GAUTENG EAST DISTRICT

TYPE OF TASK: FINAL EXAMINATION

PAPER 2

SUBJECT	:	GEOGRAPHY
GRADE	:	11
TIME	:	3 HOURS
TOTAL	:	150 MARKS
DATE OF IMPLEMENTATION	:	12 NOVEMBER 2024
EXAMINER	:	GAUTENG EAST
MODERATOR	:	SEDIBENG WEST

This question paper consists of 24 pages.

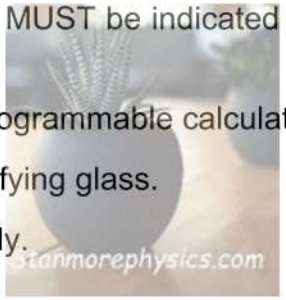
QUESTION 1: DEVELOPMENT (60)

QUESTION 2: RESOURCES AND SUSTAINIBILITY (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. Answer in FULL SENTENCES, except when you have to state, name, identify or list.
8. Units of measurement MUST be indicated in your final answer, e.g. 1020hPa, 14 °C and 45 m.
9. You may use a non-programmable calculator.
10. You may use a magnifying glass.
11. Write neatly and legibly.



SPECIFIC INSTRUCTIONS AND INFORMATION FOR SECTION B

12 A 1:50 000 topographic map **2930 CA** MERRIVALE **OR 2931 CA VERULAM** and a 1: 10 000 orthophoto map **2930 CA 5** MERRIVALE **OR 2931 CA 11** VERULAM are provided.

13 Show ALL calculations. Marks will be allocated for this

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

SECTION A: DEVELOPMENT AND RESOURCES AND SUSTANIBILITY

QUESTION 1: DEVELOPMENT

1.1 Various options are provided as possible with answers to the following questions. Choose the correct answer and write the letter (A–D) next to the question number (1.1.1–1.1.8) down, for example 1.1.9 D.

1.1.1. The use of resources and technology to improve the quality of life and standard of living in a country is called ...

A Sustainable development
B Development
C Infrastructure
D Responsible development

1.1.2. … economic activities contribute the least to the GDP in a developed country.

A Tertiary
B Primary
C Secondary
D Quaternary

1.1.3. High income countries with small families and good medical care ensures a … mortality rate.

A High
B Medium
C Low
D High and Low

1.1.4. Balances economic. Social and environmental objectives.

A Responsible development
B Infrastructure
C Sustainable development
D local development

1.1.5. Countries generally located in the north with high income.

A Developing
B Developed
C Underdeveloped
D Still developing

1.1.6. Countries with a high percentage of population living in rural areas.

A MEDC's
B LEDC's
C NIC's
D MEDC's and NIC's

1.1.7. …….. The line dividing the world into developing and developed world.

A line of latitude
B Lines of longitude
C Equator
D Brandt line

1.1.8. A Criteria used for measuring the level of development in a country or region.

A HDI
B Development indicator
C Industrialised
D Development

(8X1) (8)

1.2. Use the correct word(s) from those given in brackets which will each statement geographically CORRECT. Write only the word(s) to the question numbers (1.2.1–1.2.7). **e.g. 1.1.8. Developed.**

1.2.1. (GDP/GNP) is the total value of goods and services produced within the boundaries of a country in a year.

1.2.2. (HDI/ GNP) is an economic indicator that combines life expectancy and level of education.

1.2.3. (MEDC'S /LEDC's) are countries with the "Human Development Index" (HDI) is close to Zero.

1.2.4. The global standard for calculating income inequality in a country is… (Gini-coefficient/ life expectancy).

1.2.5. In a developing country the (Gini-coefficient/ life expectancy) will be low because of poor medical services.

1.2.6. (Birth rate / GDP) is an economic indicator of development.

1.2.7. (Birth rate / GDP) is an example of demographic indicator of development.

(7x1) (7)

1.3 Refer to the extract on frameworks for development below.

Madikwe has the distinction of being one of the few game reserves in the world to be proclaimed purely on the grounds of being the most appropriate and sustainable land use for an area, run as a joint venture between the state, the private sector and local communities.

The project aims to involve the local community in wealth creation through tourism, skills and training. A number of impressive projects in the local Supingstad community have been achieved so far. The social responsibility programme is delivering tangible results at the various local schools which includes the fencing and safe keeping of the school properties, upgrading the school sports fields and playgrounds, renovating school buildings and facilities, setting up vegetable gardens and computer rooms, sinking a borehole and installing guttering, water tanks and toilets with running water at the high school.

Guests visiting the lodge are offered the opportunity to visit the Supingstad schools and some traditional historical sites. The Tau foundation has also granted university sponsorship to students with academic potential and stimulates performing arts by employing the high-school learners in singer-dance groups.

[Adapted from https://www.taugamelodge.co.za]

1.3.1. Define the term community-based development. (1x2) (2)

1.3.2. State **ONE** way in which the local school's benefit from the Tau Lodge Project. (1x1) (1)

1.3.3. Why is it important to involve the Supingstad community in these projects? (2x2) (4)

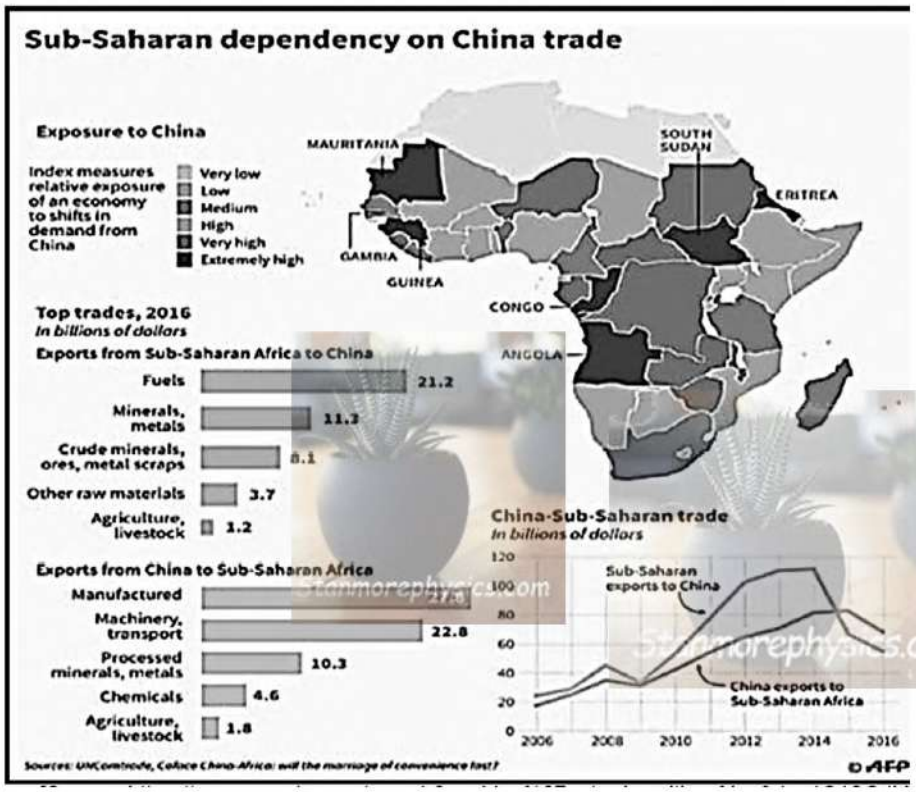
1.3.4. Why is it important to involve the government in the monitoring of these projects? (1x2) (2)

