

KZN - DEPARTMENT OF EDUCATION
GREENBURY SECONDARY SCHOOL

FINAL EXAMINATION 2015

GEOGRAPHY P2

GRADE: 11
EXAMINER: D. RAMASAMI
MODERATOR: S. Singh

DATE: 02/11/15
TIME: 1.5 HOURS
MARKS: 75

NAME:

GRADE/
DIV:

EDUCATOR

QUESTION	CONTENT	MARKS
ONE	Multiple choice questions	15
TWO	Map calculations	20
THREE	Map and photo interpretation	25
FOUR	Geographical Information System	15

MARKS:

75

INSTRUCTIONS AND INFORMATION

1. This paper consists of **NINE** pages inclusive of the cover page.
2. Write your name and your educator's name in the spaces provided on the question paper.
3. Answer ALL the questions in the spaces provided in this question paper.
4. You should receive a 1:50 000 topographical map 2528 DA and an orthophoto map 2528 DA 16 of a part of the mapped area of Cullinan.
5. The topographical map and the orthophoto map must be handed to the invigilator at the end of the examination session.
6. You may use the blank page at the back of this question paper for all rough work and calculations.
7. A non-programmable calculator may be used.
8. The following English terms and/or their Afrikaans translations may appear on the topographical map:

ENGLISH	AFRIKAANS
Caravan park	Karavaanpark
Cemetery	Begraafplaas
Copper mine	Kopermyn
Diggings	Uitgrawings
Disused mine	Ongebruikte myn
Drive-in theatre	Inryteater
Fish farm	Visplaas
Landing strip	Landingstrook
Refuse dump	Afvalstortingsterrein
Rifle range	Skietbaan
River	Rivier
Sewage disposal works	Rioolafvalwerke
Shaft	Skag
Slimes dam	Slykdam

3
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 orthophoto map isthan the topographic map

- A) 5 times smaller
 - B) 5 times larger
 - C) 50 times smaller
 - D) 50 times larger
-

1.5. The feature labeled 6 on the orthophoto map is a/an is

- A) Dam
 - B) Mine
 - C) Forest
 - D) Cultivated land
-

1.6. The man-made feature N on the topographic map is a/an ...

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

1.7. The orthophoto map is covering a area of cullinan

- A) Smaller
- B) Larger
- C) Same
- D) All of the above

1.8. The road marked P is an example of a/an

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

1.9. The orthophoto map is an example of a/an ...

- A) Vertical
- B) Oblique
- C) High oblique
- D) Low oblique

1.10. The magnetic declination in 2015 will be ...

- A) Smaller
- B) Bigger
- C) Same
- D) None of the above

1.11. Cullinan is noted for the mining of

- A) Copper
- B) Diamond
- C) Gold
- D) None of the above

1.12. The true bearing of Q from D will have the following range

- A) 0° to 90°
- B) 90° to 180°
- C) 180° to 270°
- D) 270° to 360°

1.13. The primary activity in F7 is farming and ...

- A) Fishing
- B) Forestry
- C) Mining
- D) Orchards

1.14. The longitudinal position in the reference 2528 is ..

- A) 25° E
- B) 25° S
- C) 28° E
- D) 28° S

1.15. The Elandsrivier is an example of a/an..... river

- A) Perennial
- B) Non-perennial
- C) Exotic
- D) Episodic

(15 x 1) [15]

QUESTION TWO

MAP CALCULATIONS

2.1. Calculate the average gradient between points K and R on the topographic map map..

_____ (5)

2.2. Calculate the magnetic bearing of D from P for 2002.

_____ (4)

2.3. Calculate the area of the part of the topographic map that is covered in the orthophoto map..

(3)

2.4. State the grid reference of spot height 1429 in E4. Marks will be allocated for seconds and direction.

latitude _____
longitude _____ (4)

2.5. Calculate the vertical exaggeration of a cross section drawn from the orthophotoorthophoto map.

The vertical scale is 5mm represents 20m

(4)
[20]

QUESTION 3

MAP AND PHOTO INTERPRETATION

3.1.1. Identify the feature represented by the number 10 on the orthophoto map

_____ (2)

3.1.2. State two environmental problems caused by this feature. (Answer 3.1.1.)

_____ (2)

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3.2. Refer to the topographic map and orthophoto map:

3.2.1. Is farming in this region subsistence or commercial. Give a reason

_____ (2)

3.2.2. Name two Functions of the dam at S

_____ (3)

3.2.3. State the factor that favours farming in Cullinan

_____ (2)

3.3.1. State the direction in which the river at E is flowing. Give a reason.

_____ (2)

3.3.2. State the height at M

_____ (2)

3.3.3. Refer to the topographic map and orthophoto map and identify the land use/ feature.

5 _____

9 _____

8 (type of slope) _____

3 _____

Y _____ (5)

3.4.1. State two functions of the row of trees in H4.

_____ (2)

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3.4.2. Identify the fluvial feature running through D , E and F5. And state two disadvantages Of this feature.

