



Province of the
EASTERN CAPE
EDUCATION

Ipohondo leMpuma Kapa: Isebe leMfundo
Provincie van die Oos-Kaap: Departement van Onderwys
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NATIONAL SENIOR CERTIFICATE



NOVEMBER 2025

GEOGRAPHY P2

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: DEVELOPMENT GEOGRAPHY (60)
QUESTION 2: RESOURCES AND SUSTAINABILITY (60)

SECTION B:

QUESTION 3: GEOGRAPHICAL SKILLS AND TECHNIQUES (30)

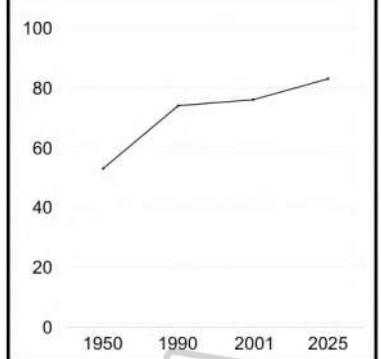
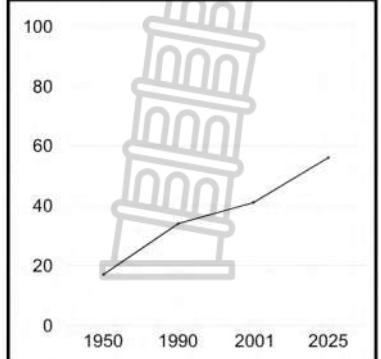
2. Answer all THREE questions.
3. ALL diagrams are included in the QUESTION PAPER.
4. Leave a line between subsections of questions answered.
5. Start EACH question on a NEW page.
6. Number the questions correctly according to the numbering system used in this question paper.
7. Do NOT write in the margins 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

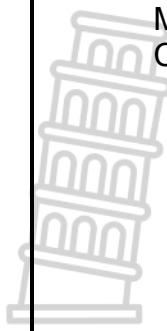
14. A 1 : 50 000 topographical map 2529CC EMALAHLENI and a 1 : 10 000 orthophoto map 2529CC 15 EMALAHLENI are provided.
15. The area demarcated in RED/BLACK on the topographic map represents the area covered by the orthophoto map.
16. Marks will be allocated for steps in calculations.
17. You must hand in the topographical and the orthophoto map to the invigilator at the end of this examination session.

SECTION A**QUESTION 1: DEVELOPMENT**

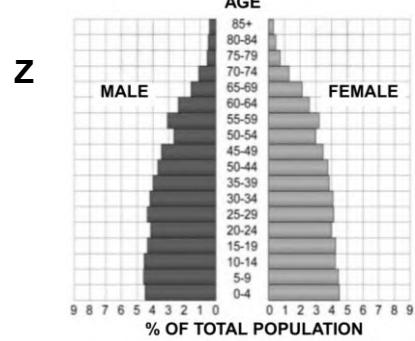
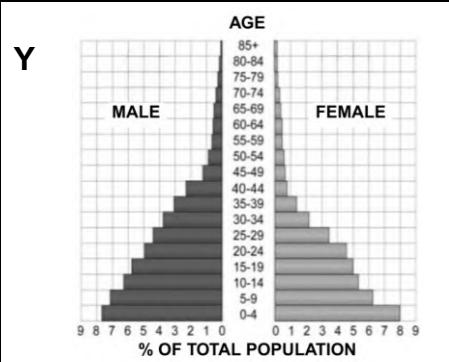
1.1 Complete the statements in COLUMN A with the options in COLUMN B. Write only **Y** or **Z** next to question numbers (1.1.1 to 1.1.8) in the ANSWER BOOK, for example 1.1.9 **Z**.

COLUMN A	COLUMN B
1.1.1 The Gross Domestic Product is a(n) ... indicator of development.	Y social Z economic
1.1.2 The indicators for the ... include life expectancy, GDP per capita and level of education.	Y Human Development Index Z Gini co-efficient
1.1.3 A country with a Gini co-efficient of 0,7 indicates ... distribution of wealth.	Y equal Z unequal
1.1.4 Infant mortality rate and life expectancy are ... indicators.	Y demographic Z social
1.1.5 A country with a Human Development Index of 0,94 has a ... quality of life.	Y high Z low
1.1.6 The Gross National Income per capita indicates ... average income.	Y the country's Z a person's
1.1.7 The urbanisation rate typical of a Less Economically Developed Country (LEDC).	Y  Z 

1.1.8 The population pyramid typical of a More Economically Developed Country (MEDC).



Stammorephysics.com



(8 x 1)

(8)

1.2 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 (1.2.1 to 1.2.7) in the ANSWER BOOK, for example 1.2.8 D.

Refer to the sketch below, showing five of the Sustainable Development Goals (SDGs) adopted by all United Nations (UN) member states, to answer QUESTIONS 1.2.1 and 1.2.2.



[Adapted from <https://ourworldindata.org>]

1.2.1 The Sustainable Development Goals (SDGs) represent development from a ... context.

- A local
- B national
- C regional
- D global

1.2.2 The goal of reducing risk from disasters and economic shocks:



- A No poverty
- B Zero hunger
- C Good health
- D Quality education

1.2.3 Factors used to determine the Gender Inequality Index (GII):

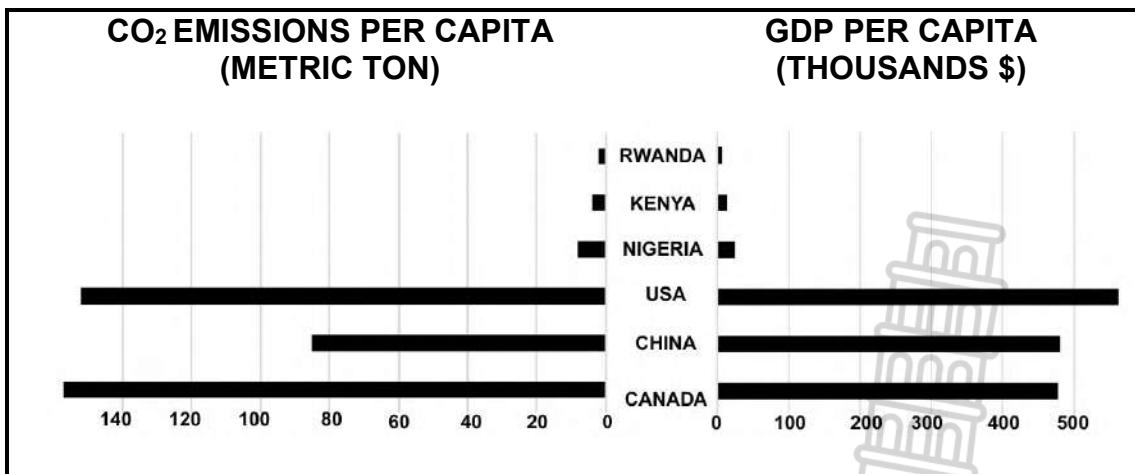
- (i) Population life expectancy
- (ii) Health of girls and women
- (iii) Political representation of women
- (iv) Women's access to resources

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

1.2.4 A country with a high Gender Inequality Index (GII) is most likely to have ...

- A limited job opportunities for women.
- B fair access to education for boys and girls.
- C equal pay between men and women.
- D fair opportunities for everyone.

Refer to the graph below to answer QUESTIONS 1.2.5 to 1.2.7.



[Adapted from <https://www.scirp.org/journal>]

1.2.5 The country with the largest per capita carbon emissions:

- A Nigeria
- B USA
- C Canada
- D China



1.2.6 The relationship between a country's GDP and its per-capita CO₂ emissions:

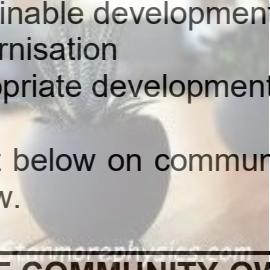
- A GDP and CO₂ emissions per capita are unrelated
- B As GDP increases; per capita CO₂ emissions decrease
- C As GDP increases; per capita CO₂ emissions increase
- D Higher GDP guarantees lower emissions

1.2.7 ... aims to balance economic growth, social inclusion and environmental protection:

- A Industrial development
- B Sustainable development
- C Modernisation
- D Appropriate development

(7 x 1) (7)

1.3 Refer to the extract below on community-based development and answer the questions that follow.



FAILURE OF COMMUNITY-OWNED MACADAMIA NUT FARM

The Ncera Macadamia Nut Farm was launched in 2006 as a model of community-based rural development, aiming to empower local people. To support the project's development, it initially received over R135 million in investment. The money was sourced primarily from government departments and other public sector and development partners. In line with the principles of community-driven development, ownership of the farm was transferred to the Ncera community under the leadership of the Imidushane Council.

