



NATIONAL SENIOR CERTIFICATE EXAMINATION  
SUPPLEMENTARY 2014

**GEOGRAPHY: PAPER II**

**MARKING GUIDELINES**

Time: 1½ hours

100 marks

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**These marking guidelines are prepared for use by examiners and sub-examiners, all of whom are required to attend a standardisation meeting to ensure that the guidelines are consistently interpreted and applied in the marking of candidates' scripts.**

**The IEB will not enter into any discussions or correspondence about any marking guidelines. It is acknowledged that there may be different views about some matters of emphasis or detail in the guidelines. It is also recognised that, without the benefit of attendance at a standardisation meeting, there may be different interpretations of the application of the marking guidelines.**

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**Glossary of terms**

<b>WORD</b>	<b>MEANING</b>
<b>Calculate</b>	To work out the value of something using a mathematical method.
<b>Describe</b>	To say what something is like.
<b>Design</b>	To explain step-by-step a process or plan of action.
<b>Discuss</b>	To write about something in detail.
<b>Explain</b>	To describe something so that it can be understood.
<b>Express</b>	To clearly state.
<b>Identify</b>	To give the details or characteristics of something.
<b>Indicate</b>	To show.
<b>Justify</b>	To support an answer by giving reason, argument or evidence.
<b>Name</b>	To state something, to give; to mention.
<b>Order</b>	To arrange according to a specific method or sequence.
<b>Predict</b>	To tell something in advance; to foretell of a future event.
<b>Select</b>	To choose.
<b>Suggest</b>	To put forward ideas, a plan or reasons.

**Translation of words**

English to Afrikaans

Brickfields	Steenbakkery
Bridge	Brug
Canal	Kanaal
Caravan Park	Karavaan Park
Cliff	Krans
Diggings	Opgrawings
Farm	Plaas
Furrow	Plantvoor
Gorge	Kloof
Hill	Koppie
Marsh, swamp or wetland	Vlei
Mountain	Berg
Old rail route	Ou treinspoor
Plains or open veld	Vlakte
Purification plant	Suiweringsaanleg
Ravine	Kloof
River	Rivier
Road	Pad
Sewerage works	Rioolwerke
Silo	Silo
Spring or fountain	Fontein
Stream or river	Spruit
Watergap or poort	Poort
Weir	Dwarsmuur/stuwal

**Location map: Location of Calitzdorp in South Africa**

	<p>Calitzdorp is a quaint* town on the scenic Route 62, in the heart of the Klein Karoo. The town is just 4 hours from Cape Town and halfway to Port Elizabeth. With a population of 8400, Calitzdorp’s economy is driven by Port and wine making, ostrich and fruit farming and tourism. The area is also renowned for its indigenous flora and boasts 500 species of succulents.</p> <p>quaint* – having an old-fashioned attractiveness and charm; oddly picturesque</p>
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[Adapted from: calitzdorp.org.za]

**1. Atlas use, map projections and map orientation and techniques**

1.1 Refer to the location map above, as well as the topographic 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 ...

33° 32' E	
21° 41' E	
33° 32' S	✓
21° 41' S	

(1)

1.1.2 The line of longitude marked B on the location map above is ...

33° 32' E	
21° 41' S	
33° 32' S	
21° 41' E	✓

(1)

1.1.3 The central meridian of the Gauss Conform Projection used for the topographic map extract 3321 DA Calitzdorp is ...

21° E	
21° S	✓
26° E	
33° S	

(1)

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

Free State	✓
Gauteng	
Northern Cape	
North-West	

(1)

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

Free State	
Lesotho	✓
Mpumalanga	
Swaziland	

(1)

1.2 **Map orientation and geographical techniques**

Refer to the topographic map extract 3321 DA Calitzdorp.

1.2.1 **Calculate** the bearing of Toorkop (trigonometrical beacon 124 in B1) from Besemkop (trigonometrical beacon 14 in A6). Tick the correct answer.

45°	
130°	
230°	✓
270°	

(2)

1.2.2 (a) At what altitude is the water purification plant (E2)?

300 m

(2)

(b) **Suggest** a purpose for the weirs in B2 and C4 built on the Gamka River?

