KWAZULU-NATAL PROVINCE

EDUCATION
REPUBLIC OF SOUTH AFRICA



NATIONAL SENIOR CERTIFICATE

GRADE 12



GEOGRAPHY

COMMON TEST

JUNE 2022

MARKS: 150

TIME: 3 hour

This question paper consists of 16 pages.

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INSTRUCTIONS AND INFORMATION

1. This question paper consists of TWO SECTIONS:

   SECTION A

   QUESTION : 1. CLIMATE and WEATHER & GEOMORPHOLOGY (60 MARKS)
   QUESTION : 2. RURAL AND URBAN SETTLEMENTS (60 MARKS)

   SECTION B

   QUESTION : 3. GEOGRAPHICAL SKILLS AND TECHNIQUES (30 MARKS)

2. Answer ALL THREE questions in the **answer book** provided.
3. ALL diagrams are included in the QUESTION PAPER.
4. Leave a line open between subsections of questions answered.
5. Start EACH question at the top of a NEW page.
6. Number your answers correctly according to the numbering system used in this question paper.
7. Do NOT write in the margins of your ANSWER BOOK.
8. Draw fully labelled diagrams when instructed to do so.
9. Answer in FULL SENTENCES, when you have to state, name, identify or list.
10. Units of measurement MUST be indicated in the final answer, e.g. 1 020 hPa, 10km, 4°C, and 50m.
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

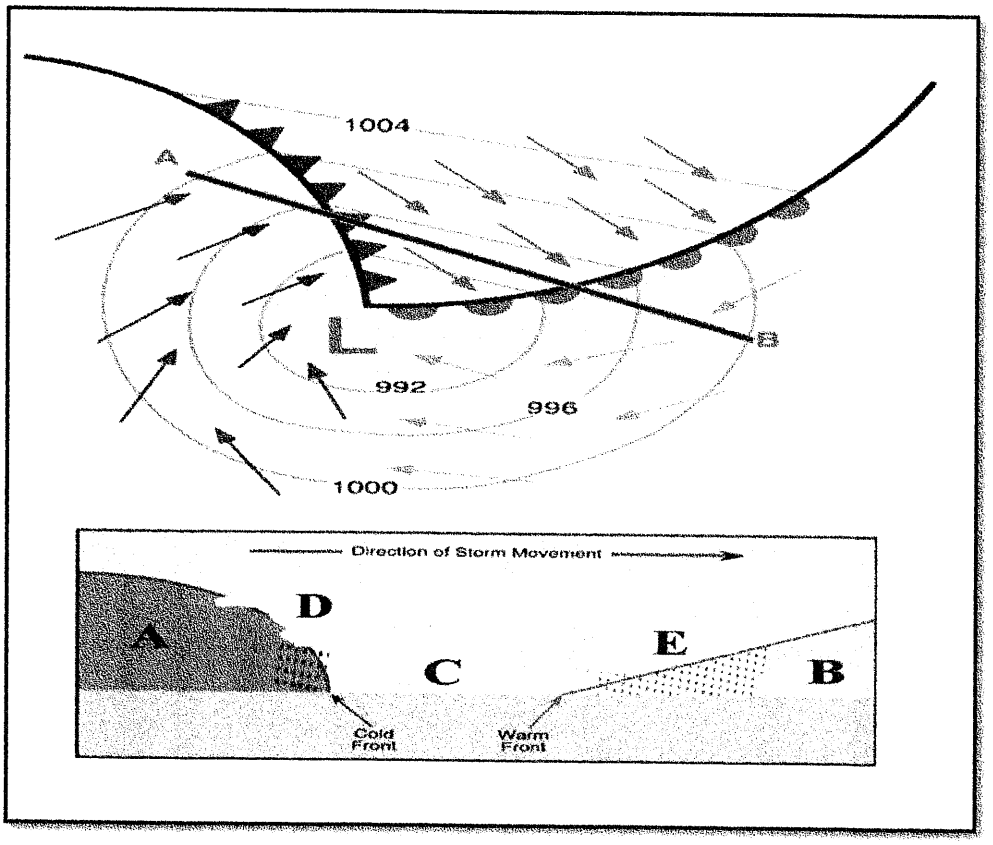
14. A 1 : 50 000 topographic map 2331CC PHALABORWA and a 1 : 10 000 orthophoto map 2331 CC 18 PHALABORWA (NORTH) are provided.
15. The area demarcated in RED/BLACK on the topographic map represents the area covered by the orthophoto map.
16. Show ALL calculations. Marks will be allocated for this.
17. You must hand in the topographic and the orthophoto map to the invigilator at the end of this examination session.

