KZN - DEPARTMENT OF EDUCATION

GREENBURY SECONDARY SCHOOL

JUNE EXAMINATION 2018

GEOGRAPHY P2 pp8

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

DATE: 11/06/18
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 2729BD VOLKSRUST.
2. Orthophoto map 2729 BD 13 VOLKSRUST
3. **NOTE:** The resource material must be collected by schools for their own use.

INSTRUCTIONS AND INFORMATION

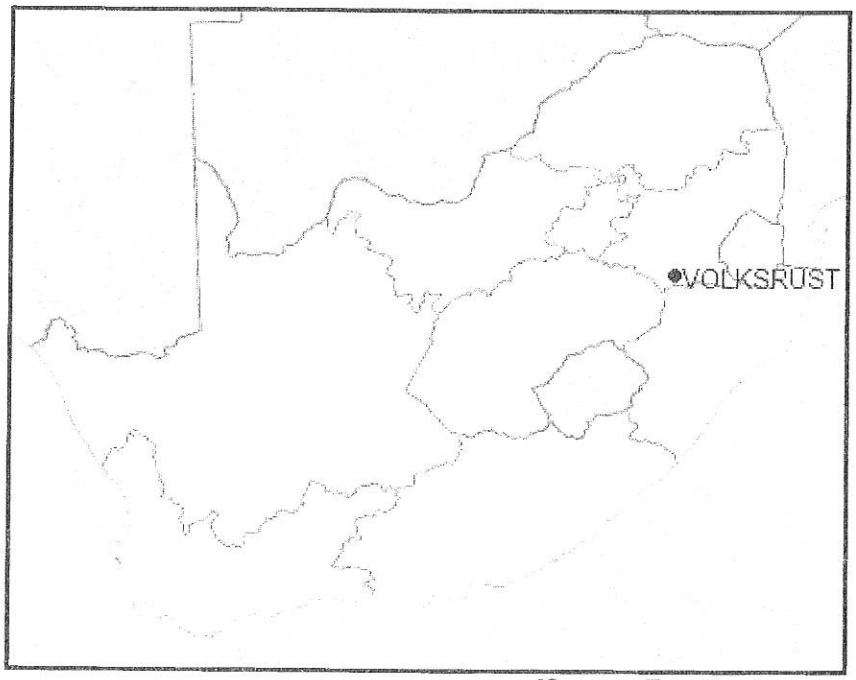
1. Write your NAME and REG NUMBER in the spaces on the cover page.
2. Answer ALL the questions in the spaces provided in this question paper.
3. You are provided with a 1 : 50 000 topographical map (2729BD VOLKSRUST) and an orthophoto map (2729 BD 13 VOLKSRUST) of a part of the mapped area.
4. You must hand the topographical map and the orthophoto map to the invigilator at the end of this examination session.
5. You may use the blank page at the end of this question 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 allocated for these.
7. Indicate the unit of measurement in the final answer of calculations.
8. You may use a non-programmable calculator.
9. The area demarcated in RED on the topographical map represents the area covered by the orthophoto map.
10. The following English terms and their Afrikaans translations are shown on the topographical map:

ENGLISH	AFRIKAANS
Aerodrome	Vliegveld
Diggings	Uitgrawings
Furrow	Voor
Golf Course	Gholfbaan
Rifle Range	Skietbaan
River	Rivier
Sawmills	Saagmeule
Sewerage Works	Rioolwerke
Silos	Graansuiers

PTO: PAGE 3

GENERAL INFORMATION ON VOLKSRUST

Volksrust is a town in Mpumalanga on the border of KwaZulu-Natal. It is located 240 km southeast of Johannesburg. The town has important beef, dairy, maize, sorghum, wool and sunflower seed industries. Volksrust has an average annual rainfall of 648 mm, with the lowest rainfall (1 mm) in July and the highest rainfall (117 mm) in January. Most of the rain falls in the summer. The average midday temperatures for Volksrust range from 15,9 °C in June to 24,3 °C in January. June is the coldest period when the mercury can drop to an average of 0,5 °C during the night.



[Source: Examiner's map]

FIGURE 1

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 slope between point M and n on the topographic map is .....

