



NATIONAL SENIOR CERTIFICATE EXAMINATION
EXEMPLAR 2008

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 paper consists of 15 pages. Please check that your question paper is complete.
3. Read the questions carefully.
4. Answer ALL the questions in the spaces provided on the question paper. The correct answer should be ticked in the multiple-choice questions.
5. Carefully study the 1:50 000 topographical map extract 3418BB Somerset West and the accompanying 1:10 000 orthophoto map extract 3418BB 14 Sir Lowry's Pass before answering the questions.
6. The map has grid lines with markings A to F and 1 to 11 that may be used to identify locations.
7. The topographical map, orthophoto map extract and your completed answer book must be handed to the invigilator at the end of the examination. The maps and photos 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 a calculator may be used.
10. It is in your own interest to write legibly and to present your work neatly.

Total marks

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Glossary of terms

WORD	MEANING
Account (for)	To explain why, by giving reasons.
Calculate	To work out the value of something, using a formula or known method.
Compare	To point out or show differences and similarities between two or more features/aspects.
Compile	To draw up a list, document, report.
Design	To explain step-by-step a process or plan of action; to put something together.
Determine	To work out by choice or calculation; select the correct facts to prove.
Examine	To analyse and discuss; to look at something carefully.
Explain	To make clear or plain or to make sure that the reader understands what is being said.
Identify	To give the essential characteristics of ...
Name	To state something; to list; to give; to identify; to mention.
Outline	To give the main features or general principles of a topic.
Predict	To say what is expected to happen; to foretell; to say in advance.
Select	To choose the correct answer.
State	To present information or details plainly, directly and simply, without discussion.
Substantiate	To give good reasons for this action.

Translation

Bay	Baai
Beach	Strand
Canal	Kanaal
Caravan park	Woonwapark
Diggings	Uitgrawings
Firebreak	Voorbrand
Forest station	Bosstasie
Island	Eiland
Lookout tower	Uitkyktoring
Nature reserve	Natuurreservaat
Pass	Pas
River	Rivier
Road under construction	Pad in aanbou
Sewage disposal works	Rioolwerke
Stream	Stroom
Waterfall	Waterval

Location Map of Somerset West

	<p>Name after Lord Charles Somerset in 1819, Somerset West has thrived and is now the commercial and residential capital of the Helderberg Basin whilst maintaining its village atmosphere.</p> <p>Lying on the slopes of the Helderberg, the town is 6 km inland from the False Bay coast and the resort towns of Strand and Gordons Bay, is 20 km from Stellenbosch and its wine route, a mere 35 minutes' drive to Cape Town, Paarl, Wellington and Franschhoek and forms an integral part of the Winelands Region.</p>
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[<http://www.places.co.za/html/somerset_west.html>]

Note: The Hottentotshollandberge (Hottentots Holland Mountains) running from the south-west to the north-east of the topographic map are now called the Helderberg.

1. *Map projections and atlas use*

The Somerset West 1:50 000 topographical map was drawn using the Gauss Conform (Conformal) Projection.

1.1 Give ONE reason to **explain** why it is necessary to use a map projection when drawing maps.

(2)

For questions 1.2 to 1.5, tick the correct option.

1.2 The Gauss Conform (Conformal) Projection most closely resembles which of the following projections ...

Lambert	<input type="checkbox"/>
Somerset West	<input type="checkbox"/>
Universal Transverse Mercator	<input type="checkbox"/>
Peter	<input type="checkbox"/>

(2)

1.3 The river at A on the outline map of South Africa (page 3) is the ...

Orange	
Limpopo	
Vaal	
Olifants	

(2)

1.4 The neighbouring country at B on the map (page 3) is ...

Swaziland	
Botswana	
Zimbabwe	
Namibia	

(2)

1.5 The province at C on the map (page 3) is ...

Lesotho	
Free State	
Eastern Cape	
Gauteng	

(2)

10 marks

Q1 sub-total

2. *Map Skills*

Study the 1:50 000 topographical map (3418BB Somerset West) to answer the following questions. Tick the correct option.

2.1 The N2 road at Pineview (D11) is a national freeway.

True	<input type="checkbox"/>
False	<input type="checkbox"/>

(1)

2.2 Pineview (D11) is a nucleated rural settlement.

True	<input type="checkbox"/>
False	<input type="checkbox"/>

(1)

2.3 The rivers draining the Hottentotshollandberg (Hottentots Holland Mountains) in D4 and D5 show a parallel drainage pattern.

True	<input type="checkbox"/>
False	<input type="checkbox"/>

(1)

2.4 Growing wheat is an important agricultural activity in the area covered by the topographic map.

True	<input type="checkbox"/>
False	<input type="checkbox"/>

(1)

2.5 Department of Water Affairs staff keep the Steenbras Dam (in the south-west of the map) full by pumping seawater into it.

