



basic education

Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

NATIONAL SENIOR CERTIFICATE

GRADE 12

GEOGRAPHY P2

NOVEMBER 2021

MARKS: 150

TIME: 3 hours

This question paper consists of 18 pages.

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 2629DB of ERMELO and a 1 : 10 000 orthophoto map 2629 DB 5 of ERMELO are provided.
15. The area demarcated in RED/BLACK on the topographic map represents the area covered by the orthophoto map.
16. Show ALL calculations where applicable. Marks will be allocated for this.
17. You must hand in the topographic and orthophoto map 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 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.

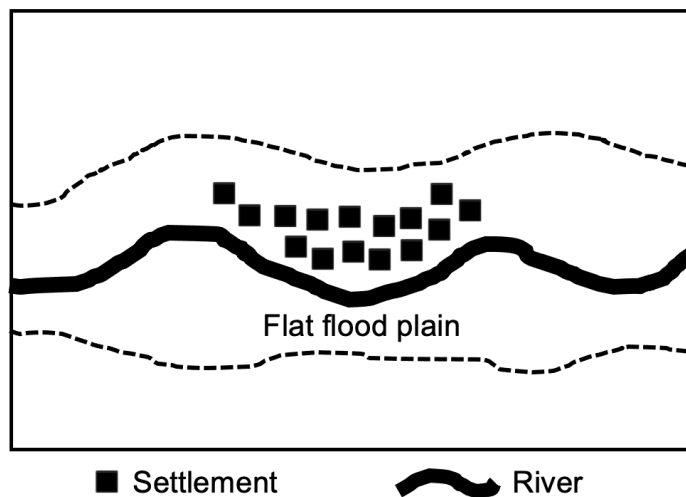
1.1.1 The relative location of one place in relation to another place is referred to as ...

- A site.
- B relative distance.
- C situation.
- D exact location.

1.1.2 The economic sector and economic function that dominate in rural settlements can be described as ...

- A primary and unifunctional.
- B primary and multifunctional.
- C secondary and multifunctional.
- D secondary and unifunctional.

1.1.3 The type of settlement illustrated below is a ...

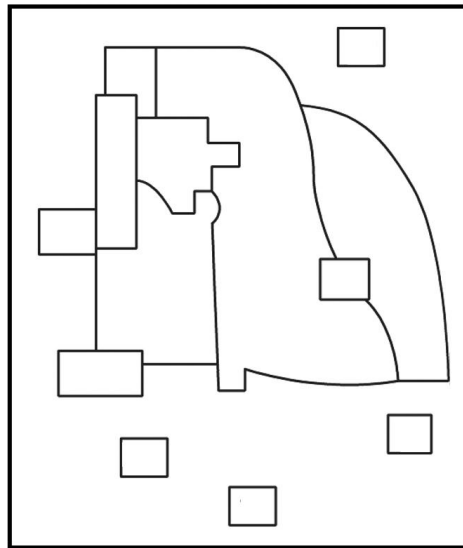


- A linear settlement.
- B dry-point settlement.
- C dispersed settlement.
- D wet-point settlement.

1.1.4 Settlements along the coast generally have a ... shape.

- A circular
- B cross-
- C semi-circular
- D star

1.1.5 The land-use model below can be identified as a multiple nuclei model because it has ...



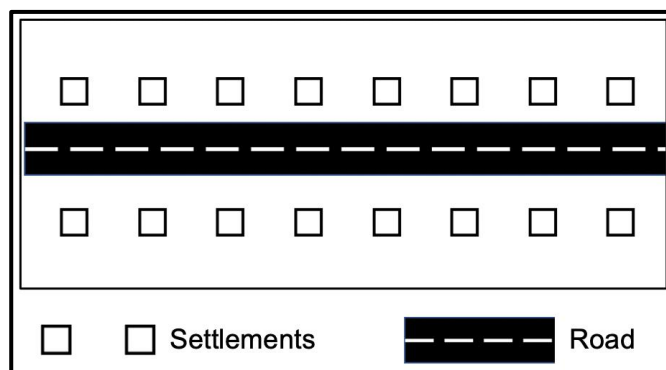
[Source: Examiner's own sketch]

- A concentric zones.
- B many focal points.
- C many wedges.
- D one focal point.

