

TYPE OF ASSESSMENT: MAPWORK TASK (2024)

SUBJECT	:	GEOGRAPHY
GRADE	:	10
TERM	:	ONE
EXAMINER	:	KHUMALO M.
MODERATOR	:	MAPHOSA P.
TIME	:	1.5 hour
TOTAL	:	60
DATE OF IMPLEMENTATION	:	FEBRUARY 2024
TERM WEIGHTING	:	40
SBA WEIGHTING	:	20

NAME & SURNAME: _____ **GRADE** _____

QUESTION	CONTENT	MARKS	Marker	Moderator
1	Multiple Choice Questions	10		
2	Map Calculations	18		
3	Application and Interpretation	20		
4	Geographical Information Systems	12		
	TOTAL	60		


THIS QUESTION PAPER CONSISTS OF 12 PAGES, INCLUDING THE DETACHABLE ROUGH PAPER.

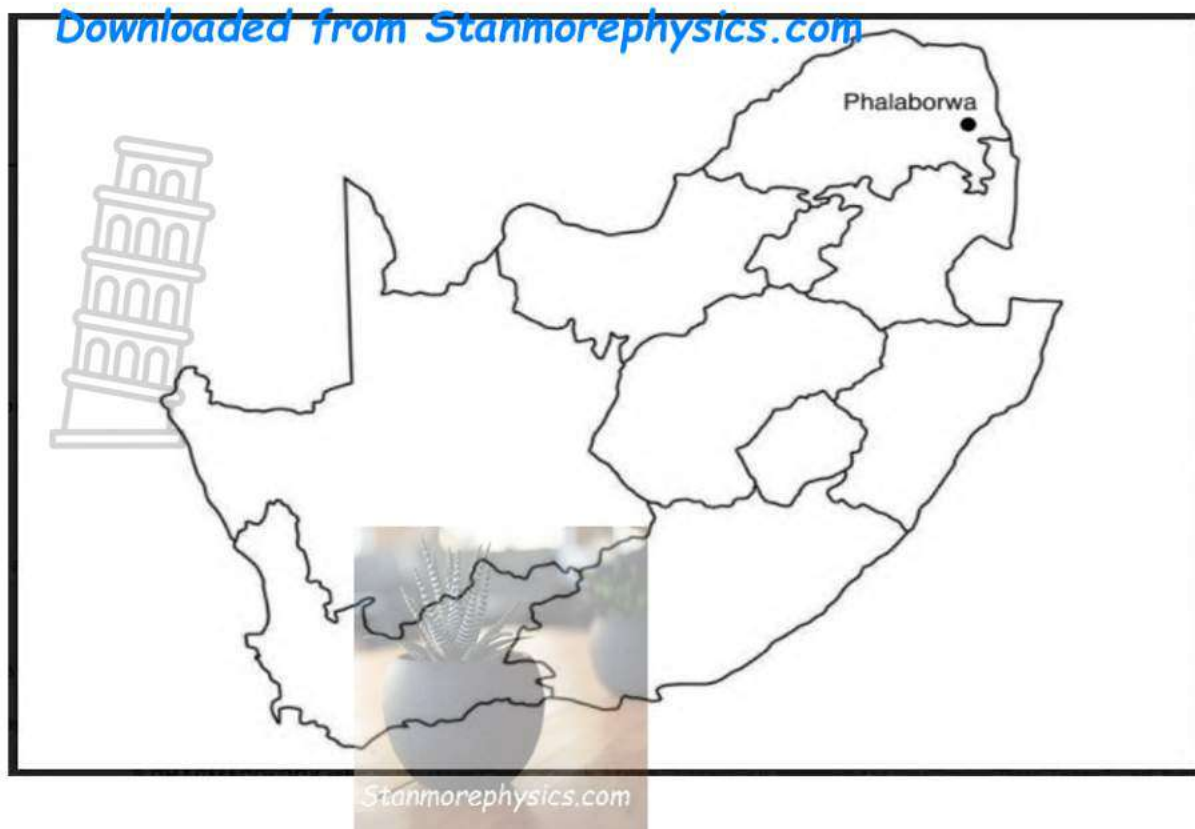
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RESOURCE MATERIAL

1. An extract from topographical map 2331 CC PHALABORWA.
2. Orthophoto map 2331 CC 18 PHALABORWA.
3. NOTE: The resource material must be collected by the school for their own use.

