

**NATIONAL
SENIOR CERTIFICATE**

GRADE 11

NOVEMBER 2022

GEOGRAPHY P2

MARKS: 150

TIME: 3 hours

Stanmorephysics

This question paper consists of 16 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 at the top of a NEW page.
6. Number the answers correctly according to the numbering system used in this question paper.
7. Do NOT write in the margins of the ANSWER BOOK.
8. Draw fully labelled diagrams when instructed to do so.
9. Answer in FULL SENTENCES, except when you have to state, name, identify or list.
10. Units of measurement MUST be indicated in your final answer, e.g. 1 020 hPa, 14 °C and 45 m.
11. You may use a non-programmable calculator.
12. You may use a magnifying glass.
13. Write neatly and legibly.

SPECIFIC INSTRUCTIONS AND INFORMATION FOR SECTION B

14. A 1 : 50 000 topographic map 3319 AD CERES and a 1 : 10 000 orthophoto map 3319AD 12 CERES is provided.
15. The area demarcated in RED/BLACK on the topographic map represents the area covered by the orthophoto map.
16. Show ALL calculations. Marks will be allocated for this.
17. You must hand in the topographic and the orthophoto map to the invigilator at the end of this examination session.



SECTION A: DEVELOPMENT GEOGRAPHY AND RESOURCES AND SUSTAINABILITY

QUESTION 1: DEVELOPMENT GEOGRAPHY

- 1.1 Choose a term from COLUMN B that matches the description in COLUMN A. Write ONLY the letter (A–H) next to the question number (1.1.1 to 1.1.7), for example 1.1.8 I.

COLUMN A		COLUMN B	
1.1.1	The development of industries in a country	A	globalisation
1.1.2	Located in LEDC'S where resources are cheap and wages are low	B	foreign trade
1.1.3	Involves the movement of goods, services, capital, ideas and people around the world	C	multiplier effect
1.1.4	Exchange of goods between countries	D	sustainable development
1.1.5	An increase in activity and investment in one area triggers off activity and investment in other areas	E	industrialisation
1.1.6	Countries generally located in the north with high income	F	developing
1.1.7	Balances economic, social and environmental objectives	G	transnational corporations
		H	developed

(7 x 1) (7)



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 1.2.8) in the ANSWER BOOK, for example 1.2.9 A.

1.2.1 A Gini co-efficient score of 0,8 indicates ...



- A an unequal distribution of wealth in a country.
- B the worst possible quality of life.
- C the almost perfect quality of life.
- D a more equal distribution of wealth.

1.2.2 Balance of trade is the ...

- A taxes placed on imported goods.
- B financial statement of a country's transactions.
- C value of a country's imports and exports.
- D restriction on imported goods.

1.2.3 Demographic indicators include ...

- A birth and death rates.
- B food and nutrition.
- C water and electricity.
- D goods and services.

1.2.4 A disadvantage of globalisation is the ...

- A liberalisation of trade.
- B exchange of skills.
- C spread of Covid-19.
- D formation of global organisations.

1.2.5 China's rapid economic development can be attributed to a(n) ...

- A succession of five-year plans.
- B policy of protectionism.
- C global workforce.
- D export-led approach to development.

1.2.6 The donation of vaccines to curb the spread of the covid pandemic is an example of ... development aid.

- A conditional
- B humanitarian
- C bilateral
- D technical



1.2.7 A human development index of 0,8 indicates a ...

- A good quality of life.
- B poor quality of life.
- C high birth rate.
- D high death rate.

1.2.8 Combating the spread of HIV/Aids and Covid-19 are examples of development from a ... context.

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

(8 x 1) (8)

1.3 Refer to the cartoon below showing an economic indicator of development.



[Source: Addisfortune.net]

1.3.1 What is *GDP growth*? (1 x 2) (2)

1.3.2 State the importance of GDP growth for a country. (1 x 1) (1)

1.3.3 Comment on the relationship between GDP growth and human development. (1 x 2) (2)

1.3.4 How does the cartoon portray a negative impact of GDP growth on human development? (1 x 2) (2)

1.3.5 Explain why this negative impact (your answer to QUESTION 1.3.4) is prevalent in most countries. (2 x 2) (4)

1.3.6 Suggest strategies to improve human development in developing countries. (2 x 2) (4)

- 1.4 Refer to the extract below on the initiative of the Perdekraal East Wind Farm organisation.

THE PERDEKRAAL EAST WIND FARM COMMUNITY PROJECT

A community trust has been created and owns 2,5% of Perdekraal East Wind Farm, which is invested in community social welfare development programmes for the benefit of the beneficiary communities.

During the construction phase of Perdekraal East Wind Farm, the communities had access to skills and training opportunities, as well as more job and business opportunities than was previously available in the area.