1.1.6 The ... refers to the number of people required for a business to make a profit.

- A threshold population
- B sphere of influence
- C range of goods
- D urban hierarchy

1.1.7 The urban area below is ...shaped.



[Source: Examiner's own sketch]

- A stellar
- B linear
- C cross-
- D circular

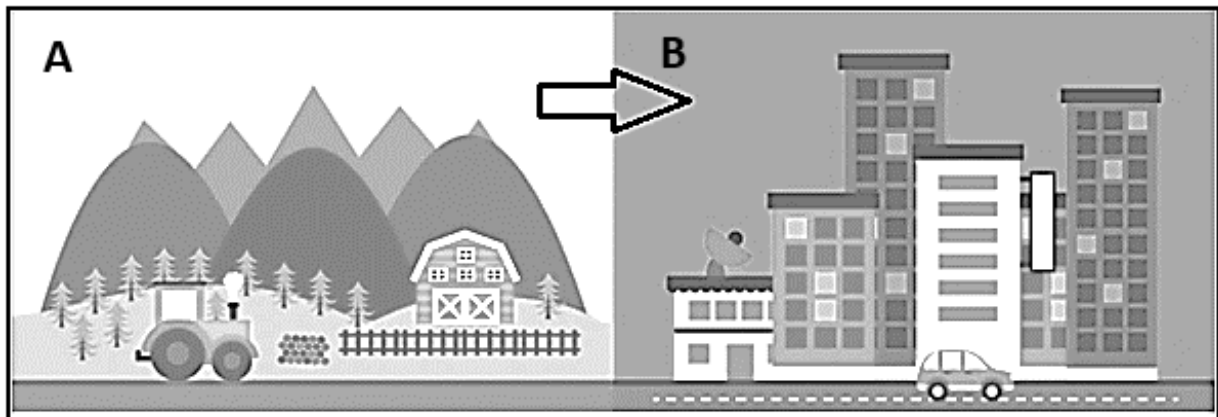
- 1.1.8 Urbanisation refers to the ...
- A decreasing number of people that live in rural areas.
 - B physical growth of an urban area.
 - C percentage by which urban populations increase.
 - D uncontrolled expansion of urban areas. (8 x 1) (8)

- 1.2 Select ONE term/concept for each of the following descriptions on the classification of settlements. Write only the term/concept next to the question numbers (1.2.1 to 1.2.7) in the ANSWER BOOK, e.g. 1.2.8 large city.

hamlet; town; megalopolis; isolated farmstead; conurbation; village; city; metropolis
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- 1.2.1 A settlement that is the smallest in a hierarchy
- 1.2.2 A settlement that is a continuous urban area made up of towns and cities
- 1.2.3 A settlement that consists of a loose grouping of a few farmsteads
- 1.2.4 A settlement that consists of a major city with satellite towns
- 1.2.5 A settlement that offers a large variety of services and specialised functions
- 1.2.6 A small urban settlement that provides urban functions to the surrounding rural area
- 1.2.7 A settlement consisting of many conurbations (7 x 1) (7)

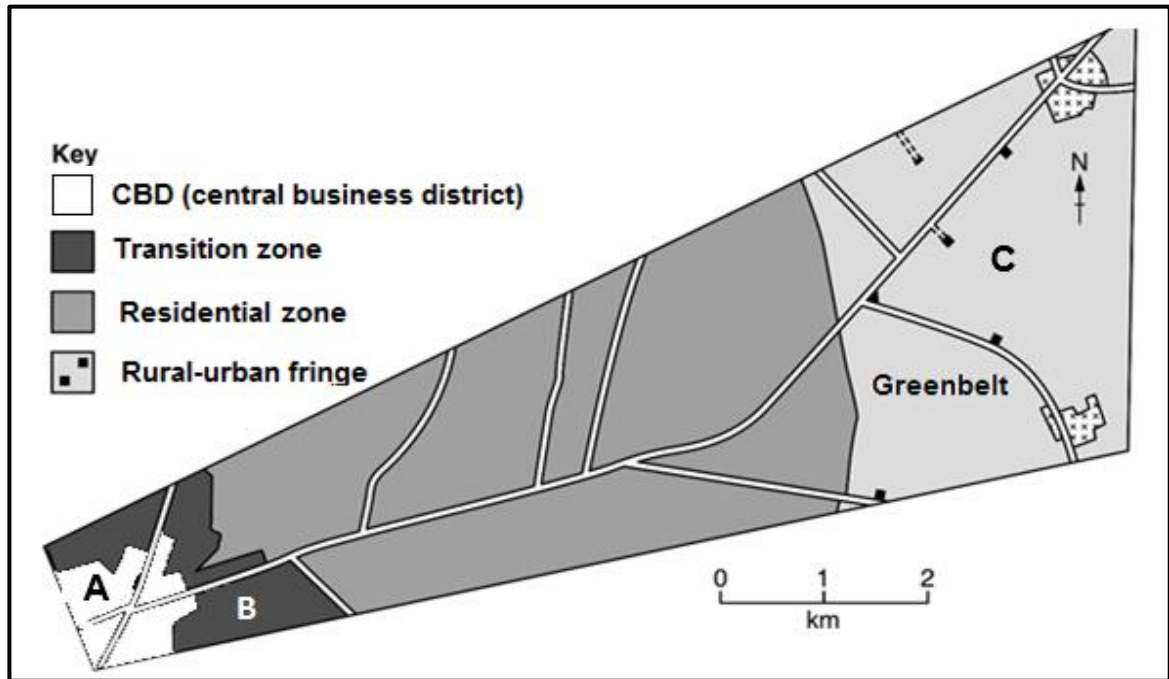
1.3 Refer to the sketch showing rural-urban migration.