INSTRUCTIONS AND INFORMATION

1. Write your name in the space provided on the cover page.
2. Answer ALL the answers in the spaces provided in this question paper.
3. You are provided with a 1 : 50 000 topographic map (2331 CC PHALABORWA) and an orthophoto map (2331 CC 18 PHALABORWA NORTH) of a part of the mapped area..
4. You must hand in the topographical map and the orthophoto map to the invigilator at the end of the session.
5. You must use the blank page at the back of this paper for all rough work and calculations. Do NOT detach this page from the question paper.
6. Show ALL calculations and formulae, where applicable. Marks will be awarded to these.
7. You may use a non-programmable calculator.
8. The area demarcated in RED on the topographical map represents the area covered by the orthophoto map.



GENERAL INFORMATION ON PHALABORWA

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. This area, also known as the Valley of the Olifants, has the highest winter temperatures in South Africa. The rainfall is low and the average winter temperatures range from 9 °C to 26 °C. During summer the average temperatures vary from 20 °C to 33 °C with occasional heavy rainfall. The highest recorded temperature was 50 °C in December 2018

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

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Question 1 Multiple-choice questions

1.1 The questions below are based on the 1:50 000 topographical map 2331 CC Phalaborwa, as well as the orthophoto map (2331 CC 18) of a part of the mapped area. Various options are provided as possible answers to the following questions. Choose the answers and write only the letter (A-D) in the block next to the question.

1.1.1 The province situated directly south of Phalaborwa is ... province.

- A Limpopo
B Mpumalanga
C Gauteng
D KwaZulu Natal

1.1.2 What is the map index south east of **2331 CC**?



- A 2431AB
B 2331CB
C 2330DD
D 2430BB

1.1.3 The types of scales used on the topographical map are...

- (i) Ratio
(ii) Fraction
(iii) Word
(iv) Line

Choose the correct combination

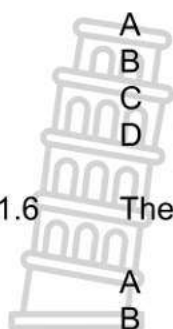
- A (i) and (ii)
B (ii) and (iii)
C (iii) and (iv)
D (i) and (iv)

1.1.4 The line on the map joining places with equal height.

- A Isobar line
B Isotherm line
C Isohyet line
D Contour line

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1.1.5 The contour interval of the topographical map is ... metres



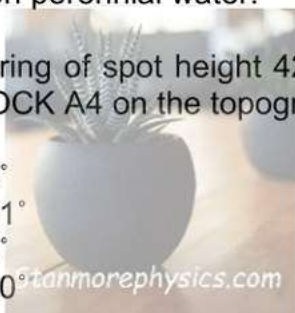
- A 5
- B 10
- C 20
- D 50

1.1.6 The feature marked **F** on the topographical map is...

- A Perennial river.
- B Non perennial river.
- C Perennial water.
- D Non perennial water.

1.1.7 The true bearing of spot height 421(**J**) in BLOCK C4 from spot height 445 (**I**) in BLOCK A4 on the topographic map is ...

- A 12°
- B 191°
- C 90°
- D 270°



1.1.8 The grid below illustrates the mapped area of the topographic map of **2331CC Phalaborwa** with each block illustrating an orthophoto covering this area. The orthophoto map **2331 CC 18 Phalaborwa (North)** covers the ____ block in the grid.

		A		
	B			
		C		
D				

1.1.9 The altitude of **J** in BLOCK C4 is most clearly indicated on the topographic map by

- A Spot height
- B Bench mark
- C Contour line
- D Trigonometrical station

1.1.10 The orthophoto map is produced from a ... which is a type of 'remote sensing'

- A vertical aerial photographs
- B Low oblique aerial photos
- C horizontal terrestrial photograph
- D high oblique aerial photos

(10x1)

[10]

Question 2 Map Calculations

2.1 Refer to the topographical map **2331CC Phalaborwa**



- 2.1.1 (a) Determine the exact location (coordinates) for spot height 499 in BLOCK E4 on the topographical map

(1x2) (2)

2.1.2 Give the following:

- (a) The compass direction of the spot height 445 (I) in BLOCK A4 from the spot height 421 (J) in BLOCK C4 on the topographic map

(1x1) (1)

- (b) The true bearing of spot height 445 (I) in BLOCK A4 from spot height 421 (J) in BLOCK C4 on the topographic map is.

