



# basic education

Department:  
Basic Education  
**REPUBLIC OF SOUTH AFRICA**

## NATIONAL SENIOR CERTIFICATE

**GRADE 12**

**GEOGRAPHY P2**

**FEBRUARY/MARCH 2013**

**MARKS: 100**

**TIME: 1½ hours**

<b>EXAMINATION NUMBER</b>													
<b>CENTRE NUMBER</b>													

MARK SCORED	Q1	Q2	Q3	Q4	TOTAL
MARKER					
SENIOR MARKER					
CHIEF MARKER					
MODERATOR					
TOTAL	20	20	40	20	100

**This question paper consists of 11 pages and 1 page for rough work.**





**RESOURCE MATERIAL**

1. An extract from topographical map 2829AC HARRISMITH.
2. Orthophoto map 2829AC 3 HARRISMITH.
3. **NOTE:** The resource material must be collected by the schools for their own use.

**INSTRUCTIONS AND INFORMATION**

1. Fill in your EXAMINATION NUMBER and your CENTRE NUMBER in the spaces provided on the cover page.
2. Answer ALL the questions in the spaces provided in this question paper.
3. You are supplied with a 1 : 50 000 topographical map 2829AC of HARRISMITH and an orthophoto map of a part of the mapped area.
4. You must hand in the topographical map and the orthophoto map to the invigilator at the end of this examination session.
5. You must use the blank page at the back of this paper for all rough work and calculations. Do NOT detach this page from the question paper.
6. Show ALL calculations and formulae, where applicable. Marks will be allocated for this.
7. You may use a non-programmable calculator.
8. The following English terms and their Afrikaans translations are shown on the topographical map.

**ENGLISH**

Diggings  
Caravan Park  
Sewage Works  
River Mouth  
Golf Course  
Wetland

**AFRIKAANS**

Uitgrawings  
Karavaanpark  
Rioolwerke  
Riviermond  
Gholfbaan  
Vlei



**QUESTION 1: MULTIPLE-CHOICE QUESTIONS**

The questions below are based on the 1 : 50 000 topographical map 2829AC HARRISMITH, as well as the orthophoto map of a part of the mapped area. Various options are provided as possible answers to the following questions. Choose the answer and write only the letter (A–D) in the block next to each question.

1.1 The map projection used on the Harrismith map is the ... projection.

- A Lambert
- B Mercator
- C universal transverse
- D Gauss conformal

1.2 The recreational feature marked **B** on the topographical map is a ...

- A sports field.
- B swimming pool.
- C golf course.
- D plantation.

1.3 On the orthophoto map the area labelled **7** is an example of a/an ... residential area.

- A high-income
- B low-income
- C middle-income
- D informal

1.4 The index of the topographical map sheet to the southeast of 2829AC Harrismith is ...

- A 2829CB.
- B 2828DB.
- C 2829AB.
- D 2828BB.

1.5 The type of slope labelled **3–4** on the orthophoto map is ...

- A concave.
- B convex.
- C terraced.
- D uniform steep.

1.6 The drainage pattern in block **A13/14** on the topographical map is ...

- A trellis.
- B rectangular.
- C dendritic.
- D radial.

1.7 The N3 is a/an ...

- A main road.
- B arterial route.
- C secondary road.
- D national route.

☐

1.8 The height of the land at the trigonometrical station number 299 in block **C9** on the topographical map is ...

- A 299 m.
- B 1 757,2 m.
- C 299 km.
- D 1 751,2 km.

☐

1.9 The river in block **F13/14** on the topographical map is in the ... course.

- A upper
- B middle
- C lower
- D upper and middle

☐

1.10 The land-use zone numbered **11** on the orthophoto map is the ... zone.

- A industrial
- B transition
- C residential
- D built up area

☐

(10 x 2)

**[20]**

## QUESTION 2: CALCULATIONS AND APPLICATION

2.1 Calculate the gradient of the slope between spot height 1729 (**8**) and spot height 1794 (**9**) on the orthophoto map.