[Source: <https://www.sspcr.eurac.edu/2019/07/03/special-session-on-rural-urban-relationships-for-a-better-territorial-development/>]

- 1.3.1 State an environmental factor that results in the movement of people from **A** to **B**. (1 x 1) (1)
- 1.3.2 How does rural-urban migration give rise to rural depopulation? (1 x 2) (2)
- 1.3.3 What is the negative economic impact of rural-urban migration on settlement **A**? (2 x 2) (4)
- 1.3.4 In a paragraph of approximately EIGHT lines, explain why rural migrants experience difficulty in finding employment in area **B** and the impact thereof on their quality of life. (4 x 2) (8)

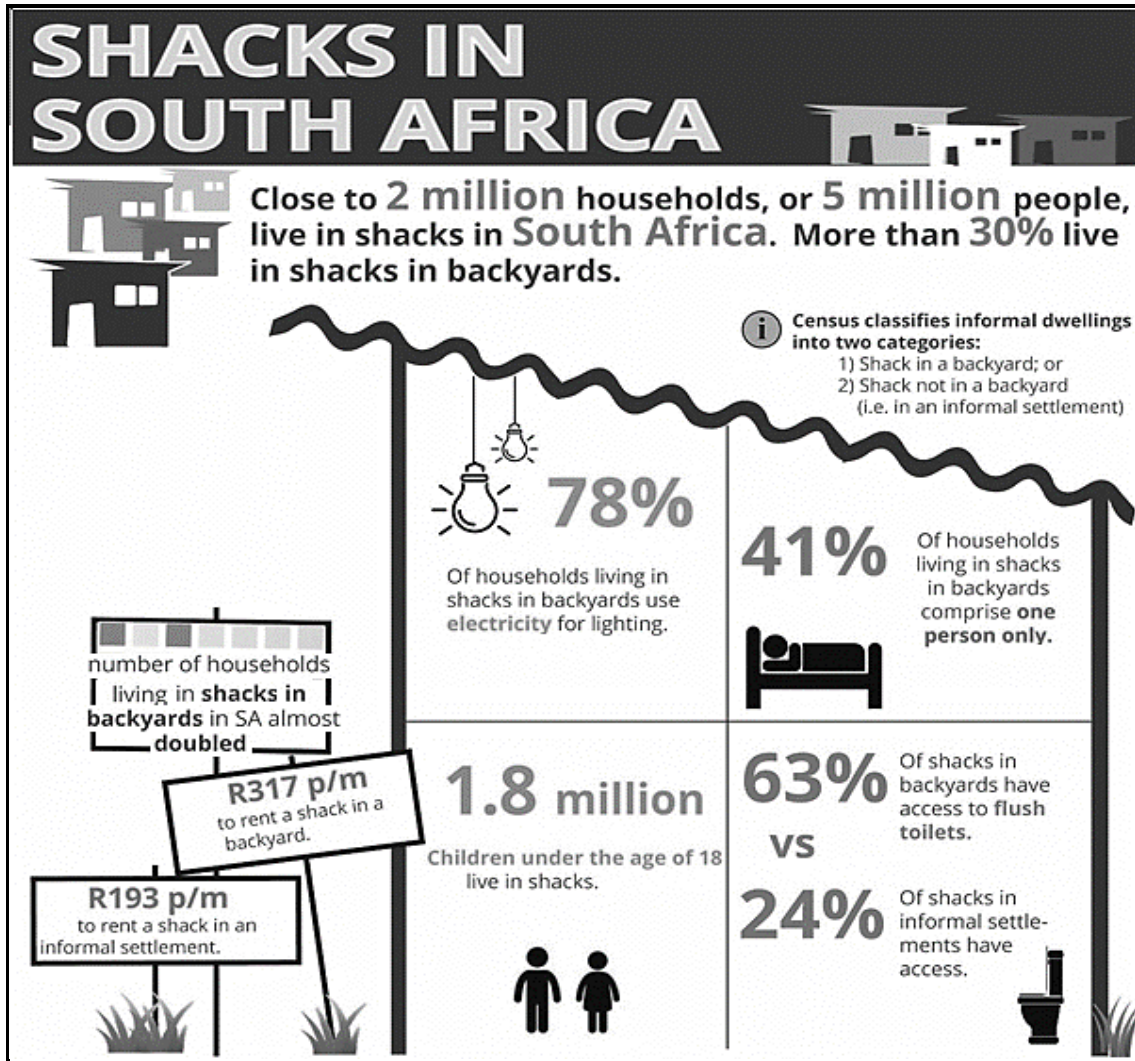
1.4 Refer to the cross-section on urban land-use zones.



