NATIONAL SENIOR CERTIFICATE EXAMINATION
EXEMPLAR 2008

# GEOGRAPHY: PAPER II

## MARKING GUIDELINES

Time: 1½ hours 100 marks

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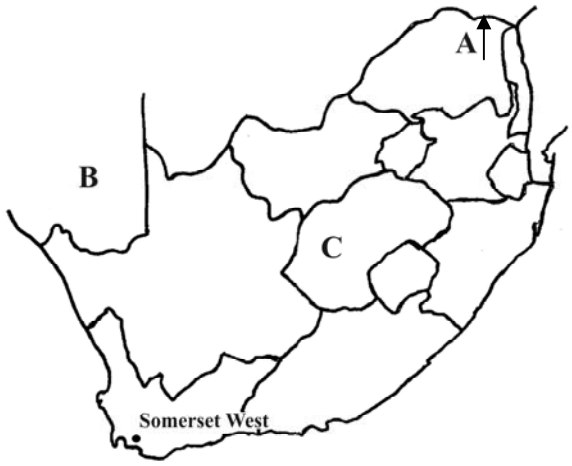
**Glossary of terms**

| 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**




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.

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 Franschoek and forms an integral part of the Winelands Region.

[<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.

You cannot represent a 3-D spherical object accurately on a 2-D surface

(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 | |
| Somerset West | |
| Universal Transverse Mercator | ✓ |
| Peter | |

(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 | |
| False | ✓ |

(1)

2.2 Pineview (D11) is an nucleated rural settlement.

| | |
|---|---|
| True | |
| False | ✓ |

(1)

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

| | |
|---|---|
| True | ✓ |
| False | |

(1)

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

| | |
|---|---|
| True | |
| False | ✓ |

(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 | |
| False | ✓ |

(1)

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

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

(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 (<u>not the Bo-Steenbras Dam</u>) 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: 100 – 150 m (1)

Average length of island: 400 – 450 m (1)

Approximate area of island: 40 000 – 67 500 $m^2$ (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.

5,7 – 5,8 km (1)

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

113 m (1)

3.2.3 **Determine** the average gradient of the drive. 1: 50 or 1:51 (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.

5 – 6 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).

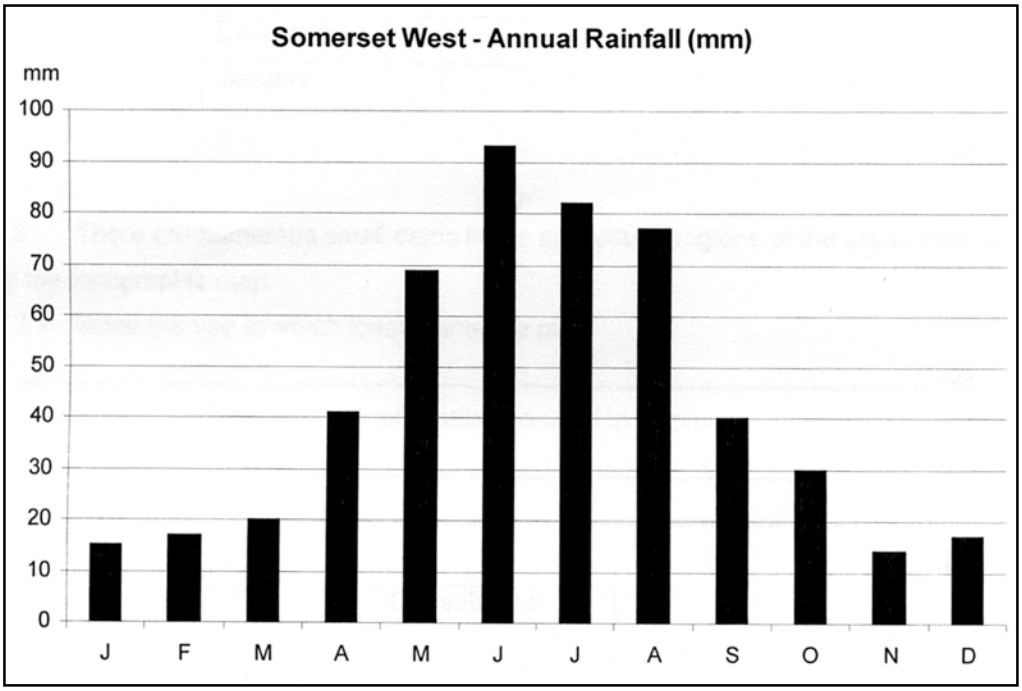
110° – 115° (2)

