



# education

Department:  
Education  
North West Provincial Government  
**REPUBLIC OF SOUTH AFRICA**

## NATIONAL SENIOR CERTIFICATE

GRADE 12

GEOGRAPHY P2

SEPTEMBER 2024

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**MARKS: 150**

**TIME: 3 hours**



This question paper consists of 17 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.

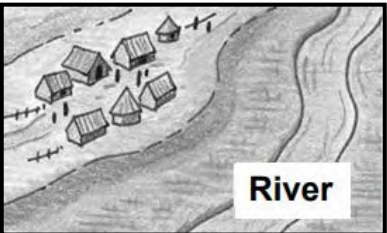

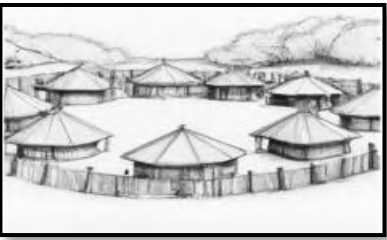
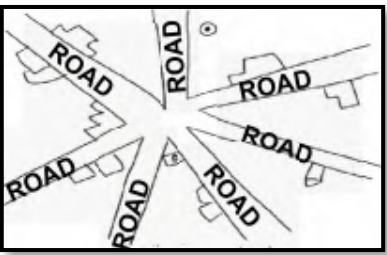

## SPECIFIC INSTRUCTIONS AND INFORMATION FOR SECTION B

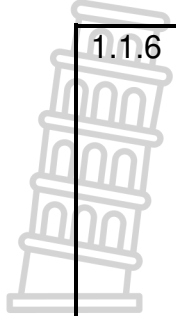
14. A 1 : 50 000 topographical map 22530BD MBOMBELA and a 1 : 10 000 orthophoto map 2530 MBOMBELA are provided.
15. The area demarcated in RED/BLACK on the topographical map represents the area covered by the orthophoto map.
16. Show all calculations. Marks will be allocated for steps in calculations.
17. You must hand in the topographical map and orthophoto map to the invigilator at the end of this examination.

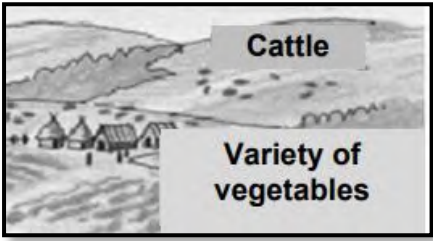
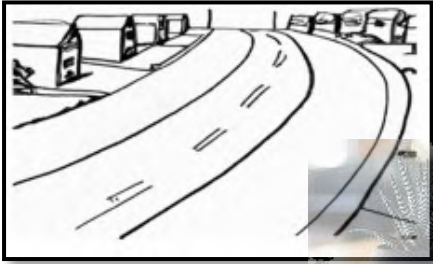

**SECTION A: RURAL AND URBAN SETTLEMENTS AND THE ECONOMIC GEOGRAPHY OF SOUTH AFRICA**

**QUESTION 1: RURAL AND URBAN SETTLEMENTS**

1.1 Choose the concept/term from COLUMN B that matches the picture in COLUMN A. Write only **Y** or **Z** next to the question numbers (1.1.1 to 1.1.8) in the ANSWER BOOK, e.g. 1.1.9 Y.

COLUMN A	COLUMN B
1.1.1 	Y Wet point settlement Z Dry point settlement
1.1.2 	Y Linear defense Z Linear ford
1.1.3 	Y Defensive settlement Z Dispersed rural settlement
1.1.4 	Y Cross shaped pattern Z Star shaped pattern
1.1.5 	Y Located in the Southern Hemisphere Z Located in the Northern Hemisphere



1.1.6		Y Z Commercial farming Subsistence farming
1.1.7		Y Z Man made feature Physical (natural feature)
1.1.8		Y Z Dispersed pattern Nucleated pattern

(8 x 1) (8)



1.2 Choose ONE term/concept for each of the following descriptions provided. Write only the term/concept next to the question numbers (1.2.1 to 1.2.7) in the ANSWERBOOK, e.g. 1.2.8 Trade and transport town.

1.2.1 A (resort town/specialised town) that develops due to the occurrence of one main physical resource.

1.2.2 A (junction town/gap town) develops at major transport intersections.

1.2.3 Where goods and services are transferred from one mode of transport to another (break-of-bulk point/junction town).

1.2.4 (Specialised towns/central place towns) provides goods and services to surrounding rural areas.

1.2.5 A natural attraction leads to the development of (resort towns/bridge towns).

1.2.6 Worcester, a (central town /gap town) is located in a mountain pass.

1.2.7 A (industrial town/gateway town) is mainly concerned with manufacturing

(7 x 1) (7)



1.3 Refer to the extract on land reform

**Land reform in South Africa is failing. Ignoring the realities of rural life plays a part.**

There is widespread agreement that land reform in South Africa has failed to deliver the changes. Racially based dislocation and land dispossession were central features of colonial conquest and apartheid rule. To redress this, in 1994, the newly elected African National Congress (ANC) set a target of redistributing 30% of the country's white-owned agricultural land to black people. Persistently failing to come close to this goal, the government now hopes to reach it to show that South Africa's land reform programme is misguided. It is designed for a socio-economic context that doesn't exist. It ignores three important factors:

