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TOTAL MARKS

INTERNATIONAL SECONDARY CERTIFICATE EXAMINATION
NOVEMBER 2023

GEOGRAPHY: PAPER II

EXAMINATION NUMBER

Time: 1½ hours 100 marks

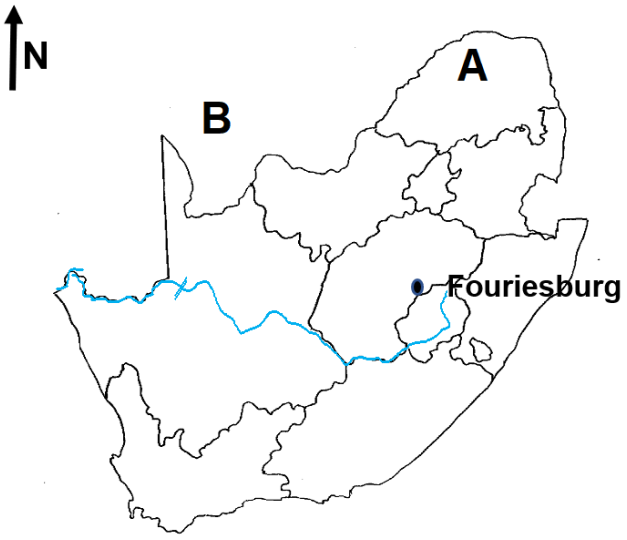
PLEASE READ THE FOLLOWING INSTRUCTIONS CAREFULLY

1. This paper consists of 24 pages, a topographic map extract (with a symbol sheet), an orthophotomap extract and an equipment sheet. Please check that your question paper is complete.
2. Read the questions carefully.
3. **Answer ALL the questions on the question paper. Remember to write your examination number in the blocks above.**
4. Carefully study the 1:50 000 topographic map extract 2828CA FOURIESBURG (Map 1) and the orthophotomap extract of 2828CA 14 CALEDONSPOORT (Map 2).
5. The topographic map extract has grid lines with markings A to H and 1 to 7 that may be used to identify locations according to blocks.
6. The equipment sheet can be used instead of a ruler and a protractor not brought to the venue. It may also be used for rough work. There is a fold mark indicating where it should be folded.
7. A magnifying glass and calculator may be used.
8. Your completed question paper must be handed to the invigilator at the end of the examination. The maps and photos may be kept by the school for future use.
9. It is in your own interest to write legibly and to present your work neatly.
10. ONE blank page (page 24) has been included at the end of the paper. If you run out of space for an answer, use this page. Clearly indicate the number of your answer should you use this extra space.

FOR MARKERS' USE ONLY

Question	1	2	3	4	**Total**
Marks	26	29	27	18	**100**
Obtained					

Figure 1 – Location map of Fouriesburg



Fact File 1

Fouriesburg is a small town situated at the junction of the R711 and R26 routes in the eastern Free State, South Africa. It is near the Maluti Mountains and only 10 km from Caledonspoort Border Post, which gives access to Lesotho. This area is in the agricultural heartland of South Africa, where today the main farming activity here is the growing of cherries, which tends to be a much prettier crop than maize. Fouriesburg is located in the Thabo Mofutsanyana District Municipality.

Small towns are idyllic hideaways with a significant population of artists, crafters and other big-city refugees, with many lovely old houses that are built from the glowing golden sandstone.

[Source: <https://www.south-africa-info.co.za/country/article/793/free-state-is-the-agricultural-heartland-of-south-africa>]

QUESTION 1 ATLAS USE, MAP ORIENTATION AND TECHNIQUES

1.1 Refer to Figure 1, a location map, as well as the topographic map extract 2828CA FOURIESBURG to answer the following questions. Tick (✓) the correct box.

1.1.1 The province labelled **A** on the location map above is …

the Free State	
Gauteng	
Limpopo	
Mpumalanga	

(1)

1.1.2 The country labelled **B** on the location map above is …

Botswana	
Eswatini	
Lesotho	
Namibia	

(1)

1.1.3 Study Photograph 1 and the topographic map extract 2828CA FOURIESBURG (Map 1).

Photograph 1

[Examiner's photograph]

(a) This photograph was taken at the road intersection from point **C** (looking SSW) ***/*** point **D** (looking NNE) ***/*** point **E** (looking S) ***/*** point **F** (looking N) as labelled on Map 1.

Answer: _____

(1)

(b) Provide a reason for your answer to (a) above.

_____

_____

(2)

1.1.4 Refer to Photograph 2. This was taken from the R26 in A5 (Map 1), looking towards the west.

Photograph 2

[Examiner's photograph]

Complete the table below by drawing each map symbol and identifying it.

Label	Drawing of map symbol	Identification of feature
G		
H		

(4)

1.1.5 Refer to Photograph 3 and Figure 2 (the location extract of the features in B5). Photograph 3 was taken from the entrance to the graveyard in B5, looking towards the small town of Fouriesburg. The church (feature **I** on Figure 2) is west of the main road that runs through the town.

