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Province of the
EASTERN CAPE
EDUCATION

NATIONAL SENIOR CERTIFICATE

GRADE 11

NOVEMBER 2024

GEOGRAPHY P2

MARKS: 150

TIME: 3 hours

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IGEOGE2

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: DEVELOPMENT (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 at the top of 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 of MBOMBELA 2530BD and a 1 : 10 000 orthophoto map of (MBOMBELA 2530 BD) of a part of the mapped area 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.

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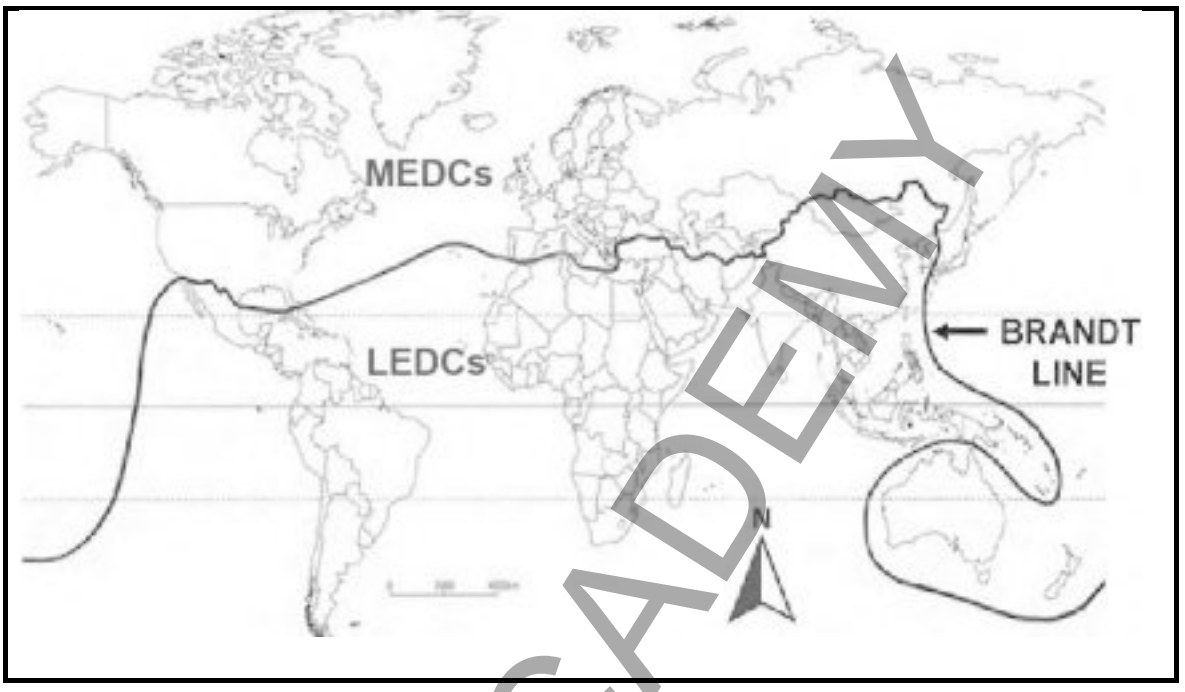
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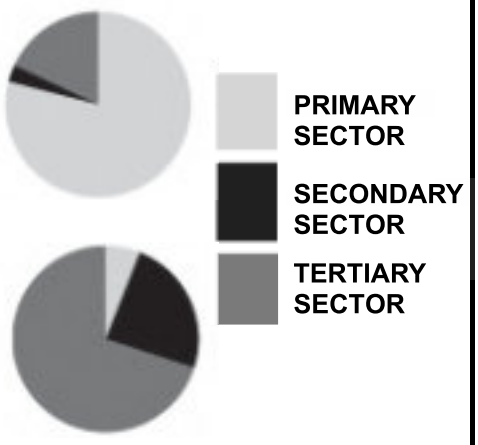
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SECTION A: DEVELOPMENT AND RESOURCES AND SUSTAINABILITY

QUESTION 1: DEVELOPMENT

1.1 Refer to the map showing the 'North-South' divide. Complete the statements in COLUMN A with the options in COLUMN B. Write only **X** or **Z** next to question numbers (1.1.1 to 1.1.8) in the ANSWER BOOK, for example 1.1.9 Z.

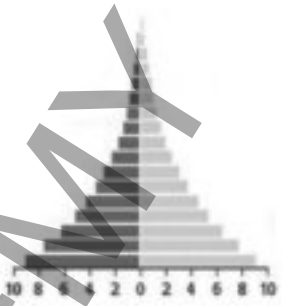


COLUMN A		COLUMN B
1.1.1	Developing countries based on economic and social criteria:	**X** South of the Brandt Line **Z** North of the Brandt Line
1.1.2	Brazil, India and South Africa are considered:	**X** Newly industrialising countries **Z** Industrialised countries
1.1.3	The employment structure in MEDCs:	**X**  **Z**

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1.1.4	The population pyramid typical of a LEDC:	**X**	
		Z	
1.1.5	The proportion of people living in urban areas in a MEDC:	**X**	
		Z	
1.1.6	A factor that would contribute positively to a country's HDI:	**X** **Z**	Higher literacy rates Decreased life expectancy
1.1.7	A country that has a Gini coefficient score close to 1:	**X** **Z**	Income equality Income inequality
1.1.8	An economic indicator that measures the overall economic performance of a country:	**X** **Z**	Gross Domestic Product Level of unemployment

(8 x 1) (8)

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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.

