

KZN - DEPARTMENT OF EDUCATION
GREENBURY SECONDARY SCHOOL

JUNE EXAMINATION 2016

GEOGRAPHY P2

pp7

GRADE: 10
EXAMINER: D. RAMASAMI
MODERATOR: S. SINGH

DATE: 07/06/16
TIME: 1.5 HOURS
MARKS: 60

NAME:

GRADE/
DIV:

EDUCATOR

QUESTION	CONTENT	MARKS
ONE	Multiple choice questions	10
TWO	Map calculations	22
THREE	Map and photo interpretation	18
FOUR	Geographical Information System	10

MARKS:

60

PTO: PAGE 2

INSTRUCTIONS AND INFORMATION

RESOURCE MATERIAL

1. An extract from topographical map 2930CA MERRIVALE
2. Orthophoto map 2930 CA 5 MERRIVALE
3. **NOTE:** The resource material must be collected by schools for their own use.

INSTRUCTIONS AND INFORMATION

1. Write your REGISTER NUMBER and NAME 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 ONE

MULTIPLE CHOICE QUESTIONS

The following questions are based on the 1:50 000 topographical map, as well as the orthophoto map. Various options are provided as possible answers to the following questions. Choose the answer and circle only the letter (A – D) of the correct answer.

1.1. The contour interval of the orthophoto map is ...

- A) 5M
- B) 10M
- C) 20M
- D) 15M

1.2. The map projection used on the topographical map is ...

- A) Gauss Conform Projection
- B) Lamberts Projection
- C) Mercator
- D) Universal Transverse.

1.3. The scale of the orthophoto map means that 1 cm on the map represents ..

- A) 0,1 Km
- B) 10 Km
- C) 0,5 Km
- D) 50 Km

1.4. The man-made feature 8 on the orthophoto map is a ...

- A) bridge
- B) road
- C) railway station
- D) bus stop

1.5. The map reference to the NE of Merrivale is...

- A) 2929BD
- B) 2930AD
- C) 2930CD
- D) 2929DD

1.6. The direction of A from D is

- A) South west
- B) North east
- C) North west
- D) North

1.7. Feature A on the topographic map is a...

- A) Road
- B) Perennial river
- C) Non-perennial river
- D) Permanent river

1.8. The main landuse in the South Western corner of the mapped region is ...

- A) Forestry
- B) Recreation
- C) Dam
- D) Residential

1.9. The scale of the topographic map is Times smaller than the orthophoto map.

- A) 10
- B) 5
- C) 0.5
- D) 0.1

1.10. The magnetic bearing will be ... the true bearing for 2002.

- A) Bigger than
- B) Smaller than
- C) Same as
- D) No difference

(10 x 1) = 10 ()

QUESTION TWO

MAP CALCULATIONS

2.1. Calculate the distance in km between spot height 1405 (F10) and trig beacon 156 (E10).

Use the topographic map

(3)

2.2. How is height shown in (F5)

_____ (2)

2.3. Calculate the true bearing of spot height 1405 from trig beacon 156 on the topographic map.

_____ (3)

2.4. Calculate the magnetic bearing of spot height 1405 from trig beacon 156 for 2002..

 _____ (3)

2.5. State the height of the trig beacon in E10

_____ (2)

2.6. State the grid reference of spot height 1079 (D5) (use degrees, minutes and direction).

latitude _____

longitude _____ (6)

2.7. Calculate the difference in height between the trig beacons in E10 and F6.

 _____ (3)

[22]

QUESTION 3

MAP AND PHOTO INTERPRETATION

3.1.1. Quote two pieces of evidence from the topographic map which suggests that Merrivale receives relatively low rainfall.

a) _____

b) _____ (4)

3.2. Refer to the topographic map and orthophoto map:

3.2.1. Give a reason why no farming takes place in E10.

_____ (2)

3.2.2. Name two recreational activities that can be done in the Midmar dam (A6,A7).

_____ (4)

3.2.3. Identify and describe the type of slope represented by 1-2 on the orthophoto map

_____ (2)

3.2.4. Refer to the topographic map and the orthophoto map and indentify the following land uses.

C _____
3 _____ (4)

3.2.5. State the recreational activity in D10

_____ (2)
[18]

QUESTION 4

GEOGRAPHICAL INFORMATION SYSTEM

4.1. What is Geographical Information system?

_____ (2)

4.2. Give two advantages of GIS over normal paper maps.

a) _____

b) _____
_____ (2)

4.3. Differentiate between the following:

4.3.1. Raster and vector data

_____ (2)

4.3.2. Active and passive remote sensing

(2)

4.3.3. Explain how GIS can be used in crime prevention.

(2)

[10]

TOTAL = 60

ROUGH WORK

GREENBURY SECONDARY SCHOOL



DEPARTMENT OF HSS
H.O.D. MR D RAMASAMI

D. Ramasami

03/08/16



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- B) 10M
- C) 20M
- D) 15M

A

1.2. The map projection used on the topographical map is ...

- A) Gauss Conform Projection
- B) Lamberts Projection
- C) Mercator
- D) Universal Transverse.