During the operations phase, Perdekraal East Wind Farm will spend 2,8% of its revenue on socio-economic welfare and 0,2% on local enterprise development, within the beneficiary communities, for a period of 20 years.

The socio-economic development projects are focused on implementing programmes within the beneficiary communities of Ceres and neighbouring districts with the aim of enabling upward social mobility.

These programmes and early childhood development initiatives help to alleviate illiteracy; healthcare initiatives; community awareness campaigns; infrastructure development; women empowerment and youth are also addressed.


Perdekraal East Wind Farm assists and accelerates the sustainability of local enterprises owned by previously disadvantaged people and women-owned vendors. This programme allows for business support and ensuring sustainability.

[Adapted from <https://perdekraaleastwind.co.za>]

- 1.4.1 What is *community development*? (1 x 2) (2)
- 1.4.2 According to the extract, how did communities in the area benefit from the construction phase of the Perdekraal Wind Farm? (1 x 1) (1)
- 1.4.3 State TWO focus areas of the community development projects that benefited the social welfare of the community. (2 x 1) (2)
- 1.4.4 Why is the monitoring of community-based projects for sustainable development required? (1 x 2) (2)
- 1.4.5 In a paragraph of approximately EIGHT lines explain why the Perdekraal Wind Farm community project is important to the country's broader development aims. (4 x 2) (8)

1.5 Refer to the extract below based on trading relationships.

BRICS A STRONGER BLOC FOR DEFENDING FREE TRADE



BRICS is an acronym for the developing nations of Brazil, Russia, India, and China – countries believed to be the future dominant suppliers of manufactured goods, services, and raw materials by 2050. China and India will become the world's dominant suppliers of manufactured goods and services, respectively, while Brazil and Russia will become similarly dominant as suppliers of raw materials. As of 2010, South Africa joined the group, which is now referred to as BRICS.

A meeting of the BRICS trade bloc made it clear that China, with a relatively abundant supply capacity of medical resources, like vaccines, could effectively help these countries come out of the pandemic as soon as possible. In the entire history of the BRICS agreement, there has never been a more challenging time before for all five nations to divert resources towards collective action.

The meeting also addressed the concerns on the sweeping public health crisis, the economic decline, and the rising unemployment rate, which pose a threat to social stability. It believes that only through international cooperation and a multilateralism agenda can we face our challenges.

Regarding the multilateral discussions, this meeting has represented a powerful response to the recent unilateral actions of the United States. The U.S.A. has also tried to encourage Brazil and India to downgrade the BRICS' importance.

[Adapted from [investopedia.com](https://www.investopedia.com).]

- 1.5.1 Name the trade bloc referred to in the extract. (1 x 1) (1)
- 1.5.2 Name any TWO member countries of BRICS that are in the northern hemisphere. (2 x 1) (2)
- 1.5.3 What is *trade protectionism*? (1 x 2) (2)
- 1.5.4 How do the BRICS countries apply protectionism to look after the interests of the trade bloc? (1 x 2) (2)
- 1.5.5 Why would a developed country like the United States favour a free trade policy? (2 x 2) (4)
- 1.5.6 Explain how being a member of the BRICS trade bloc could assist South Africa in recovering from the negative economic effects caused by the Covid-19 pandemic. (2 x 2) (4)

[60]

QUESTION 2: RESOURCES AND SUSTAINABILITY

2.1 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 (2.1.1 to 2.1.7) in the ANSWER BOOK, for example 2.1.8 A.

2.1.1 Desertification is a(n) ... agent of erosion.



- A human
- B physical
- C animal
- D economic

2.1.2 Acid rain is a form of ...

- A land pollution.
- B precipitation.
- C air pollution.
- D energy.

2.1.3 The Kyoto Protocol requires South Africa to ...

- A develop nuclear energy.
- B continue using coal to generate electricity.
- C decrease industrialisation.
- D develop renewable energy resources.

2.1.4 Uranium is a mineral that is necessary to produce... energy.

- A thermal
- B wind
- C nuclear
- D solar

2.1.5 Gullies or dongas are the effects of soil erosion caused by ...

- A overgrazing.
- B strip cropping.
- C afforestation.
- D reforestation.

2.1.6 Solar power is a ... source of energy.

- A non-renewable
- B renewable
- C thermal
- D conventional

2.1.7 The loss of soil is a factor that affects ...

- A energy production.
- B river deltas.
- C droughts.
- D food production.