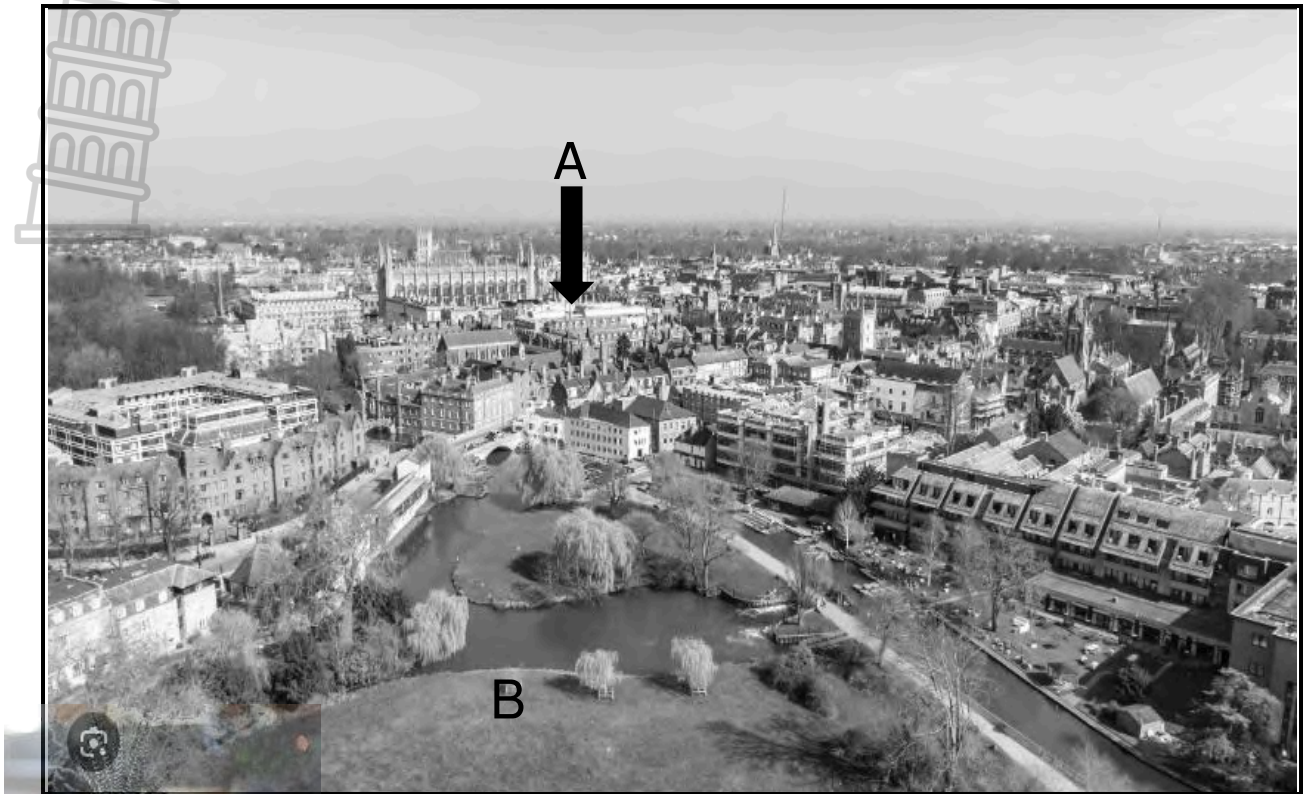
Land has multiple uses other than production. Small rural farmers aren't purely economic actors who are self-reliant. Family and community obligations create financial pressures that can force small rural farmers to stop production and fall into poverty.

[Adapted from: <https://theconversation.com/land-reform-in-south-africa-is-failing-ignoring-the-realities-of-rural-life>]

- 1.3.1 Define the term *land reform*. (1 x 2) (2)
- 1.3.2 Quote THREE important factors from the extract that South Africa's land reform programme is ignored. (3 x 1) (3)
- 1.3.3 Provide ONE reason why land reform is necessary in South Africa. (1 x 2) (2)
- 1.3.4 Explain TWO challenges associated with land reform that cause the government not to achieve their goal. (2 x 2) (4)
- 1.3.5 Explain TWO methods that the government can put in place to assist the people that have been relocated due to land reform. (2 x 2) (4)



1.4 Refer to the sketch below based on urban sprawl.



[Adapted from <https://www.thetimes.co.uk/article/cambridge-university-attacking-citys-green-belt-z3cqx6f7d>]

1.4.1 Define the term *urban sprawl*.

(1 x 2) (2)

1.4.2 Identify the land use areas **A** and **B** respectively.

(2 x 1) (2)

1.4.3 Provide a reason why area **A** would most likely expand into area **B**.

(1 x 2) (2)

1.4.4 Explain the main function of **B** regarding the expansion of area **A**.

(1 x 2) (2)

1.4.5 Name THREE advantages of area **B**.

(3 x 1) (3)

1.4.6 Explain how new towns can solve the problem of expanding of area **A** into the protected area **B**.

(2 x 2) (4)

1.5 Refer to the extract below on informal settlements.

**8 die of electric shock in South Africa's flooded informal settlements**

After a weekend of heavy rains lashed South Africa's Western Cape, homes in flooded informal settlements with makeshift electric wiring have become the sites of multiple deaths. At least eight people, including four children, died after being shocked by electricity in the region's poor townships, where many residents precariously hook their homes to existing power lines for electricity.

Overwhelmed by rapid population growth and urban expansion, South Africa has around 11 percent of its population living in informal dwellings, according to a 2021 Statistics South Africa survey.

Informal settlements largely lack regular sanitation services, electricity and running water - further increasing the vulnerability of residents.