To slow down river flow: to filter silt-laden water and act as a sediment trap. /To dam up water and to regulate flow

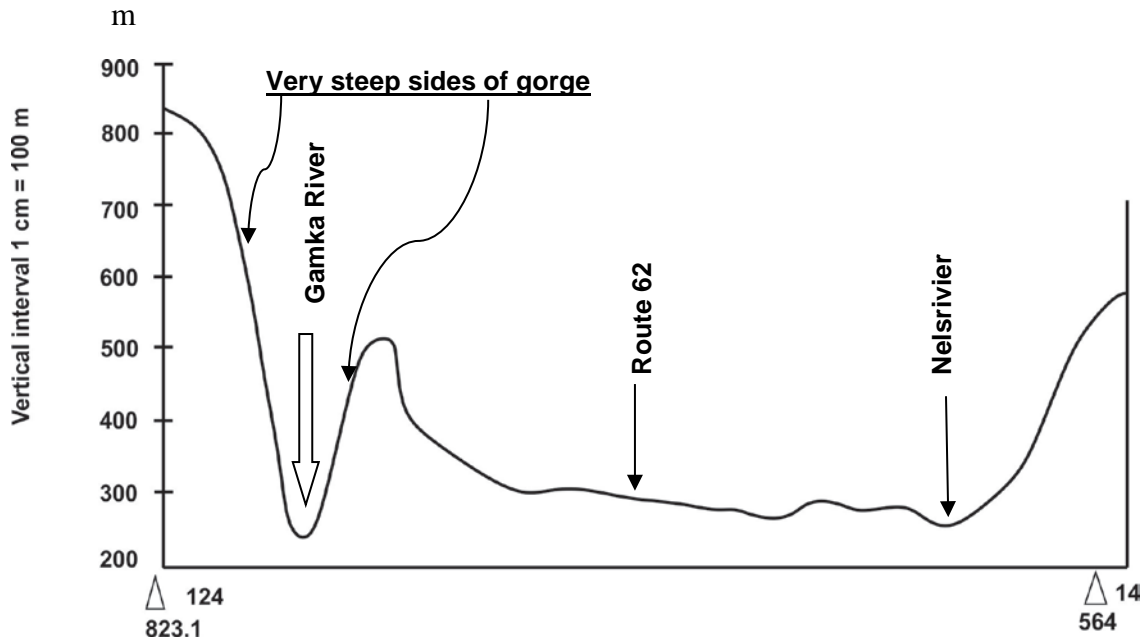
(2)

(c) Why is the settlement at Bergsig (B4) located where it is?

A township on the outskirts of town  
Close to the road for transport  
Availability of flat land

(2)

- 1.2.3 (a) A cross section is drawn from Toorkop (trigonometrical beacon 124 in B1) to Besemkop (trigonometrical beacon 14 in A6). The vertical interval used is 1 cm to 100 m.



**Cross section from Toorkop (trigonometrical beacon 124 in B1) to Besemkop (trigonometrical beacon 14 in A6)**

Clearly **indicate** the position of the following on the cross section above:

- Gamka River
  - Nelsrivier
  - R62
  - Gamka River gorge
- (8)

- (b) **Express** the vertical scale of the cross section as a representative fraction.

1:10 000 \_\_\_\_\_ (2)

Calculation

1 cm = 100 m  
 1 cm = 100 × 100  
 = 10 000 cm

(c) **Calculate** the vertical exaggeration of the cross section.

Vertical exaggeration five / 5 times (2)

<p>Calculation</p> $VE = \frac{VS}{HS} = \frac{1}{10\ 000}$ $\frac{1}{50\ 000}$
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1.2.4 (a) Is Toorkop (trigonometrical beacon 124 in B1) intervisible from spot height 264 (A5)?

Yes (1)

(b) **Justify** your answer.

There is a clear line of vision from spot height 264/ There are no obstacles (2)

1.2.5 Study the course of the Gamka River in blocks A1, B1 – 2 and C2.

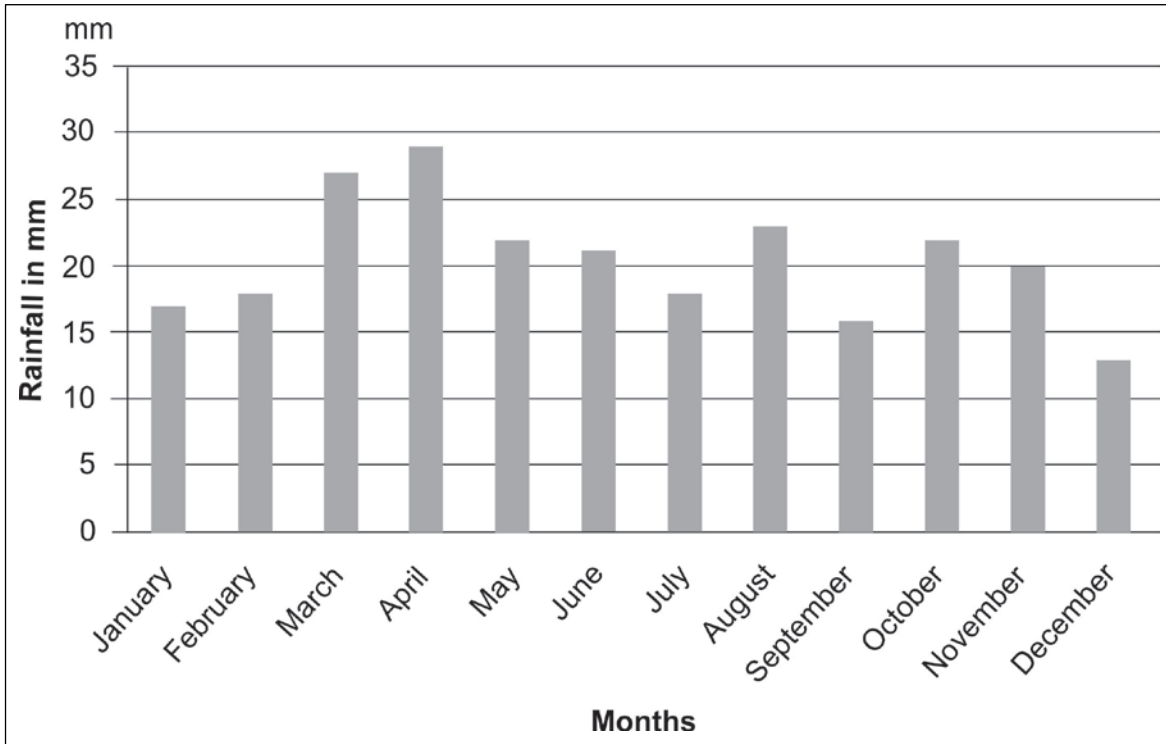
There is evidence that rejuvenation has taken place. **Identity** TWO river features which result from rejuvenation. Give the block reference of each feature.

