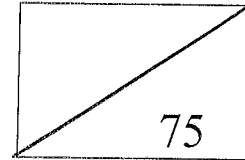


KZN DEPARTMENT OF EDUCATION
GREENBURY SECONDARY SCHOOL
JUNE EXAMINATION 2015
GEOGRAPHY PAPER 2



EXAMINER: S.SINGH
MODERATOR: D.RAMASAMI
DURATION: 1,5 HOURS

GRADE: 11
DATE: 11/06/15
MARKS: 75

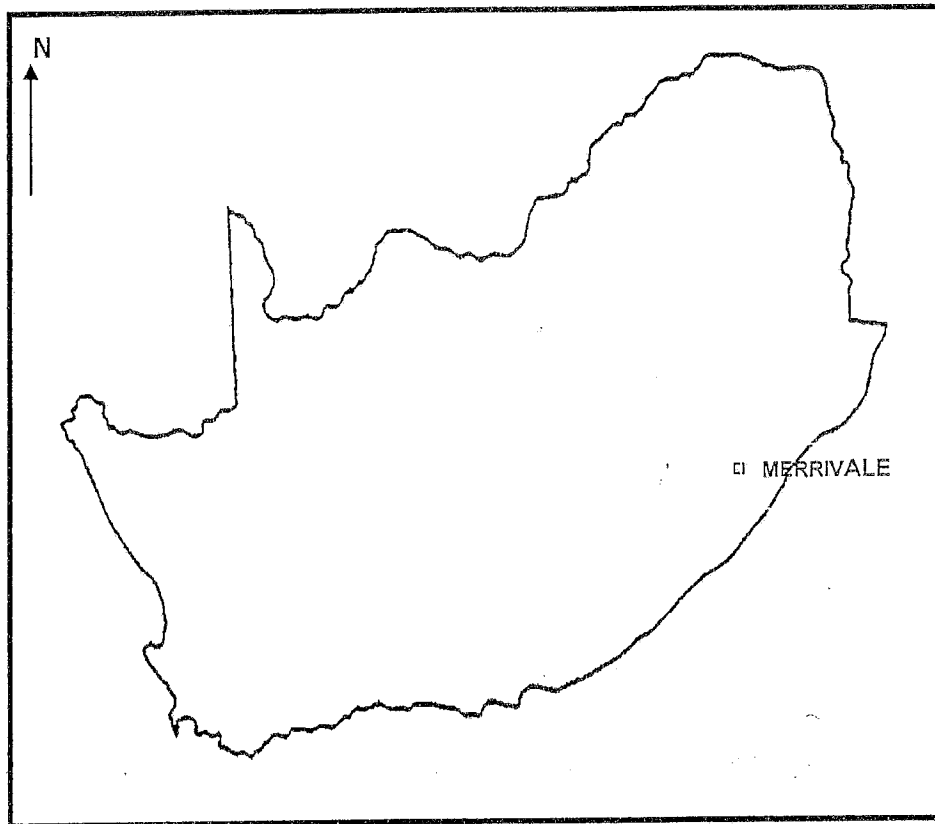
NAME: _____

GR/DIV _____

INSTRUCTIONS AND INFORMATION

1. This paper consists of 14 printed pages.
2. Answer all questions in the spaces provided.
3. You are supplied with a 1: 50 000 topographical map 2930CA MERRIVALE and an orthophoto map 2930 CA MERRIVALE.
4. You must hand both the maps to the invigilator at the end of the examination session.
5. Show all calculations.
6. You may use a non-programmable calculator.
7. Write neatly and legibly.

POSITION OF MERRIVALE WITHIN SOUTH AFRICA



The following English terms and their Afrikaans translations are shown on the topographical map.

ENGLISH

Diggings
Rifle Range
Sewage Works

AFRIKAANS

Uitgrawings
Skietsbaan
Rioolwerke

QUESTION 1: MULTIPLE CHOICE

The questions below are based on the 1:50 000 topographical map 2930 CA MERRIVALE, as well as the orthophoto map 2930 CA MERRIVALE as part of the mapped area. Various options are provided as possible answers to the following questions. Choose the correct answer and write only the letter (A-D) in space provided.