[Adapted from: <https://www.washingtonpost.com/world/2023/09/26/south-africa-flood-electrocution-informal-settlements-housing-cape/>]

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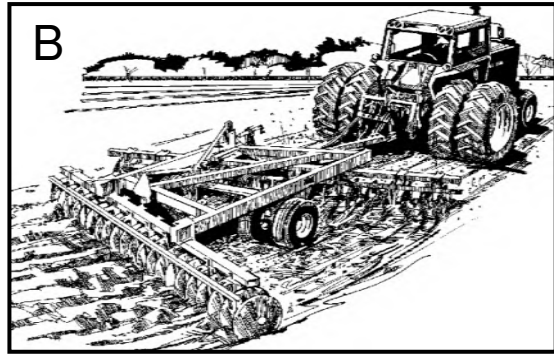
- 1.5.1 Define the term *informal settlement*. (1 x 2) (2)
- 1.5.2 Name the cause of the people's death in the extract. (1 x 1) (1)
- 1.5.3 How many people died of the cause identified in QUESTION 1.5.2? (1 x 1) (1)
- 1.5.4 Quote THREE problems informal settlements lack. (3 x 1) (3)
- 1.5.5 In a paragraph of approximately EIGHT lines explain sustainable measures the government can implement to improve living conditions in informal settlements. (4 x 2) (8)
- [60]**





**QUESTION 2: ECONOMIC GEOGRAPHY OF SOUTH AFRICA**

2.1 The sketch below show TWO types of farming. Match the descriptions in QUESTION 2.1.1 to 2.1.8 with the photograph **A** or **B**. Write only the letter, (**A** or **B**) next to the question numbers (2.1.1 to 2.1.8) in the ANSWER BOOK, e.g. 2.1.9 **B**.



[Adapted from <https://clipart-library.com/free/farming-clipart-black-and-white.html>]

2.1.1 Farming that produces high yield per hectare

2.1.2 Associated with extensive farming practices

2.1.3 Products for the home and export market

2.1.4 Farming described as a small-scale farming

2.1.5 Farming associated with monoculture

2.1.6 Farming that is capital intensive and uses advanced technology

2.1.7 Farming that focuses on food security in local communities

2.1.8 Farming that produces a low yield per hectare

(8 x 1) (8)



2.2 Choose the correct word(s) given in brackets. Write only the words next to the question numbers (2.2.1 to 2.2.7) in the ANSWER BOOK, e.g. 2.2.8 light industry.

2.2.1 (Light/Heavy) industries cover large areas and tend to cause more air pollution.

2.2.2 A power station is an example of a (market-/raw material) orientated industry.

2.2.3 The location of (footloose/ubiquitous) industries is not determined by the location factors such as raw materials, transport and market.

2.2.4 (Light/Heavy) industries can be located around the CBD.

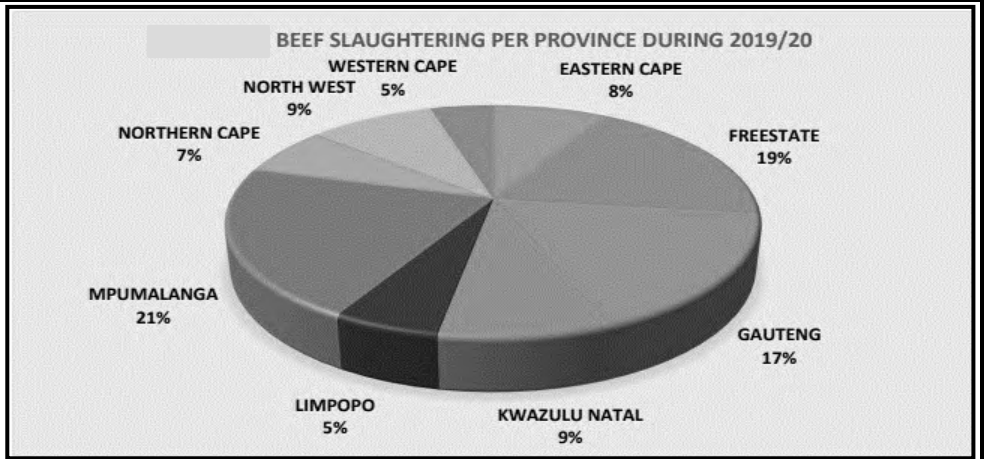
2.2.5 (Market-/Raw material) orientated industries generally produce low order and perishable goods.

2.2.6 (Bridge/Raw material) orientated industries are located near harbours where raw materials are imported.