1.2.1 Country **X** has a negative balance of trade because …



A its exports are greater than its imports.
B its exports and imports are equal amounts.
C its imports are greater that its exports.
D it has no international trade activity.

1.2.2 The country that has the biggest trade surplus:



A China
B Russia
C India
D United Kingdom

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Refer to the map and answer QUESTIONS 1.2.3 and 1.2.4.



1.2.3 SADC stands for:

A South African Development Community
B Southern African Development Countries
C Southern African Development Community
D South African Developing Countries

1.2.4 A key economic benefit of SADC's free trade agreements:

A A common currency
B Removing competition
C Barriers to entry for businesses
D Enhanced access to international markets

1.2.5 Fair Trade is a type of trading relationship based on the principle of:

A Reducing environmental regulations
B Transparency and accountability in the supply chain
C Increasing profits by reducing production costs
D Prioritising local markets over global markets

1.2.6 Financial assistance from the government to help local businesses compete against foreign imports:

A Quota
B Tariff
C Subsidy
D Embargo

1.2.7 The main difference between a tariff and an import quota:

(i) Tariffs are taxes on imports
(ii) Import quotas limit quantity of imports
(iii) Tariffs are taxes on exports
(iv) Import quotas encourage more imports

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

(7 x 1) (7)

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1.3 Refer to the extract below on rural community development.

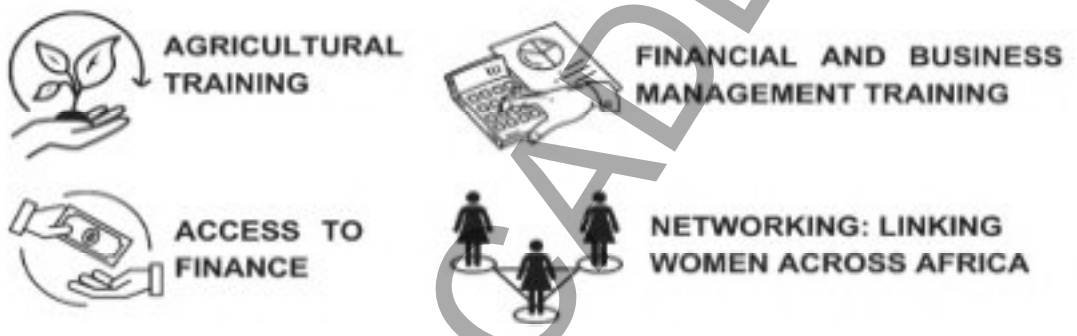
EMPOWERING RURAL COMMUNITIES: INVESTING IN WOMEN

Rural communities and rural women in particular, bear the largest burden of poverty in South Africa. The main factors contributing to the poverty of rural women include low literacy and skills training and poor access to services, especially healthcare.

Investing in women is an imperative to development. Women often have different needs than men due to their societal standing, as well as continuing imbalance in the divisions of labour for managing or undertaking domestic tasks, such as taking care of or raising children.

The Kwanalu's Women and Youth in Rural Entrepreneurship (WYRE) initiative aims to strengthen KZN's rural and farming communities. Its goal is to build productive and sustainble family and community livelihoods.

Through WYRE's programme, women who are part of the community development programme receive the following support:



The WYRE programme is not only enhancing the skills and leadership qualities of its participants, but is also playing a crucial role in the sustainable development of rural economies in KZN, fostering a new generation of entrepreneurial leaders in agriculture.

[Adapted from www.foodformzansi.co.za/-kwanalu-empowers-rural-entrepreneurs-in-kzn/]

1.3.1 What is *community development?* (1 x 2) (2)

1.3.2 Why are women important to community development? (2 x 1) (2)

1.3.3 According to the extract, why do rural women bear the largest burden of poverty? (2 x 1) (2)

1.3.4 (a) The WYRE initiative provides women with (physical / human) capital. (1 x 1) (1)

(b) How will agricultural training help alleviate poverty in rural communities? (2 x 1) (2)