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SECTION A

QUESTION 1: CLIMATE AND WEATHER

1.1 Refer to the diagram of a Mid-Latitude Cyclone. Various options are provided as possible answers to the following questions. Choose the correct option that best matches with the descriptions (1.1.1 – 1.1.7) and write only the letter (A – D) next to the question number (1.1.1 – 1.1.7) in the answer book.



[Source: Adapted from www.physicalgeopgraphy.net]

1.1.1 This is an example of a mid-latitude cyclone in its … stage.

A. Initial
B. developing
C. mature
D. occluded

1.1.2 T[illegible]mperature at **A** is ...

[illegible]d.
[illegible]rm.
[illegible]luded.
[illegible]d.



1.1.3 The temperature at **B** is …

A. cold.
B. warm.
C. occluded.
D. cool.

1.1.4 **C** is known as the … sector.

A. mild
B. cool
C. warm
D. cold



1.1.5 The clouds type at **D** are …

A. stratus.
B. cirrus.
C. cumulonimbus.
D. alto stratus.

1.1.6 The clouds type at **E** are …

A. cumulus.
B. cirrus.
C. cumulonimbus.
D. nimbostratus.

1.1.7 The wind direction at **C** would be …

A. North East.
B. North West.
C. South East.
D. South West.

(7 x 1) (7)

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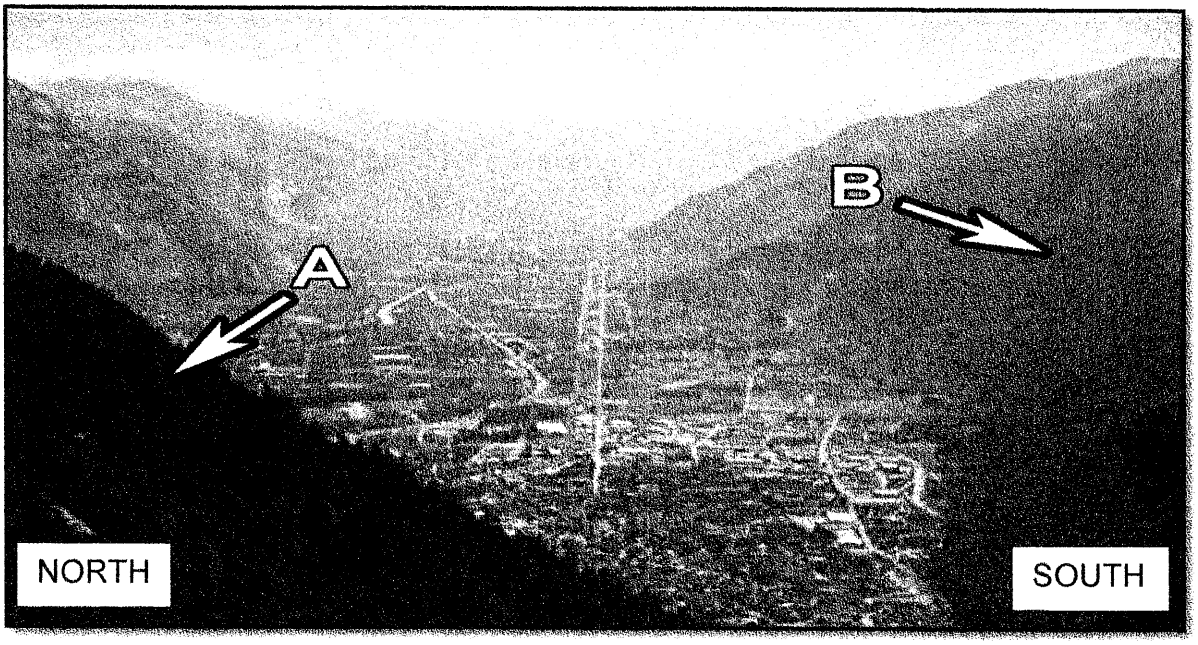
1.2 Choose a term from COLUMN B that matches the geomorphological description in COLUMN A. Write only the letter (A – I) next to the question number (1.2.1 – 1.2.8) in the ANSWER BOOK, for example 1.2.9 J.