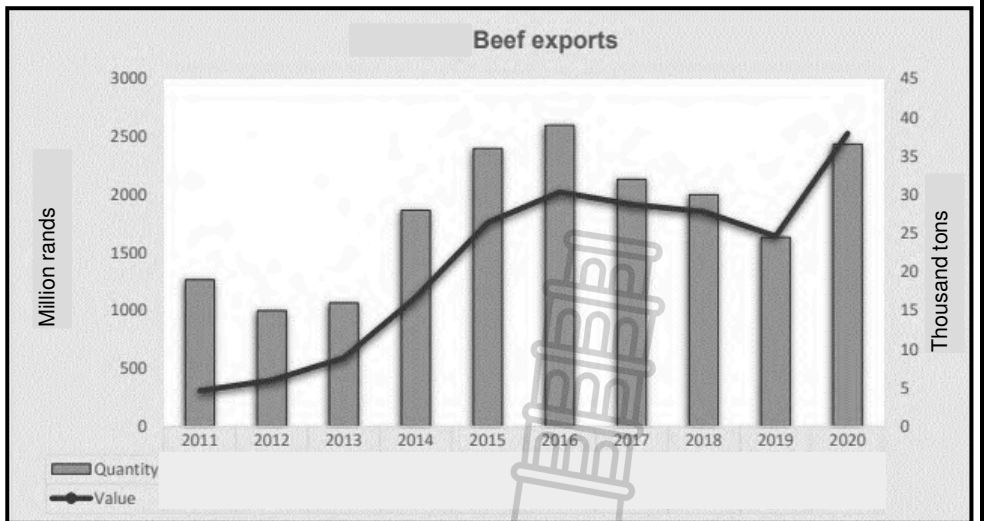
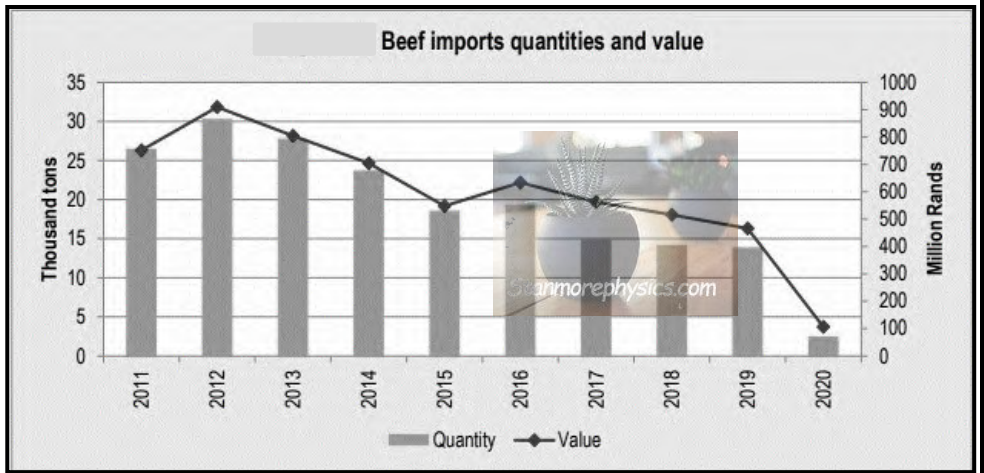
2.2.7 (Ubiquitous/Market-orientated) industries like telecommunications are not determined by any specific locational requirements. (7 x 1) (7)



2.3 Refer to the infographic below about BEEF.



Commercial farmers are estimated at 22 000 and employs 138 000 people, emerging farmers and communal farmers are at 3 million which employs 9 million people. There are approximately 100 commercial feedlots with 5 000 employees and 332 abattoirs in South Africa. Beef industry is a major contributor to livelihood with 2 125 000 people who are dependent on the livestock industry.



[Adapted from <https://www.capetowngreenmap.co.za/12-go-green/smart-living/energy/7-energy/>]

2.3.1 Which province had the highest percentage of beef slaughtering? (1 x 1) (1)

2.3.2 Name TWO major beef provision companies from the infographic. (2 x 1) (2)

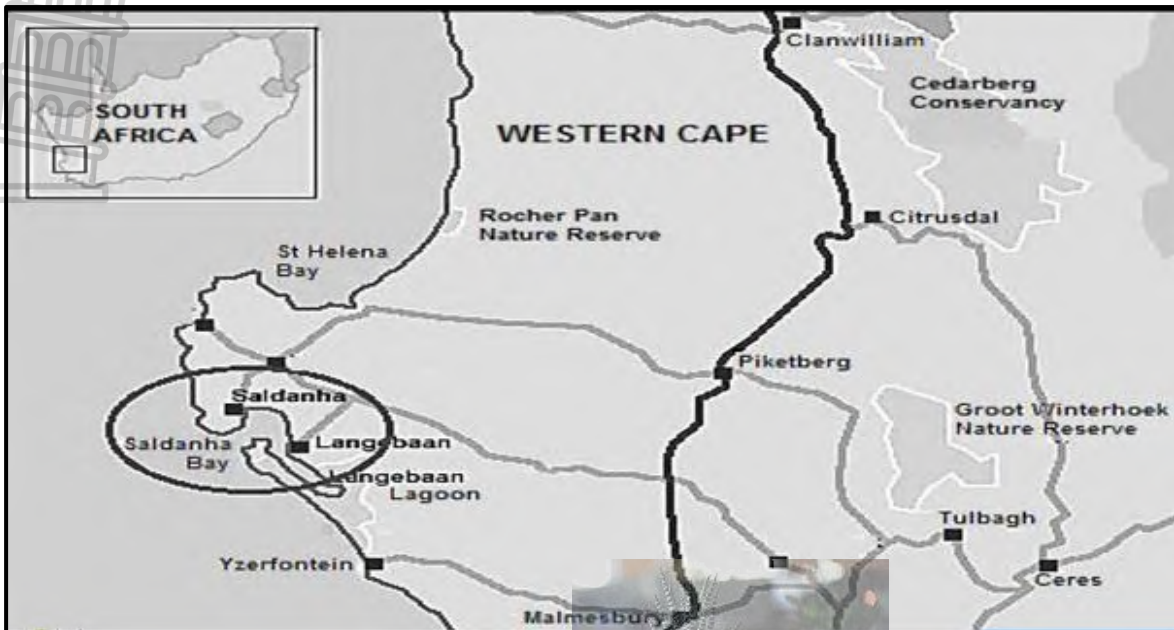
2.3.3 Explain the correlation between beef exports and beef imports according to the infographic. (1 x 2) (2)

2.3.4 Explain how beef farming cause environmental injustices (2 x 2) (4)

2.3.5 Why can beef production be seen as an economic benefit in the areas where beef is produced? (3 x 2) (6)



2.4 Refer to the extract and map of the South Western Cape industrial region and Saldanha bay IDZ



Due to good consultation between government and Saldanha Bay community this town in the Western Cape has potential for economic growth and job creation. There are signs that direct foreign investment will increase in the future.