Photograph 3

[Examiner's photograph]

Figure 2 – Extract of B5 (Map 1)

(a) Identify the land-use zone the graveyard is located in.

_____

(1)

(b) The true bearing of the church labelled **I** from the entrance to the graveyard is …

Tick (✓) the correct answer.

43°	
137°	
140°	
317°	

(2)

(c) Support the statement, 'The church is located in the town's central business district (CBD),' by referring to Figure 2.

_____

_____

(2)

1.2 Locate the trigonometrical station in block D5 that is found on the hill shown in Photograph 4.

Photograph 4

[Examiner's photograph]

(a) Name the hill where the trigonometrical station is located (D5).

_____

(1)

(b) The height of the trigonometrical station in D5 is …

16 m	
16 km	
1938,4 m	
1938,4 km	

(1)

(c) The coordinate of latitude for the trigonometrical station in D5 is …

28° 39' 42" E	
28° 12' 12" S	
28° 12' 12" E	
28° 39' 42" S	

(1)

(d) The land use around this hill feature in Photograph 4 suggests …

intensive irrigation farming.	
small-scale farming.	
extensive commercial farming.	
orchards and vineyards.	

(1)

(e) The average gradient of the slope (Photograph 4) from the trigonometrical station to the benchmark 1710,7 (C4) northwest of the hill (D5) is …

(i)	Difference in height	m

(1)

(ii)	Distance	m

(2)

(iii)	Gradient expressed as a ratio	1: _____

(2)

Calculations

(f) (i) Is the holiday resort Wynford (F6) intervisible from the trigonometrical station on the hill in D5?

Tick (✓) the correct answer:

YES	
NO	

(1)

(ii) Provide a reason for your answer to (f) (i) above.

_____

_____

(2)
[26]

Q1 subtotal

QUESTION 2 THE PHYSICAL GEOGRAPHY OF THE CALEDONSPOORT AREA

2.1 Climate

Study Map 1, the topographic map extract 2828CA FOURIESBURG and Map 2, an orthophoto map extract of 2828CA 14 Caledonspoort.

2.1.1 What time of the day was the orthophotograph taken? Select the correct answer.

08:00	
10:00	
12:00	
14:00	

(1)

2.1.2 Provide ONE reason for your answer to Question 2.1.1.

_____

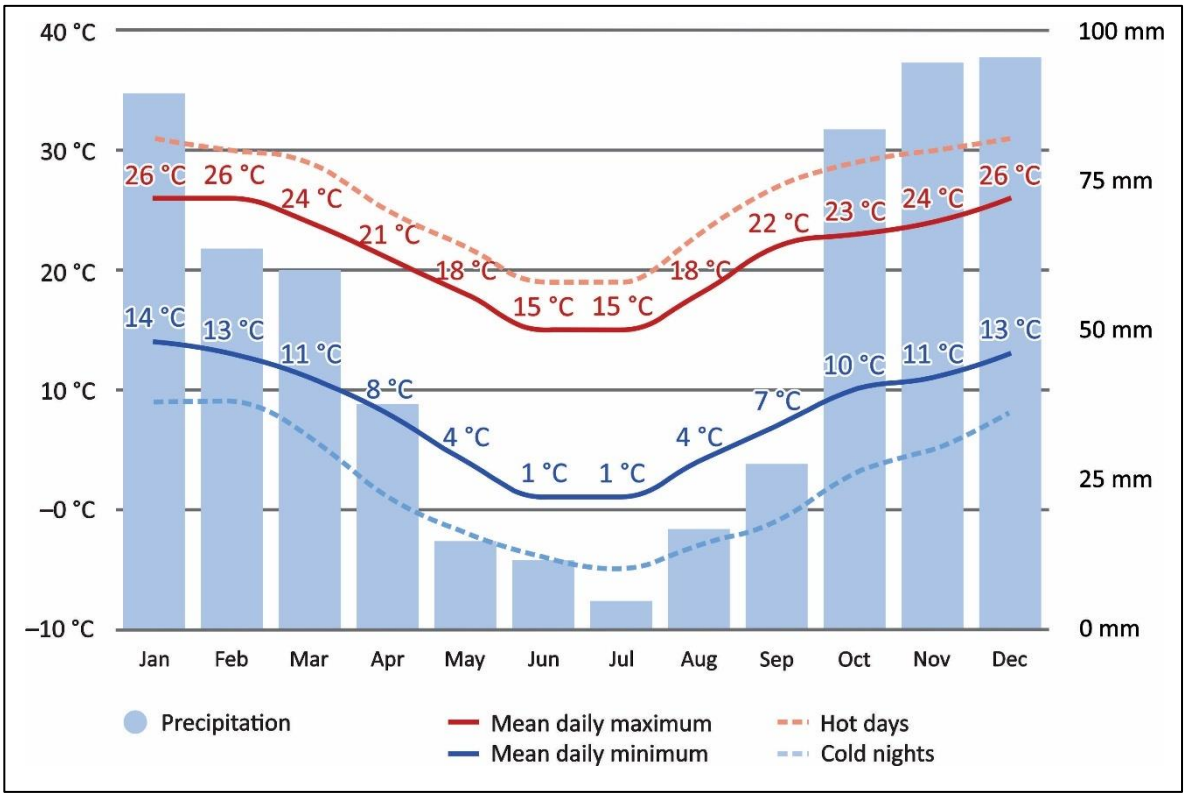
_____

(2)

