



education

Department:
Education
REPUBLIC OF SOUTH AFRICA

NATIONAL SENIOR CERTIFICATE

GRADE 12

GEOGRAPHY P2

FEBRUARY/MARCH 2009

MEMORANDUM

MARK SCORED	100
MARKER	
SENIOR MARKER	
CHIEF MARKER	
MODERATOR	
TOTAL	100

MARKS: 100

This memorandum consists of 9 pages.

RESOURCE MATERIAL

1. An extract from topographical map 2629CC STANDERTON.
2. Orthophoto map 2629CC STANDERTON.
3. NOTE: The resource material must be collected by the schools for their own use.
4. A non-programmable calculator may be used.

INSTRUCTIONS AND INFORMATION

1. Write your EXAMINATION NUMBER and your CENTRE NUMBER in the space provided on the front cover of this question paper.
2. Answer ALL the questions in the spaces provided on this question paper.
3. You are supplied with a 1:50 000 topographical map, 2629CC STANDERTON and an orthophoto map of a part of the mapped area.
4. The topographical map and the orthophoto map must be handed to the invigilator at the end of this examination session.
5. The following English terms or their Afrikaans translations are shown on the topographical map.

ENGLISH

Diggings
Brickworks
Caravan park
Weir
Sewerage works

AFRIKAANS

Uitgrawings
Steenwerke
Karavaanpark
Stuwal/Keerwal
Rioolwerke

QUESTION 1

The following questions are based on the 1:50 000 topographical map, 2629CC STANDERTON, as well as the orthophoto map of 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 – 1.10).

1.1 The topographical map south-west of 2629CC Standerton depicts part of the ... province.

- A Limpopo
- B Free State
- C KwaZulu-Natal
- D Gauteng

1.2 The direction of the aerodrome in block D10 from Meyerville in block G12 on the topographical map is ...

- A north-west.
- B south-west.
- C south-east.
- D north-east.

1.3 The dam wall in block G8 is located at a height of ... metres.

- A 1 580
- B 1 540
- C 1 551
- D 1 560

1.4 The aerodrome in block D10 is found in the ...

- A CBD.
- B rural-urban fringe.
- C residential area.
- D slum zone.

1.5 The feature at 1 on the orthophoto map is a ...

- A woodland.
- B cultivated land.
- C sewage disposal work.
- D water reservoir.

1.6 The dams that are found in the rural areas of Standerton are mainly used for ...

- A recreation.
- B domestic purposes.
- C industrial purposes.
- D irrigation.

- 1.7 The coordinates of trigonometrical station number 101 in block B11 is ...
- A 26°53'46"S 29°13'22"E / 26°53,7'S 29°13,3'E.
 B 26°53'46"E 29°13'22"S / 26°53,7'E 29°13,3'S.
 C 29°13'22"S 26°53'46"E / 29°13,3'S 26°53,7'E.
 D 29°13'22"E 26°53'46"S / 29°13,3'E 26°53,7'S. A
- 1.8 Ground water is used around Standerton for agricultural purposes. One piece of evidence to prove the use of ground water is the presence of ...
- A rivers.
 B dams.
 C windpumps.
 D taps. C
- 1.9 The channel of the Vaal River in blocks F12, G11 and 12 is ...
- A straight.
 B meandering.
 C braided.
 D graded. B
- 1.10 The feature marked **2** on the orthophoto map is a ...
- A dam.
 B sewage disposal works.
 C water reservoir.
 D furrow. C
- (10 x 2) [20]

QUESTION 2

- 2.1 Calculate the length of the landing strip, in metres, from south-east to north-west in block D10.

$$\text{Length} = \frac{3,7 \text{ cm} \times 50\,000 \text{ J}}{100} = \frac{37 \text{ mm} \times 50\,000 \text{ J}}{1000}$$

$$= 3,7 \text{ cm} \times 500 \text{ J} \quad \text{or} \quad = 37 \text{ mm} \times 50 \text{ J}$$

$$= 1\,850 \text{ m JJ} \quad = 1\,850 \text{ m JJ}$$

(Range: 1 800m – 1 900 m)

(4)

- 2.2 Calculate the average gradient on the orthophoto map from point **3** to the trigonometrical station number 70 (west of point **3**).

$$\begin{aligned} \text{Vertical interval (VI)} &= 1638,7 - 1580 \\ &= 58,7 \text{ m} \end{aligned}$$

$$\begin{aligned} \text{Horizontal Equivalent (HE)} &= 4,5 \text{ cm} \times 100 \\ &= 450 \text{ m} \\ &\text{(range: } 400 \text{ m} - 500 \text{ m)} \end{aligned}$$

$$\text{Gradient} = \frac{\text{VI}}{\text{HE}}$$

$$= \frac{58,7}{450}$$

$$= 58,7 : 450$$

$$= 1:7,6$$

(range: 1:6,8 – 1:8,5)