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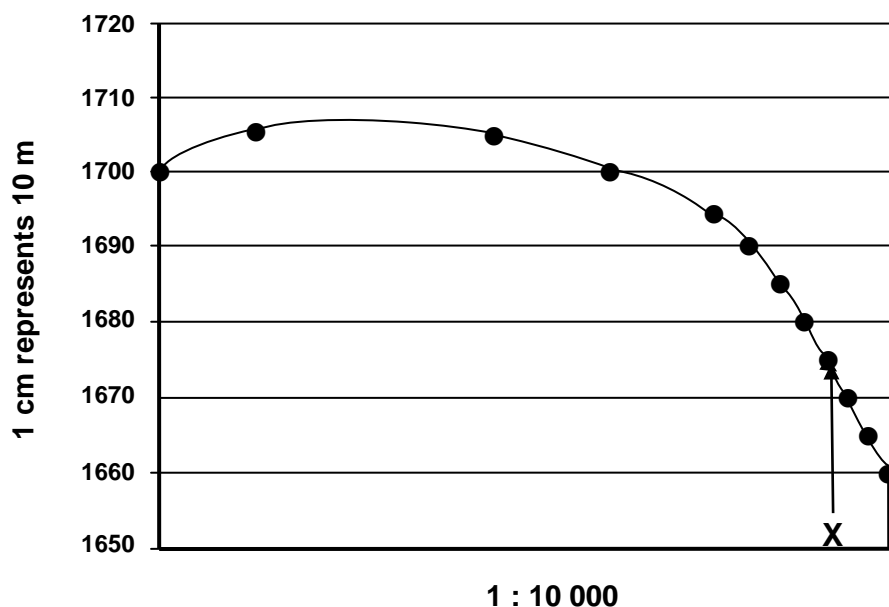
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(5 x 1)

(5)

- 2.2 Refer to the cross section below of the feature labelled Blokhuis (4) on the orthophoto map and answer the questions that follow.



- 2.2.1 Calculate the vertical exaggeration of the cross section marked 2–3 on the orthophoto map.

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(5 x 1) (5)

- 2.2.2 Why is it necessary to exaggerate a cross section vertically?

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(1 x 1) (1)

- 2.2.3 Identify the feature labelled X on the cross section.

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(1 x 1) (1)

- 2.3 What is the true bearing of trigonometrical station 299 from spot height 1731 in block **C9** on the topographical map?

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(1 x 1) (1)

- 2.4 Calculate the area, in square kilometres, of the urban area demarcated by a dark line on the topographical map (blocks **A, B, C/7, 8, 9**).

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(4 x 1) (4)

- 2.5 Refer to the orthophoto map.

- 2.5.1 Was this photograph taken before or after midday (12:00)?

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(1 x 1) (1)

- 2.5.2 Give ONE reason for your answer to QUESTION 2.5.1.

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(1 x 1) (1)

- 2.5.3 The photograph was most likely taken during a very dry period of the year. Explain this statement with reference to block **B7** on the topographical map and the corresponding area on the photograph.

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(1 x 1) (1)  
**[20]**

**QUESTION 3: APPLICATION AND INTERPRETATION**

3.1 Refer to the industrial area in block **B/C2**.

3.1.1 Is this likely to be a heavy or a light industrial area? Give a reason for your answer.

\_\_\_\_\_  
\_\_\_\_\_  
(2 + 2) (4)

3.1.2 Give TWO factors that would have favoured its location in this area.

\_\_\_\_\_  
\_\_\_\_\_  
(2 x 2) (4)

3.2 The sewage works is located in block **B6**.

3.2.1 Name the land-use zone in which the sewage works is located.

\_\_\_\_\_  
(1 x 2) (2)

3.2.2 Comment on the suitability of its location.

\_\_\_\_\_  
(1 x 2) (2)