- Very steep sides of the valley; a steep, narrow gorge from rapid down cutting A2 and B2
  - Incised meander pattern (4)
- [32]**

<b>Q1 sub-total</b>
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2. **Climate and drainage of the area**

2.1 Study Figure 1, a rainfall graph of Calitzdorp.



**Figure 1: Rainfall graph of Calitzdorp**

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

137 (Range 130 – 145 mm) mm (2)

2.1.2 Given the above rainfall data, **explain** why irrigation from the Gamka River is necessary in this region.

An arid area, with low rainfall (137 mm), therefore farmers need water for orchards and crops. (2)

2.2 **Drainage of the area**

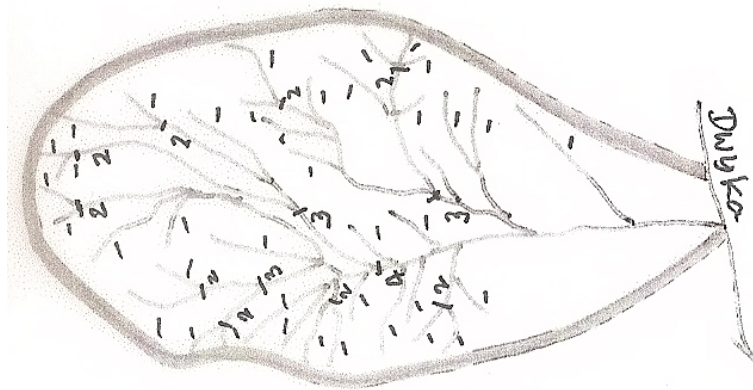
Refer to the topographic map extract 3321 DA Calitzdorp

2.2.1 A drainage basin has been marked off on the map in blocks E2 – 4 and F2 – 4.

(a) What type of river flow occurs in this basin?  
non-perennial flow (2)

(b) Name the stream pattern in this basin.  
dendritic stream pattern (2)

2.2.2 The sketch below (Figure 2) is a copy of the streams in the drainage basin.



**Figure 2: Drainage basin**

(a) **Order** the streams in the marked drainage basin. Complete the table below to show the stream order and the number of tributaries. (4)

Stream order	1	2	3	4
Number of tributaries	39	9	3	1

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

The number of tributaries decrease as the stream order increases. (2)

(c) (i) **Describe** the drainage density of the basin by ticking the correct answer. (2)

<b>Extremely high</b>	
<b>High</b>	✓
<b>Medium</b>	
<b>Low</b>	

(ii) **Predict** how this drainage density would change in a drought situation.

- This would be very low as all the 1<sup>st</sup> and 2<sup>nd</sup> order streams tributaries will dry up. (2)

**[18]**

**Q2 sub-total**



3. **Settlement analysis and land use**

3.1 **Rural settlement**

3.1.1 Study the farms along the Gamka River to the south of Calitzdorp.

The rural settlement pattern in blocks E4 and F5 resembles a ... pattern:

Circular	
Cobweb	
Linear	✓
Star shaped	

(2)

3.1.2 Many of the farms consist of long, narrow strips of land extending from the Gamka River banks. **Suggest ONE** reason for this unusual farm layout.

Access to fertile, alluvial soil and water

Easy for furrows and canals to be built – used for irrigation

(2)

3.1.3 **Explain** why the roads and settlements are along the edge of the Gamka River floodplain.