COLUMN A	COLUMN B
1.2.1 Sediment deposits within a river channel.	A. Water table
1.2.2 High-lying area separating two drainage basins.	B. Mouth
1.2.3 The point of origin of a river.	C. Interfluve
1.2.4 The flat area next to a river.	D. Braided stream
1.2.5 Where the tributaries join the main river.	E. Drainage basin
1.2.6 The area drained by a river and its tributaries.	F. Confluence
1.2.7 Point where the river flows into the ocean.	G. Watershed
1.2.8 High-lying area between two tributaries.	H. Floodplain
	I. Source

(8 x 1) (8)

Stanmorephysics.com

1.3 Refer to the photograph showing Slope aspect.



[SOURCE: Adapted from http://www.geography-site.co.uk/]

1.3.1 Define the term *aspect*. (1 x 2) (2)

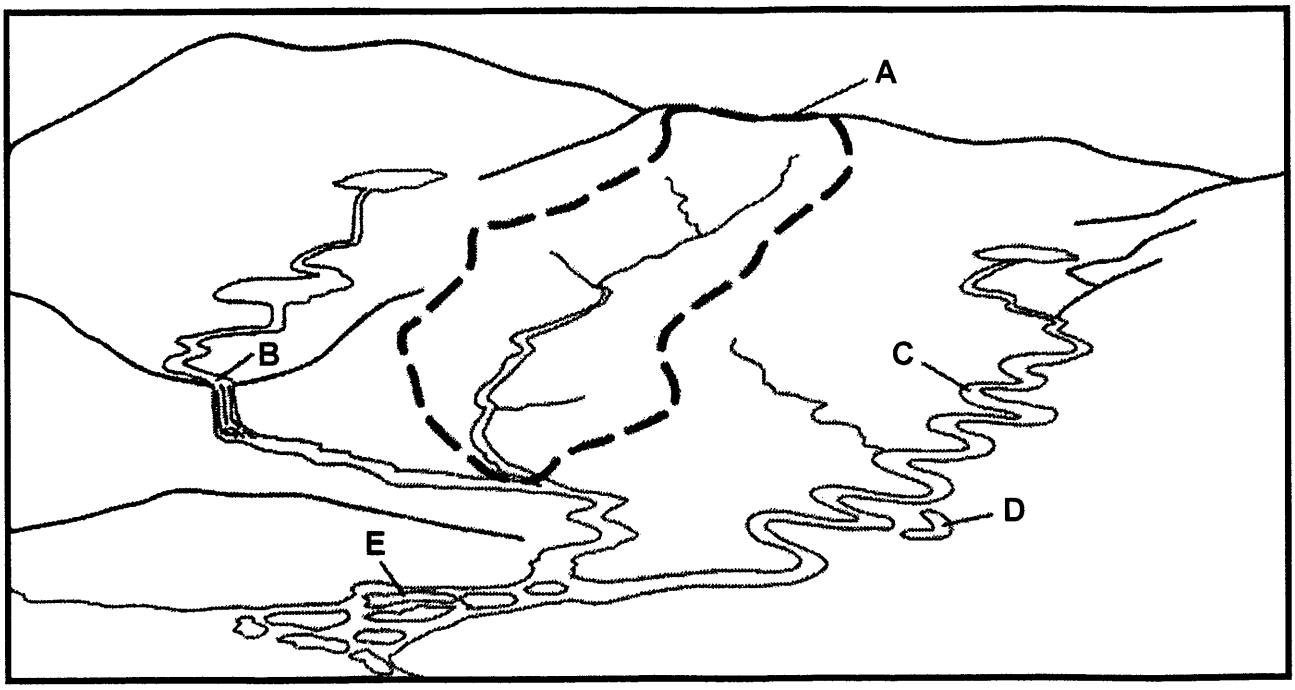
1.3.2 Which of the two slopes **A** or **B** will receive the most sunlight? (1 x 1) (1)

1.3.3 Provide reasons why in the Southern Hemisphere the South-facing slope is used for forestry and the North-facing slope is used for crops and pastures. (2 x 2) (4)

1.3.4 In a paragraph of approximately EIGHT lines discuss the influence of katabatic winds on settlement and transport in the valley. (4 x 2) (8)

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1.4 Refer to the diagram on fluvial landforms.