3.3 Refer to the farm named Rockydale in block **E10**.

3.3.1 Identify the type of commercial farming practised at Rockydale.

\_\_\_\_\_  
(1 x 2) (2)

3.3.2 Irrigation is important to farming on Rockydale. Name TWO sources of water available to them.

\_\_\_\_\_  
\_\_\_\_\_  
(2 x 2) (4)



3.3.3 What is the purpose of the row of trees along the edge of the cultivated land? State TWO purposes.

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(2 x 2) (4)

3.4 Refer to street patterns and answer the questions that follow.

3.4.1 Identify the street pattern at Wilgepark.

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(1 x 2) (2)

3.4.2 State ONE advantage and ONE disadvantage of the street pattern in Wilgepark.

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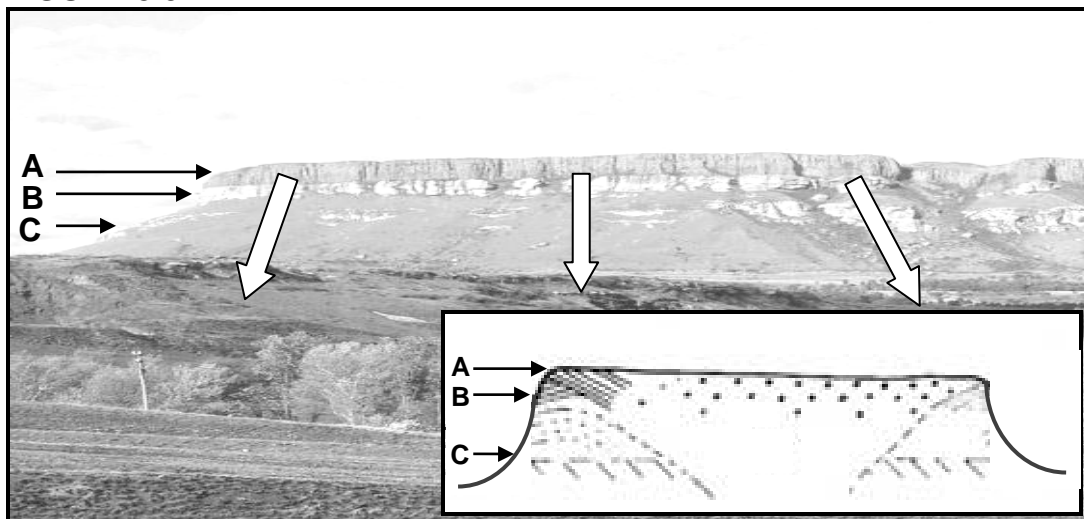


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(2 x 2) (4)

3.5 Harrismith is situated at the base of Platberg. Study the photograph of Platberg below (**FIGURE 3.5**) as well the area covered in block **A/B12/13** on the topographical map before answering the questions below.

**FIGURE 3.5**



3.5.1 Identify the slope element labelled A.

A 

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(1 x 2) (2)

3.5.2 Explain why slope **C** can be slippery for hikers.

\_\_\_\_\_ (1 x 2) (2)

3.5.3 Sometimes, during winter nights, the temperature drops to below freezing point in Harrismith. Explain how Platberg possibly influences the temperature.

\_\_\_\_\_  
\_\_\_\_\_ (2 x 2) (4)

3.6 Identify the following fluvial features in block **D6**:

3.6.1 **D** \_\_\_\_\_ (1 x 2) (2)