[Source: Adapted from <https://www.google.com/search?q=land-use/>]

- 1.4.1 Identify the land-use zone at **A**. (1 x 1) (1)
- 1.4.2 How would the decreasing accessibility to land-use zone **A** negatively impact commuters? (1 x 2) (2)
- 1.4.3 Give TWO reasons for the irregular shape of the land-use zone at **B**. (2 x 2) (4)
- 1.4.4 Why are buildings in land-use zone **B** in a dilapidated (poor) state? (2 x 2) (4)
- 1.4.5 Why will new high-income residential developments be attracted to area **C**? (2 x 2) (4)

1.5 Refer to the infographic on informal settlements.



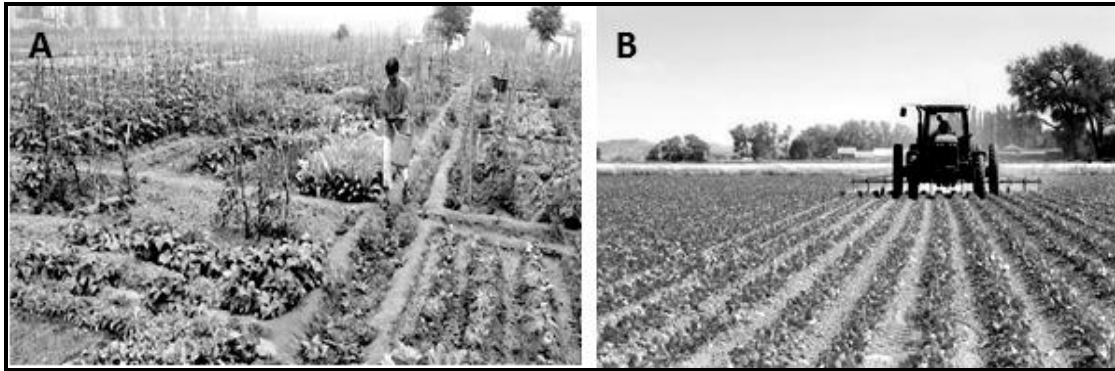
[Source: <https://www.google.com/search?q=infographic+shack+dwellers&tbm=isch&ved>]

- 1.5.1 How many people in South Africa, according to the infographic, live in shacks? (1 x 1) (1)
- 1.5.2 State TWO advantages of living in a backyard shack compared to an informal settlement according to the infographic. (2 x 1) (2)
- 1.5.3 Why do a larger number of people still choose to live in informal settlements compared to backyard shacks? (1 x 2) (2)
- 1.5.4 How does the building material of informal settlements increase vulnerability (more at risk) to extreme weather conditions? (1 x 2) (2)
- 1.5.5 Identify and explain ONE social issue that developed due to the growth of informal settlements. (2 x 2) (4)
- 1.5.6 How can local municipalities reduce the challenges associated with the growth of informal settlements? (2 x 2) (4)

[60]

QUESTION 2: ECONOMIC GEOGRAPHY OF SOUTH AFRICA

- 2.1 The photographs below show TWO types of farming. Match the descriptions in QUESTIONS 2.1.1 to 2.1.7 with photographs **A** or **B**. Write only the letter, (**A** or **B**) next to the question numbers (2.1.1 to 2.1.7) in the ANSWER BOOK, e.g. 2.1.8 B.