2.2 Climograph for Fouriesburg

Refer to Figure 3, a climograph showing various annual temperatures and rainfall for Fouriesburg.

Figure 3 – Climograph for Fouriesburg



[Source: <https://www.meteoblue.com/en/weather/historyclimate/climatemodelled/fouriesburg_south-africa_1003843>]

2.2.1 (a) Calculate the average (mean) temperature range for Fouriesburg in July.

_____

_____

(2)

(b) Explain why the annual range in temperature can be used to determine whether a place experiences a continental or maritime climate.

_____

_____

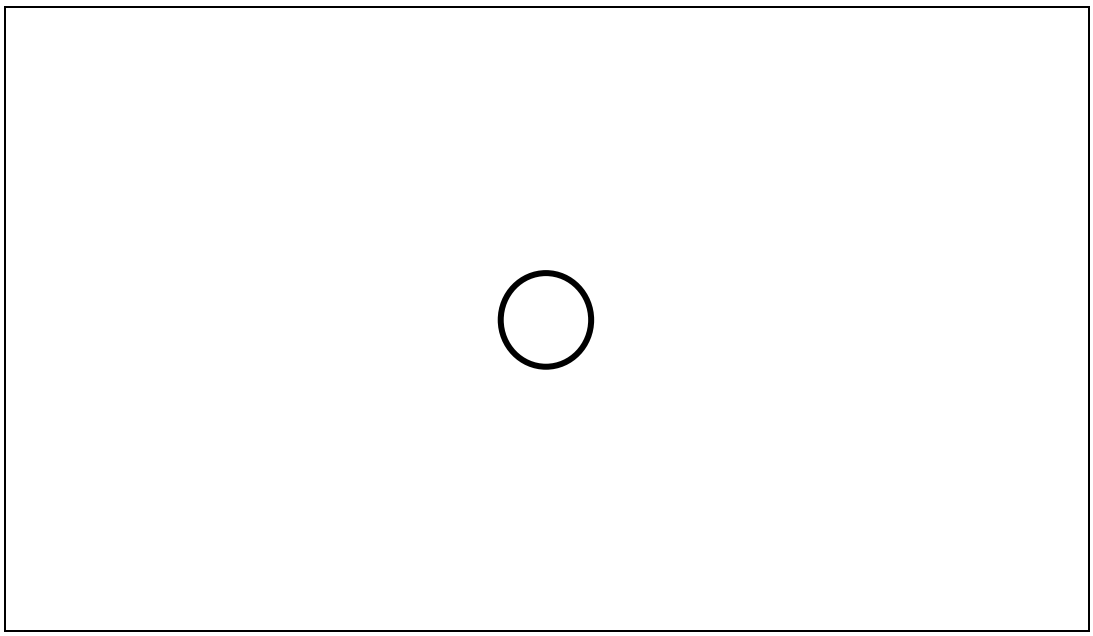
(2)

2.2.2 Which month experiences most rainfall?

_____

(1)

2.2.3 The South African Weather Service (SAWS) tweeted that Fouriesburg would experience a maximum air temperature of 26 °C, a dewpoint temperature of 13 °C; clear skies and an ENE wind of 5 knots. Complete the weather station model below for these weather conditions.



(5)

2.3 **Relief**

Study Map 2, an orthophoto map extract of Caledonspoort, as well as Map 1, the topographic map extract 2828CA FOURIESBURG. Read Fact File 2 carefully.

Fact File 2 Caledonspoort and the border post

This 1,8 km long poort (water gap) winds along the course of the Little Caledon River through a deep canyon. The poort ends at the Caledonspoort Border Control Post, which manages access into and out of Lesotho. This route can get very busy, particularly on Friday and Sunday afternoons, as people return to and depart from Lesotho.