(7 x 1) (7)

- 2.2 Choose the correct word(s) from those given in brackets which will make each statement geographically CORRECT. Write only the word(s) next to the question numbers (2.2.1 to 2.2.8).
- 2.2.1 (Downslope/Contour) ploughing can cause run off that contributes to soil erosion.
- 2.2.2 Soil erosion is more prevalent in areas where (subsistence/commercial) farming occurs.
- 2.2.3 (Biofuel/Geothermal) energy is developed from natural organic matter.
- 2.2.4 The only functional nuclear power station in South Africa is in the (Western Cape/Eastern Cape).
- 2.2.5 The conventional energy source that adds the least to the electricity grid in South Africa is (gas/hydroelectricity).
- 2.2.6 (Afforestation/Overgrazing) reduces soil erosion caused by water and wind.
- 2.2.7 Thermal power stations contribute to changes in the (economy/climate).
- 2.2.8 (Fallowing/Over cropping) is a farming practice that allows nutrients and fertility to be restored. (8 x 1) (8)



2.3 Refer to the extract below on soil erosion in the Amazon Rainforest.



The Amazon is the world's largest rainforest and the largest river basin on the planet.

Today, the Amazon is facing a multitude of threats as a result of unsustainable economic development: 20% of the Amazon biome has already been lost, and the trend will worsen if left unchecked, with erosion being the major concern.

The logging and clear-cutting of rain forests are some of the leading causes of land degradation worldwide. In the Amazon Rainforest of Brazil for example, an area the size of a football field is cut every second, leaving vast swaths of land vulnerable to wind, rains and floods that cause erosion.

The Amazon is the biggest deforestation front in the world and interventions are urgently needed to prevent a large-scale, irreversible ecological disaster due to man.

Deforestation by activities such as unsustainable logging, ranching and mining can lead to fast and widespread erosion of rain forest soils. Logging companies clear-cut large areas of rain forest, and ranchers with little land allow cattle to overgraze delicate rain forest grasses. Agriculture is another major cause of deforestation and erosion.

[Source: http://www.panda.org/our_work/forests/deforestation_fronts/deforestation_in_the_amazon/. Accessed on 28 August 2018.]

- 2.3.1 According to the extract, name ONE human activity that has led to soil erosion. (1 x 1) (1)
- 2.3.2 List TWO physical factors that have caused soil erosion. (2 x 1) (2)
- 2.3.3 State ONE way in which soil erosion will impact on the environment of the Amazon rain forest. (1 x 2) (2)
- 2.3.4 Explain the effects of soil erosion on the environment in the Amazon rain forest. (2 x 2) (4)
- 2.3.5 Explain THREE sustainable management strategies that can be used to prevent and control soil erosion in the Amazon rain forest. (3 x 2) (6)

2.4 Refer to the extract below on coal as a conventional energy source.



Electricity load shedding will halve GDP growth this year and cost the country 275 000 in potential jobs, say analysts.

In June, president Cyril Ramaphosa announced that the requirements for the private sector to obtain a licence for own power generation had been relaxed, with the official change to be made in a government gazette within the next two months.

Ramaphosa has raised the threshold to 100 MW. According to Ramaphosa, firms will also be allowed to sell any excess power generated back into the grid. However, it could take more than a year to see the effects of the change, says economists at the Bureau for Economic Research (BER).

“In terms of the impact on the economy, it is important to realise that own generation (renewable) projects can take up to 18 months to complete. This does imply that periodic load shedding is likely to remain a feature of the South African landscape in the foreseeable future.”

The South African Photocatalytic Association estimates that the lifting of the licensing cap could add up to 5 500 MW of additional power over the next two years.

“The key message here is that in line with our thinking since the end of 2019, there is scope to be more optimistic about the prospects for the South African economy beyond 2022,” the BER said.