Despite its ambitious goals, the nut farm struggled to gain momentum (success). It eventually collapsed in 2024 due to a combination of factors, including mismanagement of funds, government delays in infrastructure, limited skills among workers and a crash in macadamia nut prices.

[Adapted from www.bizcommunity.com]



1.3.1 According to the extract, what was the main aim of this community-based rural development project? (1 x 1) (1)

1.3.2 Quote evidence from the extract that this project was a multi-stakeholder collaboration. (1 x 2) (2)

1.3.3 What economic reasons contributed to the project's failure? (2 x 1) (2)

1.3.4 Explain the negative impact on the local people after the failure of the project. (2 x 2) (4)

1.3.5 Suggest strategies that could be put in place to ensure that other community-based rural development projects are more sustainable. (3 x 2) (6)

1.4 Refer to the image and extract on South African trading relationships.



BALANCING CONSUMER GAINS AND LOCAL INDUSTRY COSTS

Major online retailers* Shein and Temu have rapidly expanded their presence in South Africa. Since entering the market in 2020 and 2023 respectively, they have captured over a third of online clothing sales, and in 2024, generated an estimated R7,3 billion.

Their success was driven by South Africa's previous customs relief system, which let imports under R500 be charged only a 20% import duty (tariff) without VAT. This kept prices low and allowed them to sell goods much cheaper than local competitors.

It has now been proposed to the South African government that customs relief be removed so that every imported item will be charged both the 20% import duty (tariff) and the 15% VAT.

* Online retailer: business that sells goods to consumers over the internet

[Adapted from <https://dailyinvestor.com/retail>]

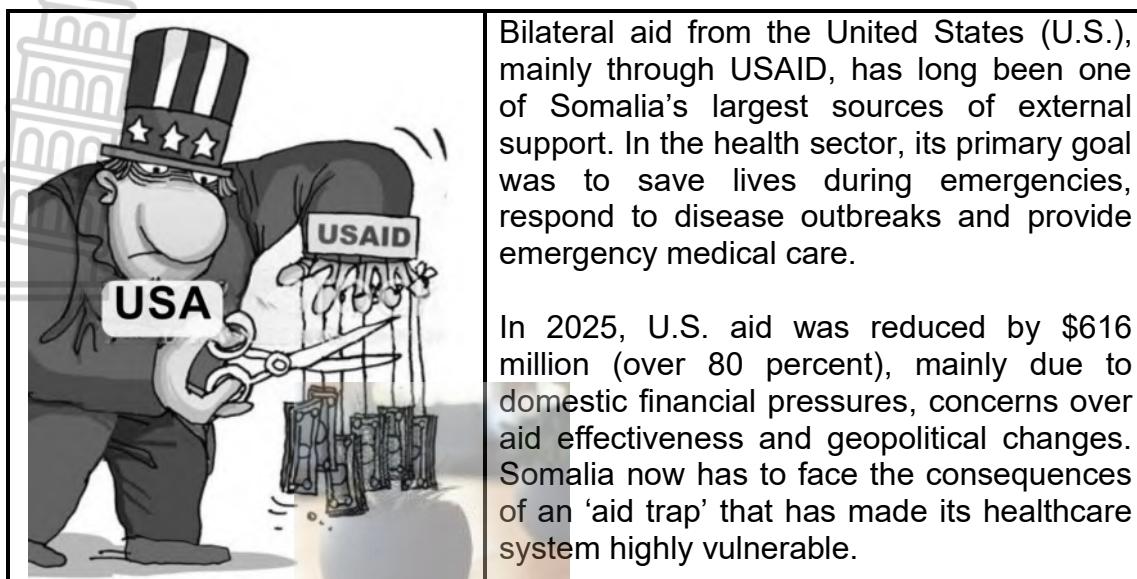
1.4.1 Identify the country from where Temu and Shein products are imported. (1 x 1) (1)

1.4.2 According to the extract, what economic advantage do online retailers have over local South African companies? (1 x 2) (2)

1.4.3 What are the benefits for the local consumer buying from these international online retailers? (2 x 2) (4)

1.4.4 In a paragraph of approximately EIGHT lines, explain why South Africa has considered altering (changing) trade agreement terms. (4 x 2) (8)

1.5 Refer to the cartoon and extract on development aid in Somalia.



Bilateral aid from the United States (U.S.), mainly through USAID, has long been one of Somalia's largest sources of external support. In the health sector, its primary goal was to save lives during emergencies, respond to disease outbreaks and provide emergency medical care.

In 2025, U.S. aid was reduced by \$616 million (over 80 percent), mainly due to domestic financial pressures, concerns over aid effectiveness and geopolitical changes. Somalia now has to face the consequences of an 'aid trap' that has made its healthcare system highly vulnerable.

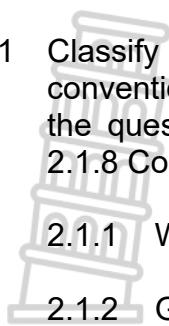
[Adapted from <https://www.reuters.com/>]

1.5.1	What is <i>bilateral aid</i> ?	(1 x 2)	(2)
1.5.2	Why is this health aid an example of humanitarian aid?	(1 x 1)	(1)
1.5.3	How does the cartoon illustrate changes regarding development aid from the USA?	(1 x 2)	(2)
1.5.4	What factors have contributed to Somalia becoming caught in an 'aid trap'?	(2 x 2)	(4)
1.5.5	Explain the negative social impact that the reduction of aid from the USA will have on the people of Somalia.	(3 x 2)	(6)

[60]

QUESTION 2: RESOURCES AND SUSTAINABILITY

2.1 Classify each energy source in South Africa as either conventional or non-conventional. Write only CONVENTIONAL or NON-CONVENTIONAL next to the question numbers (2.1.1 to 2.1.7) in the ANSWER BOOK, for example 2.1.8 Conventional.