[Source: <https://www.mountainpassessouthafrica.co.za/find-a-pass/free-state/item/1456-caledonspoort-p29.html>]

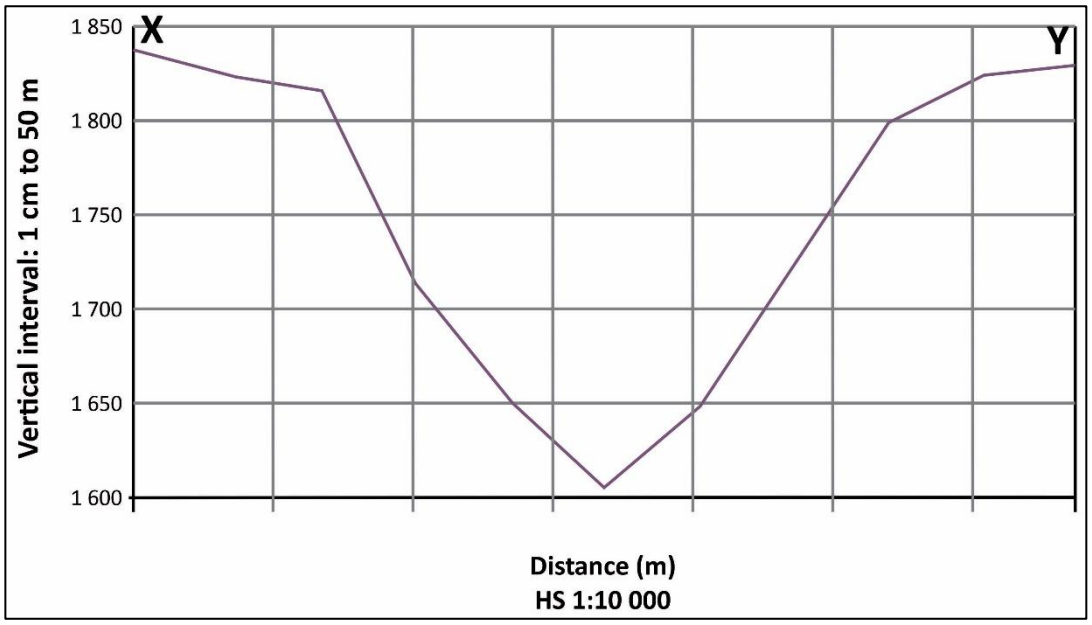
2.3.1 Tick (✓) the correct description of a poort. A poort is …

A	a lateral ridge of land descending from a hill.	
B	an area of fairly level high ground.	
C	a steep, narrow mountain pass usually following a river or stream.	
D	formed when one river captures another river's headwaters.	

(1)

2.3.2 Study Figure 4, an approximate sketch section drawn from Point X to Point Y as shown on the orthophoto map extract (Map 2).

Figure 4



[Source: NASA SRTM Digital Elevation 30 m]

Fill in and label the following features / points on the sketch section above.

- Compass orientation at Point X (e.g. N, S, E, W)
- Compass orientation at Point Y (e.g. N, S, E, W)
- Little Caledon River
- The road to the border post (4)

2.3.3 (a) Given the vertical interval used on the sketch section (Figure 4) is 1 cm representing 50 metres, calculate the vertical scale of the sketch section.

Vertical Scale 1: _____

Calculations

(2)

(b) Calculate the vertical exaggeration of this sketch section (Figure 4).

Vertical exaggeration (VE) _____

Calculations

(2)

2.3.4 Explain why Caledonspoort (F6 and F7) provides an ideal location for positioning a border post between Lesotho and South Africa.

_____

_____

_____

_____

_____

_____

(2)

2.3.5 Refer to Photograph 5 showing a section of the Little Caledon River in F7.

Photograph 5

[Examiner's photograph]

(a) Identify the type of flow as shown in Photograph 5.

_____

(1)

(b) Comment on the water quality of the river, as seen in Photograph 5.

_____

_____

(2)

(c) Provide evidence to indicate that the Little Caledon River experienced a recent flood event.

_____

_____

(2)
[29]

Q2 subtotal

QUESTION 3 SETTLEMENT STUDIES AND GIS LAND-USE MAP

3.1 Rural settlement

Refer to the topographic map extract 2828CA FOURIESBURG (Map 1).

Refer to Photograph 6. The photograph is of the settlement in G7 and was taken from the road at point **K** on Map 1.

Photograph 6

[Examiner's photograph]

(a) Provide ONE <u>site</u> factor for the location of this settlement.

_____

_____

(2)

(b) Suggest ONE <u>situation</u> factor that has influenced the location of this settlement.