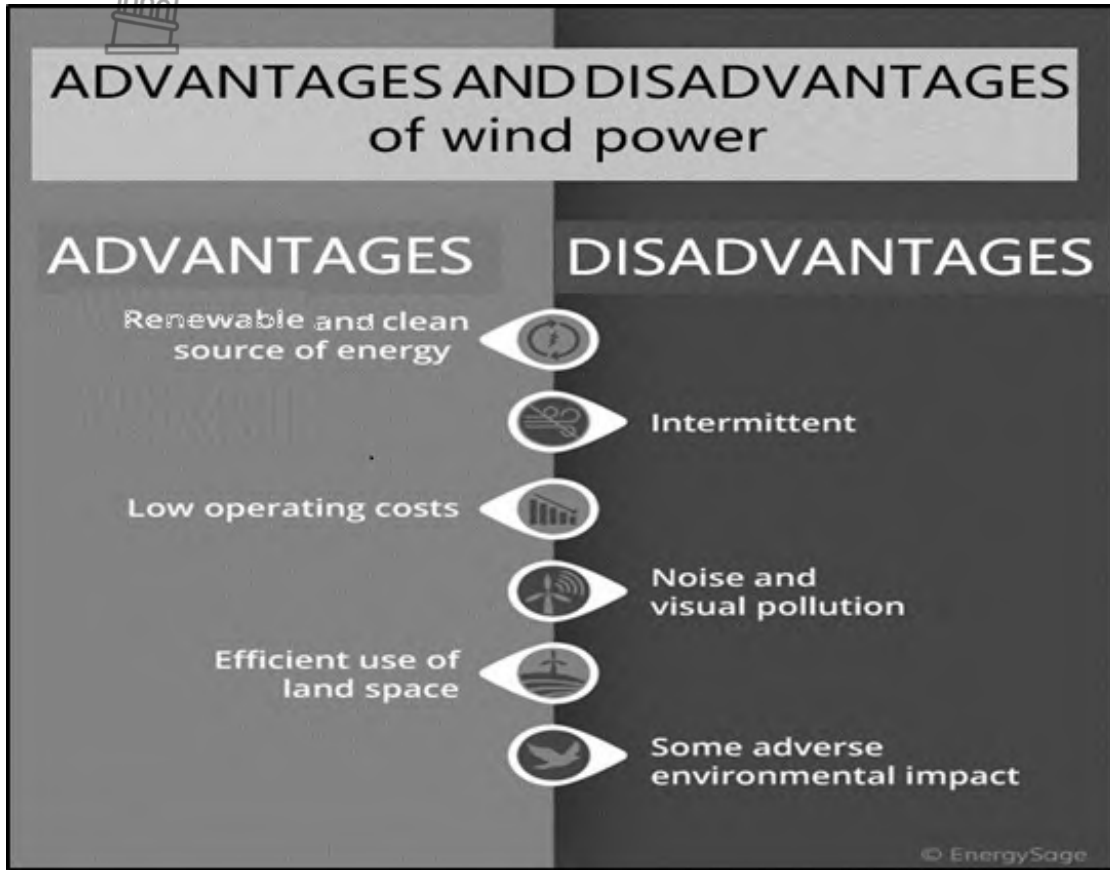
[Adapted from <http://www.ber.ac.za>]

- 2.4.1 Name the power utility that provides South Africa with electricity. (1 x 1) (1)
- 2.4.2 According to the extract, what are the effects of load shedding on the economy of South Africa? (2 x 1) (2)
- 2.4.3 State the causes of load shedding in South Africa. (2 x 1) (2)
- 2.4.4 Explain how president Cyril Ramaphosa's decision positively impacted on the amount of electricity available to South Africa. (1 x 2) (2)

2.4.5 Why does South Africa favour a non-conventional source of energy, such as coal, to be its main source of energy? (2 x 2) (4)

2.4.6 Explain the negative impact that coal mining has on the environment. (2 x 2) (4)

2.5 Refer to the fact file below which shows the advantages and disadvantages of wind energy as a non-conventional source of energy.



[Source: energysage.com]

2.5.1 Why is wind a *renewable source of energy*? (1 x 2) (2)

2.5.2 How can wind power as a renewable source of energy reduce greenhouse emissions? (1 x 1) (1)

2.5.3 State the negative environmental reasons for using wind as a source of energy. (2 x 1) (2)

2.5.4 Why has South Africa's location favoured the development of wind energy? (1 x 2) (2)

2.5.5 In a paragraph of approximately EIGHT lines explain the benefits of wind energy to the economy of South Africa. (4 x 2) (8)

[60]

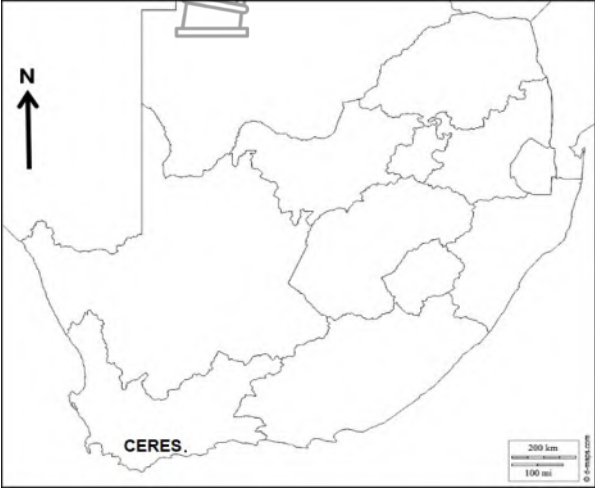
TOTAL SECTION A: 120

SECTION B: GEOGRAPHICAL SKILLS AND TECHNIQUES

QUESTION 3

GENERAL INFORMATION ON CERES

Coordinates: **33° 22' 13" S 19° 18' 55" E**



Ceres is the administrative centre and largest town of the Witzenberg Local Municipality in the Western Cape Province of South Africa. Ceres serves as a regional centre for the surrounding towns of Worsley, Tulbagh, Op-die-Berg and Prince Alfred Hamlet. It is situated in the Warmbokkeveld Valley about 170 km north-east of Cape Town.