1.1 The contour interval on the orthophoto map is metres.

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

1.2 The topographical map scale istimes smaller than the orthophoto map scale.

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

1.3 The town of Merrivale is in the province.

- A Gauteng
- B Kwazulu-Natal
- C Eastern Cape
- D Limpopo

1.4 The distance from Merrivale to Mooiriver using the N3 is...

- A 45km
- B 57km
- C 58km
- D 14km

1.5 The map reference of the topographical map north of Merrivale is.....

- A 2930CC
- B 2929DB
- C 2930AC
- D 2930CB

16. The feature labelled 9 on the orthophoto map is a/an....

- A furrow
- B row of trees
- C orchard
- D river

1.7 The type of road found in block D5 on the topographical map is a/an..... road.

- A other
- B national
- C secondary
- D arterial

1.8 The height of the largest dam wall in block B11 is metres.

- A 1080
- B 1100
- C 1060
- D 1074

1.9 The man-made feature found in block A1 on the topographical map is a /an.....

- A river
- B cultivated land
- C firebreak
- D lookout tower

1.10 The railway station in block A12 on the topographical map is indicated as label number on the orthophoto map.

- A 4
- B 5
- C 8
- D 10

1.11 The educational institution marked 5 on the orthophoto map is a/an.....

- A college
- B school
- C university
- D technikon

1.12 Evidence of the extraction of underground water in block C11 is indicated by a

- A dam
- B windpump
- C reservoir
- D furrow

1.13 The altitude of the centre of the rifle range in block D10 is metres.

- A 1120
- B 1100
- C 1080
- D 1060

1.14 The town of Merrivale is located to the of Mpophomeni(E9).

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

1.15 The farming activity being practised in area marked C in block B1 on the topographical map is.....

- A pastoral farming
- B fruit farming
- C crop cultivation
- D poultry farming

{15}

QUESTION 2: GEOGRAPHICAL TECHNIQUES AND CALCULATIONS.

2.1 Calculate the straight line distance from ●1279(block F7) to ●1388 (block E11) in metres.

(3)

2.2 Write the scale of the orthophoto map as a word scale.

(1)

2.3 Calculate the average gradient between ●1214 (block A2) to ●1067 (block A3).

(5)

2.4 Explain the effect of this gradient on hikers if there was a hiking trail in the area.

(2)

2.5 A cross section is drawn between points 1 and 2 on the orthophoto map. Assume that the vertical scale is 5mm represents 40m. Calculate the vertical exaggeration of the cross section.

(4)

2.6 Provide a reason why the vertical scale in a cross section is exaggerated.

(1)

2.7 Refer to ●1221 (A6) from ●1079 (B8) on the topographical map and answer question 2.7.1 and 2.7.2.

2.7.1 Calculate the true bearing.

(2)

2.7.2 Calculate the magnetic bearing for the year 2002.

(2)

{20}

QUESTION 3: APPLICATION OF THEORY

3.1 Give TWO pieces of evidence from the topographical map which indicates that Merrivale receives seasonal rainfall.

(2)

3.2 Westward expansion of the town of Merrivale is limited. Give ONE reason to support this statement.

(2)

3.3 Suggest a possible reason for the row of trees found in the area of Mpophomeni in block D8 on the topographical map.

(2)

3.4 The landing strip in blocks D10/11 on the topographical map has a good location. Give TWO reasons to support this statement.

(4)

3.5 Merrivale has a good tourism potential. List any ONE significant feature from the map that may attract tourists to this area.

(1)

3.6 The natural vegetation in the mapped area are prone to veld fires. Give ONE piece of evidence to support this statement.

(2)

3.7 Discuss TWO negative impacts of the N3 passing through the town of Merrivale.

(4)

3.8 Give ONE reason for the location of the Sewage Works in block E9.

(2)

3.9 A large part of the mapped area is covered by woodlands/
plantations.State TWO ways how this contributes to the economy
of Merrivale.

(4)

3.10 The Mthinzima River in block E9 on the topographical map is
flowing in a north westerly direction. Give ONE piece of evidence
from the map to support this statement.

(2)

{25}

QUESTION 4 : GIS

4.1 Name TWO components of GIS.

(2)

4.2 Define the term spatial resolution.

(1)

4.3 Explain why the orthophoto map of Merrivale has a high spatial resolution.

(2)