Many lease agreements have already been signed by oil and gas companies. The harbour is being expanded to cater for the growth taking place and two major wind energy projects are being financed. This area also has a number of unique natural features that attract tourist.

[Adapted from <https://www.capetowngreenmap.co.za/12-go-green/smart-living/energy/7-energy>]

- 2.4.1 What does IDZ stand for? (1 x 1) (1)
- 2.4.2 Name TWO alternative energy sources in South Western Cape used to generate electricity. (2 x 1) (2)
- 2.4.3 Give TWO reasons why Saldanha Bay IDZ has potential for economic growth. (2 x 2) (4)
- 2.4.4 Explain the main factors that hinder industrial development in the South Western Cape industrial region. (2 x 2) (4)
- 2.4.5 Explain TWO advantages of industrial decentralization for the core industrial regions in South Africa. (2 x 2) (4)



2.5 Refer to the extract below on the informal sector

**South Africa’s Thriving Informal Economy**

The beating heart of South Africa’s inner cities are the street vendors. They provide commuters with fresh fruit, cooked food and drinkable water. They feed tired souls and also repair the tireless soles of those walking to and from work. They continue the legacy of indigenous practices by selling traditional African goods. They represent the niche and the creative in Africa, also selling the staples essential for survival to the working masses, often unrecognized and excluded from the mainstream financial sector. These micro-entrepreneurs offer the candor(heartbeat), culture and character to South Africa’s thriving informal economy.

Informal work is precarious work. By its nature, profits may vary wildly from week to week. The scarcity of spots to sell goods may limit opportunities. And infrastructure may be lacking—ablution facilities, storage, and access to electricity. Street vendors also face health impacts from exposure to outdoor air pollution, poorly-ventilated spaces and exposure to biomass fuel from cooking on gas or open fires.

Informal workers are excluded from the provisions of South Africa’s Occupational Health and Safety (OHS) Act because there is often no employment relationship or they work in unconventional workplaces such as urban public spaces. Street vendors also face the grim reality of crime on Johannesburg’s streets.

[Adapted from <https://www.forbesafrica.com/entrepreneurs/2023/06/27/cityscapes-snapshots->

- 2.5.1 Define the term *informal sector* (1 x 2) (2)
  - 2.5.2 Who is the beating heart of South Africa’s inner cities? (1 x 1) (1)
  - 2.5.3 Quote TWO types of products that are sold by informal workers, from the extract. (2 x 1) (2)
  - 2.5.4 Name TWO factors from the extract that cause profits to vary. (2 x 1) (2)
  - 2.5.5 In a paragraph of approximately EIGHT lines, explain which challenges are faced by the informal sector. (4 x 2) (8)
- [60]**

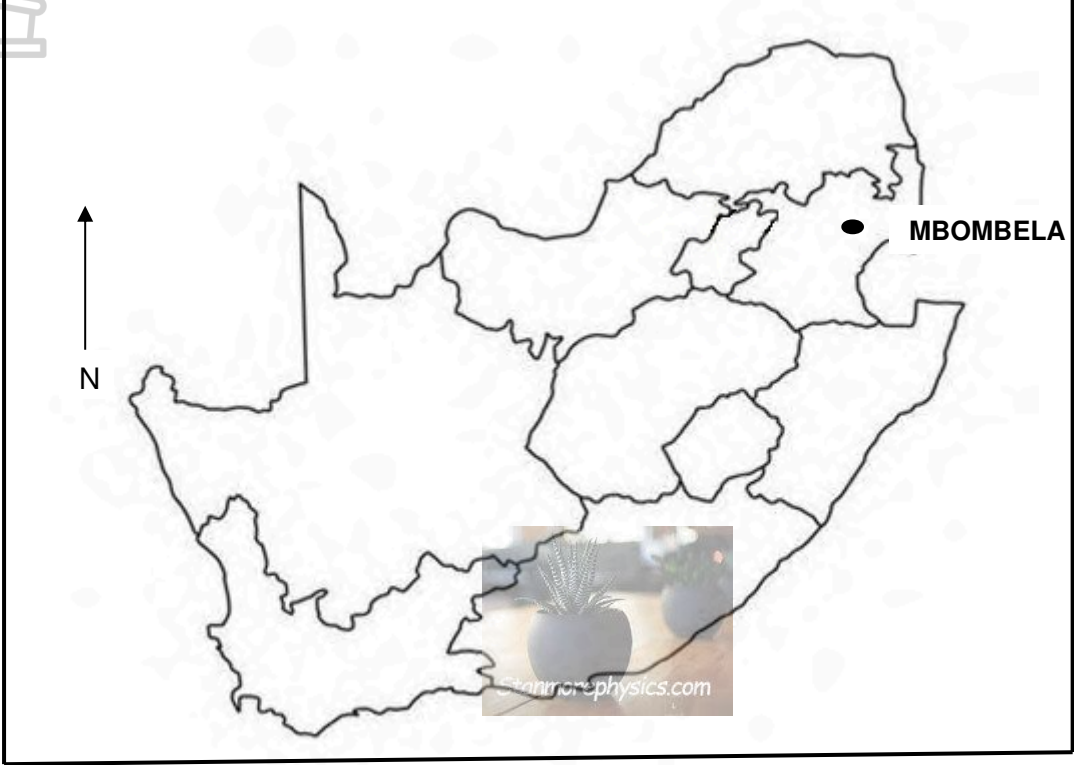
**TOTAL SECTION A: 120**



SECTION B

QUESTION 3 : GEOGRAPHICAL SKILLS AND TECHNIQUES

**GENERAL INFORMATION ON MBOMBELA**



**Coordinates: 25°27'S; 30°59'E**

Mbombela, formerly Nelspruit, is a city in northeastern South Africa. It is the capital and the largest city of the Mpumalanga province. Located on the Crocodile River. The city lies about 110 km by road west of the Mozambique border, 330 km east of Johannesburg and 82 km north of the Eswatini border. The city was one of the host cities of the 2010 FIFA World Cup.