_____

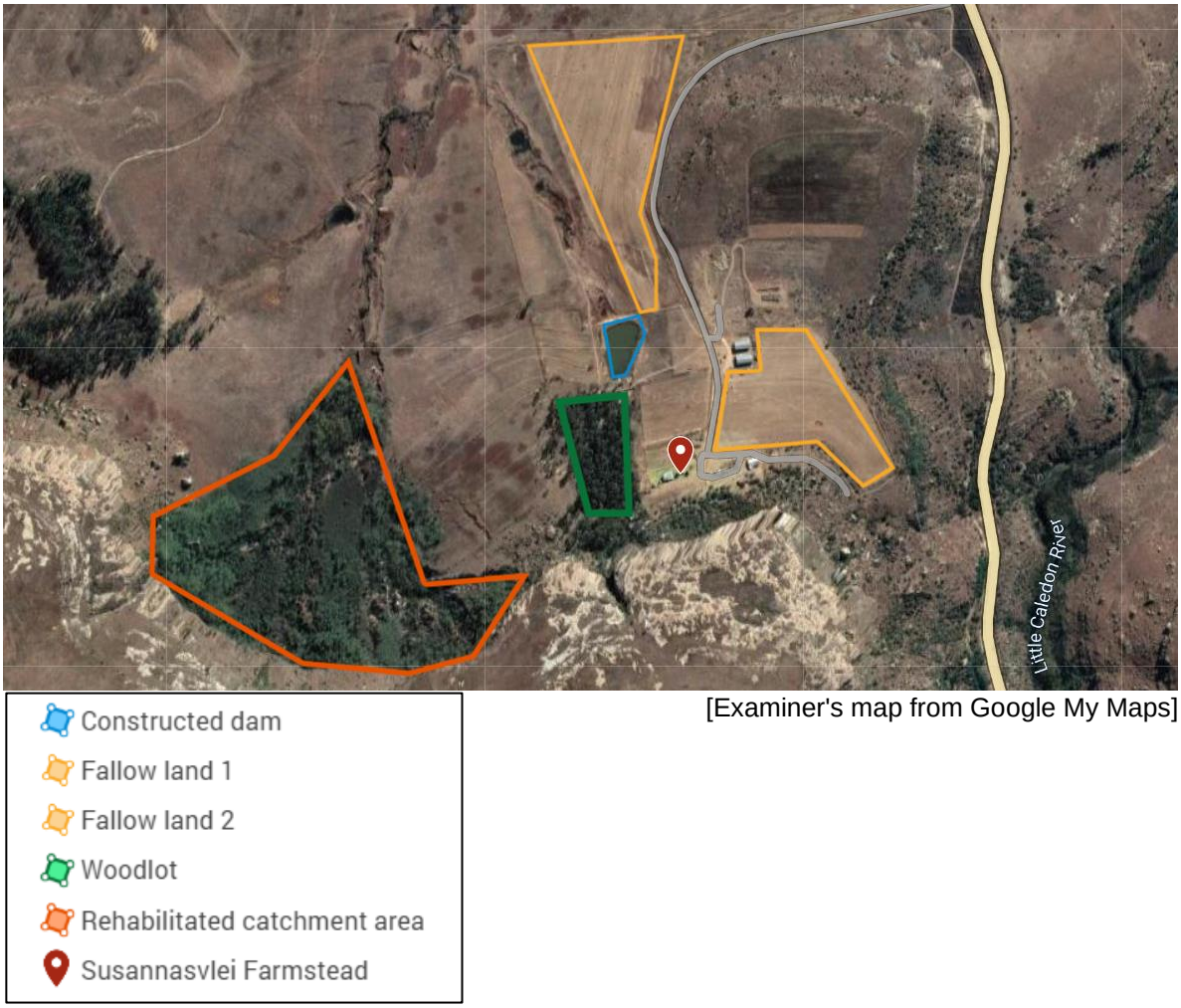
_____

(2)

3.2 GIS land-use map

3.2.1 Refer to topographic map extract (Map 1) and the orthophotomap extract (Map 2). The aerial photograph land-use map in Figure 5 shows a portion of Susanna's Valley farm in E6 and F6 (Map 1).

Figure 5 – GIS land-use map and key



[Examiner's map from Google My Maps]

(a) Select the correct underlined word and write it in the space provided.

The aerial photograph in Figure 5 consists of vector / raster / statistical / qualitative data.

Answer: _____

(1)

(b) To compile the overlay of information on the aerial photograph, geometric symbols of points, lines and polygons were used on Figure 5. Explain the types of features that these symbols represent.

Points _____

Lines _____

Polygons _____

(3)

(c) Verify that Susanna's Valley farm (Susannasvlei farmstead) is located on a north-facing slope.

_____

_____

(2)

3.2.2 Refer to Figure 6, a product land-use map produced for the farmers of Susanna's Valley. Information is obtained from Figure 5. A partially completed key is provided.

Figure 6

Key to be completed:

Question	Map symbol	Geometry of the symbols	Description of the land use
3.2.2 (b)			Farm sheds
3.2.2 (b)			Farm road
3.2.2 (c) (ii)		Polygon	New farm dam

(a) Draw in the following on Figure 6 above, using the correct symbology (point, line or polygon):

- The two farm sheds between the fallow land parcels
- The farm road leading from the Fouriesburg–Caledonspoort road to the farmstead (2)

(b) Complete the key on page 17, adding the new symbols you have used and their geometry. (4)

(c) Study the topographic map extract (Map 1) and Figure 5, the GIS land-use map, on page 16. The farmer at Susanna's Valley farm would like to construct a new dam for water storage and irrigation purposes.