[Adapted from https://brainly.in/question/236381]

1.4.1 Name the concept indicated by the chain line labelled A. (1 x 1) (1)

1.4.2 Identify the fluvial landforms labelled B, C and D. (3 x 1) (3)

1.4.3 Explain how fluvial landform C develops into fluvial landform D. (2 x 2) (4)

1.4.4 Fluvial landform labelled E is a delta.

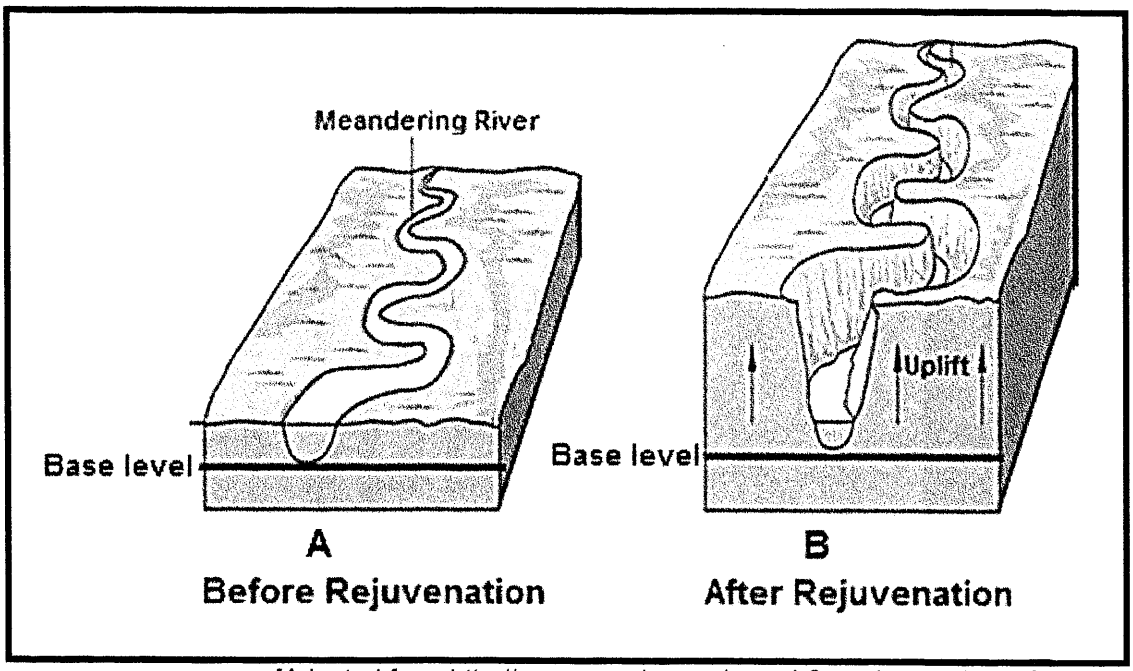
(a) Identify the course of the river in which deltas develop. (1 x 1) (1)

(b) Explain ONE condition necessary for the formation of deltas. (1 x 2) (2)

(c) Suggest why deltas can be regarded as a threat to communities living on them. (2 x 2) (4)

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1.5 Refer to the sketch showing river rejuvenation.



[Adapted from http://www.google.com/search?q=rejuvenation+of+rivers:]