2.1.1 Wind



2.1.2 Geothermal

2.1.3 Nuclear



2.1.4 Thermal

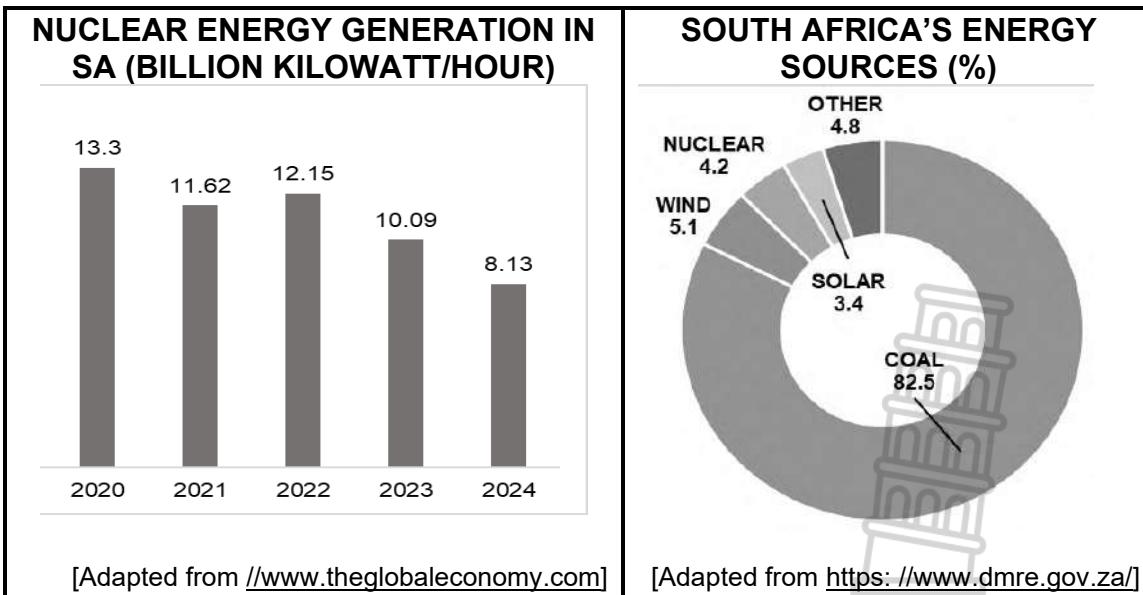
2.1.5 Solar

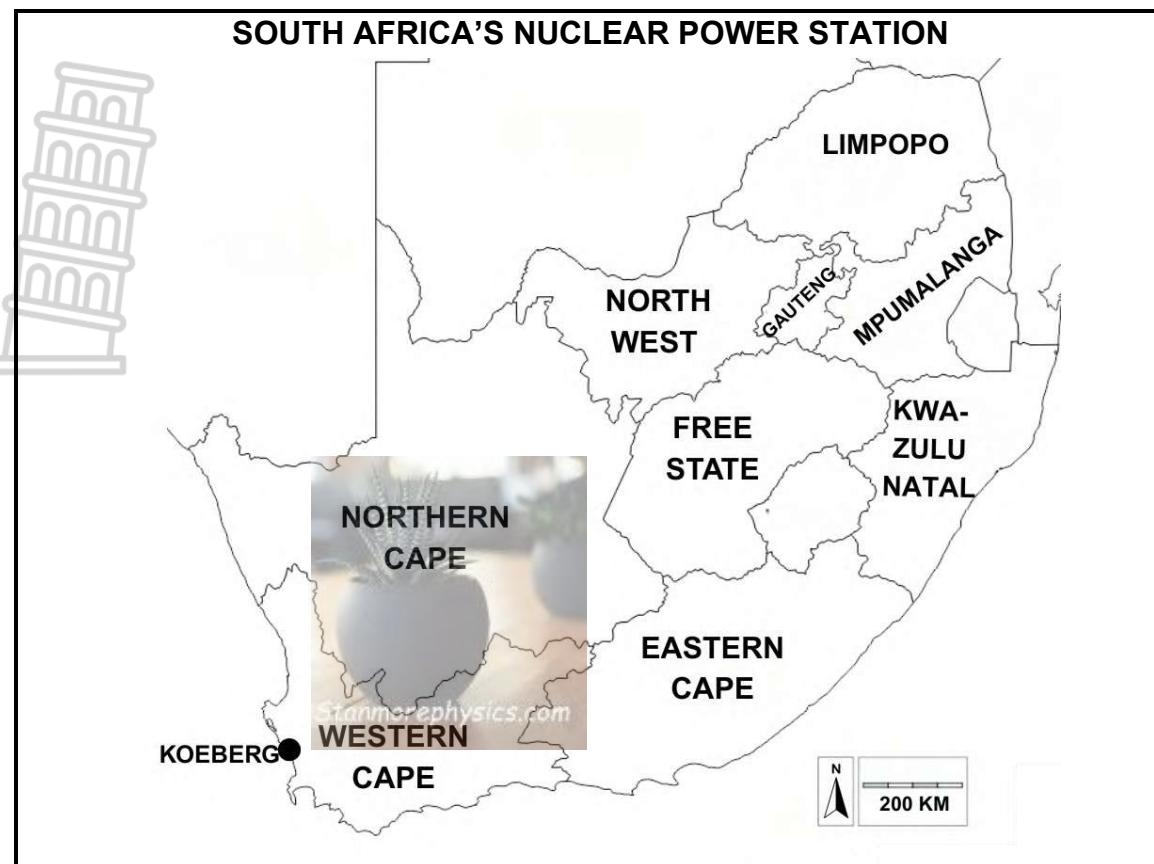
2.1.6 Biofuel

2.1.7 Hydro

(7 x 1) (7)

2.2 Refer to the infographic on nuclear energy in South Africa. Complete the statements in COLUMN A with the options in COLUMN B. Write only Y or Z next to the question numbers (2.2.1 to 2.2.8) in the ANSWER BOOK, for example 2.2.9 Z.



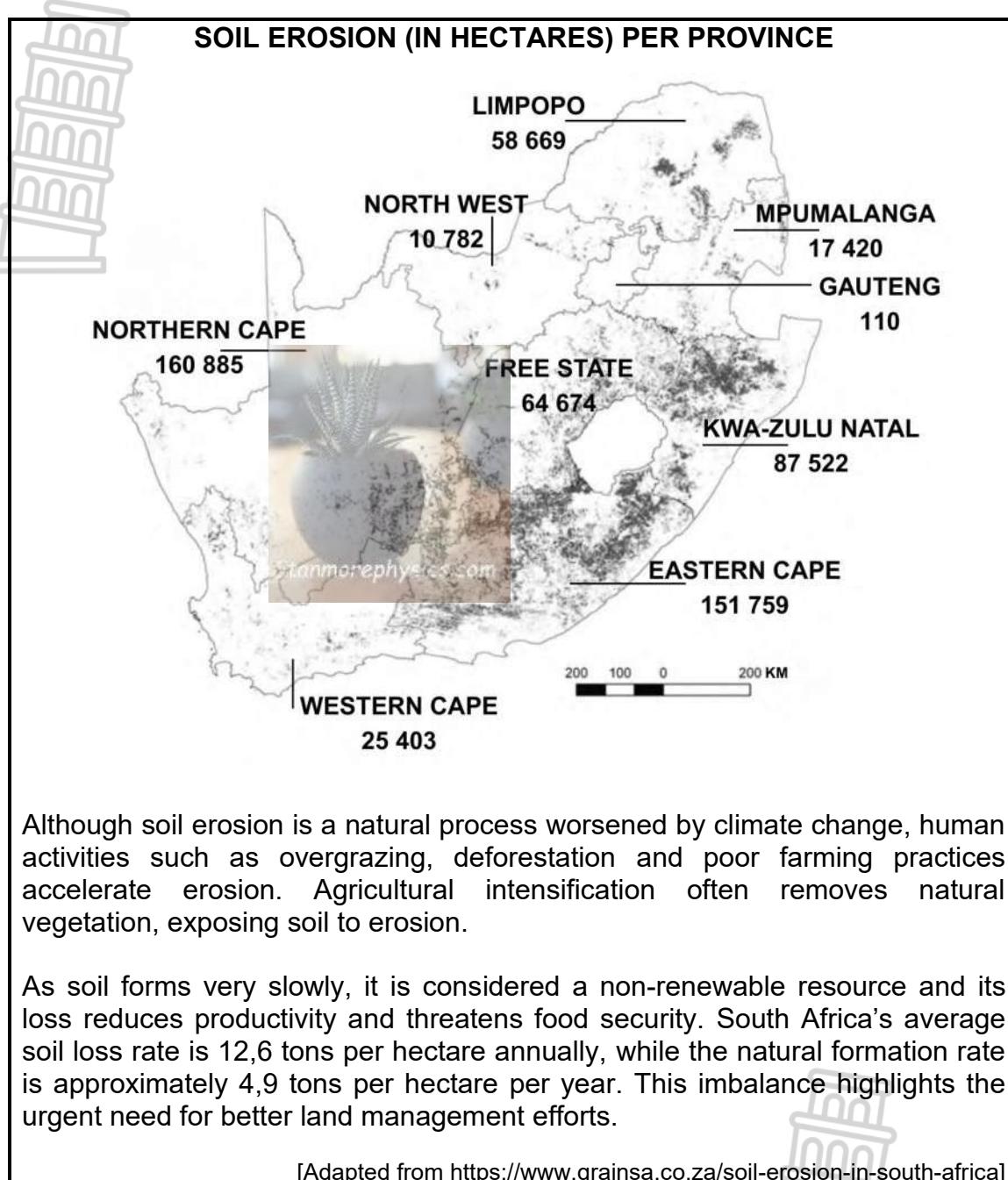


[Adapted from <https://world-nuclear.org/>]

