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.

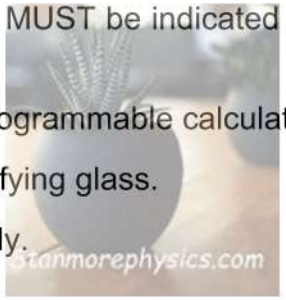
QUESTION 1: DEVELOPMENT (60)

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]

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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)

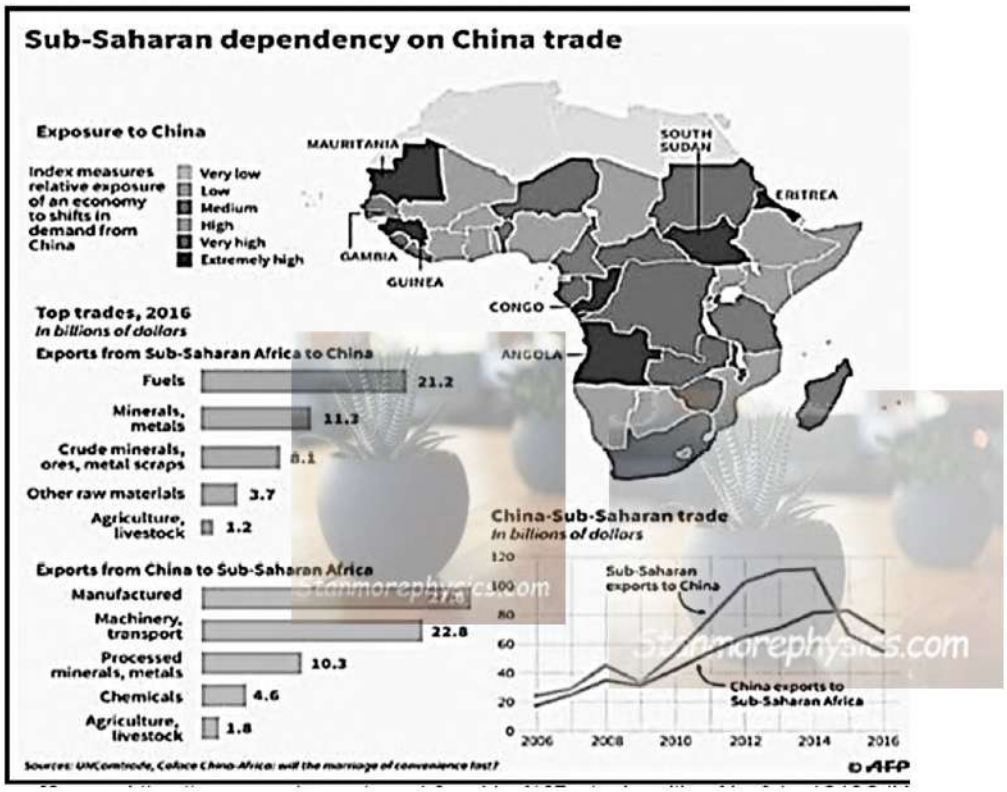
1.3.4. Why is it important to involve the government in the monitoring of these projects? (1x2) (2)

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

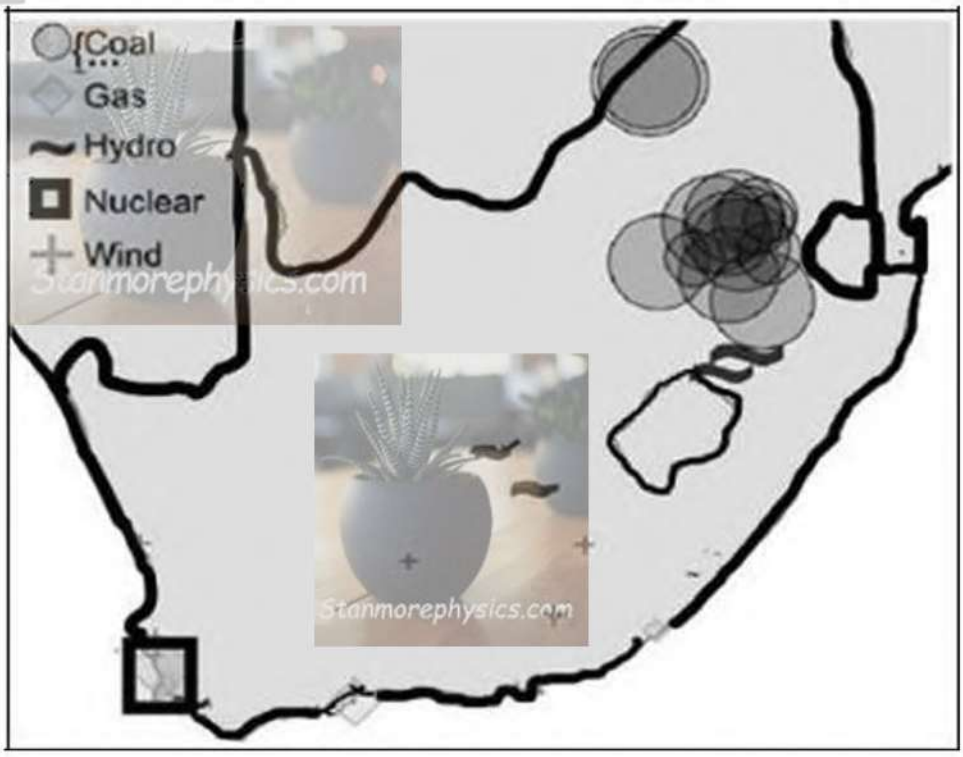
2.1 Choose a term from COLUMN B that matches the description in COLUMN A. Write only word the letter (A to H) next to the question number (2.1.1 to 2.1.7), for e.g. 2.1.8 J.