True	<input type="checkbox"/>
False	<input type="checkbox"/>

(1)

2.6 The latitude of the Steenbras railway station (C8) is ...

19° 57' 18" E	<input type="checkbox"/>
34° 08' 44" E	<input type="checkbox"/>
34° 08' 44" S	<input type="checkbox"/>
18° 56' 32" S	<input type="checkbox"/>

(2)

2.7 The longitude of the Steenbras railway station (C8) is ...

34° 08' 44" E	
18° 56' 32" E	
19° 57' 18" E	
18° 56' 32" S	

(2)

2.8 The dam wall of the Steenbras Dam, in the south-west of the topographic map (not the Bo-Steenbras Dam) is located in ...

E2	
F2	
F3	
E6	

(2)

2.9 The sewage disposal works (C4) lie in which urban land-use zone?

Residential	
Zone of transition	
Industrial	
Rural-urban fringe	

(2)

13 marks

Q2 sub-total

3. *Map Calculations: Area, Gradient, Bearing, Speed*

3.1 **Determine** the approximate area (m^2) of the Die Eiland (E4, F4).

Average width of island: _____ m (1)

Average length of island: _____ m (1)

Approximate area of island: _____ m^2 (1)

Working

3.2 A motorist drives along the N2 from bench mark 21.1 (A3) to bench mark 134.1 (B6).

3.2.1 **State** the length of the drive along the N2.

_____ km (1)

3.2.2 **State** the difference in altitude between the two bench marks.

_____ m (1)

3.2.3 **Determine** the average gradient of the drive.

1: _____ (2)

Working

3.2.4 If the motorist is driving at an average speed of 100 km per hour, **determine** how long (minutes) the drive takes.

_____ minutes (2)

Working

3.2.5 **Determine** the true bearing of the journey along the N2 as the driver reaches bench mark 134.1 (B6).

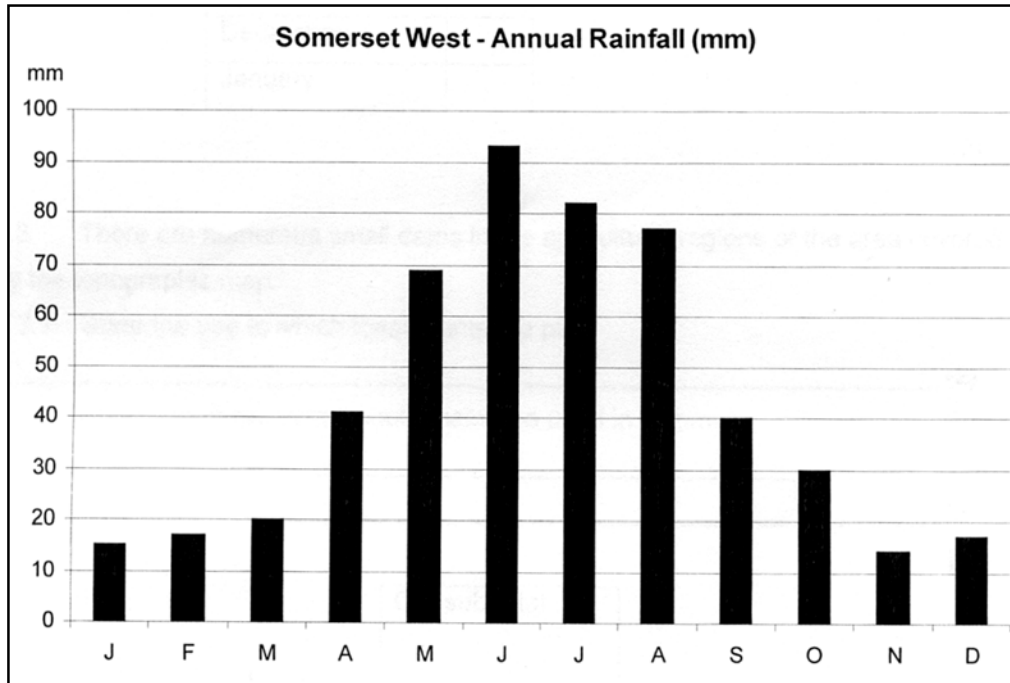
_____ ° (2)

11 marks

Q3 sub-total

4. *Map Interpretation: Water Supply (People and their needs)*

The graph below shows Somerset West's average monthly rainfall figures.



4.1 Study the graph above and **calculate** Somerset West's average annual rainfall.

_____ mm (2)

Calculation

4.2 During which month would the water table around the Steenbras station (C8) most likely be the lowest?

October	
November	
December	
January	

(2)

4.3 There are numerous small dams in the agricultural regions of the area covered by the topographic map.

4.3.1 **State** the use to which these dams are put.

(2)

4.3.2 **State** why these dams would mainly be used in summer.

(2)

8 marks

Q4 sub-total

5. *Orthophoto skills*

Sir Lowry's Pass Village on the orthophoto map is located in B6 on the topographic map extract.