COLUMN A	COLUMN B
2.2.1 The generation of nuclear energy in South Africa (2022–2024) shows a ... trend.	Y decreasing Z increasing
2.2.2 Nuclear energy contributes ... % to South Africa's total energy supply.	Y 4,2 Z 82,5
2.2.3 Nuclear energy is produced by the fission of ... atoms.	Y carbon Z uranium
2.2.4 An advantage of nuclear energy is that it is a ... -carbon energy source.	Y low Z high
2.2.5 South Africa's only nuclear power plant is located in the ... province.	Y Northern Cape Z Western Cape
2.2.6 Nuclear power is a ... energy source.	Y renewable Z non-renewable
2.2.7 The nuclear power plant produces electricity that is fed into the national grid operated by ...	Y Eskom Z Koeberg
2.2.8 A disadvantage of using nuclear energy is the ...	Y high operational costs Z radioactive waste

(8 x 1) (8)

2.3 Refer to the map and extract below based on soil erosion in South Africa.



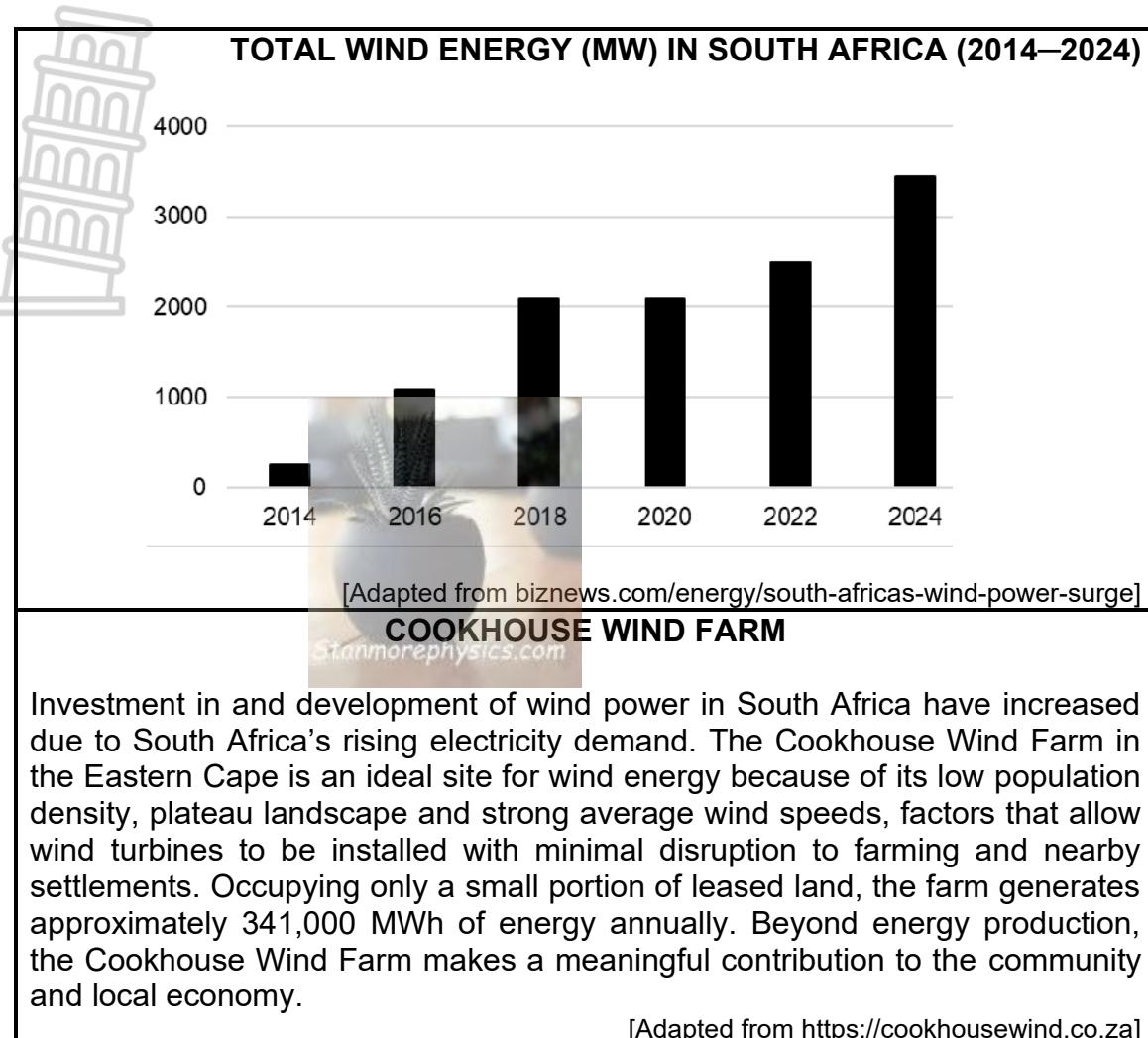
2.3.1 From the map, identify the province that is most severely affected by erosion. (1 x 1) (1)

2.3.2 Quote evidence from the passage, that shows soil loss exceeds soil formation in South Africa. (1 x 2) (2)

2.3.3 What is the negative economic impact of reduced soil quality for farmers? (2 x 2) (4)

2.3.4 In a paragraph of about EIGHT lines, suggest sustainable strategies that farmers could use to reduce soil erosion. (4 x 2) (8)

2.4 Refer to the graph and extract on wind energy in South Africa.



2.4.1 Wind energy is classified as (renewable / non-renewable). (1 x 1) (1)

2.4.2 What trend does the graph indicate about wind energy in South Africa from 2014 to 2024? (1 x 1) (1)

2.4.3 According to the extract, to what can the trend (answer to QUESTION 2.4.2) be attributed? (1 x 1) (1)

2.4.4 From the extract, state TWO physical (natural) factors that promoted the development of the wind farm in Cookhouse. (2 x 1) (2)

2.4.5 What are the environmental advantages of using wind energy? (2 x 2) (4)

2.4.6 Explain how the Cookhouse Wind Farm benefits the local community socially, beyond energy production. (3 x 2) (6)

(EC/NOVEMBER 2025)

2.5 Refer to the extract on energy management in South Africa.

SOUTH AFRICA'S CLIMATE CHANGE ACT: A GREENER FUTURE

Adopted on 18 July 2024, South Africa's Climate Change Act marks a major turning point in the country's move towards a greener economy. The Act sets an ambitious target: achieving net-zero greenhouse gas (GHG) emissions by 2050. It introduces a multi-tiered governance model that clearly defines responsibilities across different levels of government. Additionally, the Act sets sector-specific GHG reduction targets, encouraging businesses to adopt cleaner practices. This shift is expected to attract both local and international investment — particularly in renewable energy sectors such as solar and wind — while also strengthening energy security and reducing dependence on coal. At the individual level, the Act promotes energy-conscious living.