(1x2) (2)

- (c) Which one, compass direction or true bearing, is a more accurate way of indicating direction? Give one reason for your answer.

Answer:

(1x1) (1)

Reason:

(1x2) (2)

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2.13 Using the True Bearing from 2.12 (b) above, calculate the present day Mean Magnetic Bearing.



Annual Change: _____

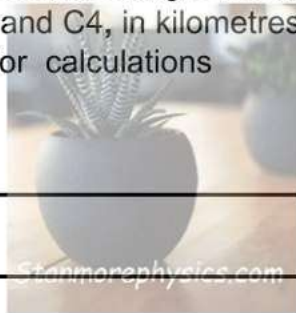
Difference in years: _____

Present Day Mean Magnetic Declination: _____

Mean Magnetic Bearing: _____ (6x1) (6)

2.2

Calculate the actual straight line distance of the landing strip in BLOCKS B4 and C4, in kilometres. Show ALL calculations. Marks will be awarded for calculations



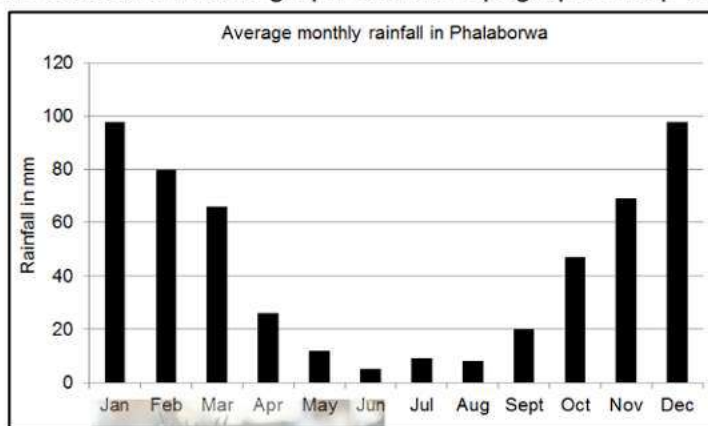
(4x1) (4)

[18]

Question 3 Application and interpretation

3.1

Refer to the seasonal rainfall graph and the topographic map of Phalaborwa..



[Source: [https://www.google.com/search?q=rainfall graph Phalaborwa](https://www.google.com/search?q=rainfall+graph+Phalaborwa)]

3.1.1 In which season is the rainfall experienced in Phalaborwa.

The lowest:

(1x1) (1)

The highest:

(1x1) (1)

3.1.2 What is the evidence on topographical map that Phalaborwa experiences a seasonal rainfall?

(2x1) (2)

3.1.3 Give the direction of the river marked **G** in BLOCK A4 on the topographical map, and give reason for your answer

(1+2) (3)

3.1.4 Account for the location of the sewerage works in BLOCK D2 on the topographical map.

(1x2) (2)

3.2

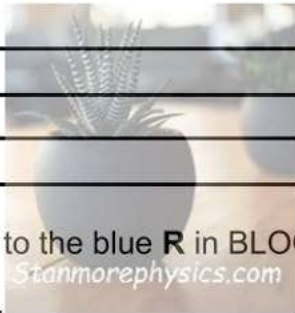
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3.2.1 Identify the landforms at **7** & **8** on orthophoto map.



(2x2) (4)

3.2.2 Identify feature **6** on orthophoto map. Give ONE reason why feature **6** appears larger than the same feature represented on the topographical map.