A

1.3. The scale of the orthophoto map means that 1 cm on the map represents ..

- A) 0,1 Km
- B) 10 Km
- C) 0,5 Km
- D) 50 Km

A

1.4. The man-made feature 8 on the orthophoto map is a ...

- A) bridge
- B) road
- C) railway station
- D) bus stop

B

1.5. The map reference to the NE of Merrivale is...

- A) 2929BD
- B) 2930AD
- C) 2930CD
- D) 2929DD

B

1.6. The direction of A from D is

- A) South west
- B) North east
- C) North west
- D) North

C

1.7. Feature A on the topographic map is a...

- A) Road
- B) Perennial river
- C) Non-perennial river
- D) Permanent river

C

1.8. The main landuse in the sw corner of the mapped region is ...

- A) Forestry
- B) Recreation
- C) Dam
- D) Residential

A

1.9. The scale of the topographic map is Times smaller than the orthophoto map.

- A) 10
- B) 5
- C) 0.5
- D) 0.1

5

1.10. The magnetic bearing will be ... the true bearing for 2002.

- A) Bigger than
- B) Smaller than
- C) Same as
- D) No difference

A

(10 x 1) = 10

QUESTION TWO

MAP CALCULATIONS

2.1. Calculate the distance in km between spot height 1405 (F10) and trig beacon 156 (E10).

$$MB = 55 \text{ mm} = 5,5 \text{ cm} \checkmark$$

$$(5,3 - 5,7)$$

$$GD = 5,5 \div 2 \text{ km} \checkmark$$

$$= 2,75 \text{ km} \checkmark$$

$$(2,65 - 2,85)$$

(3)

2.2. State the method used to show height in (F5) 5
Contour lines // (2)

2.3. Calculate the true bearing of spot height 1405 from trig beacon 156.
 $180^\circ + 6^\circ = 186^\circ$ ✓ $(184^\circ - 188^\circ)$
 _____ (3)

2.4. Calculate the magnetic bearing of spot height 1405 from trig beacon 156 for 2002..
 $MB = TB + MB$ ✓
 $= 186^\circ (184^\circ - 188^\circ) + 22^\circ 42'$ ✓
 $= 208^\circ 42'$ ✓ $(210^\circ - 42' - 206^\circ 42')$
 _____ (3)

2.5. State the height of the trig beacon in E10
1382,0 or 1382 m ✓ (2)

2.6. State the grid reference of spot height ^{1079 (05)} 1266 (C4) (use degrees, minutes and direction).
 latitude 29° 33' 24" S $(20'' - 30'')$ $(\frac{15}{37} \times 60 = 24'')$
 longitude 30° 07' 15" E $(10'' - 20'')$ $(\frac{8}{32} \times 60 = 15'')$
 _____ (6)

2.7. Calculate the difference in height between the trig beacons in E10 and F6.
 $1540,4 - 1382,0$ ✓
 $= 158,4 m$ ✓
 _____ (3)

[22]

QUESTION 3

MAP AND PHOTO INTERPRETATION

3.1.1. Quote two pieces of evidence fro the topographic map which suggests that Merrivale receives relatively low rainfall.
 a) Large number of non perennial Rivers //
 b) Large number of farm dams // (4)

3.2. Refer to the topographic map and orthophoto map:

3.2.1. Give a reason why no farming takes place in E10.
Steep slopes // (2)

3.2.2. Name two recreational activities that can be done in the Midmar dam (A6,A7).

Fishing //
boating (any water sport) // (4)

3.2.3. Identify and describe the type of slope represented by 1-2 on the orthophoto map

Convex //
Changes from steep to gentle as we go higher up. // (2)

3.2.4. Refer to the topographic map and the orthophoto map and identify the following land uses.

C Cultivated land //
3 Dam // (4)

3.2.5. State the recreational activity in D10

Shooting // (2)

[18]

QUESTION 4

GEOGRAPHICAL INFORMATION SYSTEM

4.1. What is Geographical Information system?

Use of computer technology to study Geographical info // (2)

4.2. Give two advantages of GIS over normal paper maps.

a) More durable //

b) Can be changed frequently // (any reasonable answer) (2)

4.3. Differentiate between the following:

4.3.1. Raster and vector data

Raster - in shown as pixels //

Vector - info shown by points, lines and polygons. // (2)

4.3.2. Active and passive remote sensing

Active - a signal is sent out and image captured ✓

Passive - Radiation of the earth is picked up ✓

(2)

4.3.3. Explain how GIS can be used in crime prevention.

Locate access/exit points - any reasonable answer //

(2)

[10]

TOTAL = 60

ROUGH WORK