[Adapted from www.south-africas-climate-change-act-paradigm-shift-energy]

2.5.1 According to the extract, what is the main target of South Africa's Climate Change Act? (1 x 1) (1)

2.5.2 From the extract, identify who will be key to reaching this target (answer to QUESTION 2.5.1). (2 x 1) (2)

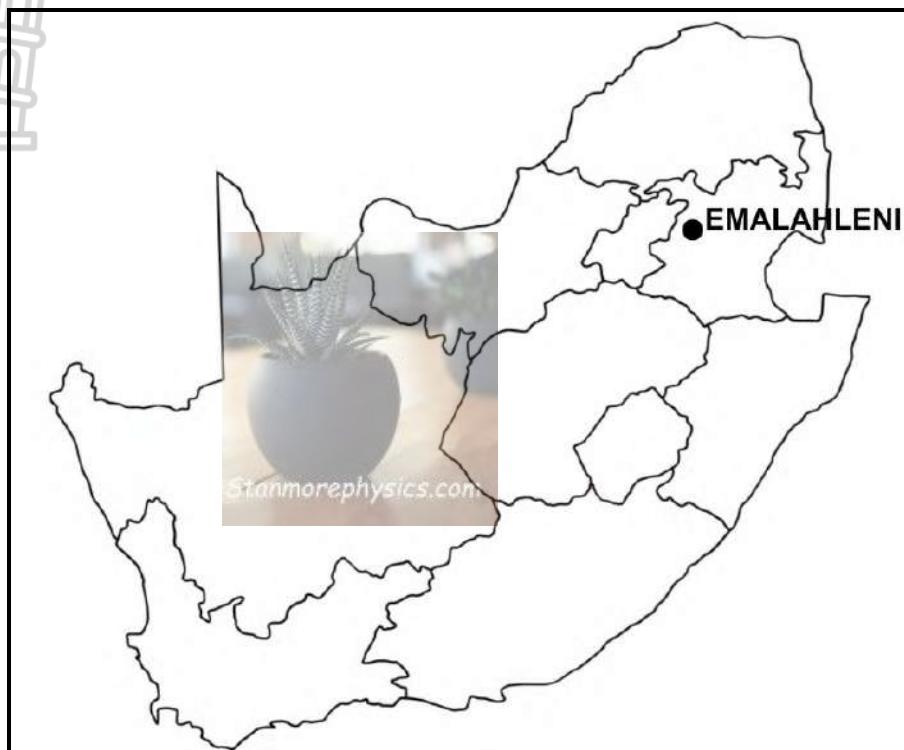
2.5.3 In what way does South Africa's Climate Change Act hope to strengthen energy security in South Africa? (1 x 2) (2)

2.5.4 How will a reduced dependence on coal positively impact the environment? (2 x 2) (4)

2.5.5 Explain the economic challenges that South Africa faces in fully transitioning (changing) to a greener economy. (3 x 2) (6)

[60]

TOTAL SECTION A: 120

SECTION B**QUESTION 3: GEOGRAPHICAL SKILLS AND TECHNIQUES****GENERAL INFORMATION ON EMALAHLENI**

Coordinates: 25°52'22"S; 29°15'19"E

Emalahleni, formerly known as Witbank, is a city in Mpumalanga whose name is derived from the Nguni language, means "place of coal". It is one of South Africa's major coal-mining hubs. The city is home to several large Eskom coal-fired power stations that contribute significantly to the country's electricity supply. Emalahleni also benefits from a well-developed transport infrastructure, with railway lines connecting it to Pretoria and the Maputo Port in Mozambique. Additionally, the convergence of the N4 and N12 highways supports the efficient transport of coal and other goods.

The following English term and their translations are shown on the topographical map:

ENGLISH

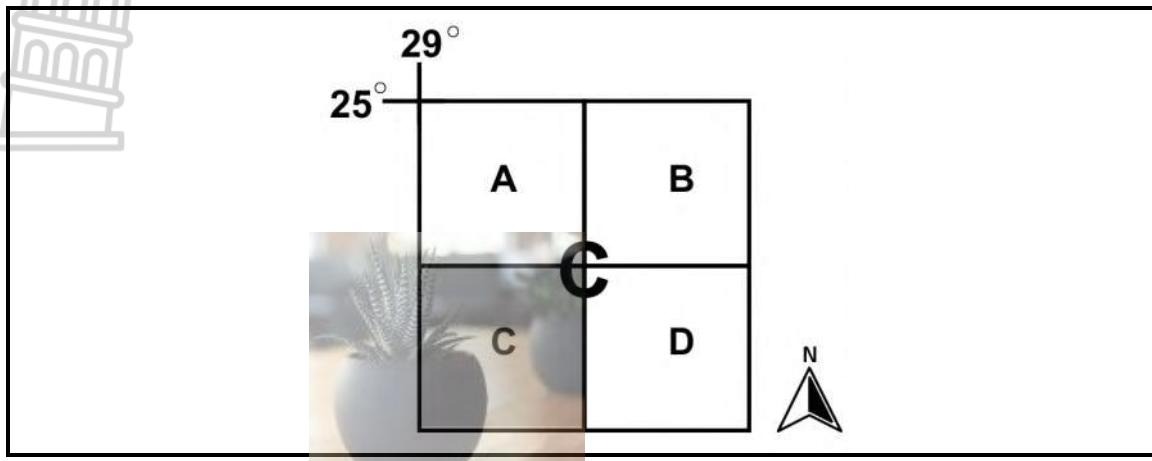
Conveyor Belt
Diggings
Opencast Mine
Slimes Dams
Stadium

AFRIKAANS

Vervoerband
Uitgravings
Oopgroefmyn
Slykdamme
Stadion

3.1 MAPWORK SKILLS AND CALCULATIONS

Refer to the topographical map and the orthophoto map. Choose the answer and write only the letter (A–D) next to the question numbers (3.1.1 and 3.1.2) in the ANSWER BOOK, for example 3.1.3 A.



3.1.1 In the map reference **2529 CC**, what does the **25** represent?

- A Degrees south of the equator
- B Minutes south of the equator
- C Degrees east of the Greenwich Meridian
- D Degrees north of the equator

(1)

3.1.2 Which sheet will be directly to the east of the **2529 CC** map?

- A 2529 BC
- B 2529 BB
- C 2529 CD
- D 2529 DC

(1)

3.1.3 Calculate the area (m^2) of the reservoir at **R** in block **B1** and **B2** on the orthophoto map.

Use the following information:

Length = 0,9 cm
Breadth = 0,9 cm

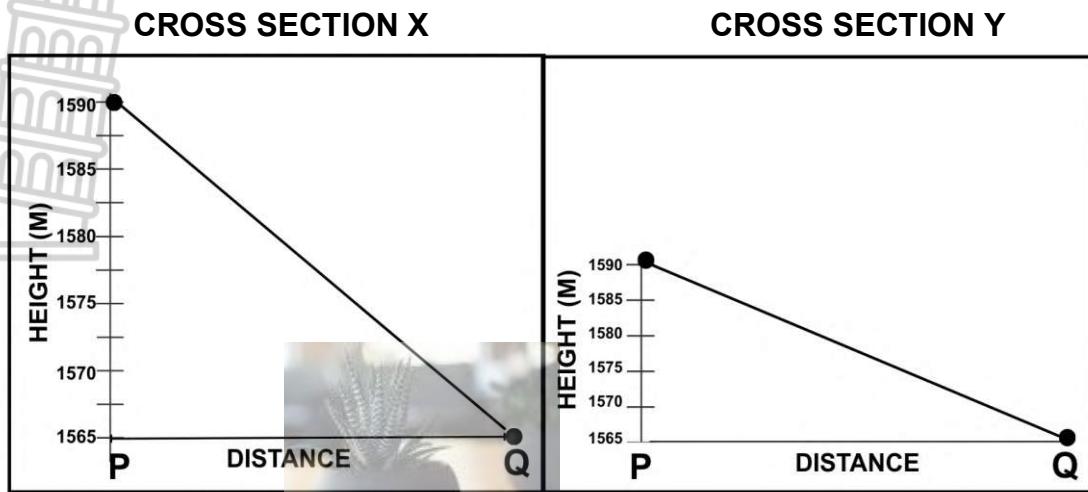
Formula: **Area = Length (L) x Breadth (B)**

(2 x 1) (2)

3.1.4 Why does the reservoir appear bigger on the orthophoto map compared to the same reservoir on the topographical map in block **C5**?

(1 x 2) (2)

Refer to **P** and **Q** on the orthophoto map and the cross sections (**X** and **Y**) below to answer QUESTIONS 3.1.5 to 3.1.7.



3.1.5 What is the contour interval of the orthophoto map? (1 x 1) (1)

3.1.6 Determine the vertical interval (VI) between **P** in block **E3** and **Q** in block **D3**. (1 x 2) (2)

3.1.7 The vertical exaggeration of cross section **X** is ... than that of cross section **Y** which makes the slope appear ...

- (i) greater
- (ii) smaller
- (iii) steeper
- (iv) gentler

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

(1 x 1) (1)

3.2 MAP INTERPRETATION

Refer to the topographical map to answer QUESTIONS 3.2.1 to 3.2.4.