(5)

- 2.3 Draw an accurate cross-section from point **4** to point **5** on the orthophoto map. On your cross-section, indicate the location of the following features:

Water reservoir

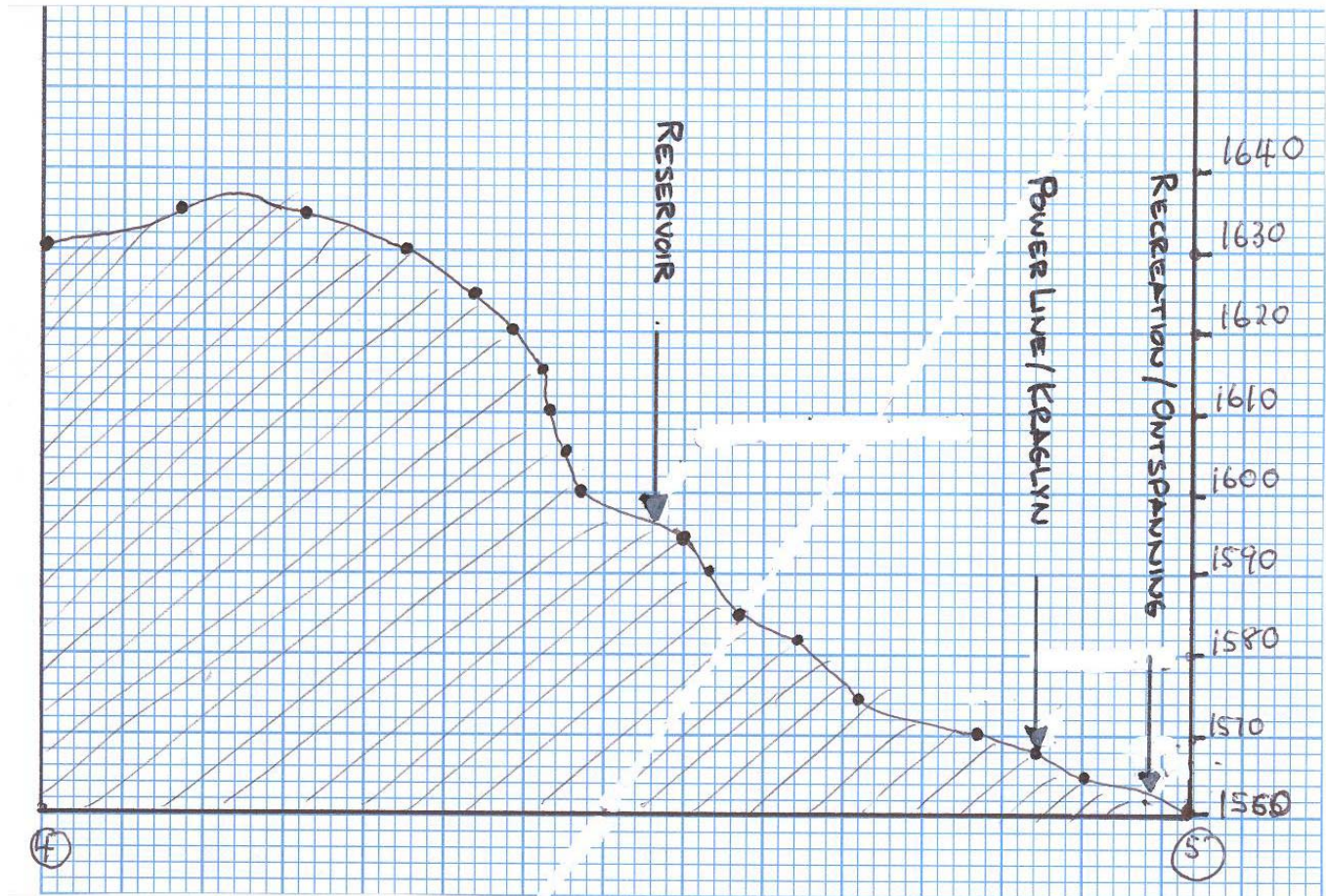
Power line

Recreational facility

Use the following scales: Vertical scale – 1 cm represents 10 m

Horizontal scale – 1:10 000

See next page for cross-section.



