

GEOGRAPHY: PAPER II

EXAMINATION NUMBER

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Time: 1½ hours

100 marks

PLEASE READ THE FOLLOWING INSTRUCTIONS CAREFULLY

1. Write your examination number in the appropriate blocks provided above.
2. This question paper consists of 16 pages and a colour Insert of 2 (i – ii) pages. Please check that your paper is complete.
3. Read the questions carefully.
4. Answer ALL the questions in the spaces provided on the question paper.
5. Carefully study the 1:50 000 topographical map extract 2828CB CLARENS and accompanying aerial photograph sheet (Photograph 1 and Photograph 2 on page i of the colour Insert) before answering the questions.
6. The topographic map has grid lines with markings A to I and 1 to 8 that may be used to identify locations according to blocks.
7. The topographical map, aerial photograph sheet and your completed Answer Book must be handed to the invigilator at the end of the examination. The maps and photographs may be retained by the school for future use.
8. On page 2 there is a glossary of words. This will help you understand what the words in **bold** in the questions are asking you to do. There is also an English-Afrikaans translation of some words appearing on the map.
9. A magnifying glass and calculator may be used.
10. It is in your own interest to write legibly and to present your work neatly.
11. You may use the back page for rough work. No marks will be allocated to rough work.

Question	1	2	3	4	5	Total
Marks						

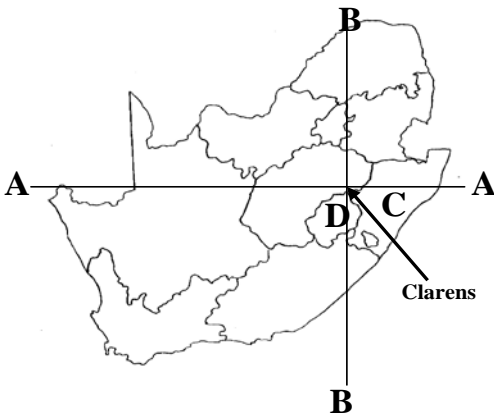
Glossary of terms

WORD	MEANING
Calculate	To work out the value of something using a mathematical method.
Compare	To point out or show both similarities and differences.
Describe	To say what something is like.
Design	To explain step-by-step a process or plan of action.
Determine	To discover as a result of investigation.
Draw	To show by means of a sketch or drawing.
Explain	To describe something so that it can be understood.
Identify	To give the details or characteristics of something.
Indicate	To show or mark in the position of something.
List	To write an itemised series of concise statements; to present a list of names, facts, aspects or items.
Name	To state something; to give; to mention.
Order	To arrange according to a specific method or sequence.
Suggest	To put forward ideas, a plan or reasons.

Translation of words**English to Afrikaans**

Border control post	Grenspos
Corner	Hoek
Farm	Plaas
Furrow	Kanaal
Marsh, swamp or wetland	Vlei
Mountain	Berg
River	Rivier
Road	Pad

Location map: Location of Clarens in South Africa



The town of Clarens is situated in the foothills of the Maluti Mountains in close proximity to the Golden Gate National Park and the mountain kingdom of Lesotho. Clarens is an artist's haven with many well known artists who either live in or frequent the town on a regular basis. The village is surrounded with scenic views. The mild climate makes for the ideal weekend getaway for city dwellers from Johannesburg, Bloemfontein and Durban. These cities are all approximately 300 km from Clarens – a comfortable 3 to 4 hours drive away.

The town is known as the 'Jewel of the Free State' – rich in beauty, with an aura of peace and tranquillity.

[Adapted from: <clarens.co.za>]

QUESTION 1 Atlas use, map projections and map orientation and techniques

1.1 Refer to the location map above, as well as the topographical map extract to answer the following questions. Tick the correct box.

1.1.1 The line of latitude marked A on the location map above is ...

28° 25' S	
28° 25' E	
28° 31' E	
28° 31' S	

(1)

1.1.2 The map projection used to produce the topographical map extract 2828CB CLARENS is ...

Gauss Conform	
Mercator	
Peters	
U T M	

(1)

1.1.3 The province labelled C on the location map (page 3) is ...

Eastern Cape	
Free State	
Gauteng	
KwaZulu-Natal	

(1)

1.1.4 The country labelled D on the location map (page 3) is ...

Botswana	
Lesotho	
Mozambique	
Swaziland	

(1)

1.1.5 The road distance (km) along the 712 on the 1:50 000 topographic map extract from the intersection of the roads 711 (A4) and 712 (A4) to Golden Gate is ...