1.3.5. Describe **THREE** economic challenges faced by rural communities that hinder development possibilities. (3x2) (6)

[15]

1.4 Refer to Figure 1.4 below and answer the following questions

FIGURE 1.4: CHINA'S TRADE WITH SUB-SAHARA AFRICA



1.4.1. Define the term export-led development. (1X1) (2)

1.4.2. What does China mostly …

(a) Import from sub-Saharan Africa? (1x1) (1)

(b) Export to sub-Saharan Africa? (1x1) (1)

1.4.3. Indicate whether sub-Saharan Africa has a positive or negative balance of trade regarding their trade with China. (1x1) (1)

1.4.4. Describe the trade relationship between sub-Saharan Africa and China in 2010 and 2016 respectively. (2x2) (4)

1.4.5. Explain how development of manufacturing industries will benefit the sub-Saharan countries' local economy. (3x2) (6)

[15]

1.5 Refer to the extract on development aid for African countries.

AFRICAN COUNTRIES RECEIVE AID AFTER CYCLONE FREDDY

The European Union (EU) provided €2,5 million (R48 600 000) emergency funding to Mozambique, Malawi and Madagascar when they were struck by Tropical Cyclone Freddy in February 2023.

Tropical storms and cyclones, floods, droughts and epidemics occur often, rendering the African region highly vulnerable to these risks.

An air support operation helped humanitarian stakeholders to reach communities affected by the flooding and strong winds. With this aid, humanitarian partners on the ground were able to procure essentials such as food, protection, emergency shelter and non-food items.

Health and emergency services were also assisted because of the cholera epidemic that broke out in the region. Aid was allocated to partners working in the water, sanitation and hygiene sector to try and curb the effects of the water-borne diseases.

[Adapted from https://civil-protection-humanitarian-aid.ec.europa.eu/news-stories/news/southern-africa-and-indian-ocean-eu-allocates-eu25-million-emergency-aid]

1.5.1. What is humanitarian aid? (1x2) (2)

1.5.2. Name **TWO** countries that were affected by Tropical Cyclone Freddy. (2x1) (2)

1.5.3 Identify an example of humanitarian aid mentioned in the extract. (1x1) (1)

1.5.4. Why was humanitarian aid needed in these countries? (2x1) (2)

1.5.5. In a paragraph of approximately **EIGHT** lines. Explain the negative impact of humanitarian aid on developing countries. (4x2) (8)

[15]

QUESTION 2: RESOURCES AND SUSTAINIBILITY

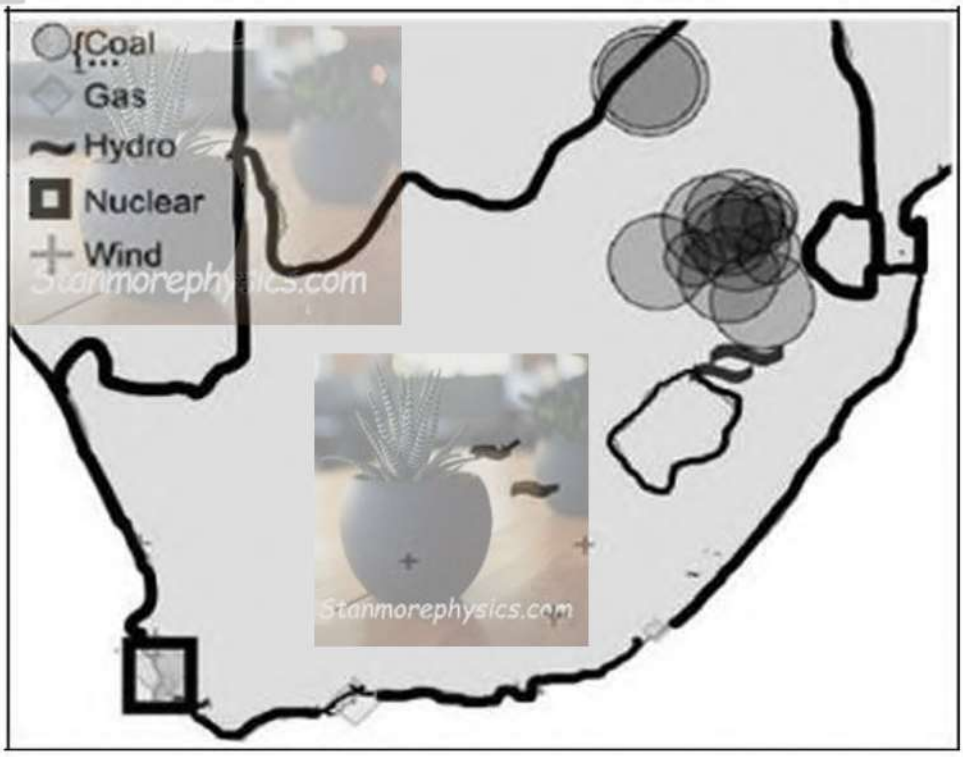
2.1 Choose a term from COLUMN B that matches the description in COLUMN A. Write only word the letter (A to H) next to the question number (2.1.1 to 2.1.7), for e.g. 2.1.8 J.

COLUMN A		COLUMN A	
2.1.1.	The amount of carbon a person contributes to polluting the atmosphere through his/her daily lifestyle.	A	Thermal energy
2.1.2.	A substance that releases atomic radiation.	B	Kinetic energy
2.1.3.	Conference of the United Nations regarding climate change in Durban.	C	Carbon footprint
2.1.4.	Energy which is realised when heat is transferred from one source to another.	D	Conventional energy sources
2.1.5.	Store energy which is released due to movement.	E	Radioactive
2.1.6.	The measures taken to regulate the type and amount of energy being used.	F	COP 17
2.1.7.	Consists of fossil fuels and the other non-renewable resources.	G H	Energy management economic

(7x1) 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, for example 2.2.9 D.

Refer to the map below showing the distribution of South Africa's energy sources, to answer QUESTIONS 2.2.1 and 2.2.2.



[Source: https://www.researchgate.net/figure/Map-of-Power-Plants-in-the-Republic-of-South-Africa]

2.2.1. In which province is South Africa's only operational nuclear power plant located?

A Gauteng
B Mpumalanga
C Limpopo
D Western Cape

2.2.2. The majority of South Africa's coal-fired power stations are in the Mpumalanga Province due to ...

A Rich coal deposits there.
B Proximity to other countries.
C Concentration of people.
D A high demand for electricity.