Ceres is located at the north-eastern entrance to Michell’s Pass and the old R46 route north between Cape Town and Johannesburg, which was later replaced by the N1 highway, which traverses the Breede River Valley to the south.

Ceres has many industries that cater for its agricultural activities and is well known for fruit juices exported worldwide bearing the town’s name.

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

ENGLISH	AFRIKAANS
Diggings	Uitgrawings
Firebreak	Voorbrand

3.1 MAP SKILLS AND CALCULATIONS

The questions below are based on the 1 : 50 000 topographic map 3319 AD Ceres, as well as the orthophoto map of a part of the mapped area.

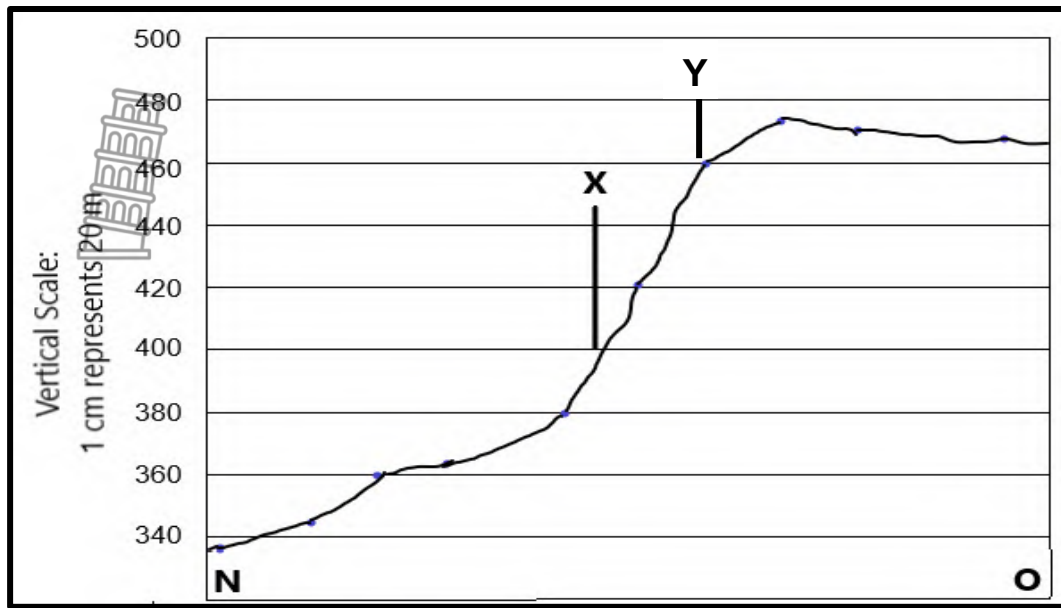
Calculate the area in metres of feature **1**, demarcated in a white block **D4**, **D5**, **E4** and **E5** on the orthophoto map, if the length is 2,7 cm and the breadth is 2,0 cm. Show ALL calculations. Marks will be awarded for calculations.

Formula: **Area = Length x Breadth**



(3 x 1) (3)

3.2 Refer to the cross-section below from **N** in block **E3** to **O** in block **C4** on the topographic map, which is the arterial route taken to Ceres.



3.2.1 Name the following features on the cross-section above:

- (a) The monument at **X** that one would pass on the R46. (1 x 1) (1)
- (b) The landform that the arterial road follows through the Witzenberg Mountains. (1 x 1) (1)

3.2.2 The slope between **N** and **Y** is ...

- A gentle.
- B convex.
- C concave.
- D uniform. (1 x 1) (1)

3.2.3 Calculate the vertical exaggeration of the cross-section between **N** and **O**. Show ALL calculations. Marks will be awarded for calculations. (4 x 1) (4)

Formula:
$$\text{Vertical Exaggeration} = \frac{\text{Vertical Scale (VS)}}{\text{Horizontal Scale (HS)}}$$

3.3 MAP INTERPRETATION

Refer to the Ceres orthophoto map.