7.8 km	
14 km	
21.8 km	
29.5 km	

(2)

1.1.6 The map reference of the topographic map sheet to the north-east of 2828CB CLARENS is ...

2828AD	
2828BC	
2828CC	
2828DA	

(2)

1.2 Map orientation and geographical techniques

Refer to the topographic map extract 2828CB CLARENS.

- 1.2.1 The true bearing **of** trigonometric beacon 175 (C3) **from** the trigonometric beacon 8 at Mount Horeb (A6) is ...

45°	
115°	
235°	
270°	

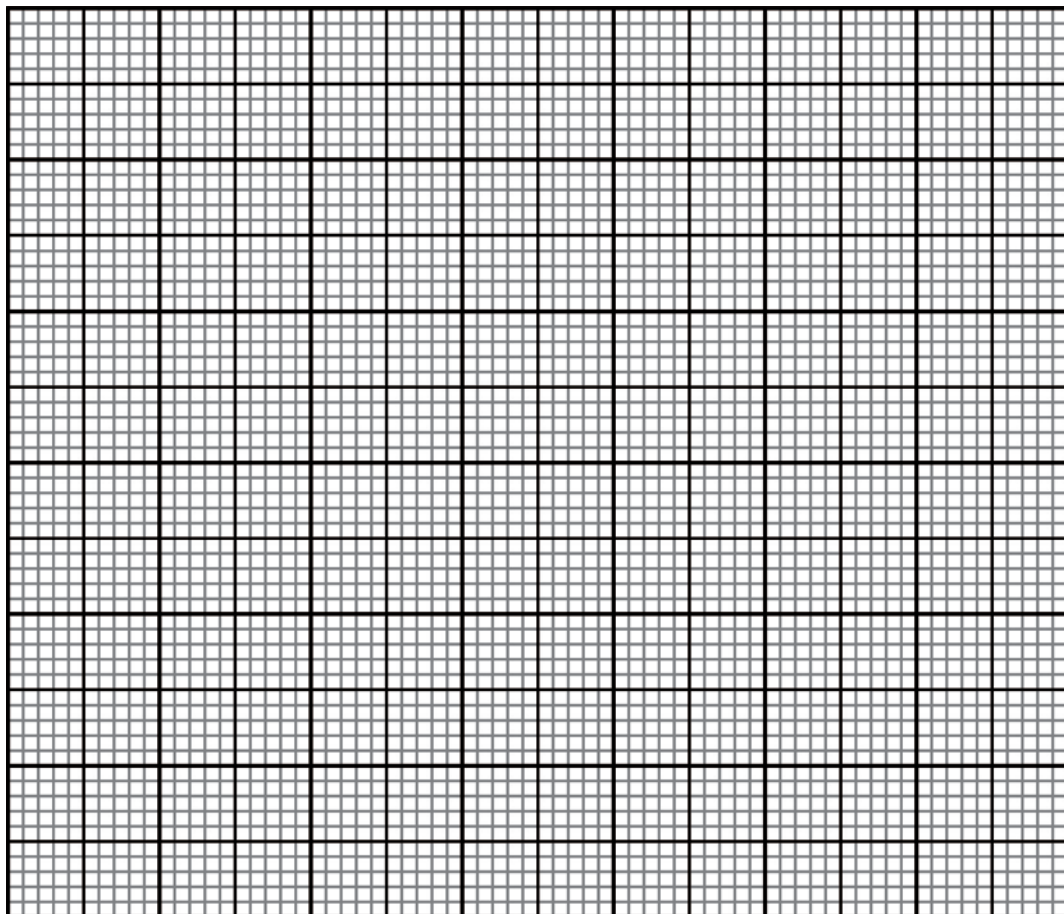
(2)

1.2.2 Cross section

- (a) **Draw** a cross section from trigonometric beacon 175 (C3) to the trigonometric beacon 8 (A6), using the graph paper below. (6)

Use a vertical interval of 1 cm = 100 m.

Note: To assist you, use only the 100 m index contour lines.