3.2.1 (Coal / Platinum) is the main mineral mined in Emalahleni. (1 x 1) (1)

3.2.2 Identify evidence of mining activity in block **B1**. (2 x 1) (2)

3.2.3 In what way could mining activity in block **B1** negatively affect the residents of Coronation Village and KwaGuqa? (2 x 1) (2)

3.2.4 Explain the positive impact that well-developed rail and road infrastructure has had on the mining industry in Emalahleni. (2 x 2) (4)

Refer to the area demarcated by **S** in blocks **A3** and **A4** on the topographical map to answer QUESTIONS 3.2.5 and 3.2.6.

3.2.5 A human factor that could have contributed to the soil erosion:

- A Heavy rain
- B Flooding
- C Deforestation
- D Strong wind

(1 x 1) (1)

3.2.6 How can the soil erosion along the river banks negatively impact the quality of the river water? (2 x 1)

(2)

3.3 GEOGRAPHICAL INFORMATION SYSTEMS (GIS)

FIGURE J is an aerial photograph of the Puma Stadium. FIGURE K shows the Puma Stadium as indicated on the topographical map (blocks **C3** and **D3**). Use both the photographs and the topographical map to answer the questions.

FIGURE J



FIGURE K



50 m

1: 50 000

3.3.1 Classify the following data about the stadium as either *attribute* or *spatial* data.

- (a) $25^{\circ}53'02''S; 29^{\circ}12'48''E$
- (b) Puma Stadium

(2 x 1) (2)

3.3.2 FIGURE J shows data collected by a satellite using the process of ...

- A remote sensing.
- B data manipulation.
- C observation.
- D data integration.

(1 x 1) (1)

3.3.3 FIGURE J is a(n) ... aerial photograph showing the stadium at a (n) ... angle.

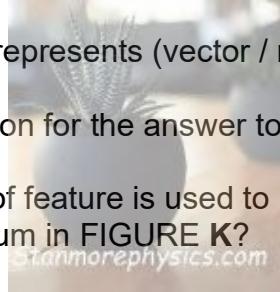


- (i) oblique
- (ii) vertical
- (iii) 90°
- (iv) 30°

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

(1 x 1) (1)

3.3.4 FIGURE J represents (vector / raster) data.

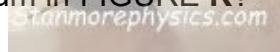


(1 x 1) (1)

3.3.5 Give a reason for the answer to QUESTION 3.3.4.

(1 x 2) (2)

3.3.6 What type of feature is used to represent the two-dimensional shape of the stadium in FIGURE K?



(1 x 1) (1)

[30]