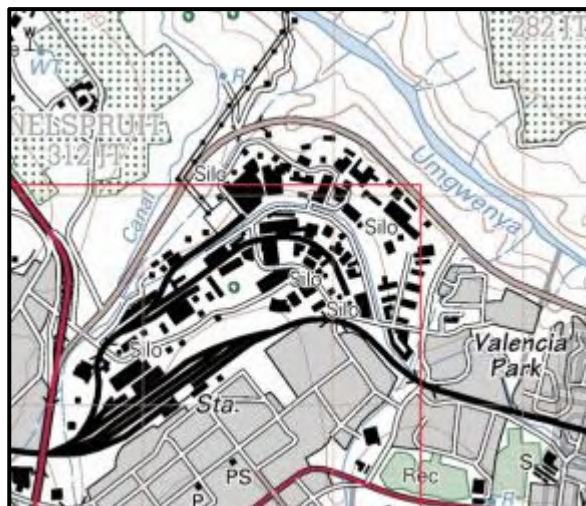
[Adapted from <https://en.wikipedia.org/wiki/Mbombela>]

### 3.1 MAP SKILLS AND CALCULATIONS

- 3.1.1 Mbombela is located in (Mpumalanga/KwaZulu-Natal) province. (1 x 1) (1)
- 3.1.2 Provide the map directly south of 2530 BD MBOMBELA. (1 x 2) (2)
- 3.1.3 Calculate the vertical interval (VI) of the road marker 674.0 in block **E3** and 651.5 in block **F4** (1 x 1) (1)
- 3.1.4 Calculate the horizontal equivalent (HE) of the road marker 674.0 in block **E3** and road marker 651.5 in block **F4** (2 x 1) (2)
- 3.1.5 Determine the gradient of the road/slope by using the values from VI in QUESTION 3.1.3 and HE from QUESTION 3.1.4 (2 x 1) (2)
- 3.1.6 Is the slope (steep/gentle)? (1 x 1) (1)
- 3.1.7 Provide a reason to your answer in QUESTION 3.1.6 (1 x 1) (1)

### 3.2 MAP INTERPRETATION

Use the extract below to answer QUESTION 3.2.1 and 3.2.2



- 3.2.1 The industrial region north-west of Valencia Park can be classified as (light/heavy) industry. (1 x 1) (1)
- 3.2.2 Explain TWO reasons why this area is beneficial for the industrial region to develop in the specific area from the topographical map. (2 x 2) (4)

Refer to the topographical map to answer the following questions:

3.2.3 The settlement in block **E4** is a (nucleated/dispersed) settlement (1 x 1) (1)

3.2.4 Provide TWO advantages for the settlement identified in QUESTION 3.2.3 (2 x 1) (2)

Use the orthophoto map to answer QUESTIONS 3.2.5 and 3.2.6.

3.2.5 Study the area labelled **A** to **B** on the orthophoto map. Name the climatic factor for the development in the area. (1 x 2) (2)

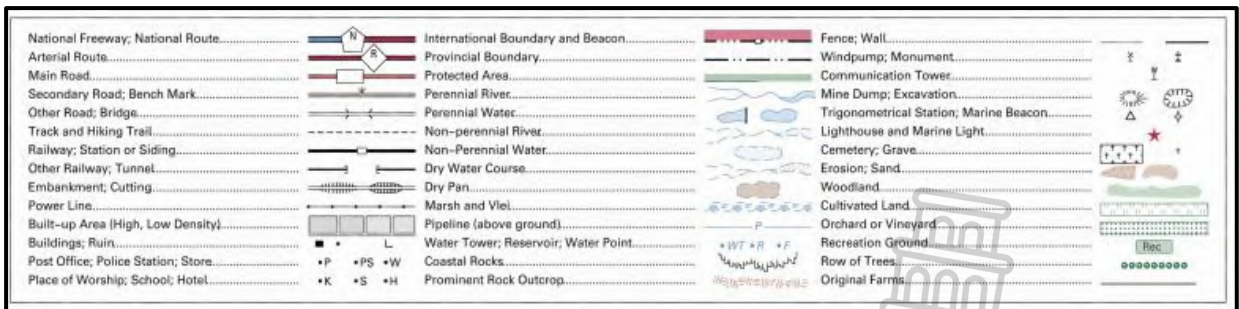
3.2.6 The gradient of the slope from **A** to **B** becomes more gentle. Provide evidence from the orthophoto to make this statement CORRECT. (1 x 2) (2)

**3.3 GEOGRAPHICAL INFORMATION SYSTEMS (GIS)**

3.3.1 Define the term *remote sensing*. (1 x 2) (2)

3.3.2 Name TWO benefits of remote sensing. (2 x 1) (2)

3.3.3 What is *data standardization*? (1 x 2) (2)



3.3.4 Explain why we apply data standardisation on topographical maps. (1 x 2) (2)

**TOTAL SECTION B: 30**

**GRAND TOTAL: 150**



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## NATIONAL SENIOR CERTIFICATE