- (b) **Indicate** the position of the following on the above cross section:

- road 711
- road 712
- purification plant

(3)

QUESTION 2 Climate and drainage of the area

2.1 Study Figure 1, a rainfall graph of Clarens.

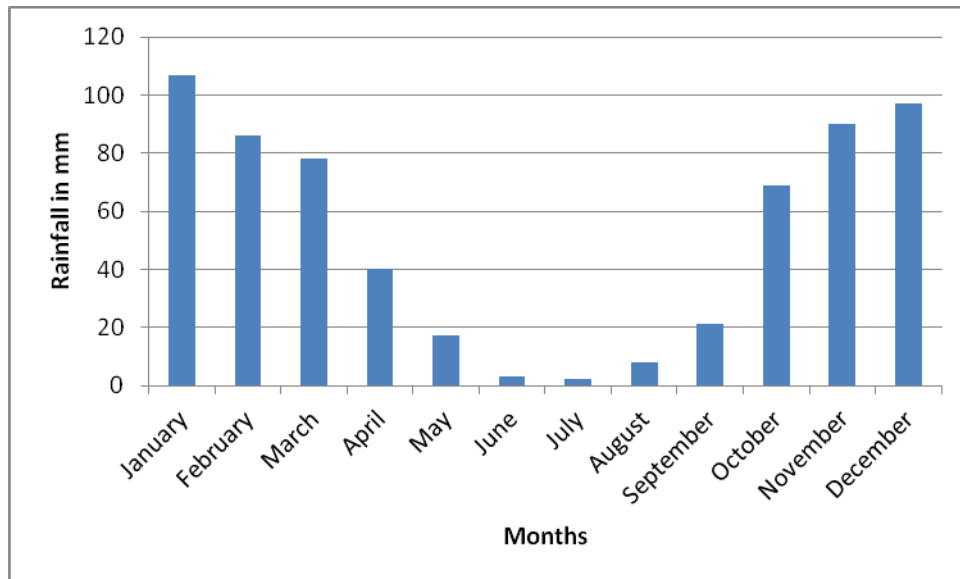


Figure 1: Rainfall graph of Clarens

2.1.1 **Calculate** the approximate total annual rainfall (mm) for Clarens.

_____ mm (2)

2.1.2 Given the above rainfall data, **suggest** a reason why there are many non-perennial rivers in the area.

- _____ (2)

2.2 Drainage of the area

Refer to the topographic map extract 2828CB CLARENS.

2.2.1 A drainage basin has been marked off on the map in blocks D5-6, E5-6 and F5-7. This area falls on the farm Schaapplaats 1785.

(a) **Identify** the stream pattern found in this basin.

_____ (2)

(b) **Describe** the shape of the basin.

_____ (2)

2.2.2 The sketch below (Figure 2) is a copy of the streams in the drainage basin (Question 2.2.1). Note the drawing has been enlarged.