Dry-point settlement pattern – away from the danger of flooding.

Especially a 50-year flood line.

(2)

3.1.4 There is evidence that water is a critical resource in the area. **Discuss** how the farmers have managed their water resources to sustainably utilise this resource.

- Furrows and canals – lei water to be used for irrigation

- Constructed dams for water storage

- Reservoirs and a few windpumps/mills for water storage

and as a source

(6)

3.2 **Urban settlement**

3.2.1 Calitzdorp is on the scenic Route 62 and is a popular tourist destination. Many Bed-and-Breakfast establishments have opened as well as craft stores and restaurants. Study Photographs 1 and 2 which show a property for sale.

**Photograph 1**



[Examiner's Photograph]

**Photograph 2**

**Property for sale in Calitzdorp**



[Examiner's Photograph]

**Describe** THREE locational factors which make Calitzdorp ideal for locating a Bed-and-Breakfast business. Use map evidence and your knowledge of settlements.

**Ideal location factors: (Any three)**

- 1 On a major route – Route 62
- 2 Between Cape Town and Port Elizabeth
- 3 Rich farming area – Port and wine farms; ostrich farms –
- 4 Attracts overseas visitors
- 5 Close to passes and garden route and Oudsthoorn (6)

3.2.2 Calitzdorp is classified as a central place. Using map evidence, **suggest** TWO reasons for this classification.

- Roads converge (main and secondary)
- Serves surrounding farming area, as per information (4)

### 3.3 Land use

Refer to the orthophoto map extract 3321 DA 4 Calitzdorp, as well as the topographic map extract 3321 DA Calitzdorp.

3.3.1 A number of statements are given below. **Select** the correct underlined word by placing a circle around the word(s).

(a) Farming along the river valley is extensive / intensive practice.

(b) Farming is mostly cultivated lands / orchards.







(c) Products are produced for commercial / subsistence use. (6)

3.3.2 A simple GIS land-use map (Figure 3 on page 12) has been generated of the area shown on the orthophoto map.

An incomplete key has been provided on page 13.



Figure 3: Land-use map of Calitzdorp

Key Land use	(a) Type of land use	(b) Representation: point, line or area (polygon)
	Cultivated land – orchards and vineyards	Area
	Built-up areas	Area
	<b>Karoo succulent vegetation and mountain fynbos</b>	<b>Polygon</b>
	River	Line
	Main roads	Line
	School	Point

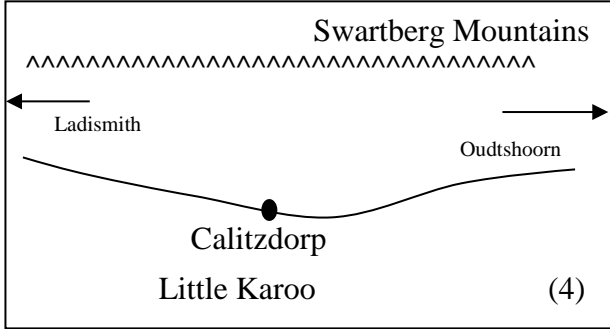



**Figure 4: Key of land-up map**

- (a) With reference to the orthophoto map extract as well as the topographic map, **identify** the different categories of land use shown on the GIS map.  
Fill in your answers in the appropriate space on the key.. (5)
  
- (b) **Indicate** whether the land-use category represents a point, line or area. Fill in your answer on the key in Figure 4 on the key. (5)  
An example is given in Figure 3 for you. **[38]**


<b>Q3 sub-total</b>
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**4. Economic activities and tourism**

**Design** an information page for a tourism page on the Calitzdorp website. Include information on location, climate, activities to do and where to stay.

<b>CALITZDORP TOURISM</b>		<b>Back to HOME PAGE</b>
<p><b>Location</b></p> <p>Can give co-ordinates (2) Description (2) Map (4)</p>	→	 <p style="text-align: right;">(4)</p>
<p><b>Climate</b></p> 	→	<p>Hot summers</p> <p>Mild winters</p> <p>Snow on the mountains</p> <p>Low rainfall, but all year</p> <p style="text-align: right;">(2)</p>
<p><b>Activities to do</b></p>  	→	<p>Port and wine farms – tours and tasting</p> <p>Ostrich farms – rides</p> <p>Souvenirs</p> <p>Arts and Crafts shops</p> <p>Restaurants</p> <p>Historical buildings</p> <p>Wild flower/succulent walks – enjoy ecology of area</p> <p style="text-align: right;">(4)</p>

(Table continues on next page)

<p><b>Where to stay?</b></p> 	<p>Many B &amp; Bs to stay at</p> <p>Reserves or parks to stay in</p> <p>Farm stays – experience the agri-culture</p> <p>(2)</p>
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(12)

**Q4 sub-total**

**Total marks: 100**