(9)
[18]

QUESTION 3

3.1 Refer to the topographical map.

3.1.1 Why is the aerodrome situated in block D10 on the topographical map?

- Far from the CBD (2)*
- Flat Land (2)*
- Cheap land (2)*
- Need a large piece of land (2)*
- Close to the road*
- Close to the railway line (2)*
- Away from residential areas (2)*
- (ANY TWO)*

(2 x 2)(4)

3.1.2 What do you think are the disadvantages of living in a settlement that is near the aerodrome in block D10?

- Noise (2)*
- Air pollution (2)*
- Danger of aircrafts crashing (2)*
- (ANY TWO)*

(2 x 2)(4)

3.2 Refer to the topographical map.

3.2.1 What is the dominant (main) economic activity that is practised in the rural areas of Standerton? Give a reason for your answer.

Activity: *Primary activity/Crop farming (2)*

Reason: *Cultivated land (2)*

(2 x 2)(4)

3.2.2 What is the product that is produced by the economic activity mentioned in QUESTION 3.2.1 above?

Maize/Mealies (2)

(1 x 2)(2)

3.3 Sakhile is growing towards the west. Give ONE reason that is visible on the orthophoto map, why it is impossible for this township to extend to the north.

Mountain (2)

Steep slope (2)

[ANY ONE]

(1 x 2)(2)

3.4 Refer to both the orthophoto map and the topographical map and identify the features/land uses labelled **6**, **7** and **8** on the orthophoto map.

6 *Hospital (2)*

7 *School (2)*

8 *Industry (2)*

(3 x 2)(6)

3.5 Refer to block D3 on the topographical map.

3.5.1 What method of irrigation is used to water the cultivated lands in block D3?

Furrow (2)

(1 x 2)(2)

3.5.2 Give ONE advantage of the irrigation method mentioned in QUESTION 3.5.1 above.

Minimises/Reduces evaporation (2)

(1 x 2)(2)

3.6 It appears to be very expensive to build roads in and around Standerton. State the main reason for this.

Bridges must be built over rivers (2)

(1 x 2)(2)

- 3.7 Refer to the geomorphological feature in block F6 on the topographical map.
- 3.7.1 Identify the geomorphological features (labelled **A**) along Brakspruit in block F6 on the topographical map.
- Oxbow lake (2)* (1 x 2)(2)
- 3.7.2 Briefly describe the formation of the geomorphological feature mentioned in QUESTION 3.7.1 above.
- River flowing at a higher speed or velocity (2)*
Greater volume of water (2)
Increased erosion reduces meander neck (2)
Meander loop cut off from main river resulting from accelerated erosion caused by flooding (2)
The river cut across meanders (2)
 [ANY TWO] (2 x 2)(4)
- 3.8 One of the principles of Batho Pele, namely 'People First', has to do with the accessibility of services to the people. Is that really happening in Sakhile? Justify your answer.
- Yes (2)*
There are roads, schools, recreational facilities (2) (2 x 2)(4)
- 3.9 Account for the location of the rifle range north of Flora Park (block D12).
- Outside the built-up area (2)*
Away from residential areas (2)
Land is flat (2)
Large open space (2)
 [ANY ONE] (1 x 2)(2)
- [40]**

QUESTION 4

- 4.1 Differentiate between *spatial* and *attribute* data.
- Spatial: data that is linked to a specific location (2)*
- Attribute: data that expresses number of qualities and characteristics of vector data (2)* (2 x 2)(4)

- 4.2 Give TWO examples of spatial data found on the topographical map and orthophoto map.
- Roads (2)*
Rivers (2)
Houses or buildings (2)
Parks (2)
Dams (2)
[ANY TWO - Accept other] (2 x 2)(4)
- 4.3 Data storage in GIS should be in a form of:
- 4.3.1 *vector (2)*
- 4.3.2 *raster (2)* (2 x 2)(4)
- 4.4 State TWO processes when working with a GIS.
- Data input (2)*
Data storage (2)
Data manipulation (2)
Data analysis (2)
Output information (2)
Data management (2)
Data application (2)
[ANY TWO] (2 x 2)(4)
- 4.5 Define the term *remote sensing*.
- Refers to the observation of the earth from a distance using satellites to gather information without having direct contact with an area (2)*
[CONCEPT] (1 x 2)(2)
- 4.6 Answer the following on spatial resolution.
- 4.6.1 Define the term *spatial resolution*.
- Refers to the detail with which a map depicts the location and shape of the feature (2)*
[CONCEPT] (1 x 2)(2)
- 4.6.2 Does the orthophoto map or the topographical map have a higher spatial resolution?
- Orthophoto map (2)* (1 x 2)(2)
[22]
- TOTAL: 100**