(i) Study the river system as shown on Map 1 and in Figure 5 and mark in the best site for the new dam on Figure 6. (1)

(ii) Add the new symbol to the partially completed key on page 17. (1)

(d) Refer to the topographic map extract (Map 1) and to Figure 5.

Verify that the aerial photograph in Figure 5 is more recent than Map 1.

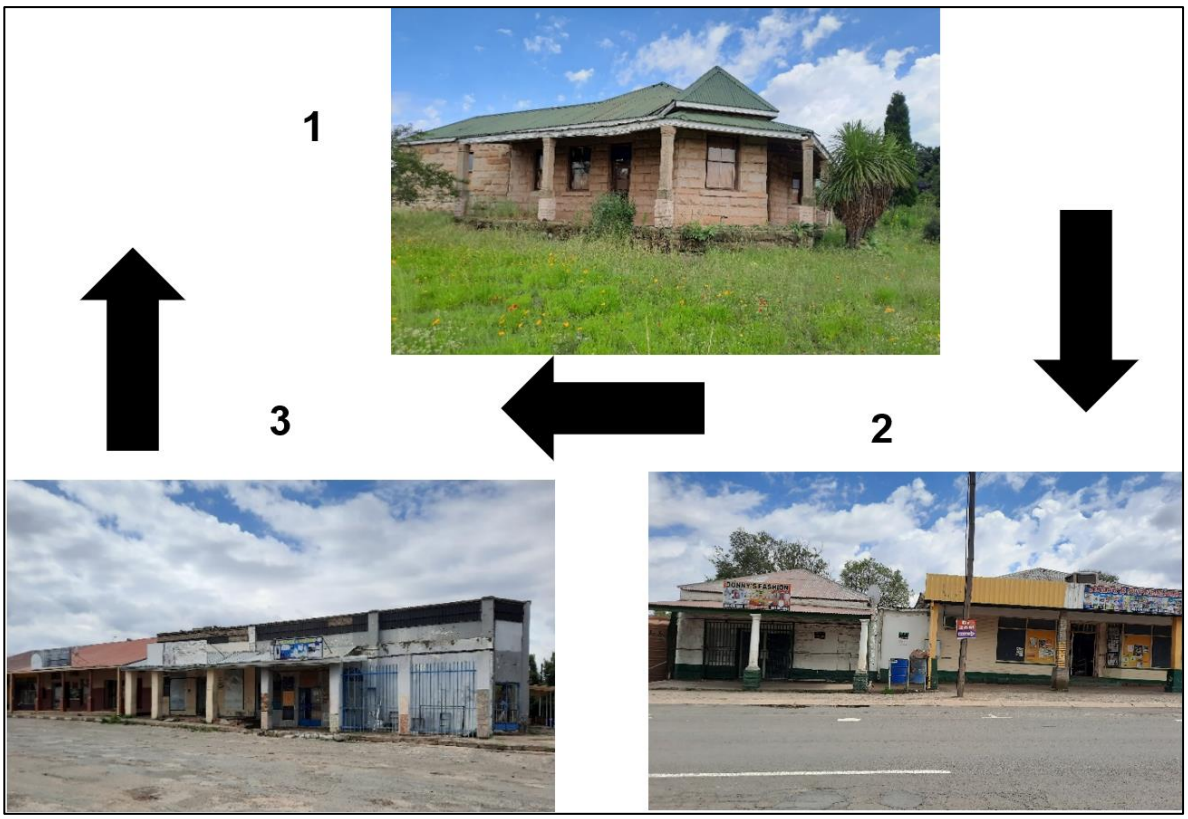
_____

_____ (2)

3.3 Rural decline

A cycle of rural decline is shown in Figure 7. Study the diagram carefully before answering the questions. The images are from Fouriesburg (December 2022).

Figure 7 – Cycle of rural decline



[Examiner's photographs]

3.3.1 Match an image in Figure 7 to each statement below.
Write the image number (1, 2 or 3) in the space provided below the statement.

(a) Less investment in rural towns, threshold population decreases, infrastructure and services start to decline.

Image _____

(b) Homes are abandoned as people move to urban areas.

Image _____

(c) Infrastructure and services decline further; urban decay is evident and shops eventually close down.

Image _____

(3)

3.3.2 Discuss how this cycle of rural decline could be reversed in a small town such as Fouriesburg. Select at least one of the images (1 to 3) to focus your discussion on.

_____

_____

_____

_____

_____

_____

(4)
[27]

Q3 subtotal

QUESTION 4 ECONOMIC GEOGRAPHY

Read Fact File 3 on the importance of tourism to small country towns in southern Africa.