2.2.3. Conventional energy sources in South Africa include:

(i) Coal
(ii) Solar
(iii) Hydro
(iv) Gas

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

2.2.4. Going green is an important step towards …

A An increased carbon footprint.
B A more sustainable lifestyle.
C Increasing greenhouse gases.
D Resource depletion.

2.2.5. Natural resources being used in an unsustainable way include … and …

(i) Afforestation.
(ii) Extensive use of fossil fuels.
(iii) Reforestation.
(iv) Heavy use of agrichemicals.

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

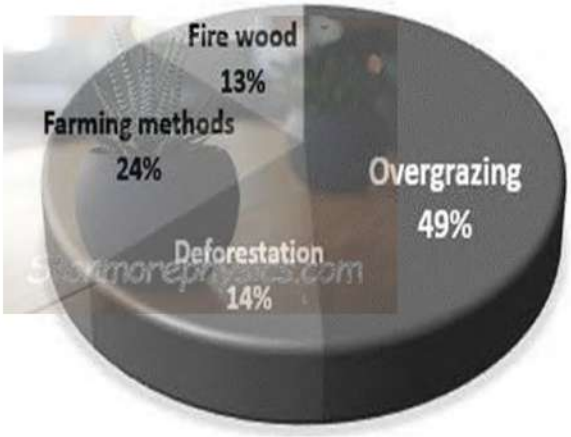
2.2.6. The country with the most ecological footprint per person is ...

A Botswana
B USA
C Qatar
D Mauritius

2.2.7. Which of the following sources is not a fossil fuel?

A Oil
B Natural gas
C Uranium
D Coal

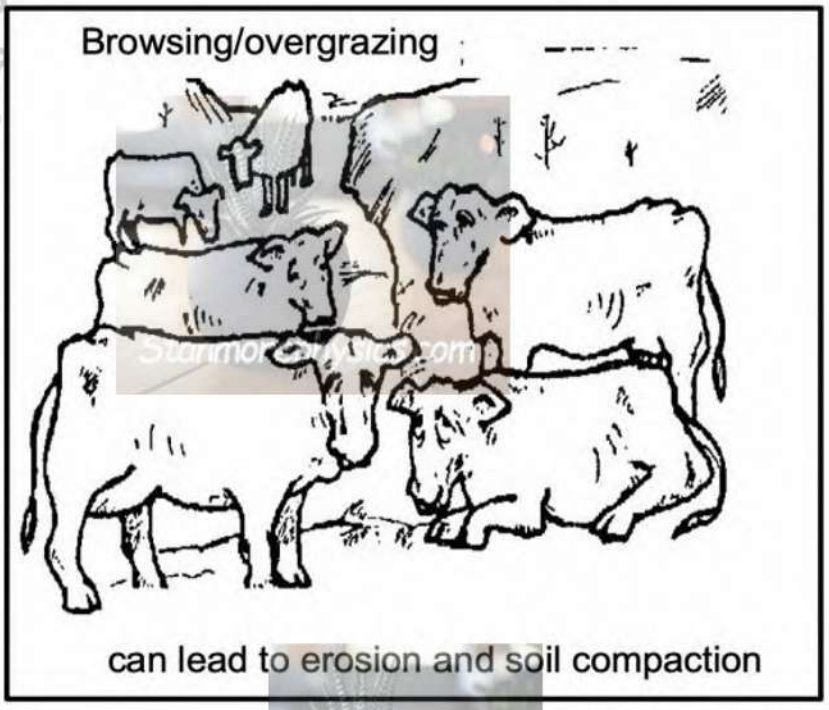
2.2.8. According to the pie chart below, the main causes of soil erosion is/are …



A Climate change.
B Industrialisation.
C Agricultural activities.
D Urbanisation.

(8X1) (8)

2.3 Refer to the sketch on soil erosion below.



[Source: www.ndzl.org]

2.3.1. Define the concept soil erosion. (1x2) (2)

2.3.2. Identify the cause of soil erosion illustrated in the sketch above. (1x1) (1)

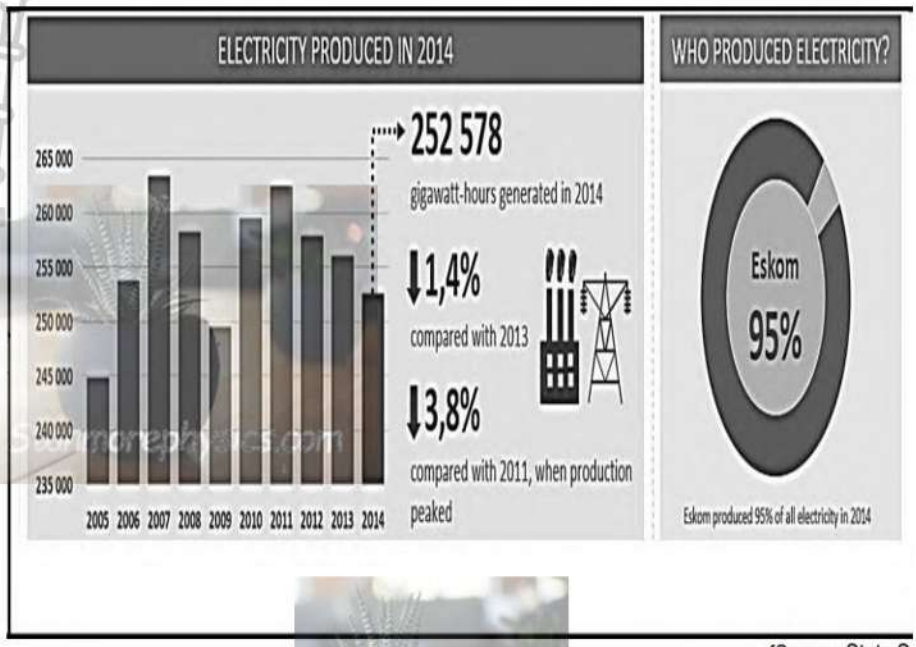
2.3.3. Explain how the cause identified in **QUESTION 2.3.2** leads to soil erosion. (2x2) (4)

2.3.4. Give **TWO** negative impacts of soil erosion on developing countries. (2x2) (4)

2.3.5. Discuss **TWO** strategies that developing countries can apply to overcome soil erosion. (2x2) (4)

[15]

2.4 FIGURE 4.6 SHOWS ELECTRICITY PRODUCED IN SOUTH AFRICA FROM 2005-2014



[Source: Stats S

The statistics in **FIGURE 4.6** show the electricity produced in South Africa from 2005 to 2014.

