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basic education

Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

NATIONAL SENIOR CERTIFICATE

GRADE 12

GEOGRAPHY P2

NOVEMBER 2013

MARKS: 100

TIME: 1½ hours

EXAMINATION NUMBER:													
CENTRE NUMBER:													

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

This question paper consists of 10 pages and 1 page for rough work.

RESOURCE MATERIAL

1. An extract from topographical map 2930CA MERRIVALE.
2. Orthophoto map 2930CA5 MERRIVALE.
3. **NOTE:** The resource material must be collected by the schools for their own use.

INSTRUCTIONS AND INFORMATION

1. Write your EXAMINATION NUMBER and CENTRE NUMBER in the spaces 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 2930CA of MERRIVALE and an orthophoto map of a part of the mapped area.
4. You must hand 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 awarded for these.
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
Golf course
Wetland

AFRIKAANS

Uitgrawings
Karavaanpark
Rioolwerke
Gholfbaan
Vlei

QUESTION 1: MULTIPLE-CHOICE QUESTIONS

The questions below are based on the 1 : 50 000 topographical map 2930CA MERRIVALE, 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 reference of the topographical map east of Merrivale is ...

- A 2930AC.
- B 2930AD.
- C 2930CD.
- D 2930CB.

1.2 The height of the Mount Ashley Farms Dam Wall in block **C4** is ... metres.

- A 1 080
- B 1 100
- C 1 120
- D 1 140

1.3 The Mgeni (**A4**) is a/an ... river.

- A permanent
- B periodic
- C episodic
- D exotic

1.4 The order of stream **A** as it leaves block **A1** is ...

- A 2nd order.
- B 3rd order.
- C 4th order.
- D 5th order.

1.5 Slope **1–2** on the orthophoto map is ...

- A steep.
- B concave.
- C convex.
- D gentle.

1.6 The man-made feature **3** on the orthophoto map is ...

- A an excavation.
- B a reservoir.
- C a dam.
- D sewage works.

1.7 Route 103 to Howick West in block **A11** is a/an ...

- A national road.
- B main road.
- C secondary road.
- D other road.

☐

1.8 Area **5** on the orthophoto map is a/an ...

- A sports facility.
- B industry.
- C station.
- D school.

☐

1.9 The main way of transporting water to the agricultural land in block **C11** on the topographical map is by means of ...

- A wind pumps.
- B pipelines.
- C canals.
- D furrows.

☐

1.10 The position of the reservoir in block **D9** on the topographical map is ...

- A 30°11,6' S 29°33,5'E **OR** 30°11'36" S 29°33'30"E
- B 30°11,6' E 29°33,5'S **OR** 30°11'36" E 29°33'30"S
- C 29°33,6' S 30°11,6'E **OR** 29°33'35" S 30°11'36"E
- D 29°33,6' E 30°11,6'S **OR** 29°33'35" E 30°11'36"S

☐

(10 x 2)

[20]

QUESTION 2: MAP CALCULATIONS AND INTERPRETATION

- 2.1 Refer to the topographical map and calculate the area of the space labelled *photographed area* in km².

(5)

- 2.2 Refer to the reservoir in block **D9** and trigonometrical station 156 in block **E10** on the topographical map to answer the following questions.

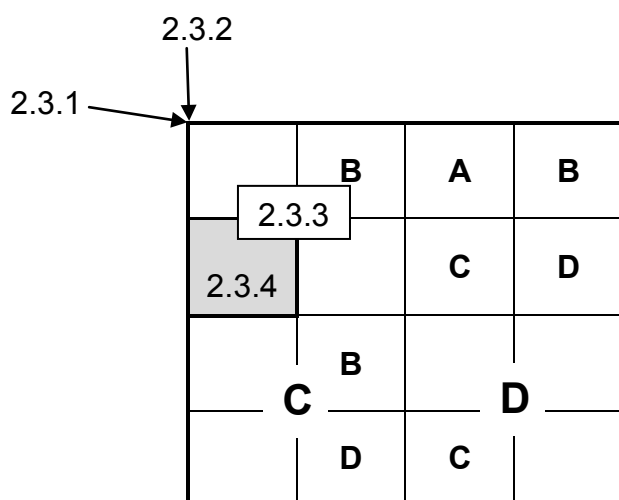
- 2.2.1 Give the true bearing of the reservoir from trigonometrical station 156.

(1)

- 2.2.2 Calculate the magnetic bearing of the reservoir from trigonometrical station 156 for the year 2013.