1.5.1 What type of erosion is associated with river rejuvenation? (1 x 1) (1)

1.5.2 What evidence indicates that river rejuvenation has taken place? (1 x 1) (1)

1.5.3 Identify the force of upliftment associated with rejuvenation. (1 x 1) (1)

1.5.4 Discuss TWO possible causes of river rejuvenation. (2 x 2) (4)

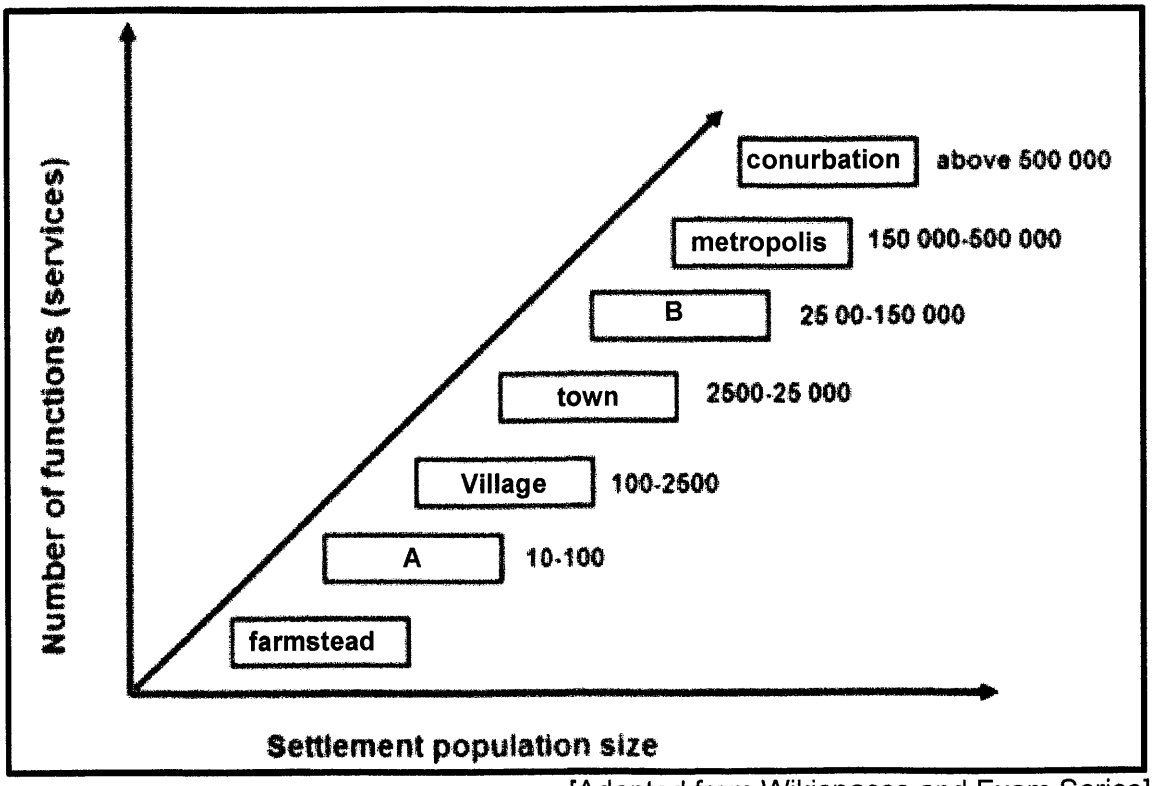
1.5.5 Describe the impact that rejuvenation will have on the meander in the above sketch. (1 x 2) (2)

1.5.6 Suggest why rejuvenated land is not suitable for human activity. (3 x 2) (6)

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QUESTION 2: RURAL AND URBAN SETTLEMENT

2.1 Refer to the sketch showing hierarchy of settlements.



[Adapted from Wikispaces and Exam Series]

2.1.1 Name the settlement type that will be found at **A.**

2.1.2 Why will **B** have a larger sphere of influence?

2.1.3 Which is the smallest settlement on the hierarchy?

2.1.4 Will the city or the metropolis have a higher threshold population?

2.1.5 What is the name of the settlement that is larger than a conurbation?

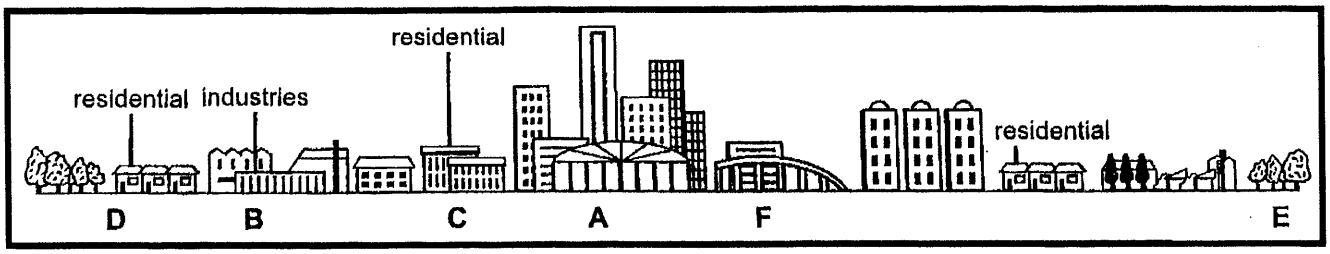
2.1.6 Give a reason for that conurbation having the largest sphere of influence.

2.1.7 Will settlement **A** or **B** have more low-order functions?

2.1.8 Which rural settlement offers the most services? (8 x 1) (8)

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2.2 Refer to the diagram below which shows the urban profile of a modern city.



[Adapted from www.learnmindset.co.za]

2.2.1 Name the land-use zone **A**.

2.2.2 Identify land-use **E**.

2.2.3 Which land-use zone occupies the most space?

2.2.4 Is industrial area **B** a light or heavy industrial zone?

2.2.5 Which ONE of the two residential areas (**C** or **D**) is most likely the low income area?

2.2.6 Why land-use zone **F** is regarded as the transition zone?

2.2.7 Which land-use zone has the highest building density? (7 x 1) (7)

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2.3 Refer to the extract on Rural-Urban Migration.

HOPE

Susanne Melda, 26 November 2012

Rural-urban migration is believed to affect various dimensions of migrants' well-being. Desires, such as the opportunity to improve the standard of living and better services, are not always met.