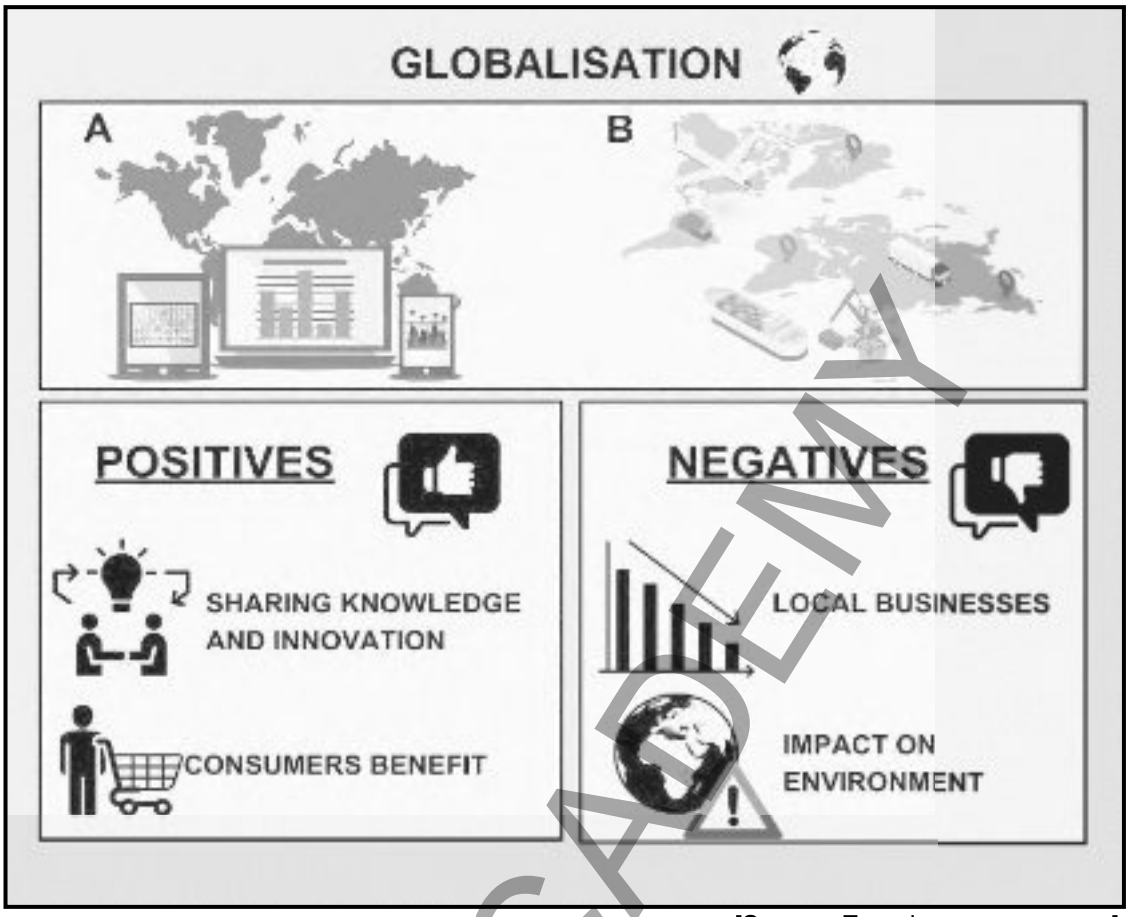
1.3.5 Explain how the WYRE initiative hopes to empower women to become entrepreneurial leaders in agriculture throughout the continent. (3 x 2) (6)

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1.4 Refer to the sketch below on globalisation.



[Source: Examiners own source]

1.4.1 State ONE factor evident in **A** that enables the sharing of knowledge. (1 x 1) (1)

1.4.2 How have modern transportation systems (**B**) promoted globalisation? (1 x 2) (2)

1.4.3 Why can consumers benefit from increased globalisation of trade? (2 x 1) (2)

1.4.4 Explain how liberalisation of trade (encouraged by globalisation) present challenges for local businesses. (2 x 2) (4)

1.4.5 What potential environmental problems are associated with increased globalisation? (3 x 2) (6)

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1.5 Refer to the cartoon and extract on development aid.



FOREIGN AID: IMPACT ON DEVELOPMENT

Over the decades, billions of dollars have been channelled from wealthier nations to poorer ones in the hope of promoting economic growth, alleviating poverty and enhancing the people's quality of life.

However, a complex and often disappointing reality emerges: despite these efforts, many developing countries continue to struggle with high levels of poverty. Despite receiving $36 billion annually in aid, Sub-Saharan Africa remains the poorest region globally.

One of the factors contributing to the limited success of foreign aid is when it comes with conditions. Unfortunately, when all the conditions are considered, the aid may not necessarily benefit the recipient's population.

Foreign aid undoubtedly plays a crucial role in addressing immediate humanitarian needs and supporting development initiatives in struggling economies. However, the notion that aid alone can lift countries out of poverty, is overly simplistic and often unrealistic.