Fact File 3

Poverty and unemployment are two major problems in southern Africa. Increased tourism is expected to contribute to the solution of these problems. The National Development Plan (NDP) frequently mentions tourism as an important component of economic growth and job creation, also for rural areas, and calls for the expansion of the tourism industry.

The residents of smaller southern African towns are more dependent on tourism and the hospitality sector than the residents of larger towns are.

Based on the ideas of the 'new geography of jobs', it is clear that tourism results in the inflow of external money into local economies. Tourism is a driver of prosperity and a reducer of poverty in this context.

[Source: <http://www.scielo.org.za>]

4.1 State the economic sector to which tourism and the hospitality sector belong.

_____

(1)

4.2 Explain why Fouriesburg is considered a low-order service centre.

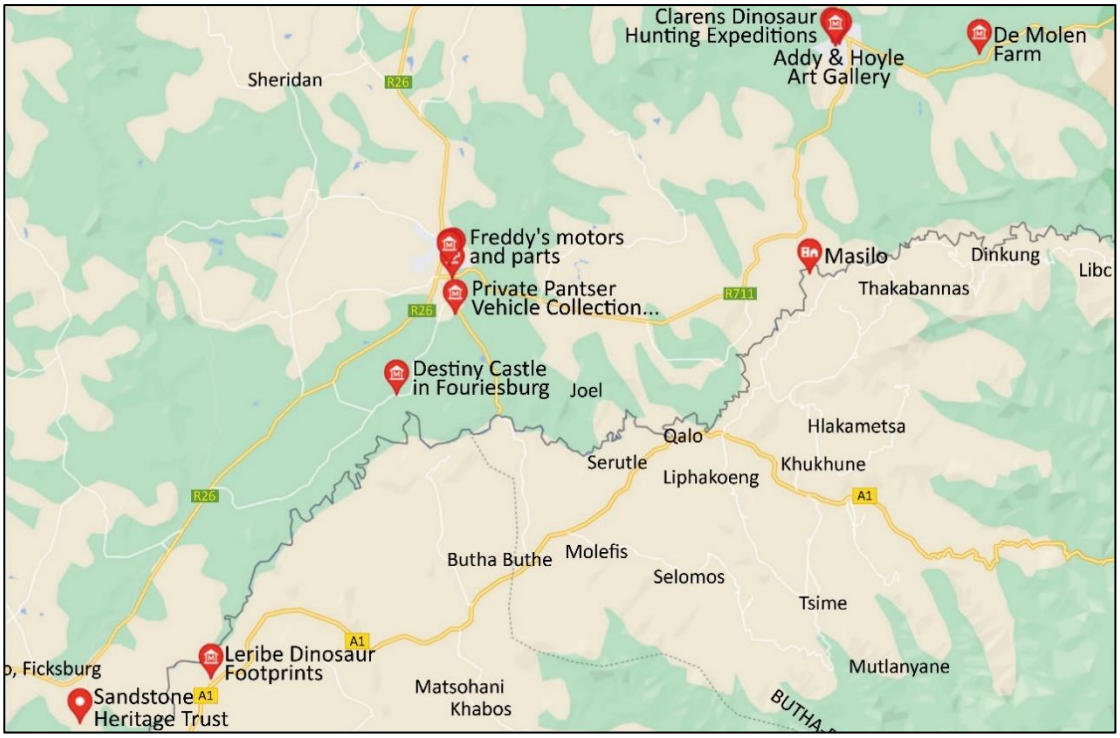
_____

_____

(2)

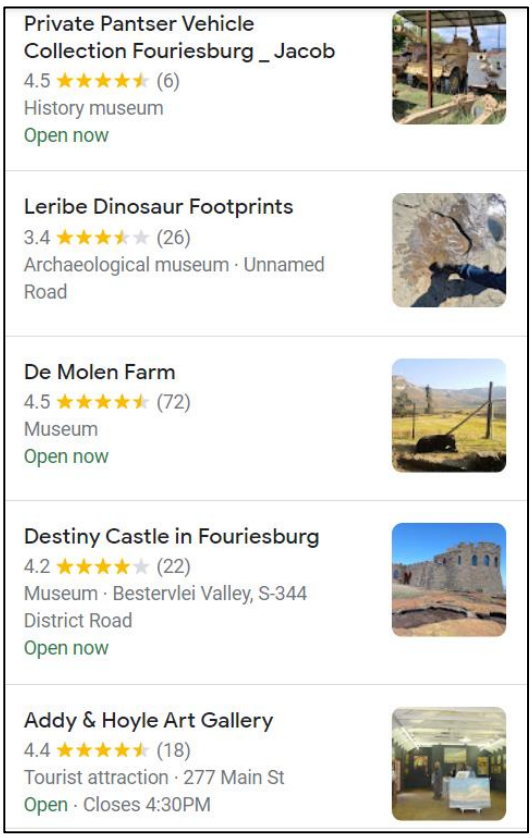
4.3 Refer to Figures 8A and 8B. Figure 8A is a map showing tourism opportunities around the Fouriesburg area in the Thabo Mofutsanyana District Municipality. The details of some of the places tagged are provided in Figure 8B.