The process of migration is often undertaken with an aspiration (desire) of improved opportunities for socio-economic advancement. However, it does not always entail improvement of living standard and poverty eradication. Rural migrants settling in big cities are the most vulnerable and may experience detrimental (unsafe) living conditions.

[Adapted from www.migratingoutofpoverty.org]

2.3.1 Define the term *Rural-Urban Migration*. (2 x 1) (2)

2.3.2 The extract implies 'hope' from rural-urban migration.

What are the migrants expecting in the urban areas? (1 x 1) (1)

2.3.3 Explain why rural-urban migration does not always lead to an improvement in the standard of living of rural migrants. (2 x 2) (4)

2.3.4 In a paragraph of approximately EIGHT lines discuss sustainable measures that can be introduced in rural areas to reduce rural-urban migration. (4 x 2) (8)

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2.4 Refer to the extract on land reform in South Africa.

LAND REFORM IN SOUTH AFRICA

Land reform in South Africa is the promise of "land restitution" to empower farm workers and reduce inequality. This also refers to aspects such as property, possible white owned businesses. It is believed to allow previously unemployed people to participate in the economy and better the country's economic growth. It also relates to restitution in the form of settling land claims of people who were forcefully removed from their homes in urban areas that were declared white, by the apartheid government's segregationist Group Areas Act, as well as restitution for people forcibly evicted from rural land because of apartheid policies.

However, many South Africans and foreign commentators have also voiced alarm over the failure of the redistribution policy, having failed around 50% of land reform projects.

https:en.wikepedia.org/wiki/Land_reform_in_South_Africa

2.4.1 Define the term *land restitution*. (1 x 2) (2)

2.4.2 Quote TWO aims of land reform mentioned in the extract. (2 x 1) (2)

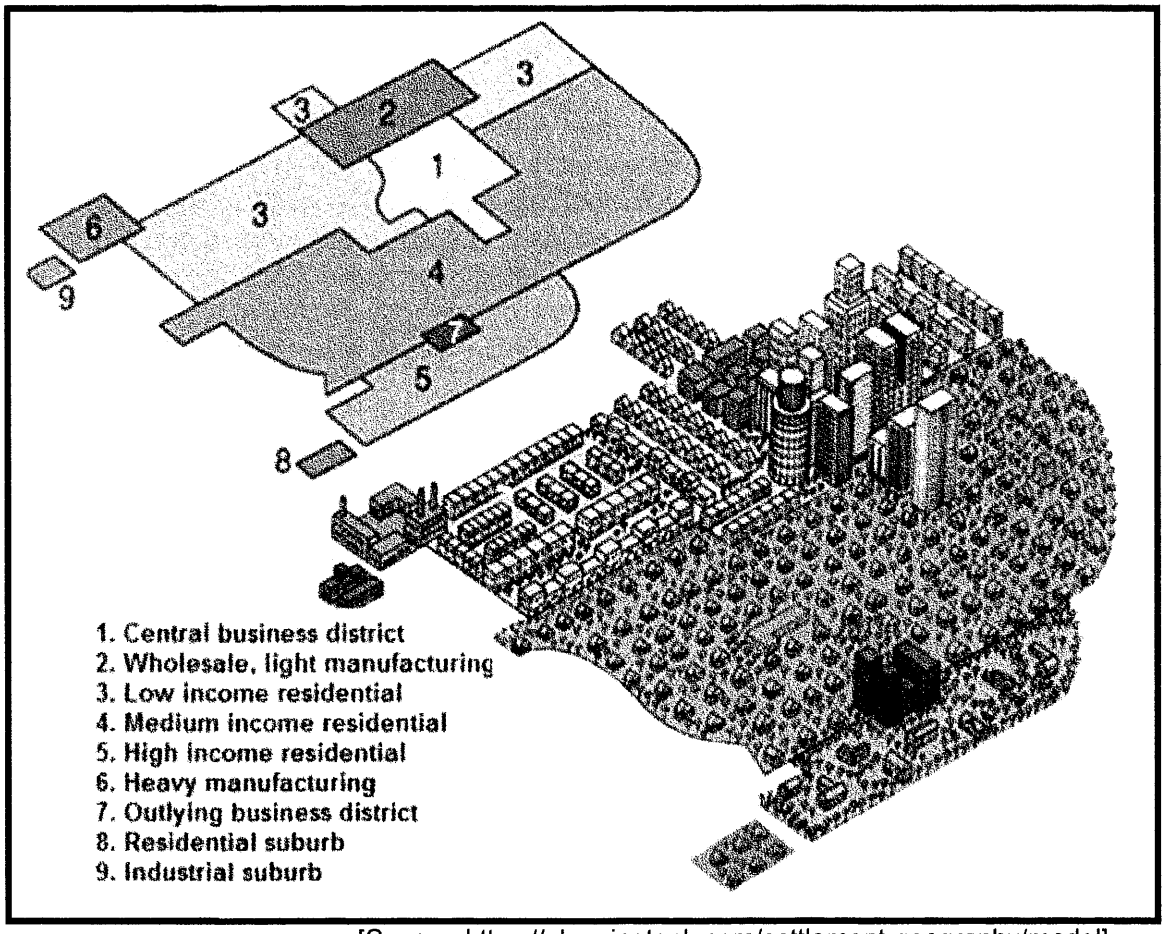
2.4.3 What percentage of land reform projects were unsuccessful? (1 x 1) (1)