[Adapted from https://businessday.ng/business-economy/article/foreign-aid]

1.5.1 According to the extract, what is the purpose of foreign aid? (1 x 1) (1)

1.5.2 What factors, as indicated in the cartoon, hinder the success of foreign aid in Africa? (2 x 1) (2)

1.5.3 Why does conditional aid not necessarily benefit the recipient country's population? (2 x 2) (4)

1.5.4 In a paragraph of approximately EIGHT lines, explain how technical aid can be beneficial in eradicating poverty. (4 x 2) (8)

[60]

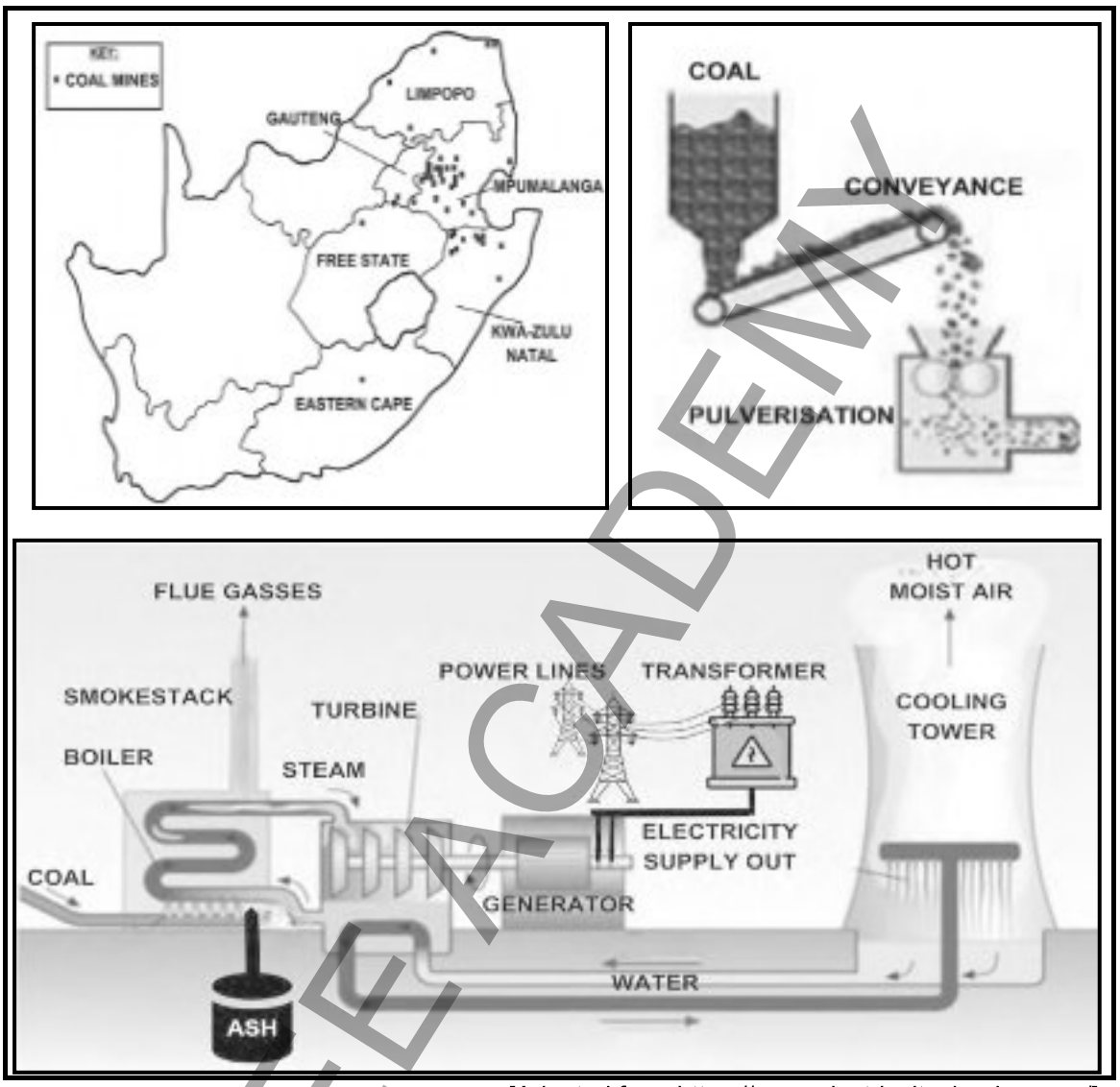
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QUESTION 2: RESOURCES AND SUSTAINABILITY

2.1 The sketches below show a simplified version of thermal power production. Match each description in QUESTIONS 2.1.1 to 2.1.8 with the information from the sketches. Write the answer next to the question numbers (2.1.1 to 2.1.8) in the ANSWER BOOK, for example 2.1.9 coal mines.



[Adapted from https://www.electricaltechnology.org/]