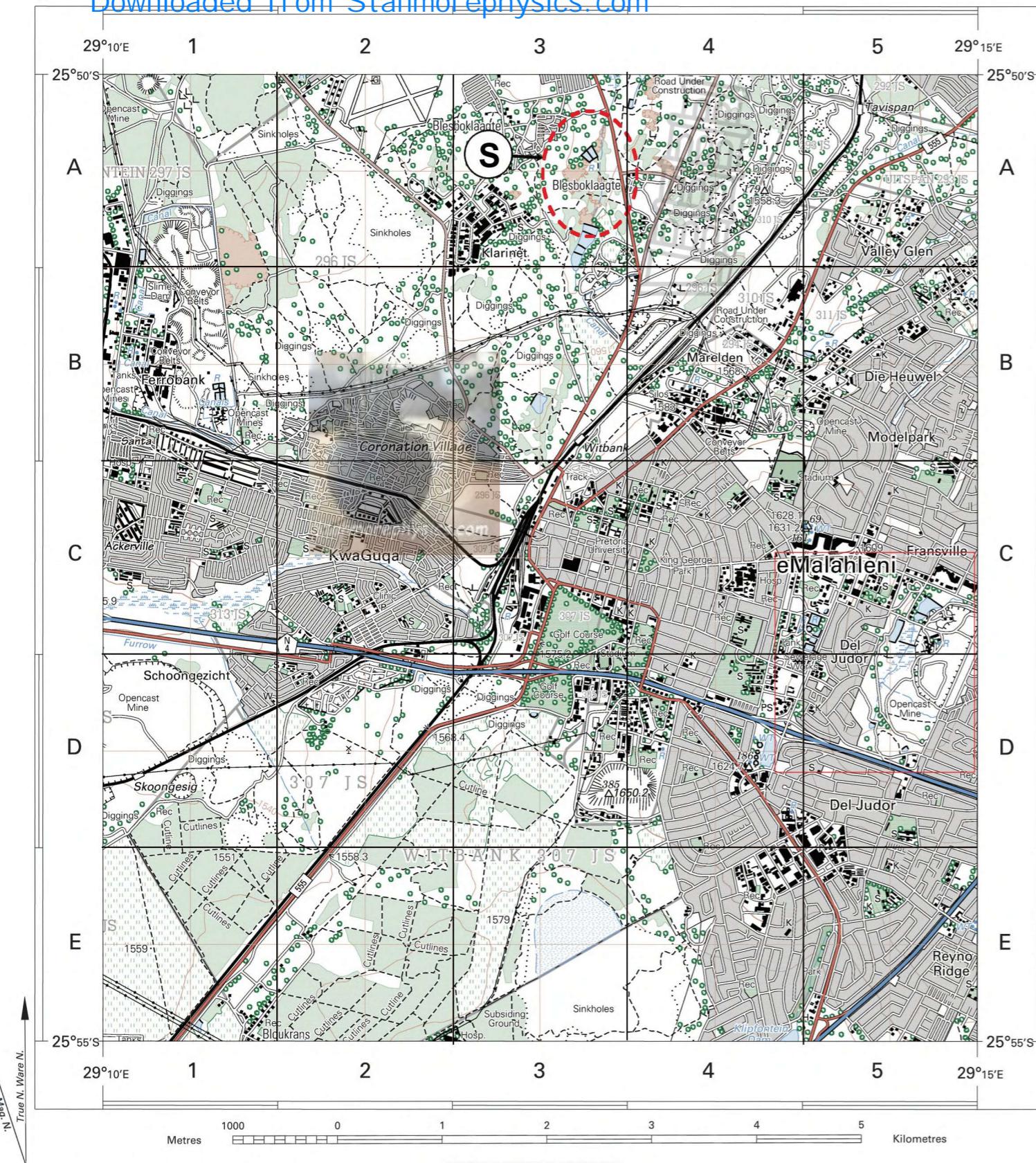
TOTAL SECTION B: 30
GRAND TOTAL: 150



EXTRACT FROM 2529CC EMALAHLENI

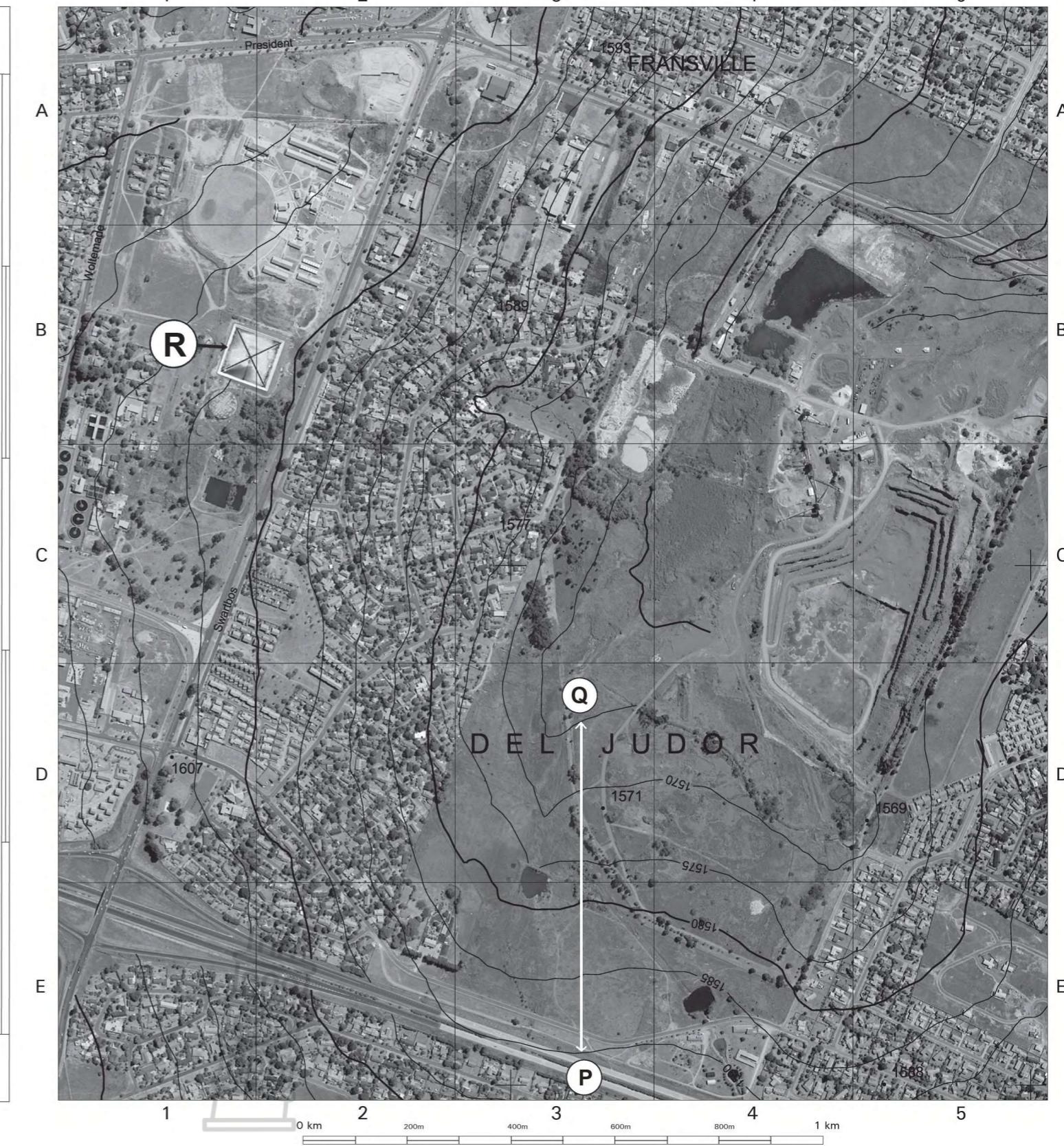
Downloaded from Stanmorephysics.com

1:50 000



EXTRACT FROM 2529CC 15 ortho - rectified image

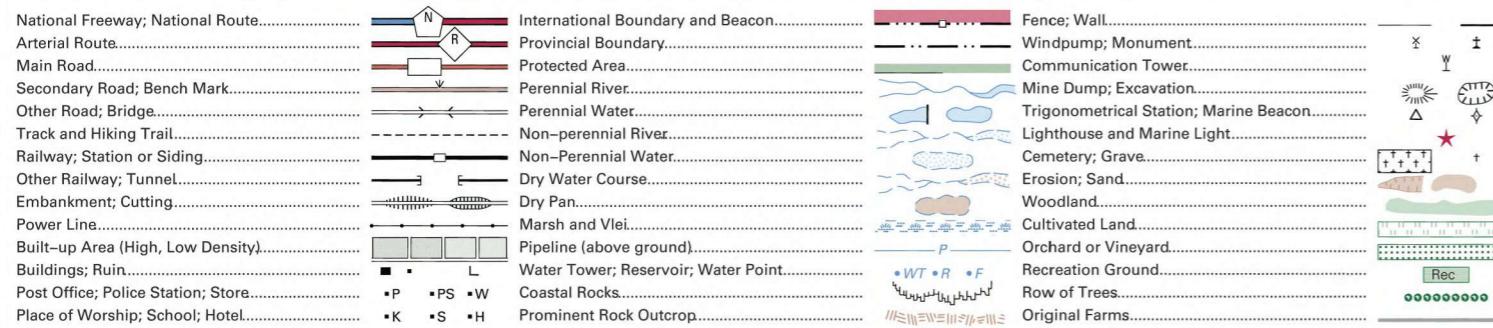
1:10 000



Mean magnetic declination 18°19' West of True North (July 2014).
Mean annual change 5° westwards (July 2014 - June 2015).

CONTOUR INTERVAL 20 METRES

REFERENCE





Province of the
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EDUCATION

Iphondo leMpuma Kapa: Isebe leMfundu
Provincie van die Oos-Kaap: Departement van Onderwys
Porafensie Ya Kape Botjhabela: Lefapha la Thuto

NATIONAL SENIOR CERTIFICATE

GRADE 11

NOVEMBER 2025

GEOGRAPHY P2 MARKING GUIDELINE

MARKS: 150



This marking guideline consists of 9 pages.

SECTION A**QUESTION 1**

1.1	1.1.1	Z (1)			
	1.1.2	Y (1)			
	1.1.3	Z (1)			
	1.1.4	Y (1)			
	1.1.5	Y (1)			
	1.1.6	Z (1)			
	1.1.7	Z (1)			
	1.1.8	Z (1)			(8 x 1) (8)
1.2	1.2.1	D (1)			
	1.2.2	A (1)			
	1.2.3	D (1)			
	1.2.4	A (1)			
	1.2.5	C (1)			
	1.2.6	C (1)			
	1.2.7	B (1)			(7 x 1) (7)
1.3	1.3.1	To empower local people (1)			(1 x 1) (1)
	1.3.2	Money sourced primarily from government departments and other public sectors and development principles. (2)			(1 x 2) (2)
	1.3.3	Mismanagement of funds (1) Crash in macadamia nut prices (1)			(2 x 1) (2)
	1.3.4	Loss of jobs (2) Families without a source of income (2) Decrease in quality of life (accept examples) (2) Increase in poverty levels (2) Lack of trust in community leaders (2) People left discouraged / disheartened / unmotivated (2) Loss of faith in future community development project (2) Skills specific to nut farming / non-transferable skills (2) Increase in crime / looting infrastructure (2) Rural-urban migration / brain drain (2) Increase in social unrest / protests (2)			
		[ANY TWO]			(2 x 2) (4)

1.3.5	<ul style="list-style-type: none"> Provide education / skills development / upskilling (2) Provide ongoing support (accept examples) (2) Infrastructure delivered on time (2) Enhance strong partnership between community and other stakeholders (2) Build social capital (2) Ensure project is appropriate (2) Set up monitoring / evaluation system (2) Ensure buy-in from all members (2) Provide a safety-net for emergencies (2) Involve residents in decision-making (2) Involve residents in planning (2) Connect rural producers with regional/national markets (2) Establish a resource management plan (2) Implement conflict resolution structures (2) <p>[ANY THREE]</p>	(3 x 2)	(6)
1.4	<p>1.4.1 China (1)</p> <p>1.4.2 Benefited from the customs relief system (2)</p> <p>Only paid import duty (tariff) without VAT (2)</p> <p>Able to sell goods cheaper (accept examples) (2)</p> <p>[ANY ONE]</p>	(1 x 1)	(1)
	<p>1.4.3 Lower prices / cheaper (2)</p> <p>Access to wider range of products / greater variety (2)</p> <p>Increase purchasing power (2)</p> <p>Convenience (accept examples) (2)</p> <p>Access to latest goods / fashion (2)</p> <p>Specialised goods available (2)</p> <p>Better quality of products (2)</p> <p>Assess to discounts / promotions / deals (accept examples) (2)</p> <p>[ANY TWO]</p>	(2 x 2)	(4)
	<p>1.4.4 To protect local businesses who are undercut by cheaper goods (2)</p> <p>To encourage local production which contributes to the economy (2)</p> <p>Increase government revenue through higher tariffs (2)</p> <p>To save / protect jobs in the local industries (2)</p> <p>To maximise income received from import duties / tariffs (2)</p> <p>To boost local production which can be exported (2)</p> <p>To avoid loss of tax revenue from local companies (2)</p> <p>To help reduce South Africa's growing trade deficit (2)</p> <p>Deters consumers from buying poorer quality which costs more in the long run (2)</p> <p>Encourage consumers to buy local which keeps money in the country (2)</p> <p>Trade protectionism protects the interest of SA (2)</p> <p>Buying local increases the multiplier effect in the South African economy (2)</p> <p>[ANY FOUR]</p> <p>[NO PART MARKING. ANSWER NEEDS AN EXPLANATION AND A QUALIFIER]</p>	(4 x 2)	(8)