**GRADE 12**

**GEOGRAPHY P2**  
**SEPTEMBER 2024**  
**MARKING GUIDELINES**

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**MARKS: 150**



**These marking guidelines consist of 8 pages.**

**SECTION A**  
**QUESTION 1**

- 1.1 1.1.1 Z
- 1.1.2 Z
- 1.1.3 Y
- 1.1.4 Z
- 1.1.5 Y
- 1.1.6 Z
- 1.1.7 Y
- 1.1.8 Z (8 x 1) (8)
  
- 1.2 1.2.1 Specialised town
- 1.2.2 Junction town
- 1.2.3 Break-of-bulk
- 1.2.4 Central towns
- 1.2.5 Resort towns
- 1.2.6 Gap town
- 1.2.7 Industrial town (7 x 1) (7)
  
- 1.3 1.3.1 A process of redressing the injustices of displacement and forced removal that took place during apartheid (2)  
[CONCEPT] (1 x 2) (2)
  
- 1.3.2 Land has multiple uses other than production. (1)  
Small rural farmers aren't purely economic actors who are self-reliant. (1)  
Family and community obligations create financial pressures that can force small rural farmers to stop production and fall into poverty. (1)  
[ANY THREE] (3 x 1) (3)
  
- 1.3.3 To promote economic growth of those who were disadvantaged (2)  
Create self-sufficient farmers (2)  
To redress injustices/imbbalances from the past (2)  
The legacy of apartheid predominated over unfair distribution of land and land reform sets out to correct this injustice (2)  
National reconciliation (2)  
To improve food production in the previously marginalized sectors of the population (2)  
Will help people to have access to land (2)  
To alleviate poverty as most communities during apartheid lived on communal land (2)  
[ANY ONE] (1 x 2) (2)

- 1.3.4 It is a very costly process (2)  
 The willing seller/buyer causes delays in negotiating prices (2)  
 Takes time to resolve disputes (2)  
 The gray areas in the land reform policies (2)  
 Lack of training and support for new owners (2)  
 Disagreement between government and traditional leaders (2)  
 South Africa's land reform programme is misguided (2)  
 It is designed for a socio-economic context that doesn't exist (2)  
**[ANY TWO]** (2 x 2) (4)
- 1.3.5 Revising land reform policies (2)  
 Measures to ensure redistributed land is used productively (2)  
 Inclusion of local communities to establish needs through consultation (2)  
 Establishing educational centers for upskilling the communities (2)  
 Training and development in modern farming methods/ mentorship to new farmers (2)  
 Monitoring and evaluation processes must be reliable (2)  
 Monitoring and evaluation of allocation of resources must be reliable (2)  
 Create market areas for trading (2)  
**[ANY TWO]** (2 x 2) (4)
- 1.4 1.4.1 It is the Uncontrolled growth of cities (2) (1 x 2) (2)  
**[CONCEPT]**
- 1.4.2 A = CBD (1)  
 B = Greenbelt (1) (2 x 1) (2)
- 1.4.3 Overcrowding at area A (2)  
 Lack of service provision in A (2)  
 It is expensive to make profit in A (2)  
**[ANY ONE]** (1 x 2) (2)
- 1.4.4 It is to prevent the formless (uncontrollable) expansion of cities (2) (1 x 2) (2)





- 1.4.5 Create a pleasing environment/ **wind breaker** (1)  
 Controls greenhouse gasses (1)  
 Reduces the urban heat island (1)  
 Reduce city noise (1)  
 Controls urban sprawl (1)  
 Aesthetic beauty (1)

**[ANY THREE]**

(3 x 1) (3)

- 1.4.6 These towns develop outside the main city to help overcome the problems associated with uncontrolled growth (2)  
 These towns can be planned (2)  
 Can supply necessary services (2)  
 Can supply necessary infrastructure (2)  
 Reduce city problems (accept examples) (overcrowding/pollution/ congestion) (2)

**[ANY TWO]**

(2 x 2) (2)

- 1.5 1.5.1 It is illegally built settlements by the poor who cannot afford proper housing (2)

**[CONCEPT]**

(1 x 2) (2)

- 1.5.2 Shocked by electricity (1)

(1 x 1) (1)

- 1.5.3 8 (1)

(1 x 1) (1)

- 1.5.4 Sanitation services (1)

Electricity (1)

Running water (1)

(3 x 1) (3)

- 1.5.5 People can be relocated (2)

Provide stronger building material to construct houses (2)

Build low-cost houses (2)

Adequate basic services (accept examples) (2)

Provide them with legal ownership of land they are living on (2)

Access to emergency services (2)

Better infrastructure (2)

**[ANY FOUR]**

(4 x 2) (8)