2.1.1 The South African province with the largest concentration of coal mines.

2.1.2 The process of grinding coal into a fine powder.

2.1.3 The heat needed for producing the steam comes from the burning of which fuel?

2.1.4 The solid waste produced by the power station that accumulates at the bottom of the furnace.

2.1.5 The machine which turns mechanical energy into electrical energy.

2.1.6 What is handled and dispersed of by the smokestack?

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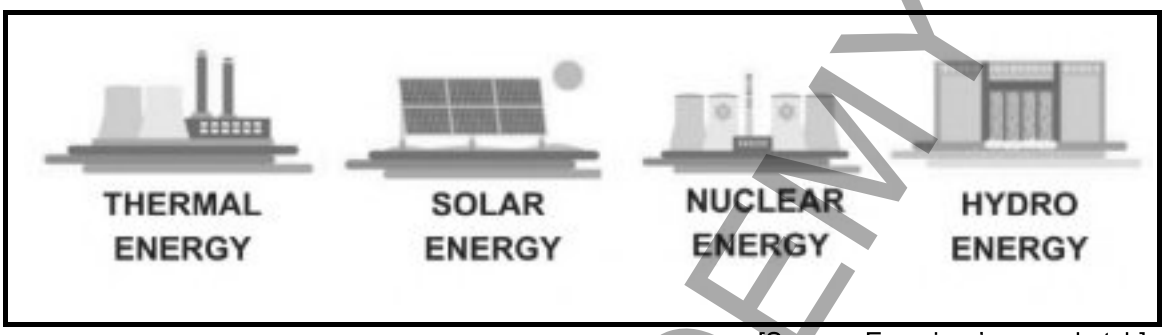
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2.1.7 Heat removed from the steam is dissipated through which component of the power plant?

2.1.8 To adjust the voltage for long-distance travel, to what is generated electricity sent? (8 x 1) (8)

2.2 The images below show different ways that electrical energy is obtained in South Africa. Match the descriptions below with the appropriate energy source. Write only the energy source next to the question numbers (2.2.1 to 2.2.7) in the ANSWER BOOK, for example 2.2.8 Thermal energy.



[Source: Examiner's own sketch]

2.2.1 Produces radioactive waste.

2.2.2 South Africa's primary source of electricity.

2.2.3 The leading renewable energy source in South Africa.

2.2.4 The Gariep Dam is the largest … facility in South Africa.

2.2.5 Obtained by splitting uranium atoms.

2.2.6 Requires photovoltaic (PV) installations.

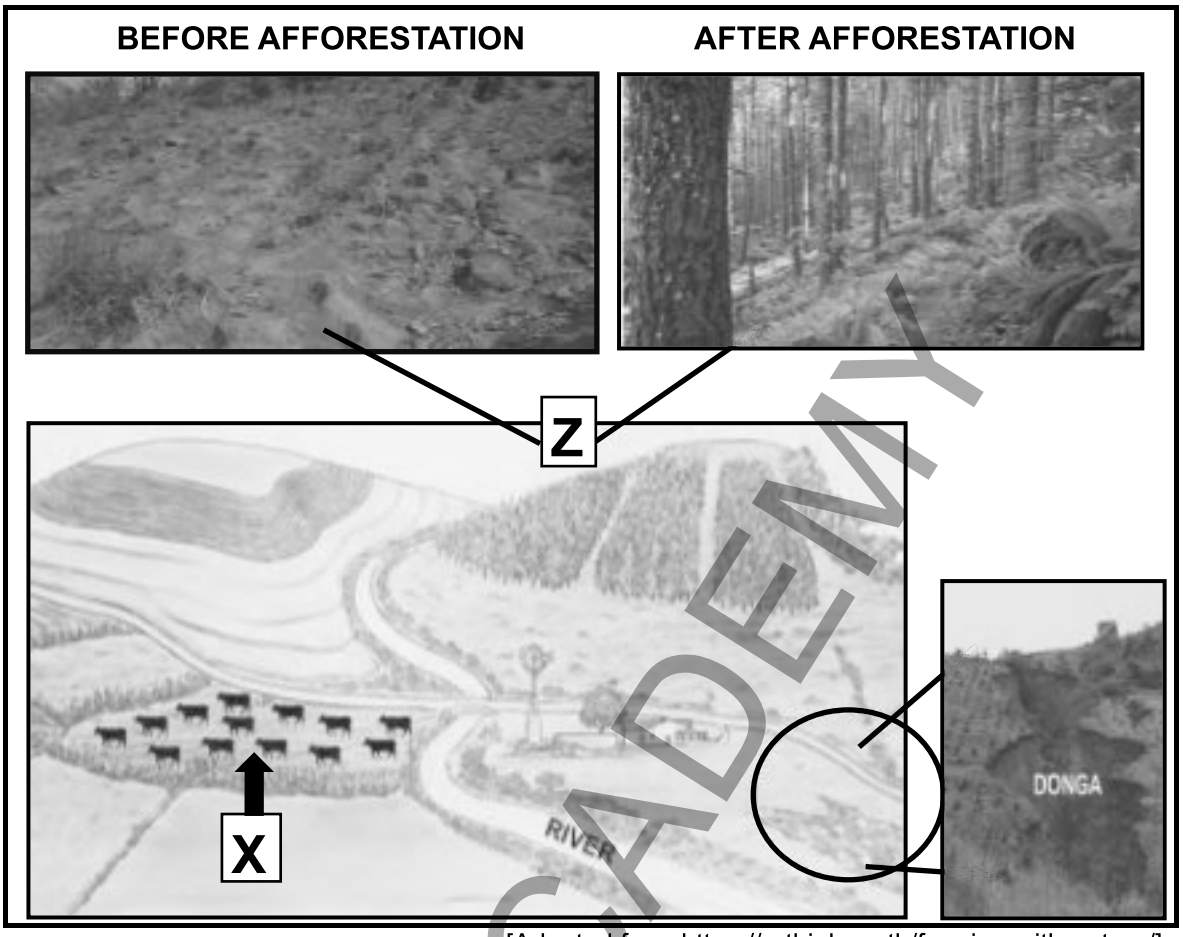
2.2.7 The non-conventional energy source in South Africa. (7 x 1) (7)

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2.3 Refer to the sketch and photos on soil erosion.