1.5	1.5.1	Aid from one government / country to another. (2) [CONCEPT]	(1 x 2)	(2)
	1.5.2	Saves lives / prevents loss of life (during emergencies) (1) Alleviates suffering (1) Addresses urgent health crisis (1) Emergency-focused (1) [ANY ONE]	(1 x 1)	(1)
	1.5.3	The USA is cutting off (literally cutting) money (aid) (2)	(1 x 2)	(2)
	1.5.4	Became dependent on aid over the years (2) Relied on the continuous support / aid (2) Country remains in crisis mode because of instability (2) Weak government institutions (2) No local systems in place to fill the gap (2) Overreliance on a few key donors (2) [ANY TWO]	(2 x 2)	(4)
	1.5.5	Decrease in quality of life / standard of living (2) Increased poverty (2) Reduced access to basic services (accept examples) (2) Increased food insecurity (2) Higher death rate (2) Increased migration (2) Break down of families (2) Increased conflict (2) Increase in crime / increase in social instability (2) Increase in child labour (2) [ANY THREE]	(3 x 2)	(6) [60]

QUESTION 2

2.1 2.1.1 Non-conventional (1)

2.1.2 Non-conventional (1)

2.1.3 Conventional (1)

2.1.4 Conventional (1)

2.1.5 Non-conventional (1)

2.1.6 Non-conventional (1)

2.1.7 Conventional (1) 

(7 x 1) (7)

2.2 2.2.1 Y (1)

2.2.2 Y (1) 

2.2.3 Z (1)

2.2.4 Y (1)

2.2.5 Z (1)

2.2.6 Z (1)

2.2.7 Y (1)

2.2.8 Z (1) (8 x 1) (8)

2.3 2.3.1 Northern-Cape (1) (1 x 1) (1)

2.3.2 Average soil loss rate is 12,6 tons per hectare. The natural formation rate is approximately 4,9 tons per hectare per year. (2) (1 x 2) (2)

2.3.3 Decreased crop yield (2)
Reduced crop quality (2)
Greater risk of crop failure (2)
Reduced income / profit (2)
Reduced farm value (2)
Increased operating costs (accept examples) (2)
[ANY TWO] 

(2 x 2) (4)

2.3.4	Planting cover crops / trees / afforestation (2) Implement strip cropping (2) Avoid ploughing on steep slopes (2) Contour ploughing across a slope (2) Introduce crop rotation (2) Building step-like level / terraces on slopes (2) Add a layer of organic material / mulching (2) Add fertiliser (2) Reduce / avoid tillage farming (2) Plant windbreaks (2) Improve irrigation practices (2) Controlling veld fires (2) Fencing paddocks (2) Avoid overgrazing (2)	(4 x 2)	(8)
2.4	2.4.1 Renewable (1)	(1 x 1)	(1)
	2.4.2 Increase (1)	(1 x 1)	(1)
	2.4.3 Due to South Africa's rising electricity demand. (1)	(1 x 1)	(1)
	2.4.4 Plateau landscape (1) Strong average wind speeds (1)	(2 x 1)	(2)
	2.4.5 Does not deplete any natural resource (2) No carbon emissions / reduced carbon footprint / no greenhouse gas emission (2) No waste products (2) No water use (2) Minimal land disturbance (2) Minimal impact on wildlife and ecosystems (2) [ANY TWO]	(2 x 2)	(4)
	2.4.6 On-site training / education leads to upskilling (2) Employment at wind farm decreases poverty (2) Income into household improves standard of living (accept examples) (2) Social programmes (accept examples) improve quality of life (2) Crime / social ills reduced because of less unemployment / social network (2) Local workers employed which means families don't break up (2) More facilities (accept examples) for greater convenience (2) Building social capital will create a sense of community belonging (2) Aesthetics / healthier environment (accept examples) improves life expectancy. (2) [ANY THREE]	(3 x 2)	(6)
	NO PART MARKING. ANSWER REQUIRES AN EXPLANATION AND A QUALIFIER		

2.5 2.5.1 Achieving net-zero greenhouse gas (GHG) emissions by 2050 (1) (1)

2.5.2 (Different levels of) government / Public sector (1)
Businesses / Private sector (1)
Individuals / Households (1)
[ANY TWO] (2 x 1) (2)

2.5.3 By promoting renewable energy (accept examples) (2)
Diversifying energy sources (accept examples) (2)
Reducing dependence on coal (2)
[ANY ONE] (1 x 2) (2)

2.5.4 Lower greenhouse gasses / fewer GHGs (2)
Improved air quality (2)
Reduced waste (accept examples) (2)
Less acid rain (2)
Reduced pollution (accept examples) (2)
Less toxic matter seeping into ground water (2)
Less deforestation / land clearing (2)
Reduced land degradation (2)
Reduced impact on global changing (2)
[CAN BE RELATED TO COAL MINING OR PRODUCTION OF THERMAL ENERGY]
[ANY TWO] (2 x 2) (4)

2.5.5 Expensive to transition / large investments needed (2)
Increases national debt / borrowing money (2)
Loss of jobs related to coal (accept examples) (2)
Loss of country's economy (GDP) / reduced coal exports (2)
Cost of training people / skills development (2)
Coal mining towns will suffer economic decline (2)
[ANY THREE] (3 x 2) (6)
[60]

SECTION B**QUESTION 3**

3.1 3.1.1 A (1) (1 x 1) (1)

3.1.2 C (1) (1 x 1) (1)

3.1.3 $0.9 \text{ cm} \times 100 = 90 \text{ (1) m}$
 $90 \times 90 = 8100 \text{ m}^2 \text{ (1)}$ (2 x 1) (2)

3.1.4 Orthophoto map has a larger scale (2)
Orthophoto map's scale is five times larger (2)
Topographical map has a smaller scale (2)
Topographical map's scale is five times smaller (2)
[ANY ONE] (1 x 2) (2)

3.1.5 5 m (1) (1 x 1) (1)

3.1.6 $1590 \text{ (m)} - 1565 \text{ (m)} = 25 \text{ m (2)}$ (1 x 2) (2)

3.1.7 C (1) (1 x 1) (1)

3.2 3.2.1 Coal (1) (1 x 1) (1)

3.2.2 Open-cast mine (1)
Diggings (1)
Excavation (1)
Mine dump (1)
[ANY TWO] (2 x 1) (2)

3.2.3 Exposure to noise pollution (1)
Health risks (accept examples) (1)
Contamination of water / water scarcity (1)
Decline in property value (1)
Reduces aesthetical value (1)
Heavy coal trucks increase traffic / damage roads (1)
Blasting can cause structural damage to homes (1)
[ANY TWO] (2 x 1) (2)

3.2.4 Allows for effective transportation of goods / raw material (2)
Allows for effective transportation of workers (2)
Creates accessibility to major markets (2)
Effective transport network attracts investors (2)
Transport costs are reduced / cost-effective (2)
Facilitates the bulk movement of commodities (2)
[ANY TWO] (2 x 2) (4)

3.2.5 C (1) (1 x 1) (1)

3.2.6	Increased sedimentation / cloudiness (1) Sediments can carry pollutants (accept examples) (1) Increased nutrient content / Eutrophication (1) Lower pH / increases acidity (1) Eroded soil can carry pathogens (1) Creates a chemical imbalance (1) [ANY TWO]	(2 x 1)	(2)
3.3	3.3.1 (a) Spatial (1) (b) Attribute (1)	(2 x 1)	(2)
3.3.2	A (1)	(1 x 1)	(1)
3.3.3	D (1)	(1 x 1)	(1)
3.3.4	Raster (1)	(1 x 1)	(1)
3.3.5	Made up of pixels (2) Data is cell-based (2) [ANY ONE]	(1 x 2)	(2)
3.3.6	Area (1) Polygon (1) [ANY ONE]	(1 x 1)	(1) [30]

TOTAL SECTION B: 30
GRAND TOTAL: 150