2.4.1. Define conventional energy source. (1x1) (1)

2.4.2. Who produced the most energy in 2014 in South Africa? (1x1) (1)

2.4.3. How much gigawatt energy was produced in 2014? (1x1) (1)

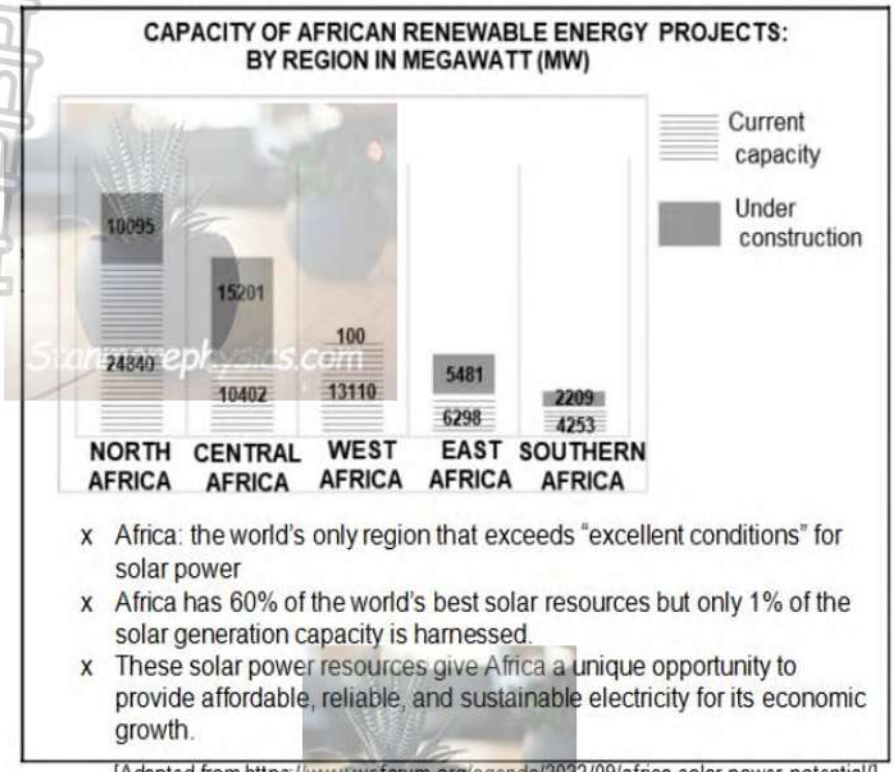
2.4.4. Which years produced the least and most energy respectively? (2x1) (2)

2.4.5. State **THREE** conventional sources of energy that are used for the generation of energy. (3X1) (3)

2.4.6. Discuss, in a paragraph of **EIGHT** lines, the negative impact of conventional energy sources on the environment. (4x2) (8)

[15]

2.5 Refer the extract below on Africa's renewable energy.



2.5.1. What is renewable energy? (1x2) (2)

2.5.2. Which region is the current leader on the African continent in renewable energy capacity? (1x1) (1)

2.5.3. Which African region, when all their under-construction projects are complete, will more than double their current capacity? (1x2) (2)

2.5.4. What physical factors contribute to Africa being described as exceeding 'excellent conditions' for solar power? (2x1) (2)

2.5.5. How will the development of solar power plants contribute to Africa's economic growth? (2x2) (4)

2.5.6. Explain the challenges Africa faces in increasing their capacity to generate solar energy. (2x2) (4)

[15]

SECTION B:

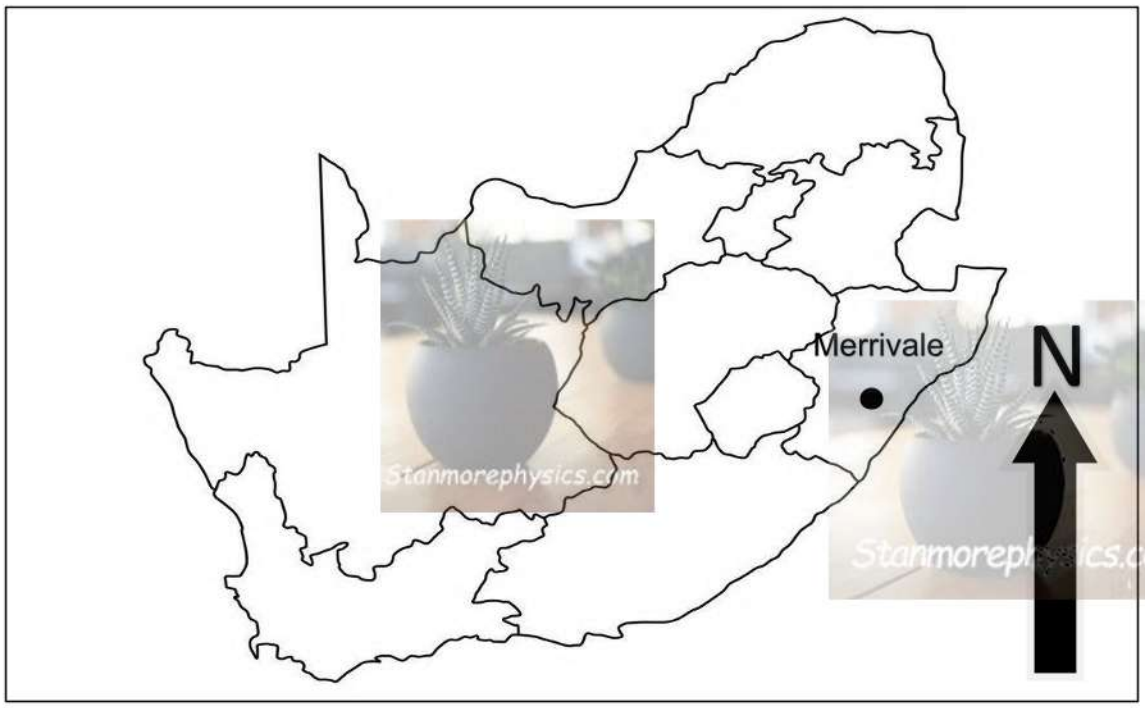
LEARNERS NEED TO CHOOSE WHICH MAP WORK SECTION THEY HAVE TO DO, ACCORDING TO THE MAP SUPPLIED BY THE SCHOOL.

OPTION 1: MERRIVALE

SECTION B

QUESTION 3: GEOGRAPHICAL SKILLS AND TECHNIQUES

BAKGROUND INFORMATION ON MERRIVALE



Coordinates: 29°31'S; 30°14'E

Merrivale is a town in the Umgungundlovu District Municipality in KwaZulu-Natal. It is 145 km north-west of Durban and 5 km south-east of Howick. Merrivale experiences warm wet summers and dry winter seasons. The temperatures between winter and summer range from 5 °C to 32 °C. The topography within the surroundings of Merrivale varies in elevation from 1 018 metres to 2 308,8 metres above sea level.