[Adapted from https://rethink.earth/farming-with-nature/]

2.3.1 What is *soil erosion?* (1 x 2) (2)

2.3.2 From the sketch above, provide evidence of soil erosion. (1 x 1) (1)

2.3.3 Why does overgrazing by livestock **(X)** contribute to soil erosion? (2 x 2) (4)

2.3.4 What are the negative economic effects of soil erosion? (2 x 2) (4)

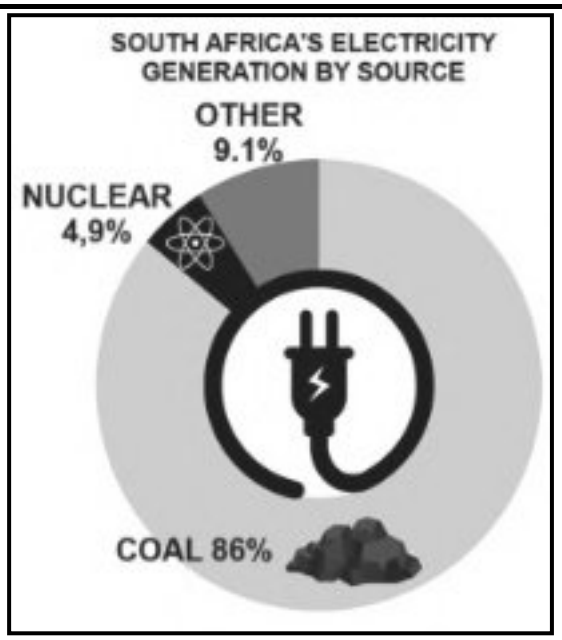
2.3.5 How does the management strategy implemented at **Z** prevent soil erosion? (2 x 2) (4)

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2.4 Refer to the infographic on conventional energy sources in South Africa.



OVERVIEW OF SOUTH AFRICA'S NUCLEAR POWER (2023)	
Nuclear electricity generation (TWh)	8,2
Reactors operable	2
Reactors under construction	0
Reactors proposed	2
Uranium required (Tons per year)	277
South Africa is the world's eleventh-largest producer of uranium	

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

Nuclear energy has been significant in South Africa's energy landscape for decades with the country's first and only nuclear power plant constructed in 1976 in Duynefontein, near Cape Town. Koeberg NPP, owned and operated by Eskom, has two reactors with a combined capacity of 1 869 MW.

South Africa's focus on nuclear energy (as a low-carbon source of energy) is ever-increasing as the global drive towards mitigating climate change and South Africa's goal of achieving net-zero emissions becomes more pressing.

However, despite the potential of nuclear production to help with the country's energy supply and meet climate goals, nuclear energy provides only 4,9% of the electricity supplied to the grid today. In South Africa, there is a historical dependency on coal due to its abundance and the economic importance of the mining industry.

[Adapted from www.whitecase.com/insight-alert/latest-plans-increase-nuclear-energy-south-africa]

2.4.1 According to the graph, what percentage of South Africa's electricity is nuclear generated? (1 x 1) (1)

2.4.2 How does South Africa's uranium production support the proposal for two new nuclear reactors? (1 x 2) (2)

2.4.3 Why is nuclear power production an option for the country to achieve net-zero emissions? (2 x 2) (4)

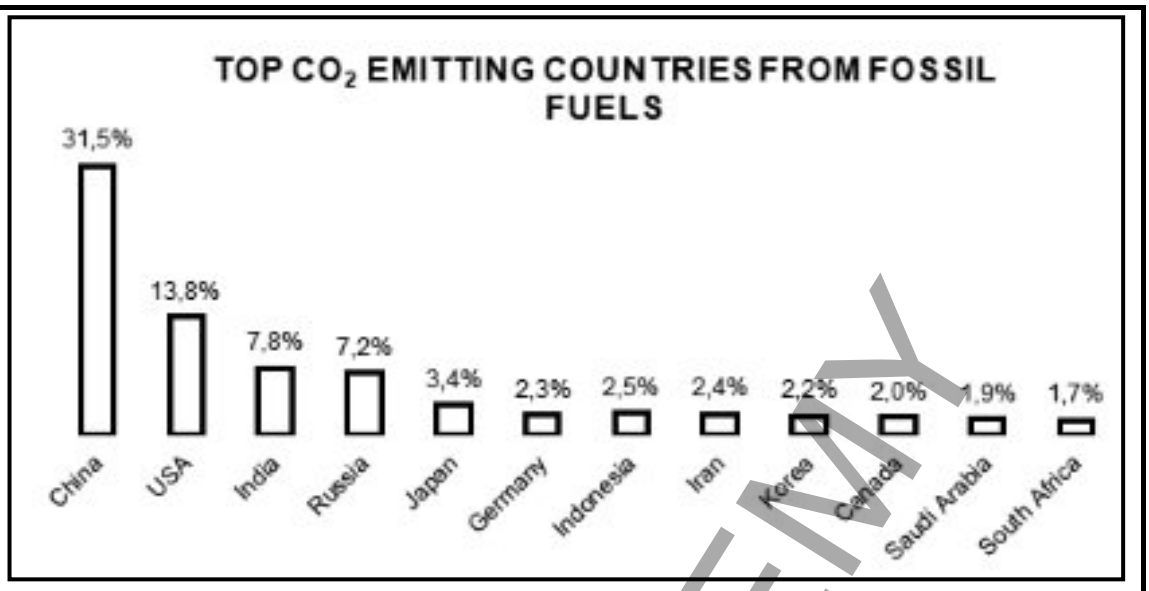
2.4.4 In a paragraph of approximately EIGHT lines, explain why South Africa favours coal as its main source of energy despite the advantages associated with nuclear energy. (4 x 2) (8)