2.4.4 Why was the target set for land reform not reached? (2 x 2) (4)

2.4.5 Access the important role that land restitution plays in the social justice process in a democratic South Africa. (3 x 2) (6)

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2.5 Refer to sketch showing a model of urban structure.



[Source: https://planningtank.com/settlement-geography/model]

2.5.1 Identify the model of urban structure. (1 x 1) (1)

2.5.2 Which land-use zone covers the largest area in the illustrated model of urban structure? (1 x 1) (1)

2.5.3 Name ONE visible characteristic of the CBD. (1 x 1) (1)

2.5.4 Give ONE reason for the development of the outlying business district (**7**) on the outskirts of the city. (1 x 2) (2)

2.5.5 Refer to land-use zones **5** and **6**.

(a) Comment on the location of land-use zones **5** and **6** in relation to each other. (1 x 2) (2)

(b) Compatibility (ability to live or to exist together) determines the location of land-use zones in an urban area.
Give reasons why **5** and **6** are not compatible. (2 x 2) (4)

2.5.6 What are the similarities between the South African city and the model identified in above sketch? (2 x 2) (4)

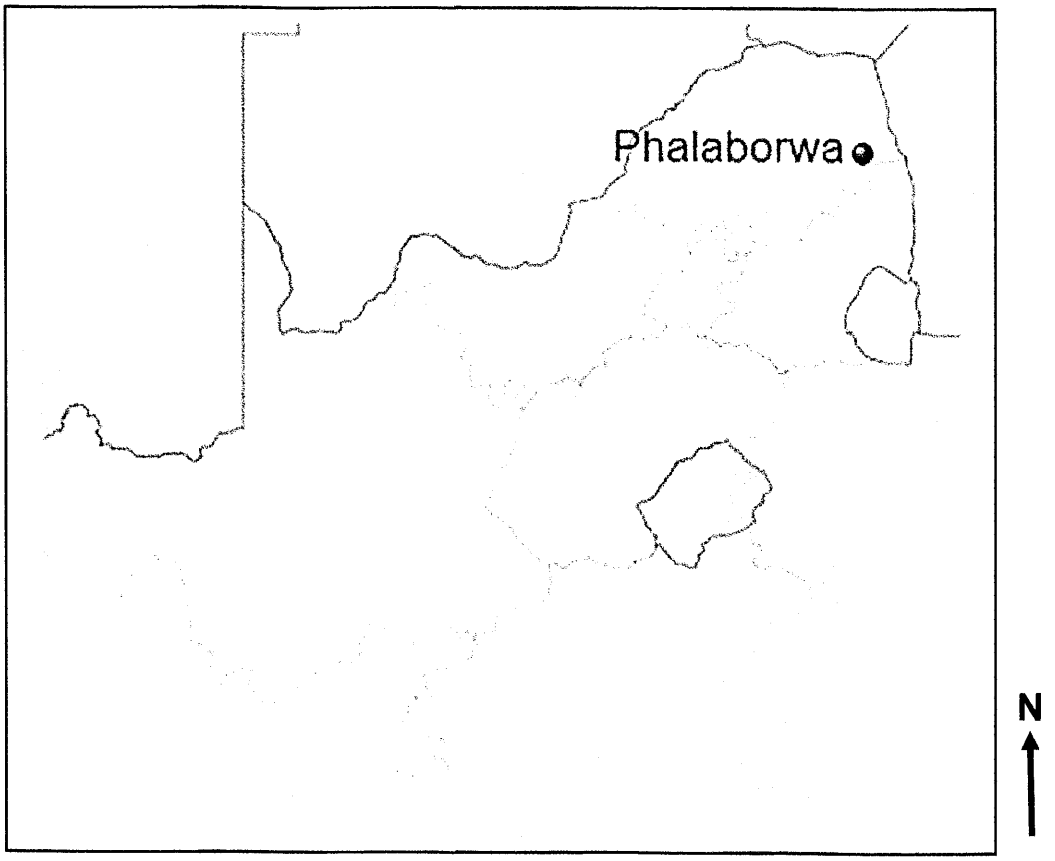
TOTAL: [60]