[Adapted from https://en.wikipedia.org/wiki/Merrivale]

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

ENGLISH	**AFRIKAANS**
Diggings	Delwery
Mooi River	Mooirivier
Sewerage Works	Rioolwerke
Nature Reserve	Natuurreservaat

3.1 MAP SKILLS AND CALCULATIONS

3.1.1 Province situated south of Merrivale is … province.

A Limpopo
B Eastern Cape
C Mpumalanga
D KwaZulu-Natal (1 x 1) (1)

3.1.2 A topographical map covers a … area compared to an orthophoto map

A same
B smaller
C both
D larger (1 x 1) (1)

3.1.3 Calculate the Gradient of spot height 1079 **(A1)** to spot height 1070 (**A2)** on the topographical map if distance between the heights is 3,4cm. (3 x 1) (3)

Formula: Gradient = **Vertical Interval (VI)**

Horizontal Distance (HD)

Refer to the topographic map.

3.1.4 This map was constructed in 2016, use this information to calculate the current difference in years. (1 x 1) (1)

3.1.5 The annual change is 9' westwards. Calculate the mean annual change in 2024. (1 x 1) (1)

3.1.6 Use the answer to QUESTION 3.1.5 to calculate current magnetic declination. (2 x 1) (2)

3.1.7 What is the importance of calculating the present magnetic declination (1 x 1) (1)

[10]

3.2 MAP INTERPRETATION

3.2.1 The primary economic activity within the Merrivale region is … (1 x 1) (1)

A fishing
B farming
C forestry
D mining

3.2.2 Give evidence from the map to support your answer in QUESTION 3.2.2. (1 x 2) (2)

3.2.3 Silos are located in block **B2**. Would you classify a silo as a primary or a secondary economic activity? (1 x 1) (1)

3.2.4 Give a reason for your answer in QUESTION 3.2.3. (1 x 2) (2)

Refer to the orthophoto map.

3.2.5 Secondary economic activities require a steady power supply in order to process goods.

(a) Identify the human-made infrastructure on the map that is responsible for supplying power to the Merrivale area. (1 x 1) (1)

(b) Name the raw material that is used to create this conventional power in South Africa? (1 x 1) (1)

3.2.6 The local municipality of Merrivale wants to investigate non-conventional energy options for their area.

(a) What energy option could they investigate if they were to utilise Midmar Dam in the northwestern part of the map? (1 x 1) (1)

(b) Provide ONE advantage of the non-conventional energy source that you mentioned in QUESTION 3.2.6 (a) for the people living in Merrivale. (1 x 2) (2)

(c) If the local municipality cannot use the Midmar Dam to supply energy and need to investigate a different non-conventional energy source, what would you advise them to look at? (1 x 1) (1)

[12]

3.3 GEOGRAPHIC INFORMATION SYSTEMS (GIS)

3.3.1 Refer to block **A1** and **A2** on the topographical map. Vector data refers to real life images in the form of points, lines and polygons. Identify the following examples of vector data in block **A1** or **A2**.

(a) A line feature that creates accessibility. (1 x 1) (1)

(b) A polygon feature related to farming. (1 x 1) (1)

3.3.2 Explain how the polygon feature mentioned in QUESTION 3.3.1 (b) favours farming activities in the area. (1 x 1) (1)

Refer to the two images below of block **B2** on the orthophoto.

IMAGE A

IMAGE B

3.3.3 Which image, **A** or **B**, has a higher resolution? (1 x 1) (1)

3.3.4 Justify your answer to QUESTION 3.3.3. (1 x 2) (2)

3.3.5 Define *spatial data* in relation to the topographical map. (1 x 2) (2)
[8]

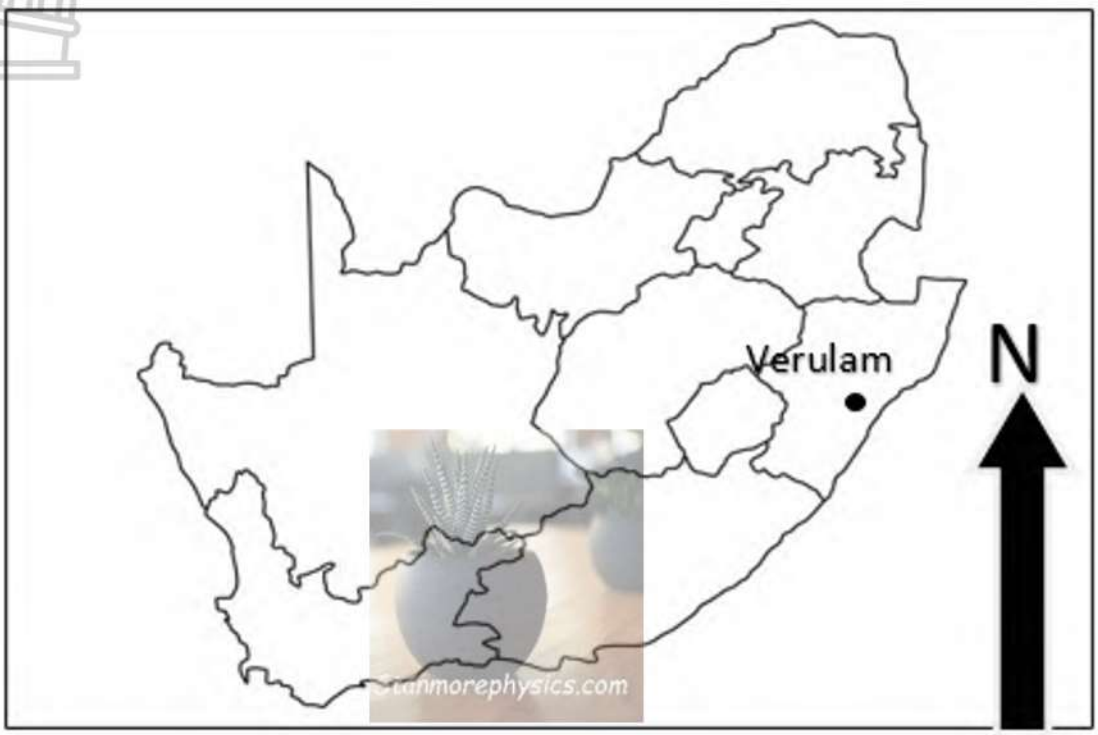
TOTAL SECTION B (30)

OPTION 2: VERULAM

SECTION B

QUESTION 3: GEOGRAPHICAL SKILLS AND TECHNIQUES

BAKGROUND INFORMATION ON VERULAM



Coordinates: 29°35'S; 31°0'E

The town of Verulam is 170 years old and located to the north of Durban. It has a population of over 60 000 people. Verulam consists of densely populated residential and industrial areas like Canelands. On the outskirts are large farming areas where the main crop grown is sugar cane. There has been slow but steady progress in modernising the town by providing improved infrastructure to the rural areas.
The Hazelmere Dam, just a few kilometres north of Verulam, is the main source of water for the area and is used for a variety of activities, such as watersports and fishing. One of the main rivers that flows through Verulam is the Mdloti River in which the Hazelmere Dam has been built. An interesting fact is that Verulam is the only town in the world where the main street (Wick Street) ends in a river.