**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.

515 mm (2)

Accept 505 – 525 mm

| 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.

irrigation, agriculture, farming

(2)

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

winter rainfall in Western Cape

(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 | |
| Two times larger | |
| The same scale | |
| Two times smaller | |
| Five times smaller | ✓ |

(2)

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

X Dam Reservoir (2)

Y Line of trees windbreak (2)

Z Hospital (2)

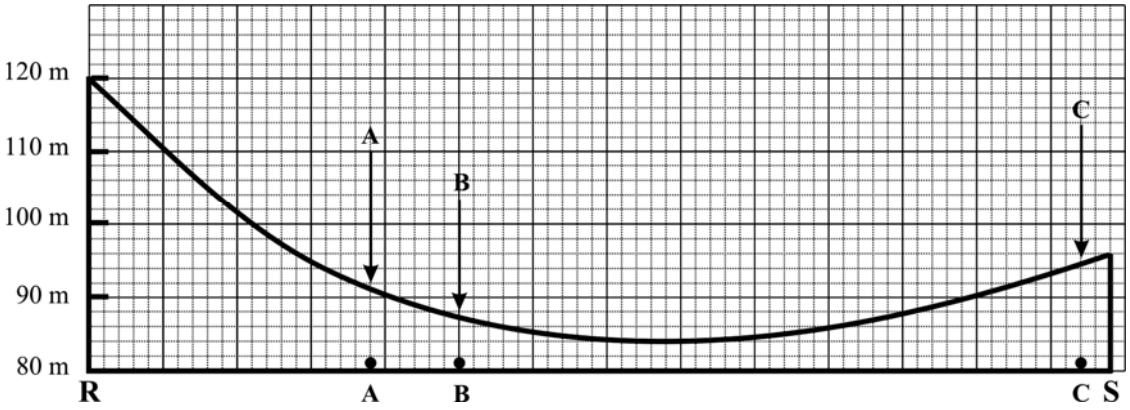
5.3 The function of the building at point V on the orthophoto map is an example of a … economic activity.

| | |
|---|---|
| Primary | |
| Secondary | |
| Tertiary | ✓ |
| Quaternary | |

(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.

VE = 10 (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

Orchard, vineyard (2)

(b) the transport feature at the point marked B on the cross-section

Railway line (2)

(c) the functional zone at the point marked C on the cross-section

Residential/ Housing (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?

Strand (2)

6.2 Give TWO reasons to **explain** your answer to Question 6.1 above.

(a) Higher Population

(2)

(b) More Functions

(2)

6.3 Which settlement will have a larger sphere of influence?

Strand (2)

6.4 Give ONE reason to **explain** your answer to Question 6.3 above.

Strand: Larger town, more functions

(2)

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

Planned irregular (2)

6.6 **State** ONE advantage and ONE disadvantage of the street pattern in Question 6.5 above.

Advantage: Aesthetically pleasing

(2)

Disadvantage Easy to get lost

(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 <u>not</u> suitable.

I have chosen site ___3___ because …

(a) Closer to existing orchards

(2)

(b) Easy access to urban areas

Plus any acceptable answer

(2)

Site __2_____ is <u>unsuitable</u> because (i) Too remote, no roads

Forested area

Any acceptable answer

(2)

Site __1_____ is also <u>unsuitable</u> because (i) Too steep, too remote

Poor access

Any acceptable answer

(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. Soils Rainfall (2)

2. Roads Any acceptable answer (2)

3. Land use Micro-climate (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 | Open U-shaped | V-shaped |
| Stream load (particle size) | Fine silt | Stone and sand |
| Stream velocity | Greatest velocity | Quite fast |
| Stream volume | Greater discharge | Less water |
| Type of stream flow | Laminar | Turbulent |

(10 x 1 = 10)

**10 marks**

**Q8 sub-total**

**TOTAL FOR THIS PAPER: 100 MARKS**