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 ...

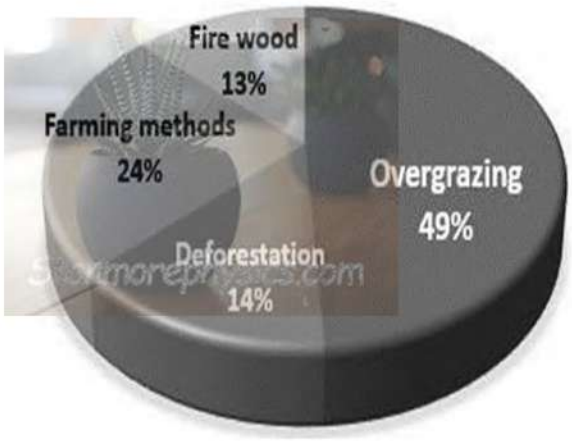


A Botswana
B USA
C Qatar
D Mauritius

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

A Oil
B Natural gas
C Uranium
D Coal

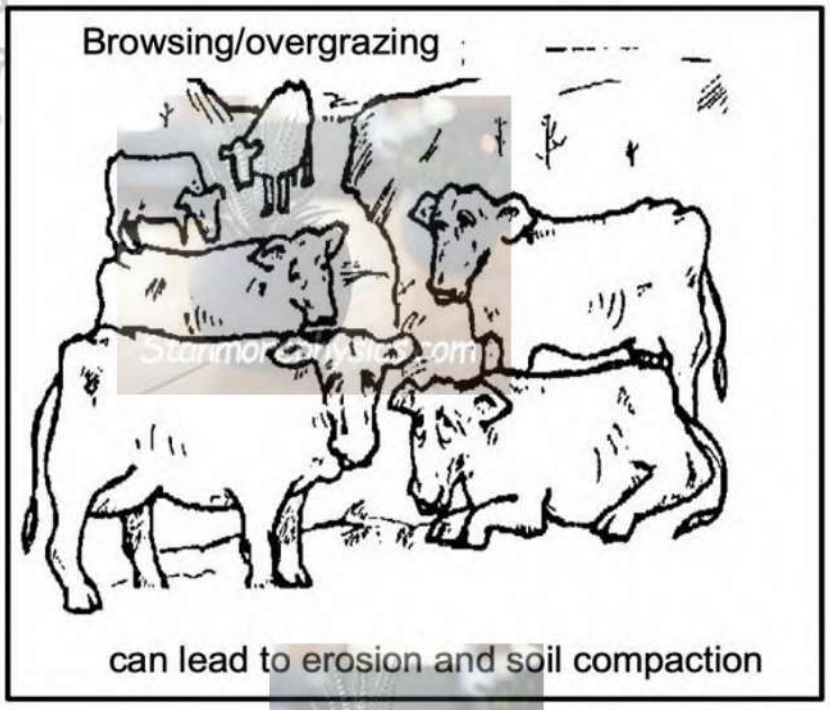
2.2.8. According to the pie chart below, the main causes of soil erosion is/are …



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)