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

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

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

3.1 MAP SKILLS AND CALCULATIONS

3.1.1 Province situated south of Verulam is … province.

A Limpopo
B North West
C Mpumalanga
D KwaZulu-Natal (1 x 1) (1)

3.1.2 A topographical map covers a … area compared to an orthophoto map

A same
B smaller
C both
D larger (1 x 1) (1)

3.1.3 Calculate the Gradient of spot height 161 **(A2)** to spot height 105 (**A5)** on the topographical map if distance between the heights is 3,4cm. (3 x 1) (3)

Formula: Gradient = **Vertical Interval (VI)**

Horizontal Distance (HD)

Refer to the topographic map.

3.1.4 This map was constructed in 2016, use this information to calculate the current difference in years. (1 x 1) (1)

3.1.5 The annual change is 9' westwards. Calculate the mean annual change in 2024. (1 x 1) (1)

3.1.6 Use the answer to QUESTION 3.1.5 to calculate current magnetic declination. (2 x 1) (2)

3.1.7 What is the importance of calculating the present magnetic declination (1 x 1) (1)

[10]

3.2 MAP INTERPRETATION

3.2.1 The primary economic activity within the Verulam region is … (1 x 1) (1)

A fishing
B farming
C forestry
D mining

3.2.2 Give evidence from the map to support your answer in QUESTION 3.2.2. (1 x 2) (2)

3.2.3 Refer to Canelands **(6)** in block **A5** on the orthophoto map. State whether primary or secondary economic activities takes place here? (1 x 1) (1)

3.2.4 Give a reason for your answer in QUESTION 3.2.3. (1 x 2) (2)

Refer to the orthophoto map.

3.2.5 Industrial areas require a steady power supply in order to process goods. Verulam receives its power supply from the eThekwini Municipality.

(a) Eskom supplies the eThekwini Municipality with electricity. The municipality then distributes it. What human-made infrastructure would they use to supply power to the Verulam area. (1 x 1) (1)

(b) Name the raw material that is used to create this conventional power in South Africa? (1 x 1) (1)

3.2.6 The local municipality of Verulam wants to investigate non-conventional energy options for their area.

(a) What energy option could they investigate if they were to utilise Hazelmere Dam in the northwestern part of the map. (1 x 1) (1)

(b) Provide ONE advantage of the non-conventional energy source that you mentioned in QUESTION 3.2.6 (a). (1 x 2) (2)

(c) If the local municipality cannot use the Hazelmere Dam to supply energy and need to investigate a different non-conventional energy source, what would you advise them to look at? (1 x 1) (1)

[12]

3.3 GEOGRAPHIC INFORMATION SYSTEMS (GIS)

3.3.1 Refer to block **A1** on the topographical map. Vector data refers to real life images in the form of points, lines and polygons. Identify the following examples of vector data in block **A1**.

(a) A line feature that creates accessibility. (1 x 1) (1)

(b) A polygon feature related to farming. (1 x 1) (1)

3.3.2 Explain how the polygon feature mentioned in QUESTION 3.3.1 (b) favours farming activities in the area. (1 x 1) (1)

Refer to the two images below of block **D4** on the orthophoto.

IMAGE A **IMAGE B**

3.3.3 Which image, **A** or **B**, has a higher resolution? (1 x 1) (1)

3.3.4 Justify your answer to QUESTION 3.3.3. (1 x 2) (2)

3.3.5 Define *spatial data* in relation to the topographical map. (1 x 2) (2)

[8]

TOTAL SECTION B (30)
GRAND TOTAL FOR PAPER 2 (150)

GAUTENG EAST DISTRICT

TYPE OF TASK: FINAL EXAMINATION

PAPER 2

MARKING GUIDELINE

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GRADE 11 GEOGRAPHY P2 2024 MARKING GUIDELINES

QUESTION 1 (DEVELOPMENT)

1.1

1.1.1. B / Development (1)

1.1.2. B/ primary (1)

1.1.3. C/ Low (1)

1.1.4. C/ Sustainable development (1)

1.1.5. B/ Developed (1)

1.1.6. B/ LEDC's (1)

1.1.7. D/ Brandt line (1)

1.1.8. B/ Development indicators (1) (8x1) (8)

1.2

1.2.1. GDP (1)

1.2.2. HDI (1)

1.2.3. LEDC's (1)

1.2.4. Gini-coefficient (1)

1.2.5. Life expectancy (1)

1.2.6 GDP (1)

1.2.7. Birth rate (1) (7x1) (7)

1.3

1.3.1. The development which takes place within a community (2)

[Concept] (1x2) (2)

1.3.2. Fencing and safe keeping of the school properties (1)

Upgrading the school sports fields and playgrounds (1)

Renovating school buildings and facilities (1)

Setting up vegetable gardens, computer rooms (1)

Sinking a borehole and installing guttering (1)

Water tanks and toilets with running water at the high school (1)

{ANY TWO] (2x1) (2)

1.3.3. Community members are able to acquire skills. (2)

The jobs created prevent people from participating in criminal activities (2)

The projects provide a sense of inclusion. (2)

They bring unity and everyone learns to value one other (2)

[ANY TWO] (2x2) (4)

1.3.4. To check first if the project is relevant to the chosen community. (2) (1x2) (2)

1.3.5. Lack of funding and knowledge to increase agricultural productivity, this keep people at the level of communal farming. (2)

Resources such as wood, water and soil are over utilised. (2)

Soil erosion and overgrazing is a challenge. (2)

Most people are unemployed and therefore poor. (2)

Limited income because of fewer job opportunities. (2)

High cost of living because more money is spent on basic food, shelter, energy, health, education and transport. (2)

Infrastructure is poorly developed, this results in costly transport. (2)

Isolation from economic activities. (2)

Low standard of living. (2)

Farmers are not trained to practise commercial farming; livestock owners make very little profit especially during droughts. (2)

HIV and Aids. (2)

[ANY THREE] (3x2) (6)

[15]

1.4

1.4.1. Rapid industrialisation in a country to export goods (2)

[CONCEPT] (1X2) (2)

1.4.2. (a) Fuels (1) (1x1) (1)

(b) Manufactured goods (1) (1x1) (1)

1.4.3. Sub-Saharan Africa has negative balance of trade (1) China has positive balance of trade (1)

[Any ONE] (1x1) (1)

1.4.4. 2010 More exports from sub-Saharan Africa to China (2)

Sub-Saharan Africa had a favourable balance of trade against China (2)

[ANY ONE]

2016 More imports than exports from China (2)

Sub-Saharan Africa has a negative balance of trade against China (2)

[Any ONE] [BOTH 2010 AND 2016 MUST BE DESCRIBED] (2 x 2) (4)