- 2.1.1 Farming that produces a low yield per hectare
- 2.1.2 Farming that focuses on food security in local communities
- 2.1.3 Farming that is capital-intensive and uses advanced technology
- 2.1.4 Farming associated with monoculture
- 2.1.5 Farming described as small-scale farming
- 2.1.6 Products for the home and export market
- 2.1.7 Associated with extensive farming practices (7 x 1) (7)

2.2 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 D.

2.2.1 The GDP is the total value of ...

- A goods and services produced within a country in one year.
- B goods and services produced by permanent citizens in one year.
- C exports that leave a country in one year.
- D imports that come into a country in one year.

2.2.2 The concept ... is used to refer to products sold within South Africa.

- A export market
- B import market
- C home market
- D international market

2.2.3 Food security occurs when ...

- A there is a lack of food that gives rise to starvation.
- B there is access to sufficient nutritious food.
- C farmers experience drought and crop diseases.
- D farmers produce sufficient food.

2.2.4 ... is a physical factor that affects food security in South Africa.

- A Research
- B Trade
- C HIV/Aids
- D Rainfall

2.2.5 TWO types of industries associated with bulk transport:

- (i) Ubiquitous
- (ii) Heavy
- (iii) Light
- (iv) Raw-material orientated

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

2.2.6 TWO types of industries generally associated with lower levels of air pollution:

- (i) Ubiquitous
- (ii) Heavy
- (iii) Light
- (iv) Raw-material orientated

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

2.2.7 ... is an example of a tertiary activity.

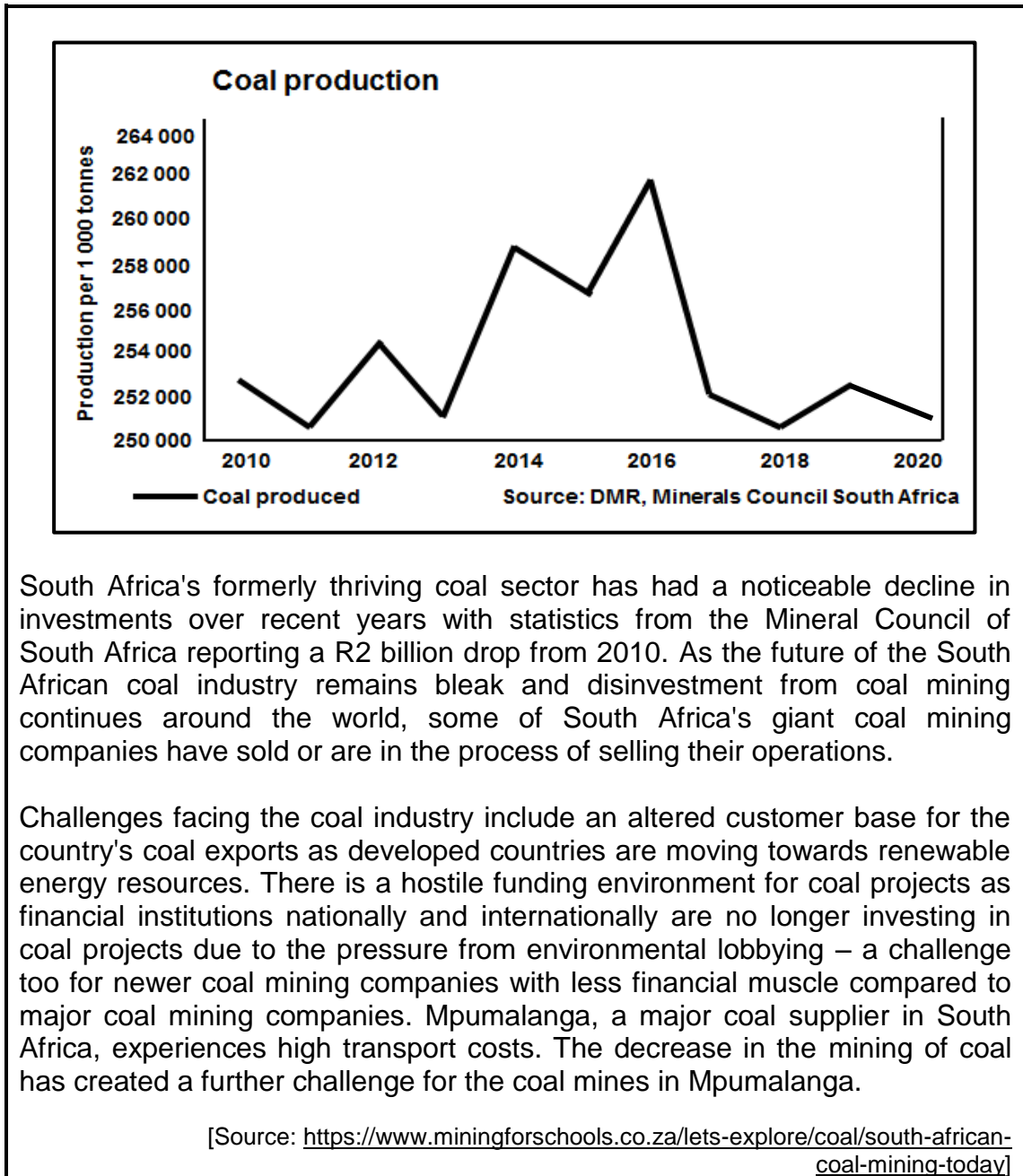
- A Mining
- B Motor vehicle assembly
- C Transport
- D Information technology