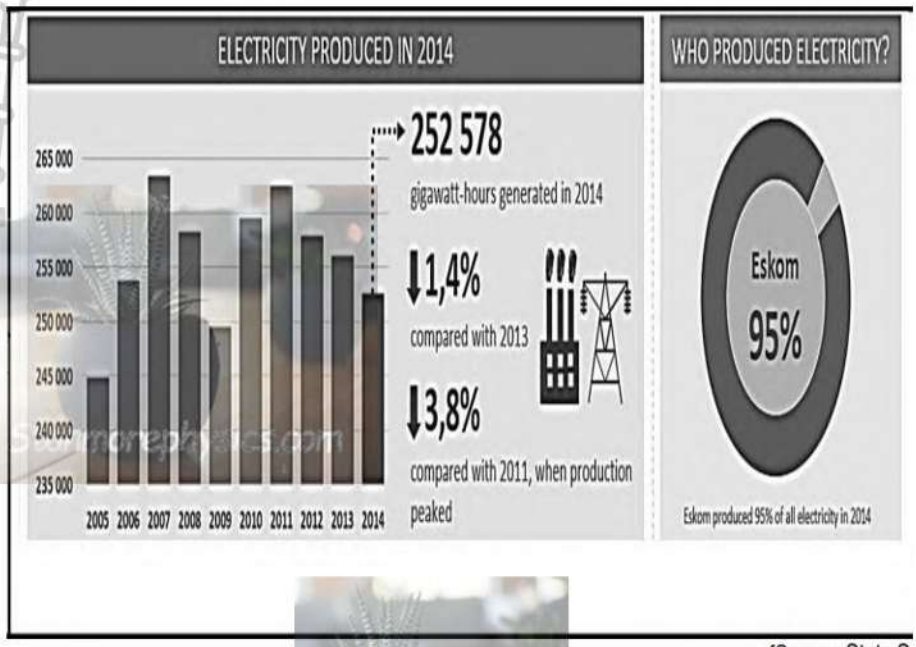
2.3.3. Explain how the cause identified in **QUESTION 2.3.2** leads to soil erosion. (2x2) (4)

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)

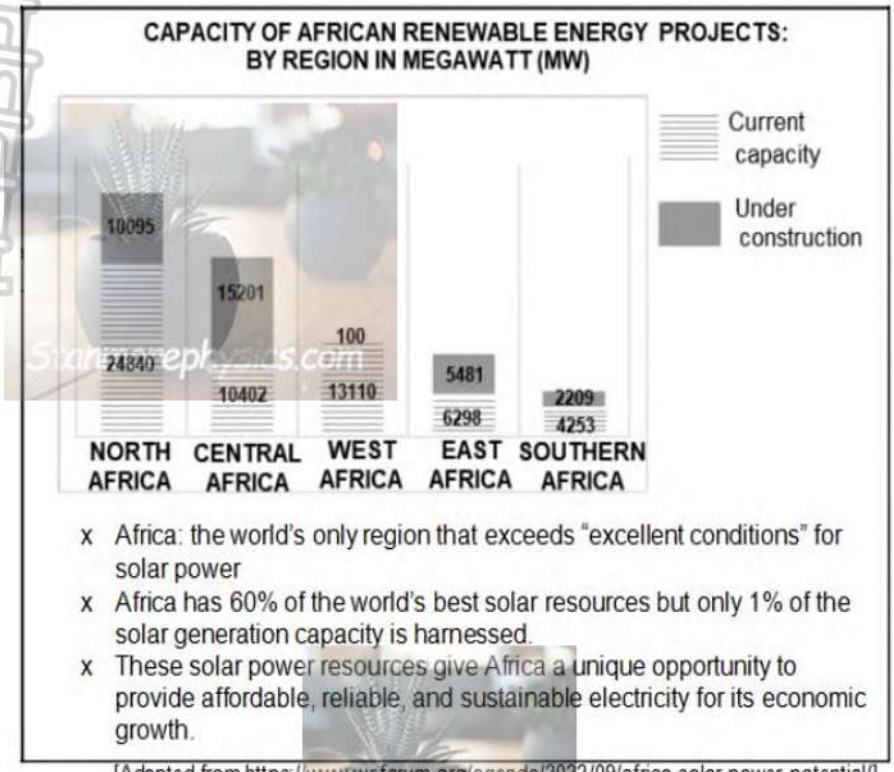
2.4.4. Which years produced the least and most energy respectively? (2x1) (2)

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:

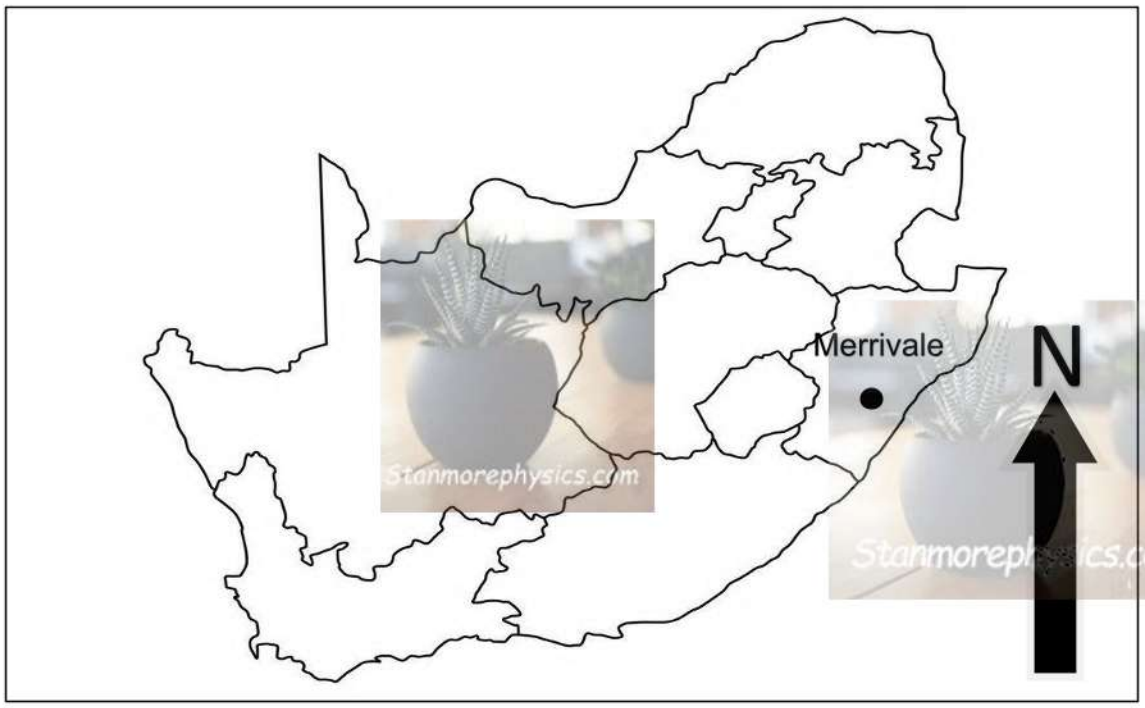
LEARNERS NEED TO CHOOSE WHICH MAP WORK SECTION THEY HAVE TO DO, ACCORDING TO THE MAP SUPPLIED BY THE SCHOOL.

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)

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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)

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(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]

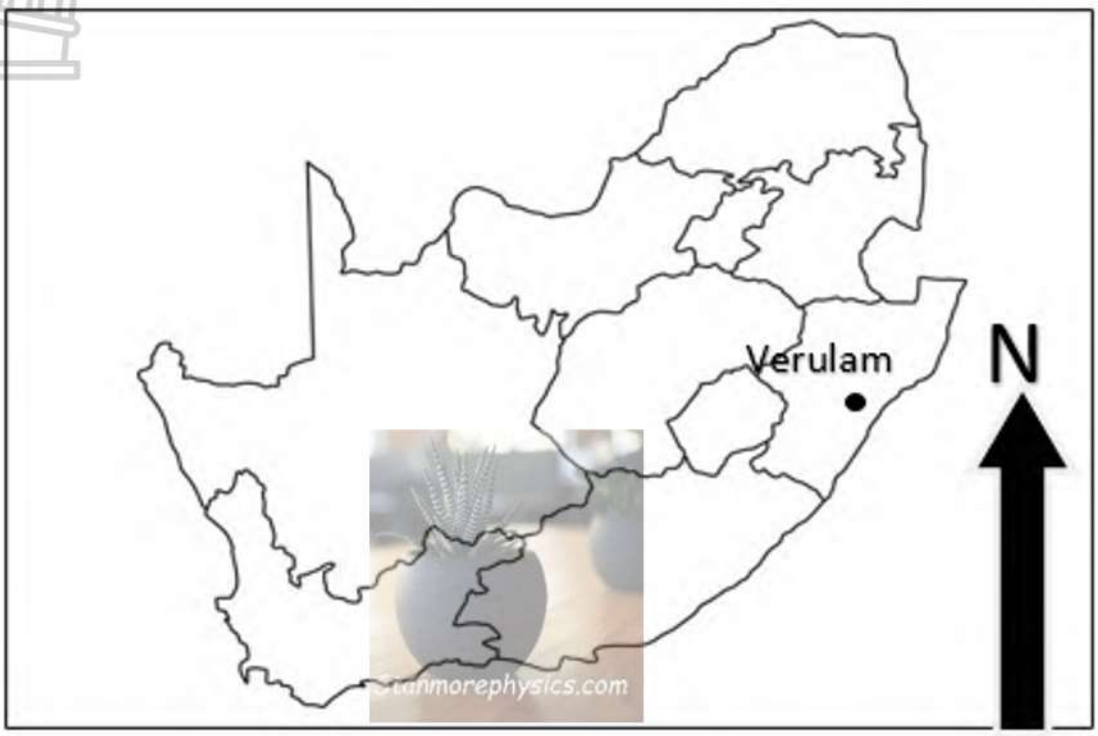
TOTAL SECTION B (30)

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)

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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]

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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)