- 3.3.1 Is the extract of Ceres orthophoto map an *oblique* or *vertical* aerial photograph? (1 x 1) (1)
- 3.3.2 Explain the answer to QUESTION 3.2.1. (1 x 2) (2)
- 3.3.3 The feature labelled **2** in block **D1** on the orthophoto map has a smooth texture. Give a reason. (1 x 2) (2)



- 3.4 3.4.1 The area **3** in block **C3** on the orthophoto map indicates a ...
- A sports field.
 - B cemetery.
 - C school.
 - D hospital. (1 x 1) (1)
- 3.4.2 The man-made feature **P** on the topographic map is a(n) ...
- A mine dump.
 - B embankment.
 - C excavation.
 - D cutting. (1 x 1) (1)
- 3.5 Refer to block **A4** on the topographic map.
- 3.5.1 The main agricultural activity is ...
- A cultivated land.
 - B row of trees.
 - C orchard or vineyard.
 - D protected area. (1 x 1) (1)
- 3.5.2 Provide TWO reasons evident on the topographic map, that favoured the type of agricultural activity identified in QUESTION 3.5.1. (2 x 2) (4)
- 3.6 **GEOGRAPHICAL INFORMATION SYSTEMS (GIS)**
- Refer to the spatial features on the Ceres topographic map and answer the following questions.
- 3.6.1 Identify ONE man-made *line feature* in block **A1**. (1 x 1) (1)
- 3.6.2 Name ONE *attribute* of the road in block **C4** that runs through Ceres. (1 x 1) (1)
- 3.7 Refer to blocks **C4** and **C5** on the topographic map.
- 3.7.1 Define the concept *remote sensing*. (1 x 2) (2)
- 3.7.2 The residents of Ceres have been complaining about water pollution in the Dwars River. Explain how the local municipality could use remote sensing to assist in solving this problem of water pollution. (2 x 2) (4)
- [30]**
- TOTAL SECTION B: 30**
GRAND TOTAL: 150



**NATIONAL
SENIOR CERTIFICATE**

GRADE 11

NOVEMBER 2022

**GEOGRAPHY P2
MARKING GUIDELINE**

MARKS: 150



This marking guideline consists of 9 pages.

SECTION A: DEVELOPMENT GEOGRAPHY AND RESOURCES AND SUSTAINABILITY

QUESTION 1

- 1.1 1.1.1 E (industrialisation) (1)
- 1.1.2 G (transnational corporations) (1)
- 1.1.3 A (globalisation) (1)
- 1.1.4 B (foreign trade) (1)
- 1.1.5 C (multiplier-effect) (1)
- 1.1.6 H (developed) (1)
- 1.1.7 E (sustainable development) (1) (7 x 1) (7)
- 1.2 1.2.1 A (1)
- 1.2.2 C (1)
- 1.2.3 A (1)
- 1.2.4 C (1)
- 1.2.5 D (1)
- 1.2.6 B (1)
- 1.2.7 A (1)
- 1.2.8 D (1) (8 x 1) (8)
- 1.3 1.3.1 An increase in the total of value of goods and services produced by a country in one year (2)
[CONCEPT] (1 x 2) (2)
- 1.3.2 There would be an increase in the economy (1)
 Indicates an increase in formal employment and formal business (1)
 Policymakers and banks can make future positive plans to grow the economy further (1)
[ANY ONE] (1 x 1) (1)
- 1.3.3 GDP growth increases the living standards and quality of life of people/An increase in the living standards and quality of life of people leads to further GDP growth (2) (1 x 2) (2)
- 1.3.4 Despite GDP growth there are still many people that live in poverty/'could I at least get something to eat' (2) (1 x 2) (2)

- 1.3.5 Unequal distribution of wealth in a country (Gini-coefficient) (2)
 GDP growth focuses on money and not on developing the social capital in a country (2)
 Social tension as the poor are marginalised (2)
 Racial tension as minority groups are excluded from the mainstream economy (2)
 GDP growth depletes natural resources and robs people of their livelihoods (2)
[ANY TWO] (2 x 2) (4)
- 1.3.6 Improve the levels of literacy by making education more accessible (2)
 Introducing a variety of skills programs to make more people employable in the formal and informal sectors (2)
 Provision of services (accept examples) to improve the quality of life (2)
 Improving the Gender Inequality Index so that more women are represented in politics, education and high-level jobs (2)
 Improving food security in a country to reduce poverty (2)
[ANY TWO] (2 x 2) (4)
- 1.4 1.4.1 Process where community members come together to take collective action to enhance development (2)
[CONCEPT] (1 x 2) (2)
- 1.4.2 Skills and training opportunities (1)
 Jobs and business opportunities (1)
[ANY ONE] (1 x 1) (1)
- 1.4.3 Socio-economic development of impoverished communities (1)
 Significantly improves the well-being of households in rural communities (1)
 Early childhood initiatives (1)
 Health care initiatives (1)
 Community awareness (1)
 Woman and child empowerment (1)
[ANY TWO] (2 x 1) (2)
- 1.4.4 Monitoring makes sure that the skills acquired are correctly implemented and maintained (2)
 It makes sure that participants in the programmes can confront any challenges (2)
 To ensure the community has a livelihood (2)
 The whole community benefits in all age groups (2)
[ANY ONE] (1 x 2) (2)