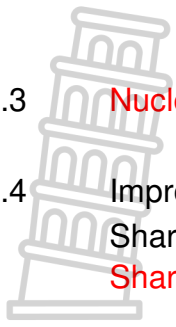


**QUESTION 2 : ECONOMIC GEOGRAPHY OF SOUTH AFRICA**

- 2.1 2.1.1 B (1)  
 2.1.2 B (1)  
 2.1.3 B (1)  
 2.1.4 A (1)  
 2.1.5 **B** (1)  
 2.1.6 B (1)  
 2.1.7 B / **A** (1)  
 2.1.8 A (1) (8 x 1) (8)
- 2.2 2.2.1 Heavy (1)  
 2.2.2 Raw Material (1)  
 2.2.3 Footloose industries (1)  
 2.2.4 Light (1)  
 2.2.5 Market (1)  
 2.2.6 Bridge (1)  
 2.2.7 Ubiquitous (1) (7 x 1) (7)
- 2.3 2.3.1 Mpumalanga (1) (1 x 1) (1)  
 2.3.2 Beef master (1)  
 Karan Beef (1) (2 x 1) (2)  
 2.3.3 The more beef that is produced results to lower amounts of beef imports (2) (1 x 2) (2)  
 2.3.4 Cow dung release high levels of methane gas into the atmosphere (2)  
 Overgrazing results to soil erosion (**Soil compaction**) (2)  
 Cows contribute to global warming (2)  
 Cause damage to natural vegetation (2)  
 Cows influence the quality of water (2)  
**[ANY TWO]** (2 x 2) (4)
- 2.3.5 Beef contribute to food security (2)  
 Beef can be sold to local communities (2)  
 Transportation of cows provides an income (2)  
 Provides employment opportunities (2)  
 Multiplier effect (accept examples) (2)  
**[ANY THREE]** (3 x 2) (6)

2.4	2.4.1	Industrial Development zone (1)	(1 x 1)	(1)
	2.4.2	Nuclear power (1) Wind power (1)	(2 x 1)	(2)
	2.4.3	It has rich reserves of oil and gas (2) It is located along the West Coast and enables trade relations with North and South America (2) Saldanha Bay has potential for development in agriculture, tourism and manufacturing (2) Harbour that has expanded due to availability of iron ore (2)	(2 x 2)	(4)
		<b>[ANY TWO]</b>		
	2.4.4	Electricity is expensive as it is located far away from the coal fields (2) Water shortages due to periodic drought (2) Few mineral resources in the area (2) Limited land for expansion (2)	(2 x 2)	(4)
		<b>[ANY TWO]</b>		
	2.4.5	Relieves pressure on infrastructure (2) Less pressure on services /prevents over-utilisation of resources (2) Less pollution (2) Less traffic congestion (2) Reduce rural–urban migration (2) Reduces overcrowding (2)	(3 x 2)	(6)
		<b>[ANY THREE]</b>		
2.5	2.5.1	Business activities that are unregistered (2) <b>[CONCEPT]</b>	(1 x 2)	(2)
	2.5.2	Street vendors (1)	(1 x 1)	(1)
	2.5.3	Fruit (1) Food (1) Water (1)	(2 x 1)	(2)
		<b>[ANY TWO]</b>		
	2.5.4	Scarcity of spots to sell goods may limit opportunities (1) Infrastructure may be lacking (1) Ablution facilities (1) Storage (1) Access to electricity (1)	(2 x 1)	(2)
		<b>[ANY TWO]</b>		

2.5.5	Long working hours with low pay (2)		
	Exposed to pollution (accept examples) (2)		
	Theft from passersby (2)		
	Lack of storage facilities (2)		
	No sanitation facilities (2)		
	Harassment from the authorities (2)		
	Limited access to basic services (accept examples) (2)		
	Destruction of stock by adverse weather conditions (2)		
	No access to funding (2)		
	<b>[ANY FOUR]</b>	(4 x 2)	(8)
			<b>[60]</b>
3.1	3.1.1	Mpumalanga (1)	(1 x 1) (1)
	3.1.2	2530DB (2)	(1 x 2) (2)
	3.1.3	VI 674 m – 651,5 = 22,5 m (1)	(1 x 1) (1)
	3.1.4	HE 2,8(1) cm x 500 = 1400 m (1) Range (2.6 to 3 cm) Range (1300 m to 1500 m)	(2 x 1) (1)
	3.1.5	Gradient $\frac{VI}{HE}$ $\frac{22,5\text{ m}}{1400\text{ m}}$ (1) substitution 1 : 62,22 (1) Range (1 : 57,77 to 1 : 66,66)	(2 x 1) (2)
	3.1.6	Gentle (1)	(1 x 1) (1)
	3.1.7	Contours are far apart (1) For every 1 meter vertical change there are 62.22 horizontal change <b>[ANY ONE]</b>	(1 x 1) (1)
3.2	3.2.1	Heavy (1)	(1 x 1) (1)
	3.2.2	Power lines to provide electricity (2) Near the river for access to water (2) Near roads to transport goods (2) Near railways to transport goods (2) Located on flat land (2) Land is cheap (2) <b>[ANY TWO]</b>	(2 x 2) (4)



3.2.3	Nucleated (1)	(1 x 1)	(1)
3.2.4	Improved security (1) Sharing of ideas (1) Sharing of equipment (1)	(2 x 1)	(2)
3.2.5	Slope aspect (2)	(1 x 2)	(2)
3.2.6	The space between the contours at <b>A</b> are closer than at <b>B</b> (2)	(1 x 2)	(2)
3.3	3.3.1 To gather information over a distance without being in contact with the surface of the earth (2) <b>[CONCEPT]</b>	(1 x 2)	(2)
	3.3.2 Can research inaccessible areas (1) Broad image of the research area (1) Safety concerns are minimized (1) Quick access to information (1) <b>[ANY TWO]</b>	(2 x 1)	(2)
	3.3.3 Pre-arranged universal way of classifying map symbols (2) <b>[CONCEPT]</b>	(1 x 2)	(2)
	3.3.4 To have a uniform classification of map symbols globally (2)	(1 x 2)	(2)
			<b>[30]</b>

**TOTAL: 150**