1.4.5. They will beneficiate their own raw materials and export it at higher prices (2) Less dependence on higher priced manufactured imports (2)

More finances for industrialisation or industries (2)

They will avoid high import costs (2)

Skills of workers increase as more industries develop due to the multiplier effect (2)

[Any THREE] (3 x 2) (6)

[15]

1.5

1.5.1. Aid and action designed to save lives. (2)

Aid aimed at protecting human dignity during and in the aftermath of emergencies (2)

Aid that is given to help people / reduce pain and suffering (2)

Aid that is given to relieve people of the effects of a disaster (2)

[concept] (1x2) (2)

1.5.2. Mozambique (1)

Malawi (1)

Madagascar (1)

(ANY TWO] (2x1) (2)

1.5.3. Food (1)

Clean water (1)

Protection (1)

Shelter (1)

Health / medical services (1)

Emergency services (1)

[ANY ONE] (1x1) (1)

1.5.4. Flooding and strong winds affected communities (1)

There was a cholera epidemic (1)

Water, sanitation, and hygiene sector affected (1)

Communities were isolated (reached by air) Insufficient food and non-food items (1)

People lost their houses and needed shelter (1)

Immediate medical attention was needed (1)

[ANY TWO] (2x1) (2)

1.5.5. Culture of dependency is created (2)

Risk of corruption (2)

Economic and political pressure on recipient country (2)

A hidden agenda from the donor which may not be beneficial (2)

Short-term aid can create a false sense of security (2)

Aid may not suit the needs of the recipient country (2)

[ANY FOUR] (4x 2) (8) / **[15]**

QUESTION 2

RESOURCES AND SUSTAINIBILITY

2.1

2.1.1. C / Carbon footprint (1)

2.1.2. E / Radioactive (1)

2.1.3. F / COP 17 (1)

2.1.4. A / Thermal energy (1)

2.1.5. B / Kinetic energy (1)

2.1.6. G / Energy management (1)

2.1.7. D / Conventional energy sources (1) (7x1) (7)

2.2

2.2.1. D / Western Cape (1)

2.2.2. A / Rich coal deposits there (1)

2.2.3. C / (i) and (iii) (1)

2.2.4. A / An increased carbon footprint (1)

2.2.5. D / (ii) and (iv) (1)

2.2.6. C / Qatar (1)

2.2.7. C / Uranium (1)

2.2.8. C / Agricultural activities (1) (8x1) (8)

2.3

2.3.1. Is the removal of fertile top-soil by water and wind is form of soil degradation that occurs naturally on all landscape.

[concept] (1x2) (2)

2.3.2. Overgrazing (1) (1x1) (1)

2.3.3. If too many animals graze on a piece of land the vegetation will be completely depleted. (2)

This will result in the soil being bare and it will then be easily picked by wind or water. (2)

Bare ground becomes stamped down (compacted) and no plant growth takes place. (2)

[ANY TWO] (2x2) (4)

2.3.4. The land becomes less productive for agriculture. (2)

Soil and fertilizers eroded into rivers can damage freshwater and kill marine habitats which serve as food to the local communities. (2)

Flooding becomes more common. (2)

Famine since little vegetation is able to grow on land. (2)

Rural-urban migration due to food shortages and food insecurity. (2)

[ANY TWO] (2x2) (4)

2.3.5. Promote more sustainable agriculture. (2)

Reduce deforestation. (2)

Prevent desert expansion. (2)

Proper soil management reduces the risk of severe soil erosion. (2)

Afforestation programmes (2)

Encouraging crop rotation to increase soil stability. (2)

Educating farmers on proper farming techniques. (2)

Practicing rotational grazing. (2)

[ANY TWO] (2x2) (4)

[15]

2.4

2.4.1. It is the ordinary or traditional way to generate energy (1)

[CONCEPT] (1x1) (1)

2.4.2 Eskom (1) (1x1) (1)

2.4.3. 252,578 gigawatts (1) (1x1) (1)

2.4.4. Least: 2005 (1)

Most: 2007 (1) (2x1) (2)

2.4.5. Coal (1) Nuclear (1) Wood (1) Hydro (1) (Any THREE) (3x1) (3)

2.4.6. Different types of pollution are released e.g. air pollution, noise pollution and water pollution (2)

Coal burning increases emissions of carbon dioxide, sulphur dioxide and methane (2) Hydrocarbons and nitrogen oxides create smog (2)

Heavy machines contribute to noise pollution (2)

Increased carbon emissions cause acid rain (2) I

ncreased greenhouse gas emissions contribute to global warming and climate change (2)

Multiplier effect due to climate change e.g. decrease of forests, natural disasters occur more frequently, etc. (2)

(Any FOUR) (4x2) (8)

[15]

2.5

2.5.1. Energy produced from sources like the sun and wind that do not run out (2)

It is an energy source that can naturally replenish itself (2)

[CONCEPT] (1x2) (2)

2.5.2. North Africa (1) (1x1) (1)

2.5.3. Central Africa (1) (1x1) (1)

2.5.4 Land availability (1)

Reliable sunlight (1)

Abundance of sunlight (1)

Flat gradient (1)

Latitudinal positioning (heat) (1)

[ANY TWO] (2x1) (2)

2.5.5. It is cheaper than conventional energy (2)

Increase in employment (2)

Skill transfer / learnership that can be integrated into other economic sectors (2)

Famers can rent out land to companies (2)

Save the country on fines for excessive carbon emissions (2)

Increase in foreign direct investment (2)

Multiplier effect (related industries open) (2)

Diversification of the economy (2)

Can sell electricity to other countries (earn foreign income) (2)

Capital injection into the economy (2)

Money spent on operations and maintenance (2)

Business can trade/operate with reliable energy (2)

[ANY TWO] (2X2) (4)

2.5.6. Insufficient funding to set up (2)

Less / no investment in solar plants (2)

Lack of professional expertise to implement (2)

Resistance from stakeholders (accept examples) causing delays (2)

Vandalism of infrastructure which is costly (2)

Limited capacity to upgrade / fix equipment can lead to deterioration (2)

Climate change can adversely affect conditions (2)

Old / dilapidated infrastructure – expensive to fix (2)

Limited land for expansion drives up the costs (2)

Limited land for expansion causes stagnation Corruption / mismanagement of funds deprives allocation of funding (2)

Pressure from environmentalists slows down process (2)

Inability to access modern technology to increase output (2)

Political instability deters investors (2) [ANY TWO] (2 x 2) (4)

[15]

OPTION 1: MERRIVALE

SECTION B

QUESTION 3: GEOGRAPHICAL SKILLS AND TECHNIQUES

3.1 MAP SKILLS AND CALCULATIONS

3.1.1 B (1) / Eastern Cape (1) (1 X 1) (1)

3.1.2 D (1)/Larger (1 x 1) (1)

3.1.3 (3 x 1) (3)

Formula: Gradient = **Vertical Interval (VI)**

Horizontal Distance (HD)

VI = 1079m – 1070m

= 9 m (1)

HE = 3,4 cm x 500m

= 1700 m (1)

= 1700

9

= 1:188,88 (1)

Refer to the topographic map.