5.1 Compared with the orthophoto map, the scale of the topographical map is ...? (Tick the correct box.)

Five times larger	<input type="checkbox"/>
Two times larger	<input type="checkbox"/>
The same scale	<input type="checkbox"/>
Two times smaller	<input type="checkbox"/>
Five times smaller	<input type="checkbox"/>

(2)

5.2 **State** the land use/ features at the following places marked on the orthophoto map:

X _____ (2)

Y _____ (2)

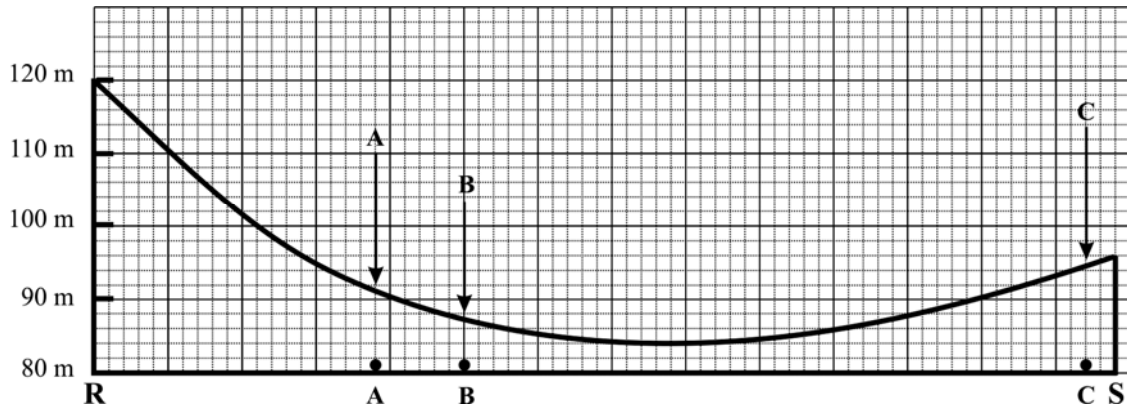
Z _____ (2)

5.3 The function of the building at point V on the orthophoto map is an example of a ... economic activity.

Primary	<input type="checkbox"/>
Secondary	<input type="checkbox"/>
Tertiary	<input type="checkbox"/>
Quaternary	<input type="checkbox"/>

(2)

5.4 The cross-section below was drawn from the points marked R and S on the 1:10 000 orthophoto map.



5.4.1 Calculate the vertical exaggeration of the cross-section.

_____ (2)

Working

5.4.2 Using both the topographical map and the orthophoto map name the ...

- (a) agricultural land use at the point marked A on the cross-section
_____ (2)
- (b) the transport feature at the point marked B on the cross-section
_____ (2)
- (c) the functional zone at the point marked C on the cross-section
_____ (2)

18 marks

Q5 sub-total

6. *Map Interpretation: Settlement*

Two urban settlements, Strand (A1) and Sir Lowry's Pass (B6) can be seen on the topographic map.

6.1 In terms of the urban hierarchy, which of the two settlements will have the higher hierarchical order?
 _____ (2)

6.2 Give TWO reasons to **explain** your answer to Question 6.1 above.
 (a) _____ (2)

(b) _____ (2)

6.3 Which settlement will have a larger sphere of influence?
 _____ (2)

6.4 Give ONE reason to **explain** your answer to Question 6.3 above.
 _____ (2)

6.5 What is the street pattern of Sir Lowry's Pass (B6)?
 _____ (2)

6.6 **State** ONE advantage and ONE disadvantage of the street pattern in Question 6.5 above.
 Advantage: _____ (2)

Disadvantage _____ (2)

16 marks

Q6 sub-total

7. *Map Interpretation: People and their needs*

7.1 You have been appointed as a consultant by the Western Cape Department of Agriculture to advise on the siting of a new agricultural college specialising in deciduous fruit and vines. There are three possible sites which have been numbered 1 (F8), 2 (E5) and 3 (B7) on the topographic map.

Predict the best site for this new agricultural college and write a report to the Department of Agriculture in which you **substantiate** TWO reasons for selecting that site and ONE reason why each of the other two sites are not suitable.

I have chosen site _____ because ...

(a) _____

_____ (2)

(b) _____

_____ (2)

Site _____ is unsuitable because _____

_____ (2)

Site _____ is also unsuitable because _____

_____ (2)

7.2 You have decided to use a Geographic Information System (GIS) to help make your decision in Question 7.1. **State** THREE GIS layers (themes) that you would select to help make your recommendation.

1. _____ (2)
2. _____ (2)
3. _____ (2)

14 marks

Q7 sub-total

8. *Fieldwork and Fluvial Landforms*

8.1 Grade 12 geographers doing their research assignment studied the Cottage Stream from Point 4 at Knorhoek (A7) to its source (Point 5) on Hans se Kop (A9). A number of changes in the fluvial characteristics of the river were noticed.

Select the correct description from the list below to complete the table.

Meandering, less water, V-shaped, quite fast, mainly laminar, far greater discharge, more open U-shape, mixed with stone and sand, braided, mainly turbulent, greatest velocity, fine silt.

Fluvial characteristics	Point 4	Point 5
Stream shape		
Stream load (particle size)		
Stream velocity		
Stream volume		
Type of stream flow		

(10)

10 marks

Q8 sub-total

TOTAL FOR THIS PAPER: 100 MARKS