- 1.4.5 It centres around the development of human resources (2)
 It enhances organising and develops administrative skills (2)
 Helps with the understanding of health care and health services (2)
 Helps with nation building (2)
 It improves infrastructure and modern technology usage (2)
 It increases the standard of living and empowers women (2)
 To ensure community members are uplifted through increased incomes (2)
 It helps with agricultural expansion and food security (2)
[ANY FOUR] (4 x 2) (8)
- 1.5 1.5.1 BRICS (1) (1 x 1) (1)
- 1.5.2 China (1)
 India (1)
 Russia (1)
[ANY TWO] (2 x 1) (2)
- 1.5.3 A trade policy meant to protect the economy of one or certain countries by limiting imports and increasing exports (2)
[CONCEPT] (1 x 2) (2)
- 1.5.4 There is a free trade agreement (without tariffs) among the 5 member countries (1)
 Sanctions are imposed on trade with other countries (1)
 Tariffs, duties and customs are imposed on other countries exporting goods to the BRICS countries (1)
 Quotas are imposed on the amount of goods entering the country (1)
 BRICS countries allocate import subsidies to local producers when goods are imported (1)
 Governments of BRICS countries allocate export subsidies to local producers to enable them to sell at reduced prices to foreign consumers (1)
[ANY ONE] (1 x 2) (2)
- 1.5.5 They advocate a free trade policy to increase their economic growth (2)
 Strengthen their manufacturing base and create more jobs (2)
 They benefit from an exchange of goods and services at reduced costs (2)
 They can develop market-orientated policies and encourage private investment (2)
[ANY TWO] (2 x 2) (4)



- 1.5.6 They could receive humanitarian aid (e.g. vaccines) to decrease the spread/deaths among skilled/educated members of the workforce (2)
- Trade through exports can assist domestic manufacturers a decrease retrenchment (2)
- Investment in different sectors of the economy from other member countries could increase jobs (2)
- Imports can provide essential/specialised components to different sectors of the economy (2)
- Loans at favourable interest rates could help subsidise businesses to re-establish themselves (2)

[ANY TWO]

(2 x 2) (4)
[60]

QUESTION 2

2.1 2.1.1 B (1)

2.1.2 C (1)

2.1.3 D (1)

2.1.4 C (1)

2.1.5 A (1)

2.1.6 B (1)

2.1.7 D (1)

(7 x 1) (7)

2.2 2.2.1 Downslope (1)

2.2.2 subsistence (1)

2.2.3 Biofuel (1)

2.2.4 Western Cape (1)

2.2.5 gas (1)

2.2.6 Afforestation (1)

2.2.7 climate (1)

2.2.8 Fallowing (1)

(8 x 1) (8)

2.3 2.3.1 Logging (1)
Ranching (1)
Mining (1)
Agriculture (1)

[ANY ONE]

(1 x 1) (1)



- 2.3.2 Wind (1)
Floods (1)
Rains (1)
[ANY TWO] (2 x 1) (2)
- 2.3.3 Loss of natural habitat (2)
Loss of trees (2)
Endanger species (2)
Loss of depth of species (2)
Extinction of ethnic tribes (2)
[ANY ONE] (1 x 2) (2)
- 2.3.4 Loss of vegetation which helps land to retain water and top soils /
provides rich nutrients to sustain environment (2)
Increase in run-off as vegetation does not protect soil (2)
Siltling of dams due to sedimentation in streams effects waterways
and fish/species (2)
Desertification created due to removal of trees due to run-off (2)
Gullies created due to removal of trees due to run-off (2)
[ANY TWO] (2 x 2) (4)
- 2.3.5 Contour ploughing (2)
Crop rotation (2)
Rotational grazing (2)
Increase vegetation cover (2)
Plant groundcover between row crops (2)
Protect grasslands (2)
Drainage basin management (2)
Conserving rivers and wetlands (2)
Public education (2)
[ANY THREE] (3 x 2) (6)
- 2.4 2.4.1 Eskom (1) (1 x 1) (1)
- 2.4.2 Job losses (1)
Halve the GDP (1) (2 x 1) (2)
- 2.4.3 Failure to build new power stations to keep up with economic
growth (1)
Reduced production from ageing/faulty equipment (1)
Mismanagement and corruption (1)
No renewable energy to supplement the grid (1)
[ANY TWO] (2 x 1) (2)
- 2.4.4 The private sector can generate its own power and sell the excess
back to the grid. (2) (1 x 2) (2)