3.1.4 **8 years (1)** (1 x 1) (1)

3.1.5 **1º12' *Westwards* (1)** (1 x 1) (1)

3.1.6 ***1º12' +(1) 24º42'***
= 25º54' West of True north (1) (2 x 1) (2)

3.1.7 **Determine direction (1)** (1 x 1) (1)

[10]

3.2 MAP INTERPRETATION

3.2.1 B (1)/ Farming (1 x 1) (1)

3.2.2 **Large areas of cultivated land (2)**
Many dams for water storage for agricultural use (2)
Evidence of planned irrigation eg. Furrows (2)
[ANY ONE] (1 x 2) (2)

3.2.3 **Secondary activity (1)** (1 x 1) (1)

3.2.4 **The purpose of a silo is to store the maize as it comes from the farms, therefore it acts as a secondary activity. (2)** (1 x 2) (2)

Refer to the orthophoto map.

3.2.5 Secondary economic activities require a steady power supply in order to process goods.

(a) **Powerline (1)** (1 x 1) (1)
(b) **Coal (1)** (1 x 1) (1)

3.2.6 The local municipality of Merrivale wants to investigate non-conventional energy options for their area.

(a) ***Hydroelectricity (1)*** (1 x 1) (1)
(b) ***It is a sustainable energy option (2)***
It is a clean energy option (2)
The dam is also used to store water (2)
ANY ONE (1 x 2) (2)
(c) ***Solar energy (1)***
Wind energy (1)
(1ANY ONE) (1 x 1) (1)
[12]

3.3 GEOGRAPHIC INFORMATION SYSTEMS (GIS)

3.3.1 Refer to block **A1** and **A2** on the topographical map. Vector data refers to real life images in the form of points, lines and polygons. Identify the following examples of vector data in block **A1** or **A2**.

(a) ***Road/ other road (1)*** (1 x 1) (1)
(b) ***Dam/ Midmar dam (1)*** (1 x 1) (1)

3.3.2 Explain how the polygon feature mentioned in QUESTION 3.3.1 (b) favours farming activities in the area. (1 x 1) (1)
The Midmar dam provides water for irrigation of crops in the area (1)

Refer to the two images below of block **B2** on the orthophoto.

3.3.3 Which image, **A** or **B**, has a higher resolution? (1 x 1) (1)
A (1)

3.3.4 Justify your answer to QUESTION 3.3.3. (1 x 2) (2)
The image has more pixels which makes the detail clear (2)

3.3.5 Define *spatial data* in relation to the topographical map. (1 x 2) (2)
Geographical feature that describes the shape and location (2) (Concept)

[8]

TOTAL SECTION B (30)

OR

OPTION 2: VERULAM

SECTION B

QUESTION 3: GEOGRAPHICAL SKILLS AND TECHNIQUES

3.1 MAP SKILLS AND CALCULATIONS

3.1.1 B (1) / Eastern Cape (1 x 1) (1)

3.1.2 D(1) / Larger (1 x 1) (1)

3.1.3 (3 x 1) (3)

Formula: Gradient = **Vertical Interval (VI)**
Horizontal Distance (HD)

VI = 161m – 105m
= 56m (1)

HE = 3,4 cm x 500m
= 1700 m (1)

= 1700
56

= 1:30,35 (1)

Refer to the topographic map.

3.1.4 ***8 years (1)*** (1 x 1) (1)

3.1.5 ***1º12' Westwards (1)*** (1 x 1) (1)

3.1.6 **1º12' +(1) 24º42'**
= 25º54' West of True north (1) (2 x 1) (2)

3.1.7 **Determine direction (1)** (1 x 1) (1)
[10]

3.2 MAP INTERPRETATION

3.2.1 B (1) / farming (1 x 1) (1)

3.2.2 Give evidence from the map to support your answer in QUESTION 3.2.2. (1 x 2) (2)
Large areas of cultivated land (2)
Cultivated land borders the Mdloti river to access water (2)
ANY ONE

3.2.3 Refer to Canelands (**6**) in block **A5** on the orthophoto map. State whether primary or secondary economic activities takes place here? (1 x 1) (1)
Secondary activities (1)

3.2.4 Give a reason for your answer in QUESTION 3.2.3. (1 x 2) (2)
Canelands is an industrial area (2)
There is evidence of factories and large buildings where goods are processed (2)
ANY ONE

Refer to the orthophoto map.

3.2.5 Industrial areas require a steady power supply in order to process goods. Verulam receives its power supply from the eThekwini Municipality.

(a) Eskom supplies the eThekwini Municipality with electricity. The municipality then distributes it. What human-made infrastructure would they use to supply power to the Verulam area. (1 x 1) (1)
Powerline (1)

(b) Name the raw material that is used to create this conventional power in South Africa? (1 x 1) (1)
Coal (1)

3.2.6 The local municipality of Verulam wants to investigate non-conventional energy options for their area.

(a) What energy option could they investigate if they were to utilise Hazelmere Dam in the northwestern part of the map. (1 x 1) (1)

Hydroelectricity (1)

(b) Provide ONE advantage of the non-conventional energy source that you mentioned in QUESTION 3.2.6 (a). (1 x 2) (2)

It is a sustainable energy option (2)
It is a clean energy option (2)
The dam is also used to store water (2)
ANY ONE

(c) If the local municipality cannot use the Hazelmere Dam to supply energy and need to investigate a different non-conventional energy source, what would you advise them to look at? (1 x 1) (1)

Solar energy (1)
Wind energy (1)
ANY ONE

[12]

3.3 GEOGRAPHIC INFORMATION SYSTEMS (GIS)

3.3.1 Refer to block **A1** on the topographical map. Vector data refers to real life images in the form of points, lines and polygons. Identify the following examples of vector data in block **A1**.

(a) A line feature that creates accessibility. (1 x 1) (1)
Road/ other road (1)

(b) A polygon feature related to farming. (1 x 1) (1)
Dam/ Hazelmere dam (1)

3.3.2 Explain how the polygon feature mentioned in QUESTION 3.3.1 (b) favours farming activities in the area. (1 x 1) (1)
The Hazelmere dam provides water for irrigation of crops in the area (1)

Refer to the two images below of block **D4** on the orthophoto.

3.3.3 Which image, **A** or **B**, has a higher resolution? (1 x 1) (1)
A (1)

3.3.4 Justify your answer to QUESTION 3.3.3. (1 x 2) (2)
The image has more pixels which makes the detail clear (2)

3.3.5 Define *spatial data* in relation to the topographical map. (1 x 2) (2)
Geographical feature that describes the shape and location (2) (Concept)

[8]

TOTAL SECTION B (30)
GRAND TOTAL FOR PAPER 2 (150)