4.4 Refer to the topographical map and answer the questions.

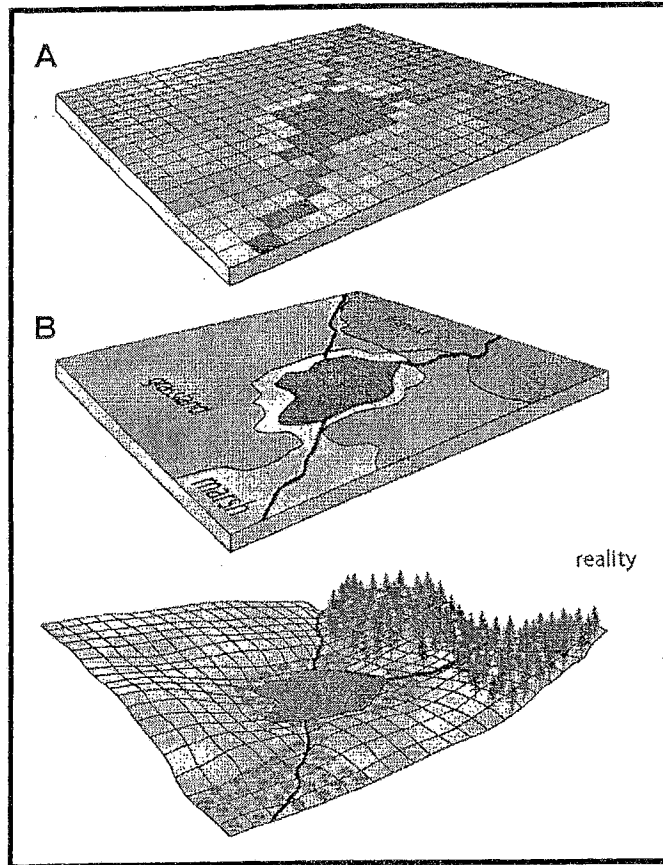
4.4.1 Name ONE line object in Block F8.

(1)

4.4.2 Identify ONE point feature in Block E9.

(1)

4.5 Study the illustrations below.



4.5.1 Identify the two data storage formats of GIS.

A _____

B _____

(2)

4.6 Several tourism attractions have been identified in Merrivale. These attractions will have a positive impact on the economy of Merrivale.

4.6.1 Mrs.Zungu, a business analyst wants to open a Bed and Breakfast in Merrivale. Explain how she would make use of GIS in order to ensure the success of her tourism business venture in Merrivale.

2x2 =(4)

4.6.2 State ONE disadvantage of obtaining data from a secondary source.

(2)

{15}

GRAND TOTAL : 75



①

Marking Memo

Geography Gr II

- Mapwork

- June 2015

Question 1

1.1. B

1.2. A

1.3. B

1.4. C

1.5. C

1.6. B

1.7. A

1.8. A

1.9. C

1.10. C

1.11. B

1.12. B

1.13. B

1.14. C

1.15. C.

①

(2)

Question 2.

2.1. $11,5 \times 0,5 = 5,75 \text{ km} \times 1000$
 $= 5750 \text{ m} \quad (\text{range } 5650 - 5850)$

2.2. 1 cm on the map represents 0,1 km on the ground.

2.3. Gradient = $\frac{VI}{HE}$

$VI = 1214 - 1067 = 147$

$HE = 6,1 \times 0,5 \times 1000 = 3050$

$= \frac{147}{3050} = \frac{3050}{14,7}$

$= 1:20,7 \text{ m}$

(Range 1:19 - 1:21)

2.4. For every 20,7m horizontally, the land rises by 1m.

2.5. $VE = \frac{VS}{HS}$

$= \frac{5\text{mm} \times 2 = 40\text{m} \times 2}{1\text{cm} = 10000\text{cm}}$

$= \frac{1:10000}{1:8000}$

$= \frac{1:10000}{1:8000}$

$= \frac{1:10000}{1:8000}$

$= 1,25 \text{ Times}$

2.6. Allows for relief features to be seen more clearly.

2.7.1 $120^\circ + 180^\circ = 300^\circ$
 (Range $298^\circ - 302^\circ$).

2.7.2. $MB = TB + MD$

$300^\circ + 22^\circ 42'$
 $= 322^\circ 42' \text{ W of T.N.}$ (answer will vary with range of T.B.)

(3)

3.1. Presence of non-perennial streams

Numerous dams

Evidence of windpumps (Any 2).

3.2. Location of midmar dam.

3.3. Buffer to block view of sewer works.

Trees given off oxygen + purifies air.

Windbreak (any 1).

3.4. Away from built up area

Flat land

Cheap land. (any 2)

3.5. Midmar Dam

Caravan park

Woodlands

Farmlands. (Any 1).

3.6. Watch towers

Firebreaks

Farm Dams

Furrows. (Any 1).

3.7. Too much traffic causes congestion, pollution.

Noise from traffic disturbs the peace.

Accidents on increase.

(4)

3.8. Low lying area.

Gently sloping land

Water close by for treatment works.

(Any 1).

3.9. Provides employment.

Stimulates economy

Development of infrastructure

Source of timber. (Any 2).

3.10. Height is decreasing in a northerly direction

Question 4.

4.1. Data, User, Hardware, Software (Any 2).

4.2.

4.3. It has more clarity + detail of images
Has a larger scale. (Any 1)

4.4.1. road / track + hiking trail / river / boundary.

4.4.2. school /

4.5.1. A - Raster

B - Vector

4.6.1. Can give her further stats of the area.

Provide information on topography / infrastructure
of area / soil condition for building (any 2).

4.6.2. Info could be manipulated / outdated /
no reliable source etc. (any 1)