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



THE COST OF NON-CONVENTIONAL ENERGY IN SOUTH AFRICA

South Africa is at a critical moment in its energy transition (shift): trying to decarbonise its economy and make sure that everyone has access to reliable and affordable energy. South Africa is a major carbon emitter and there is an urgent need for the country to reduce its greenhouse gas emissions.

While the country has already made progress in integrating renewable energy into its power grid, its path to a sustainable energy future is complicated by financial problems and limited energy storage technology. Renewable energy sources, such as wind and solar are intermittent (erratic) and their output fluctuates. As a result, it is important to set up grid-scale storage which is very expensive.

The International Partners Group has agreed to give South Africa $8,5 billion. The money aims to accelerate (quicken) the decarbonisation of South Africa's economy to help it achieve the goal of reaching net-zero carbon emissions by 2050. However, only 2,7% of the offers are grants, with the other 97% in the form of loans.

[Adapted from www.mg.co.za/-the-just-energy-transition-in-south-africa/]

2.5.1 What is *non-conventional energy?* (1 x 2) (2)

2.5.2 According to the graph, what percentage of global carbon dioxide (CO_2) from fossil fuels, does South Africa contribute? (1 x 1) (1)

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2.5.3 Give evidence from the extract that shows that South Africa's energy shift is influenced by:

(a) A social factor

(b) An environmental factor (2 x 1) (2)

2.5.4 What makes wind and solar energy sources unreliable? (2 x 2) (4)

2.5.5 Explain the negative effects on the South African economy as it implements increased non-conventional energy sources. (3 x 2) (6)

[60]

TOTAL SECTION A: 120

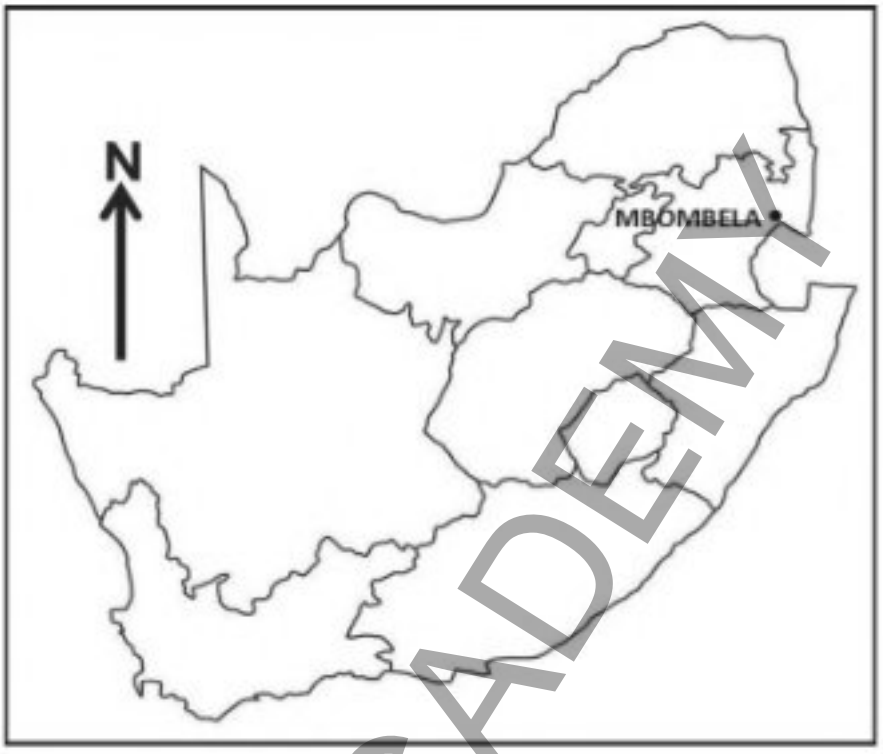
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SECTION B:

QUESTION 3: GEOGRAPHICAL SKILLS AND TECHNIQUES

GENERAL INFORMATION ON MBOMBELA



Coordinates: 25° 27ϙ57ƎS 30° 59ϙ07ƎE

Mbombela, formerly Nelspruit, is a city in northeastern South Africa. It is the capital of the Mpumalanga province. Located on the Crocodile River, the city lies about 330 km east of Johannesburg.