Figure 8A



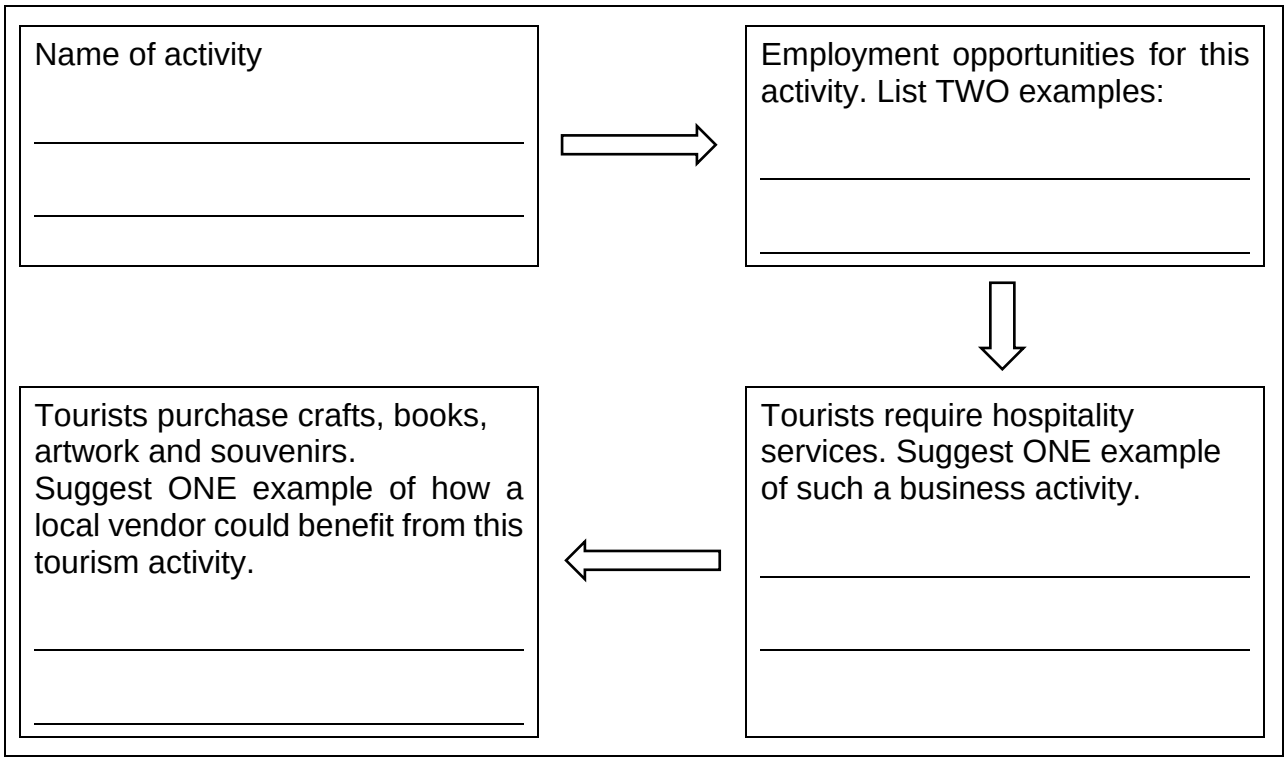
[Open Street Maps]

Figure 8B



(a) According to Fact File 3, poverty and unemployment occur in many southern African rural areas and tourism is seen to be important in encouraging economic growth and job creation.

Select ONE of the activities from Figures 8A and/or 8B and complete the flow diagram below.



(5)

(b) The Thabo Mofutsanyana District Municipality decided to host a cherry festival in the area, which includes the towns shown in Figure 8A. They would also like to promote other tourism activities that will encourage more people to support this festival and stimulate the local economy.

Create an advertisement / website page in the space on page 23 for other tourism activities that will attract tourists, create jobs and boost the local economy of the Fouriesburg area. This will be displayed on the Thabo Mofutsanyana District Municipality's website.

Your advert / website page must include:

- A suitable title.
- A sketch map that shows where the activities are in relation to the centre of Fouriesburg.
- The type of tourism – cultural, historical, environmental (eco) or agritourism.*
- Activities and the type of accommodation offered.
- A key to enable the reader to understand the advertisement / website page.

*Agritourism – a form of tourism that includes farm stays; fruit picking or adventure activities such as horse riding and quad biking.

Advertisement / website page

(10)
[18]

Q4 subtotal

Total: 100 marks

ADDITIONAL SPACE (ALL questions)

REMEMBER TO CLEARLY INDICATE AT THE QUESTION THAT YOU USED THE ADDITIONAL SPACE TO ENSURE THAT ALL ANSWERS ARE MARKED.