A) Steep
B) Gentle
C) Convex
D) Concave

_____

1.5. The province to the south of Volksrust is

A) KwaZulu - Natal
B) Lesotho
C) Eastern Cape
D) Limpopo

_____

1.6. The direction of S from K is ....

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

_____

1.7. Feature 9 on the orthophoto map is a/an...

A) Road
B) Perennial river
C) Boundary
D) Power line

_____

1.8. The main landuse at V on the topographic map is. ...

A) Forestry
B) Recreation
C) Orchard and vineyard
D) Crop cultivation

_____

1.9. Volksrust receives most of it's rainfall in ...

A) Summer
B) Winter
C) Spring
D) Autumn

_____

1.10. The magnetic bearing will be ... the true bearing for 2010.

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 metres of the line between Qnd R on the topographic map.

_____
_____
_____
_____
_____
_____(3)

2.2. State the method used to show height at X on the topographic map

_____ (2)

2.3. Calculate the true bearing of spot height 1716 (F8) from 1656 (E6).

_____ (3)

2.4. Calculate the magnetic bearing of spot height 1716 from 1656 for 2010.

_____

_____

_____ (3)

2.5. State the height of X on the topographic map.

_____ (2)

2.6. State the grid reference of spot height 1634 (H6) (marls will be allocated for minutes seconds and direction).

latitude_____

longitude_____ (6)

2.7. Calculate the difference in height between the trig beacon in G10 and the spot height at A (G9).

_____

_____

_____ (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)_____

b)_____ (4)

3.2. Refer to the topographic map and orthophoto map:

3.2.1. Give two reasons why farming is not practiced in the southern part of the map .

a)_____

b)_____ (2)

3.2.2. Give one use of the primary feature at U on the topographic map.

_____

_____ (2)

3.2.3. Identify and describe the type of slope represented by 6 on the orthophoto map on the orthophoto map

_____

_____ (2)

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

O _____

T _____

3 _____

7 _____ (8)

[18]

QUESTION 4

GEOGRAPHICAL INFORMATION SYSTEM

4.1. What does GIS stand for?

_____ (2)

4.2. Give two uses of GIS in crime prevention.

a)_____

_____

b)_____

_____ (2)

4.3.1. Name any two components of GIS

_____

_____(2)

4.4.1. Raster and vector data

_____

_____

_____(2)

4.4.2. Active and passive remote sensing

_____

_____

_____(2)

[10]

TOTAL = 60

ROUGH WORK

HOD - HSS
O. RAMASAMI 01/06/18

Geography - Grade 10
Mapwork - P2 - Marking Memorandum.

1.1. A
1.2. A
1.3. A
1.4. D
1.5. A
1.6 D
1.7 D
1.8 D.
1.9 A
1.10 A

Check ??

2.1 Map dist - 7cm
Scale - 1:50000
∴ Str. line distance = $\frac{7}{2}$ or 7 x 0,5 or 7 x 500
= 3500m.
= 3,5km x 1000
= 3500

2.2 Contour line
2.3 108° (106 - 110)

2.4. 20° 37' + 108°
= 125° 37' W of T.N. (Accept range as above)

Mean Check

2.5. 1700

2.6. latitude - 27° 26' 15" S; $\frac{9}{37} \times \frac{60}{1} = 15''$ (13" - 17")
longitude - 29° 55' 44" E - $\frac{24}{33} \times \frac{60}{1} = 44''$ E $\frac{24}{31} \times \frac{60}{1} = 46''$ E
(Accept 42" - 48")

2.7. 1885,5 - 1646
= 239,5m.

3.1.1. a) No of Non perennial rivers
b) Dams / ~~Weir~~ Perennial Water

3.2.1. Hilly terrain / Mountainous area
Infertile soil
Poor Water Supply.

3.2.2. Acts as Windbreaker

3.2.3. Concave - gentle at bottom (Lower heights)
Steep at Top. (Higher heights).

3.2.4. ○ - Railway Station
Creek + T - Buildings
Creek 3 - Mine Dump / Escavation
7 - Golf Course

4.1. Geographical Information System.
4.2. a) Police study crime Patterns - Help decide where officers should be assigned.
b) GIS can give crime stats - hotspots. - Can help reduce crime by patrolling areas of high crime.

4.3.1. Hardware, software, user, data

4.4.1 Vector - Real world represented by points, lines and polygons
Raster - Real world features represented by grid cells called pixels

4.4.2. Active - Sending out a SIGNAL & CAPTURING info / Image
Passive - Picking up natural radiation of the Earth