- 2.4.5 Large amounts of money have been invested in coal mines/power stations (2)
They provide jobs and contribute to the GDP (2) (2 x 2) (4)
- 2.4.6 Degradation/alteration of the land occurs because of mining (2)
Biodiversity is reduced (2)
Habitats of ecosystems are destroyed (2)
Methane (greenhouse gas) is released that contributes to global warming (2)
Acid mine drainage cause water pollution (2)
[ANY TWO] (2 x 2) (4)
- 2.5 2.5.1 It is an energy source that can naturally replenish itself (2)
[CONCEPT] (1 x 2) (2)
- 2.5.2 Lowers the demand and use of fossil fuels (1) (1 x 1) (1)
- 2.5.3 It is a threat to wildlife e.g. birds (2)
Destroys ecosystems (2)
Destruction of habitats (2)
Removing natural vegetation/deforestation is required to set up wind farms (2)
It is not aesthetically pleasing/visual pollution (2)
[ANY ONE] (1 x 2) (2)
- 2.5.4 Located at latitudes that receive enough sunlight to cause pressure differences (2)
The coastline provides enough windy areas for its energy to be harnessed (2)
[ANY ONE] (1 x 2) (2)
- 2.5.5 It is cheaper as it only requires wind to work (2)
Creates jobs in the setting up and maintenance of wind turbines (2)
People learn skills that could be put to use in other sectors of the economy (2)
Maintenance costs are minimal (2)
It is affordable for homeowners and businesses to set up their own power grids (2)
Farmers can rent out land to wind farms (2)
It is a green source of energy which saves the country on fines for excessive carbon emissions (2)
[ANY FOUR] (4 x 2) (8)

[60]**TOTAL SECTION A: 120**

SECTION B: GEOGRAPHICAL SKILLS AND TECHNIQUES**QUESTION 3**

3.1 The questions below are based on the 1 : 50 000 topographical map 3319 AD Ceres, as well as the orthophoto map of a part of the mapped area.

3.1.1 Length = $2,7 \times 100 = 270$ m

Breadth = $2,0 \times 100 = 200$ m

270 (1) m \times 200 (1) m = $54\ 000$ m² (1) (3 x 1) (3)

3.2 3.2.1 (a) The Toll House (1) (1 x 1) (1)

(b) Mitchell's Pass (1) (1 x 1) (1)

3.2.2 concave (1) (1 x 1) (1)

3.2.3 VS = 1 cm : 20 m

VS = 1 cm : (20 x 100) cm

VS = 1 : 2 000 (1) (as a ratio)

HS = 1 : 50 000 (1) (as a ratio)

VE = $\frac{1 : 2\ 000}{1 : 50\ 000}$ (1) (substitution)

$$\frac{1}{2\ 000} \times \frac{50\ 000}{1}$$

25 times (1) (4 x 1) (4)

MAP INTERPRETATION

3.3 3.3.1 Vertical aerial photograph (1) (1 x 1) (1)

3.3.2 Vertical:

Photograph is taken at an angle of 90° (2)

Photograph taken with camera axis directed towards the ground vertically (2)

[ANY ONE] (1 x 2) (2)

3.3.3 There is a lack of vegetation (2) (1 x 2) (2)

3.4 3.4.1 B cemetery (1) (1 x 1) (1)

3.4.2 D cutting (1) (1 x 1) (1)

3.5 3.5.1 C (1) (1 x 1) (1)

3.5.2 Flat land (2)

Availability of water/irrigation possible – canals/furrows (2) (2 x 2) (4)

GEOGRAPHICAL INFORMATION SYSTEMS (GIS)

- 3.6 3.6.1 Power line (1) (1 x 1) (1)
- 3.6.2 It is an arterial route, or it is the R46 (1)
 Tar road (1)
 Road in a north easterly / south westerly direction (1)
 Straight road (1)
 Runs through an urban area (1)
 Stop streets through built up area (1)
[ANY ONE] (1 x 1) (1)
- 3.7 3.7.1 Remote sensing:
 Getting information about the earth/object from a distance (without being in contact with the earth/object) (2)
[CONCEPT] (1 x 2) (2)
- 3.7.2 They need to analyse where the industrial areas are found in relation to the rivers/other water sources (2)
 Pinpointing specific industries within a certain radius of a water source, may locate cause (2)
 Take aerial photographs and compare changes in water quality of the river (water colour, water temperature, water density, algae ...) (2)
 Take river samples to determine if farmers are polluting water source through fertilisation/sprays of vineyards/orchards (2)
 Use aerial photograph of the area can be added as a layer or 'theme' which may also shed some light on the matter (2)
 Remotely sensed data valuable tool in monitoring water quality in different water sources (2)
[ANY TWO] (2 x 2) (4)
- [30]**

TOTAL SECTION B: 30
GRAND TOTAL: 150