Feature _____

Disadvantage 1 _____

Disadvantage 2 _____

(3)
[25]

QUESTION 4

GEOGRAPHICAL INFORMATION SYSTEM

4.1. What is Geographical Information system?

_____ (2)

4.2. State two advantages of GIS over paper maps.

a) _____

b) _____

_____ (4)

4.3.. Define the following and give an example of each

Active Remote sensing: _____

_____ (2)

Spatial resolution: _____

_____ (2)

4.4. State the type of data represented by the following.

Topographic map: _____ (2)

Orthophoto map:

_____ (2)

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4.5. Name the instrument used in remote sensing.

_____ (1)

[15]

TOTAL = 75

GOOD LUCK

ROUGH WORK

GREENBURY SECONDARY SCHOOL



DEPARTMENT OF HSS
H.O.D. **N. D. RAMASAMI**

N. D. Ramasami

27/10/15



- | | |
|--------|---------|
| 1.1. A | 1.9. A |
| 1.2. A | 1.10. B |
| 1.3. A | 1.11. B |
| 1.4. B | 1.12. C |
| 1.5. A | 1.13. B |
| 1.6. C | 1.14. C |
| 1.7. A | 1.15. A |
| 1.8. C | |

(15)

$$\begin{aligned}
 2.1. \text{ Gradient} &= \text{VI} & : & \text{HE} \checkmark \\
 &= 1452 - 1429 & : & 11.3/2 \quad (11.1 - 11.5) \\
 &= 23 \text{ m} & : & 5.65 \text{ km} \times 1000 \\
 &= & : & 5650 \checkmark \\
 &= 23/23 & ; & 5650/23 \checkmark \\
 &= 1 & : & 246.30 \quad (241 - 250) \checkmark
 \end{aligned}$$

$$2.2. \text{ TB} = 180^\circ + 48^\circ \checkmark = 228^\circ \checkmark \quad (226^\circ - 230^\circ)$$

$$\text{MB} = \text{TB} + \text{MD} \checkmark$$

$$= 228^\circ + 16^\circ 52' \text{ W} = 244^\circ 52' \text{ W} \quad (242^\circ 52' \text{ W} - 246^\circ 52' \text{ W}) \checkmark$$

$$2.3. \text{ Area} = L \times B$$

$$L = 7.1/2 = 3.55 \quad (3.3 - 3.65) \checkmark$$

$$B = 9.1/2 = 4.55 \quad (4.45 - 4.65) \checkmark$$

$$\text{Area} = 3.55 \times 4.55 = 16.15 \text{ km} \quad (14.69 \text{ km} - 16.97 \text{ km}) \checkmark$$

$$2.4. \text{ LAT: } 35^\circ 41' 06'' \checkmark \text{ S } \checkmark \quad (03'' 11'')$$

$$\text{LONG: } 28^\circ 33' 33'' \checkmark \text{ E } \checkmark \quad (28'' - 38'')$$

$$2.5. \text{ VE} = \text{VS}/\text{HS} \checkmark$$

$$= 5 \text{ mm rep } 20 \text{ m} / 1:10000$$

$$= 1 \text{ cm rep } 40 \text{ m} / 1:10000 \checkmark$$

$$= 1:4000 / 1:10000 \checkmark$$

$$= 10000/4000 = 2.5 \text{ times} \checkmark$$

3.1.1. Mine

3.1.2. Destruction of vegetation

Pollution

3.2.1. Commercial

Large farms

3.2.2. Swimming

Fishing, Water, etc

3.2.3. gentle slopes (do not accept flat land)

3.3.1. NE ✓

The dam wall faces a NE direction/ high to low altitude ✓✓

3.3.2. 1400m

3.3.3. 5 – saddle / pass 9 – residential

8 – convex 3 – mine dump

Y – dam wall/ dam

3.4.1. Acts as a boundry

ProtectiOon against wind

3.4.2. Marsh ✓

Cannot build/ farm on soft ground ✓

Releases harmful gases ✓

Spread of malaria

4.1. Use of computer technology to study geographical information

4.2. Long lasting

Can be easily updated

Can store large amounts of information

4.3. Active remote sensing – Sending a signal to earth and recording how it is reflected.

Spatial resolution – degree of detail and clarity in terms of shape and location.

4.4. Topographic – vector

Orthophoto – raster

4.5. Satellite