(6)

- 2.3 Use the grid below to explain the index number 2930AC MERRIVALE of the topographical map.



Identify each of the following in the grid above:

- 2.3.1 The line of latitude: _____
- 2.3.2 The line of longitude: _____
- 2.3.3 The big block letter: _____
- 2.3.4 The small block letter: _____ (4)

- 2.4 In which general direction would one be travelling to go from Merrivale to Pietermaritzburg?

_____ (1)

- 2.5 Refer to the rifle range in block **D10**.

- 2.5.1 Use the line scale to determine the approximate length of the rifle range in metres.

_____ (2)

- 2.5.2 State the approximate difference in height between the southern and northern edge of the rifle range.

_____ (1)
[20]

QUESTION 3: APPLICATION AND INTERPRETATION

- 3.1 What evidence supports the statement that Merrivale receives seasonal rainfall?
- _____ (2 x 2) (4)
- 3.2 There is evidence of crop farming to the south of Merrivale on the topographical map. State TWO factors that favoured the development of this type of farming.
- _____ (2 x 2) (4)
- 3.3 The area shown on the topographical map is mainly covered by woodlands/plantations.
- 3.3.1 With reference to the topographical map, state ONE way in which these woodlands/plantations are protected from bush fires.
- _____ (1 x 2) (2)
- 3.3.2 Give ONE point of evidence from the map that these woodlands/plantations are grown for commercial purposes.
- _____ (1 x 2) (2)
- 3.4 Refer to the Mgeni River in block **B1/2**.
- 3.4.1 Name the TWO fluvial features **C** and **D** along the Mgeni River channel in block **B1/2**.
- C** _____
- D** _____ (2 x 2) (4)
- 3.4.2 Give ONE reason why feature **C** is useful to farmers.
- _____ (1 x 2) (2)
- 3.5 Refer to the drainage pattern in block **A1**.
- 3.5.1 Identify the drainage pattern in block **A1**.
- _____ (1 x 2) (2)
- 3.5.2 Give ONE reason for your answer to QUESTION 3.5.1.
- _____ (1 x 2) (2)
- 3.5.3 State the rock type that is likely to be found underlying the drainage pattern in QUESTION 3.5.1.
- _____ (1 x 2) (2)

- 3.6 Refer to the picture below of a typical settlement likely to be found at Shaywhen in block **D6**.



- 3.6.1 Is Shaywhen a rural or an urban settlement?
- _____ (1 x 2) (2)

- 3.6.2 Give ONE reason for your answer to QUESTION 3.6.1.
- _____ (1 x 2) (2)

- 3.7 Refer to land-use zone **10** on the orthophoto map.

- 3.7.1 Identify land-use zone **10**.
- _____ (1 x 2) (2)

- 3.7.2 Describe TWO factors that have influenced the location of this land-use zone.
- _____ (2 x 2) (4)

- 3.7.3 State ONE problem that the residents of the settlement next to **10** are likely to experience.
- _____ (1 x 2) (2)

- 3.8 Find Mbubu in block **F10**. From a climatic point of view, Mbubu is situated incorrectly. Explain this statement.

_____ (2 x 2) (4)

[40]

QUESTION 4: GEOGRAPHIC INFORMATION SYTEMS (GIS)

4.1 With reference to spatial objects on the Merrivale topographical map, answer the following questions.

4.1.1 Below is a photograph of a line object found in block **B10**. Name the line object.



_____ (1 x 2) (2)

4.1.2 Identify ONE point feature in block **D9**.

_____ (1 x 2) (2)

4.2 Refer to the photograph of the Midmar Dam below and answer the questions that follow.



4.2.1 What type of spatial object is the Midmar Dam?

_____ (1 x 2) (2)

4.2.2 Is the photograph a raster or a vector image?

_____ (1 x 2) (2)

4.2.3 GIS can be used to predict the amount of silt and fertiliser entering the dam by integrating different sources of information. What term is used to describe this process?

_____ (1 x 2) (2)

4.2.4 Explain why the clarity of the photograph of the Midmar Dam is poor.

_____ (1 x 2) (2)

4.2.5 What term is used to describe the process whereby all the data about the Midmar Dam stored on the computer is analysed?

_____ (1 x 2) (2)

4.5 Answer the following questions on data layering:

4.5.1 What does the term *data layering* mean?

_____ (1 x 2) (2)

4.5.2 State TWO uses of data layering in a GIS.

_____ (2 x 2) (4)

[20]

TOTAL: 100

ROUGH WORK

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