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

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

(8 x 1) (8)

2.3 Refer to the extract on coal mining in South Africa.



South Africa's formerly thriving coal sector has had a noticeable decline in investments over recent years with statistics from the Mineral Council of South Africa reporting a R2 billion drop from 2010. As the future of the South African coal industry remains bleak and disinvestment from coal mining continues around the world, some of South Africa's giant coal mining companies have sold or are in the process of selling their operations.

Challenges facing the coal industry include an altered customer base for the country's coal exports as developed countries are moving towards renewable energy resources. There is a hostile funding environment for coal projects as financial institutions nationally and internationally are no longer investing in coal projects due to the pressure from environmental lobbying – a challenge too for newer coal mining companies with less financial muscle compared to major coal mining companies. Mpumalanga, a major coal supplier in South Africa, experiences high transport costs. The decrease in the mining of coal has created a further challenge for the coal mines in Mpumalanga.

[Source: <https://www.miningforschools.co.za/lets-explore/coal/south-african-coal-mining-today>]

- 2.3.1 According to the Mineral Council of South Africa, by how much did the investments in coal drop from 2010? (1 x 1) (1)
- 2.3.2 According to the graph, over which TWO-year period was the greatest decrease in production recorded? (1 x 2) (2)
- 2.3.3 How does the location of the coal mines in Mpumalanga increase the export costs of coal? (1 x 2) (2)

- 2.3.4 Despite Mpumalanga having rich coal reserves, the coal industry faces a bleak future. Quote reasons from the extract for this bleak future. (2 x 2) (4)
- 2.3.5 Explain how the decrease in the mining of coal will have a negative economic impact on Mpumalanga. (3 x 2) (6)

2.4 Refer to the infographic on the South-western Cape core industrial region and the West Coast Spatial Development Initiative (SDI).

South-western Cape contributes about 15% to the South African manufacturing sector output. Although the province's agro-processing sector has shown resilience (strength) during these tough economic times, the core industrial region's real economy is dominated by manufacturing and commercial agriculture.

The manufacturing sector in the South-western Cape core industrial region is supported by multi-national corporations who have chosen the region to take advantage of the economic opportunities of the local economy as well as those in the rest of Africa. The region has attracted major investments from various corporations.

In recognition of the importance of supporting the manufacturing sector, the South African government has established various incentives for manufacturing investors.

[Adapted from <https://www.engineeringnews.co.za/article/manufacturing-in-the-western-capeintra-2017-11-07>]


- 2.4.1 Quote evidence from the infographic which shows that the South-western Cape core industrial region contributes to the South African economy. (1 x 1) (1)

- 2.4.2 State TWO modes of transport in the infographic that make the South-western Cape core industrial region attractive to foreign investors. (2 x 1) (2)
- 2.4.3 The South-western Cape core industrial region is dominated by light industries.
 - (a) Why does the South-western Cape core industrial region favour the development of light industries? (2 x 2) (4)
 - (b) Give TWO factors that have limited the development of heavy industries in the South-western Cape core industrial region. (2 x 2) (4)
- 2.4.4 Explain how the West Coast Spatial Development Initiative (SDI) creates increased access for the South-western Cape core industrial region to international markets. (2 x 2) (4)

2.5 Refer to the extract based on the informal sector.

INFORMAL SECTOR IN DIRE SITUATION, YET CONTRIBUTES BILLIONS TO ECONOMY

Government and business interventions during the crisis have focused mostly on the formal economy, thus ignoring the informal sector and leaving the most vulnerable in society exposed.