Fertile soils and the subtropical climate provide perfect conditions for the growing of citrus and tropical fruits, mainly mango, banana, avocado, papaya and macadamia nuts.

The city is a key agricultural processing hub for northeastern South Africa.

[Adapted from wikipedia.org/wiki/Mbombela]

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

ENGLISH	AFRIKAANS
Canal	Kanaal
Diggings	Uitgrawings
Furrow	Voor

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3.1 MAP SKILLS AND CALCULATIONS

3.1.1 Johannesburg is in a(n) … direction from Mbombela.

A north-easterly
B south-westerly
C westerly
D easterly (1 x 1) (1)

3.1.2 The scale of the orthophoto map is … times … than the scale of the topographical map.

(i) five
(ii) ten
(iii) smaller
(iv) larger

A (i) and (iii)
B (i) and (iv)
C (ii) and (iii)
D (iii) and (iv) (1 x 1) (1)

3.1.3 Complete the grid reference / co-ordinates of the building **(G)** in **E1** on the topographical map. Write down only the information that is not included in the question.

(a) __ ° 29' __" S (2 x 1) (2)

(b) 30° __' 56" E (1 x 1) (1)

3.1.4 On the topographical map, calculate the average gradient between trigonometrical station 101 in **B3** and spot height 703 **(A3).**

Use the following information:

HE: 1 250 m

Formula: Average gradient = $\frac{\text{highest point} - \text{lowest point}}{\text{distance between the two points}}$

(3 x 1) (3)

3.1.5 Use the topographical map and the information below to calculate the magnetic declination for 2024.

Difference in years: 10 years
Mean annual change: 5' westwards (2 x 1) (2)

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3.2 MAP INTERPRETATION

Refer to the topographical map.

3.2.1 The man-made feature **H** in block **B2** is a(n)…

A mine dump.
B national road.
C excavation.
D embankment. (1 x 1) (1)

3.2.2 The portion of the Crocodile River **(J)** in block **B2** is … and flows …

(i) perennial
(ii) non-perennial
(iii) north-westerly.
(iv) south-easterly.

A (i) and (iii)
B (ii) and (iv)
C (ii) and (iii)
D (i) and (iv) (1 x 1) (1)

3.2.3 Explain the negative impact that soil erosion, caused by feature **H**, can have on the river **(J)**. (2 x 2) (4)

Refer to block **A5** on the topographical map.

3.2.4 Identify the main agricultural activity in the area. (1 x 1) (1)

3.2.5 How has access to water encouraged the agricultural activity (answer to QUESTION 3.2.4)? (1 x 2) (2)

Refer to the orthophoto map.

3.2.6 The area marked **X** is dominated by … activities.

A manufacturing
B agricultural
C mining
D commercial (1 x 1) (1)

3.2.7 How does unstable electricity access (loadshedding) negatively affect the businesses (answer to QUESTION 3.2.6) in area **X**? (2 x 1) (2)

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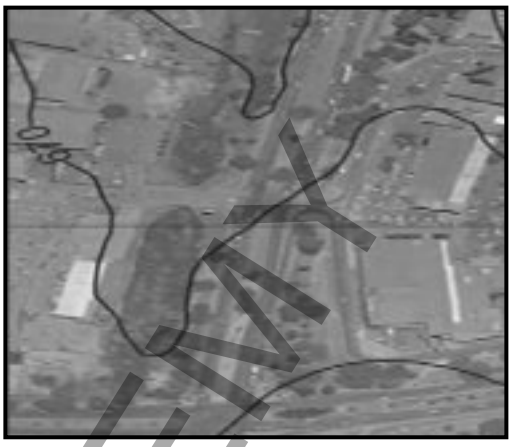
3.3 GEOGRAPHICAL INFORMATION SYSTEMS (GIS)

Refer to **A** which is extracted from block **D4** on the topographical map and **B** which shows a portion of the orthophoto map (**D1/E1**).

A



B



3.3.1 Which image (**A** or **B)** is vector data? (1 x 1) (1)

3.3.2 Identify a natural line feature on **A.** (1 x 1) (1)

3.3.3 Why is **B** classified as a vertical aerial photograph? (1 x 1) (1)

Refer to the photographs below to answer QUESTIONS 3.3.4 to 3.3.6.

HIGH SPATIAL RESOLUTION	MEDIUM SPATIAL RESOLUTION	LOW SPATIAL RESOLUTION
		

3.3.4 What is *spatial resolution?* (1 x 2) (2)

3.3.5 The image with a (high / medium / low) spatial resolution has the highest number of pixels. (1 x 1) (1)

3.3.6 How has the size of the pixels influenced the image with a low spatial resolution? (1 x 2) (2)

TOTAL SECTION B: 30
GRAND TOTAL: 150

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