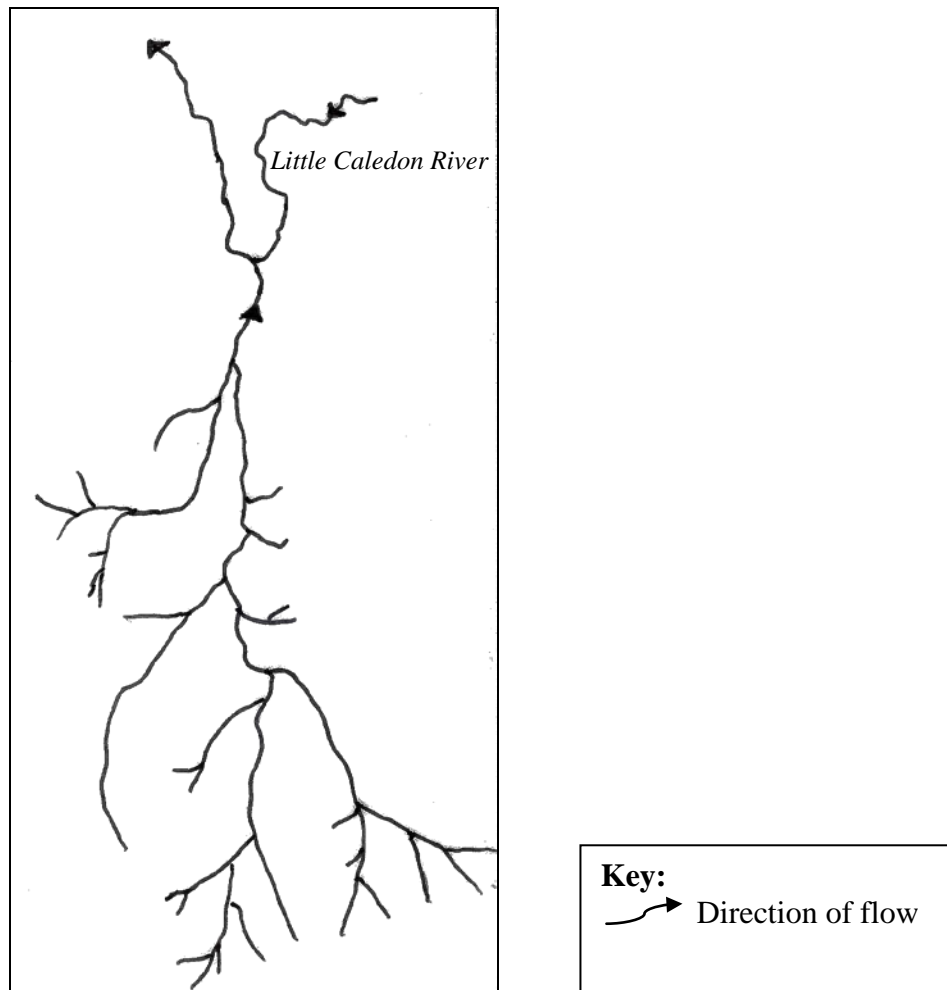


Figure 2: Drainage basin

- (a) **Order** the streams in the marked drainage basin (up to the confluence point with the Little Caledon River) on Figure 2. Complete the table below to show the number of tributaries for each stream order.

Stream order	1	2	3	4
Number of tributaries on Figure 2				

(4)

- (b) **Explain** the relationship between the stream order and the number of tributaries for each order.

(2)

- (c) The owners of the farm Dunblane (B1, C2) have planned their water resources effectively. **Suggest** how the owner of Schaapplaats (E5-6) could sustainably use and manage water resources on their farm.

- _____

- _____

(4)
[18]

Q2 subtotal

QUESTION 3 Settlement patterns

3.1 Refer to the topographic map extract 2828CB Clarens. Tick the correct answer.

3.1.1 Farms Mombasa in I2 and Braamhoek in G8 are ... rural settlements.

Circular	
Clustered	
Dispersed	
Nucleated	

(2)

3.1.2 According to the urban hierarchy, Clarens is classified as a ...

City	
Hamlet	
Metropolitan area	
Minor country town	

(2)

3.1.3 Applying central place theory to the settlement of Clarens, one could say that Clarens offers ...

A large population	
No low order goods and services	
Mainly high order goods and services	
Mainly lower order goods and services	

(2)

3.2 Refer to aerial Photograph 1 (colour Insert) and the topographic map extract. The area shown in Photograph 1 has been marked off on the topographic extract in green and labelled Photograph 1.

(a) **Name** the pink/red boundary line which follows the Caledon River.

(1)

- (b) **Compare** the settlement patterns and land use north and south of the Caledon River on Photograph 1 and the topographic map extract, by completing the table below.

Compare	North of the Caledon River	South of the Caledon River
Settlement patterns	<hr/> <hr/> <hr/> <hr/> <div>(2)</div>	<hr/> <hr/> <hr/> <hr/> <div>(2)</div>
Density of settlements	<hr/> <hr/> <hr/> <hr/> <div>(2)</div>	<hr/> <hr/> <hr/> <hr/> <div>(2)</div>
Location of the farmland (fields)	<hr/> <hr/> <hr/> <hr/> <div>(2)</div>	<hr/> <hr/> <hr/> <hr/> <div>(2)</div>
Sustainability of farming in the area	<hr/> <hr/> <hr/> <hr/> <div>(2)</div>	<hr/> <hr/> <hr/> <hr/> <div>(2)</div>

(16)
[23]

Q3 subtotal

QUESTION 4 Developments in the area

- 4.1 Study aerial Photograph 2 (Insert) which shows the area in A4 and A5 on the topographic map extract. Refer to the topographic map extract and Photograph 2.