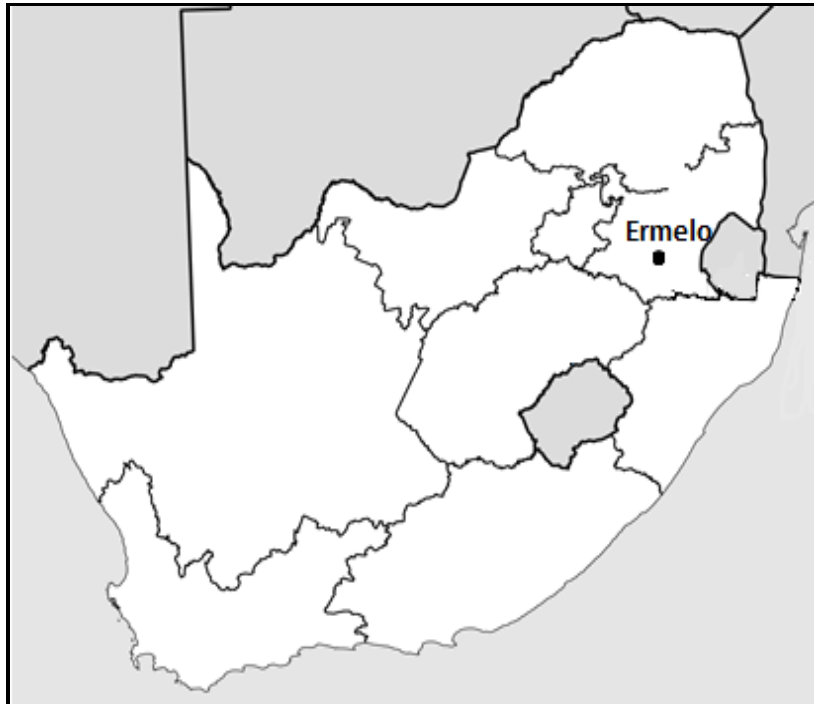
Examples include food and flea markets, street vendors and laundromats, mostly in rural or informal settlements. It is considered informal since these businesses are rarely registered at national or regional levels, are cash-based and thus do not pay taxes and usually do not have formal arrangements with employees.

The informal sector is also known as the 'shadow' economy and, as such, it is prone to be overlooked or ill-considered during policy formulation. It is often disregarded in business strategy and too easily associated with corrupt activities.

[Source: <https://www.mosselbayadvertiser.com/News/Article/National/informal-sector-in-dire-situation-yet-contributes-billions-to-economy-202004241043>]

- 2.5.1 Define the concept *informal sector*. (1 x 2) (2)
- 2.5.2 Give an example of an informal activity in the extract. (1 x 1) (1)
- 2.5.3 Why is the informal settlement considered part of a 'shadow' economy? Quote from the extract. (2 x 2) (4)
- 2.5.4 In a paragraph of approximately EIGHT lines, suggest sustainable strategies that government and businesses could implement in order to strengthen the informal sector. (4 x 2) (8)

[60]

SECTION B**QUESTION 3: GEOGRAPHICAL SKILLS AND TECHNIQUES****BACKGROUND INFORMATION ON ERMELO**

Co-ordinates: 26°31'S ; 29°58'E

Ermelo is an educational, industrial and commercial town in the 7,750 km² Gert Sibande District Municipality in Mpumalanga, South Africa. It is located 210 km east of Johannesburg. It is both a mixed agriculture and mining region. Mixed farming, such as maize and cattle, take place within the district. Mining is important to the district with anthracite, coal and torbanite being mined.