(2+2) (4)

3.2.3 Refer to the blue **R** in BLOCK B3 and state its.....

Name: _____

(1x1) (1)

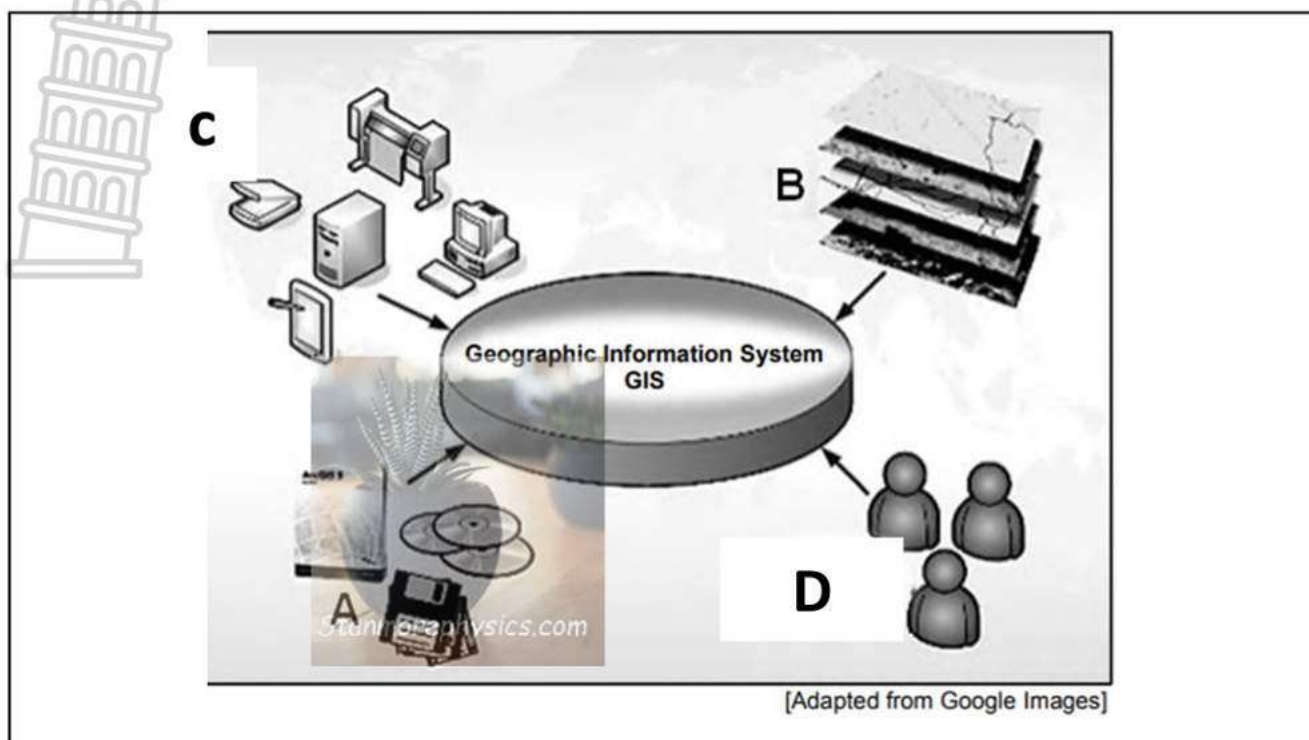
Function: _____

(1x2) (2)

[20]

Question 4 Geographic Information Systems

4.1 Refer to the photograph showing GIS Components



4.1.1 Identify the components of GIS labelled **C** and **D**

(2x1) (2)

4.2 Choose a term from COLUMN B that matches a statement in COLUMN A. Write only the letter (A-E) next to the number (4.2.1-4.2.4), e.g. 4.2.4: F

	COLUMN A		Answers		COLUMN B
4.2.1	This data has got points, lines and polygons			A	Attribute Data
4.2.2	Getting data about the earth's surface from a distance e.g. satellite images			B	Spatial data
4.2.3	Information about the location and shapes of geographic features and the relationships between them			C	Vector data
				D	Raster data
				E	Remote sensing

(3x1)(3)

4.3 Refer to the topographical map in BLOCK A2 to answer the questions below:

4.3.1 Identify ONE Point, Line and Polygon feature found in BLOCK A2

Point feature: _____ (1)

Line feature: _____ (1)

Polygon feature: _____ (1)

4.3.3 Explain TWO measures the people of Phalaborwa can benefit from the use of GIS in the prevention of future flooding

(2X2) (4)

[12]

GRAND TOTAL: 60 MARKS

---END---

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