1 x 2) (2)

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Refer to the orthophoto map.

3.2.7 Refer to Canelands **(6)** in block **A5** on the orthophoto map and state ONE situation factor that influenced the location of this industrial area. (1 x 1) (1)

Refer to the Hazelmere Dam in block **A1** and an enlarged extract of the topographic map below.

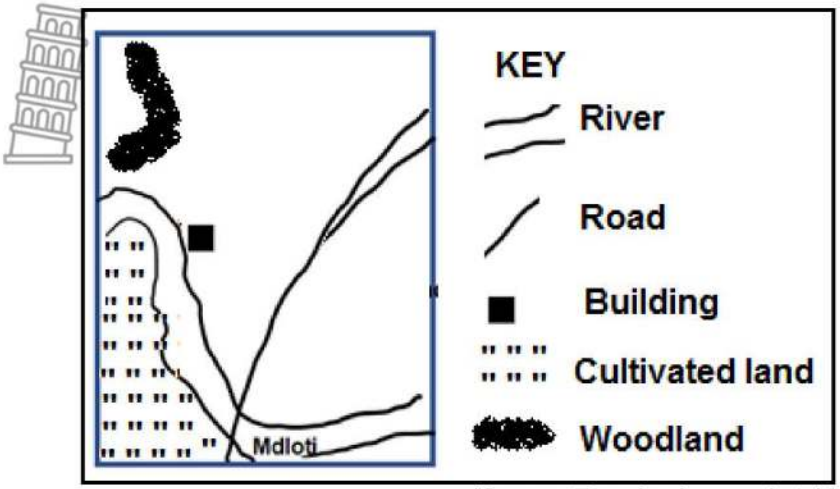



3.2.8 Name ONE tertiary activity that is associated with the Hazelmere Dam. (1 x 1) (1)

3.2.9 How does this tertiary activity (answer to QUESTION 3.2.8) contribute to the economy of Verulam? (1 x 2) (2)

## 3.3 GEOGRAPHICAL INFORMATION SYSTEMS (GIS)

Refer to the block below representing block **D5** on the topographic map.




[Source: Examiner's own sketch]

3.3.1 Identify the following:

(a) Human-made polygon (area) feature

(b) Natural line feature (2 x 1) (2)

3.3.2 The TWO features (answer to QUESTION 3.3.1) represent (vector/raster) data. (1 x 1) (1)

Refer to blocks **A3** and **A4** on the orthophoto map.

3.3.3 Buffering is the demarcation of an area around a feature/location.

(a) What evidence indicates that buffering is taking place along the Mdloti River? (1 x 1) (1)

(b) Explain why it was necessary to buffer the Mdloti River. (1 x 2) (2)

Refer to blocks **B4** and **B5** on the topographic map.

3.3.4 A data layer is a layer of information based on a specific theme.

(a) Identify the infrastructure data layer that creates international links for the Dube TradePort IDZ. (1 x 1) (1)

(b) How did the topography data layer assist in determining the ideal location of the Dube TradePort IDZ? (1 x 1) (1)

**TOTAL SECTION B: 30**
**GRAND TOTAL: 150**

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