[Source: https://en.wikipedia.org/wiki/Ermelo,_Mpumalanga]

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

ENGLISH

Diggings
River
Sewerage works
Opencast mine
Prison
Purification Plant

AFRIKAANS

Uitgrawings
Rivier
Rioolwerke
Oopgroefmyn
Tronk
Suiweringsaanleg

3.1 **MAP SKILLS AND CALCULATIONS**

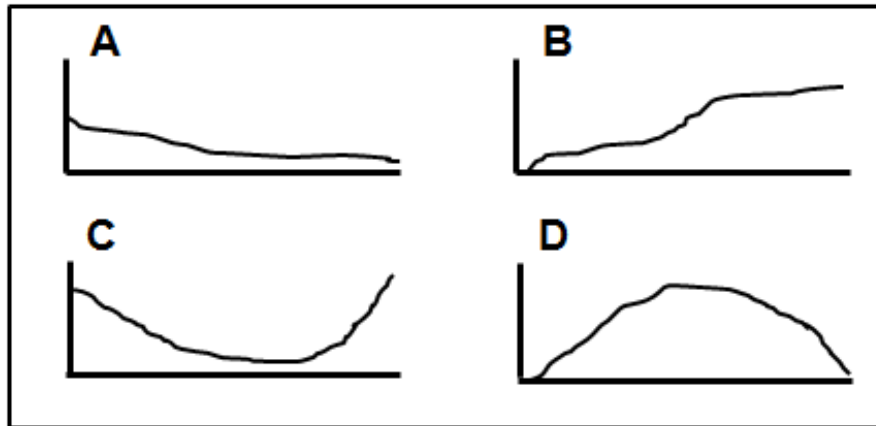
3.1.1 The town closest to Ermelo by rail is ...

- A Breyton.
- B Camden.
- C Chrissiesmeer.
- D Piet Retief

(1 x 1) (1)

Refer to spot height 1738, **F** in block **B1** and windpump, **G** in block **B3** on the topographic map.

3.1.2 The rough cross-section between spot height 1738 and the windpump is ...



(1 x 1) (1)

3.1.3 Give a reason for the intervisibility between spot height 1738 and the windpump. (1 x 2) (2)

3.1.4 What is the difference in height between spot height 1738 and the windpump? (1 x 1) (1)

3.1.5 Calculate the distance between the spot height 1738 and the windpump in metres.

Formula: **Actual Distance = Map distance x Map scale**

(2 x 1) (2)

3.1.6 Use the answers to QUESTIONS 3.1.4 and 3.1.5 to calculate the average gradient between spot height 1738 and the windpump.

Formula: **Average gradient = $\frac{\text{Vertical interval (VI)}}{\text{Horizontal equivalent (HE)}}$**

(2 x 1) (2)

3.1.7 Determine the feature that is located at the following grid reference:

26°31'54"S;29°57'25"E

(1 x 1) (1)

3.2 MAP INTERPRETATION

Refer to the sewerage works, **J** in block **A3**, on the topographic map.

- 3.2.1 The sewerage works are located in the ...
- A transition zone.
 - B rural-urban fringe.
 - C commercial zone.
 - D industrial zone. (1 x 1) (1)
- 3.2.2 Wesselton is a residential area located near the sewerage works.
Why does the location of the sewerage works decrease the property value of Wesselton? (1 x 2) (2)

Refer to street patterns (plans) **H** and **I** on the topographic map.

- 3.2.3 Identify street patterns (plans) **H** and **I**. (2 x 1) (2)
- 3.2.4 Why is street pattern (plan) **I** no longer popular in new developments? (1 x 2) (2)

Refer to the hospital at **6** in block **E5** on the orthophoto map.

- 3.2.5 The main economic activity at **6** in block **E5** on the orthophoto map is (secondary/tertiary). (1 x 1) (1)
- 3.2.6 Explain why area **6** was suitable for the development of the economic activity identified in QUESTION 3.2.5. (1 x 2) (2)

Refer to blocks **D1** and **E1** on the topographic map.

- 3.2.7 How has the opencast mine in blocks **D1** and **E1** on the topographic map created an environmental injustice? (1 x 2) (2)

3.3 GEOGRAPHICAL INFORMATION SYSTEMS (GIS)

Refer to the spatial objects in blocks **D1** and **E1** on the topographic map.

Give an example of the following:

- 3.3.1 A natural line feature (1 x 1) (1)
- 3.3.2 A human-made polygon feature (1 x 1) (1)

Refer to the image (taken via remote sensing), of the opencast mine as seen in blocks **D1** and **E1** on the topographic map.



[Source: <https://live-production.wcms.abc-nnet.au/331aa383528239df7238f20fc4a225b9?>]

- 3.3.3 Define the concept *remote sensing*. (1 x 2) (2)
- 3.3.4 Give ONE visible attribute of the opencast mine by referring to blocks **D1** and **E1** on the topographic map and the image above. (1 x 2) (2)
- 3.3.5 Explain how this image of the opencast mine would be more effective to assess the environmental injustice than using the topographic map. (1 x 2) (2)

TOTAL: 150