A new Trout and Golf Estate is located in the area labelled T (Photograph 2) (Block A4 on the topographic map extract).

- 4.1.1 **Describe** the site and situation of the new Trout and Golf Estate.

Site: _____

Situation: _____

(4)

- 4.1.2 Another new estate development is being built in the area labelled U (Photograph 2) (A5 on the topographic map extract).

- (a) **Suggest** ONE reason why the owners of the farm Bethel (A5) sold off a portion of their land for this new development.

• _____

(2)

- (b) **List** ONE advantage and ONE disadvantage of the location of this new estate development (U).

Advantage	Disadvantage
• _____	• _____
_____	_____
_____	_____
_____	_____
_____	_____

(4)

- 4.1.3 A number of different GIS maps for Clarens are shown in Figure 3 (A – C) together with a key (Figure 3D). Figure 3 is also found on page ii of the colour Insert.



Figure 3A Clarens: Roads and rivers

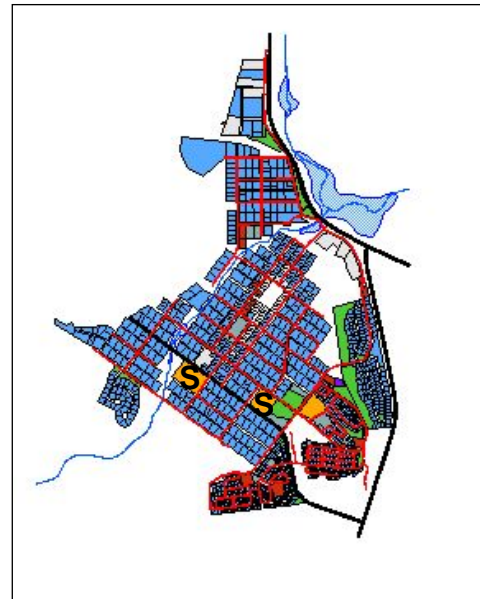


Figure 3B Clarens: Land use

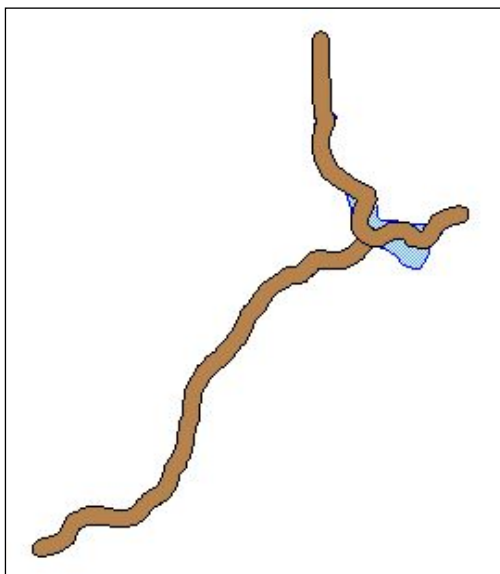


Figure 3C Clarens: Buffer zones along rivers



Figure 3D Clarens: Key

Figure 3 (A – D): Different GIS maps for Clarens

- (a) With reference to Figures 3 (A – C), **explain** the GIS concept of overlaying.

(2)

- (b) **Identify** the main street pattern of Clarens in Figure 3B.

(2)

- (c) **Identify** the type of symbol used in a GIS with reference to Figures 3 (A – C). Complete the table below by placing a tick in the correct box, indicating the type of symbol used in a GIS for the features listed below. Refer to the land use key (Figure 3D).

Symbol	Roads	School (S)	Land parcels – land use
Point			
Line			
Polygon (area)			

(6)
[20]

Q4 subtotal

QUESTION 5 Economic Activities

Design an information page for a tourism website for Clarens. Include information on location, climate, activities and where to stay. Use the template on the following page.

[12]

Q5 subtotal

CLARENS TOURISM INFORMATION**Back to HOME PAGE****Location (include a sketch map)****Map to find Clarens****GPS co-ordinates**

(3)

(1)

Climate

•

(2)

Activities

•



•

(4)

Where to stay

•

(2)

Total: 100 marks

Rough work (Not for marks)