3.6.2 **E** \_\_\_\_\_ (1 x 2) (2)  
**[40]**

#### QUESTION 4: GEOGRAPHICAL INFORMATION SYSTEMS (GIS)

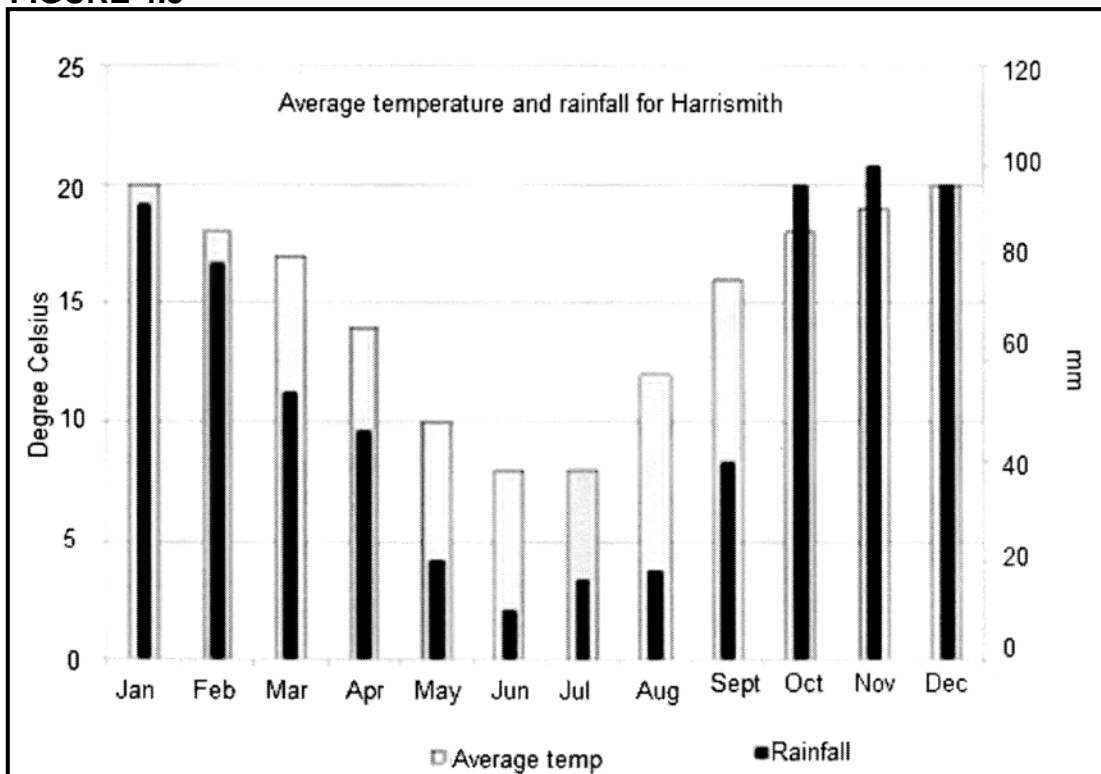
4.1 Explain the meaning of the term *spatial data*.

\_\_\_\_\_ (1 x 2) (2)

4.2 State the spatial data allocated for Harrismith.

\_\_\_\_\_ (1 x 2) (2)

- 4.3 Study the bar graph (**FIGURE 4.3**) below which depicts temperature and rainfall data for Harrismith. A statistical analysis of the data on the graph will be useful for farmers. The bar graph is an example of attribute data.

**FIGURE 4.3**

- 4.3.1 What is *attribute data*?

\_\_\_\_\_ (1 x 2) (2)

- 4.3.2 Give ONE attribute provided by the bar graph.

\_\_\_\_\_ (1 x 2) (2)

- 4.3.3 Explain how you can use the attributes provided by the bar graph.

\_\_\_\_\_  
 \_\_\_\_\_ (2 x 2) (4)

4.4 Refer to the orthophoto map which shows a high spatial resolution.

4.4.1 Explain the term *spatial resolution*.

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(1 x 2) (2)

4.4.2 Why can one say that the orthophoto map has a high spatial resolution?

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(1 x 2) (2)

4.5 How can GIS assist city planners to determine where a new shopping centre can be built in Harrismith?

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(2 x 2) (4)  
[20]

**TOTAL: 100**

## ROUGH WORK AND CALCULATIONS