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SECTION B

QUESTION 3: GEOGRAPHICAL SKILLS AND TECHNIQUES

GENERAL INFORMATION ON PHALABORWA



Coordinates: 23°52' S ; 31°04' E

Phalaborwa is a town in Limpopo, South Africa. It is located near the confluence of the Ga-Selati River and the Olifants River, along the western border of the Kruger National Park in the Lowveld. Tourism and wildlife play dominant roles in the life of this town. Attractions, such as the Blyde River Canyon, the Three Rondavels, God's Window, Bourke's Luck Potholes and river cruises on the Olifants River, make Phalaborwa an important tourist destination in this province.

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

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

ENGLISH	AFRIKAANS
Diggings	Uitgrawings
Golf course	Gholfbaan
River	Rivier
Sewerage works	Rioolwerke
Estate	Landgoed
Salt pan	Soutpan
Nature Reserve	Natuurreservaat

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3.1 MAP SKILLS AND CALCULATIONS

3.1.1 Name the province that lies south of Phalaborwa. (1 x 1) (1)

3.1.2 The contour interval on the topographic map is ... metres.

A. 20
B. 10
C. 5
D. 50



(1 x 1) (1)

3.1.3 Calculate the area covered by the orthophoto map as demarcated in red on the topographic map in km^2.

Formula: Area = Length (L) x Breadth (B) (4 x 1) (4)

3.1.4 What is the difference in height between Δ12 in block D2 and the bench mark in block D1. (1 x 1) (1)

3.1.5 Determine the true bearing of the spot height 445 in block C5 from spot height 499 in block E4. (1 x 1) (1)

3.1.6 The magnetic declination for 2022 is 16°12' west of true north. Use the true bearing in your answer to QUESTION 3.1.5 to calculate the magnetic bearing (MB).

Formula: MB = True Bearing (TB) + Magnetic Declination (MD) (1 x 1) (1)

3.1.7 Determine the feature that is located at the following grid reference:

23° 54' 10" S ; 31° 6' 53" E (1 x 1) (1)

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3.2 MAP INTERPRETATION

3.2.1 Phalaborwa is a … in Limpopo, South Africa.



A. city
B. town
C. metropolis
D. village (1 x 1) (1)

3.2.2 The altitude shown by J in block C4 on the topographic map is a …

A. contour.
B. bench mark.
C. spot height.
D. trigonometric beacon. (1 x 1) (1)

3.2.3 Refer to the settlement Masakoleng in block A2/3.

(a) Is this settlement (rural or urban)? (1 x 1) (1)

(b) The settlement pattern is (nucleated / dispersed). (1 x 1) (1)

(c) Explain ONE advantage and ONE disadvantage of a farm worker living in the settlement identified in QUESTION 3.2.3 (b). (2 x 2) (4)

3.2.4 The drainage pattern formed by the river system in block B5 is …

A. Dendritic
B. Trellis
C. Rectangular
D. Radial (1 x 1) (1)

3.2.5 State the underlying rock structure of the area found in block B5 associated with the above drainage pattern. (1 x 1) (1)

3.2.6 Identify the street pattern covered by the orthophoto map. (1 x 1) (1)

3.2.7 State ONE advantage of the street pattern identified in QUESTION 3.2.6. (1 x 1) (1)

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3.3 GEOGRAPHICAL INFORMATION SYSTEM (GIS)

Refer to block A4 on the topographic map.

3.3.1 Define the term *data intergration*. (1 x 1) (1)

3.3.2 Give examples of the following data layers found in block A4.

(a) An infrastructure layer. (1 x 1) (1)

(b) A drainage layer. (1 x 1) (1)

3.3.3 State the difference between spatial and attribute data. (2 x 1) (2)

3.3.4 The Arterial road is a tarred road.
Would you consider this information to be spatial or attribute data? (1 x 1) (1)

3.3.5 Give a reason for your answer to QUESTION 3.3.4. (1 x 2) (2)

TOTAL: 30

GRAND TOTAL: 150

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