KZN - DEPARTMENT OF EDUCATION

GREENBURY SECONDARY SCHOOL

FINAL EXAMINATION 2018

GEOGRAPHY P2

GRADE: 11
EXAMINER: D. RAMASAMI
MODERATOR: F. PARUK

DATE: 31 /11/18
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

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INSTRUCTIONS AND INFORMATION

1. This paper consists of **Ten** 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 3318 BC and an orthophoto map

   3318 BC MALMESBURY of a part of the mapped region.

5. The topographical map and the orthophoto map must be handed to the invigilator at the end of the examination session.

6. For reference purpose letters are used on the topographic map and numbers are Used on the orthophoto map.

7. You may use the blank page at the back of this question paper for all rough work and calculations.

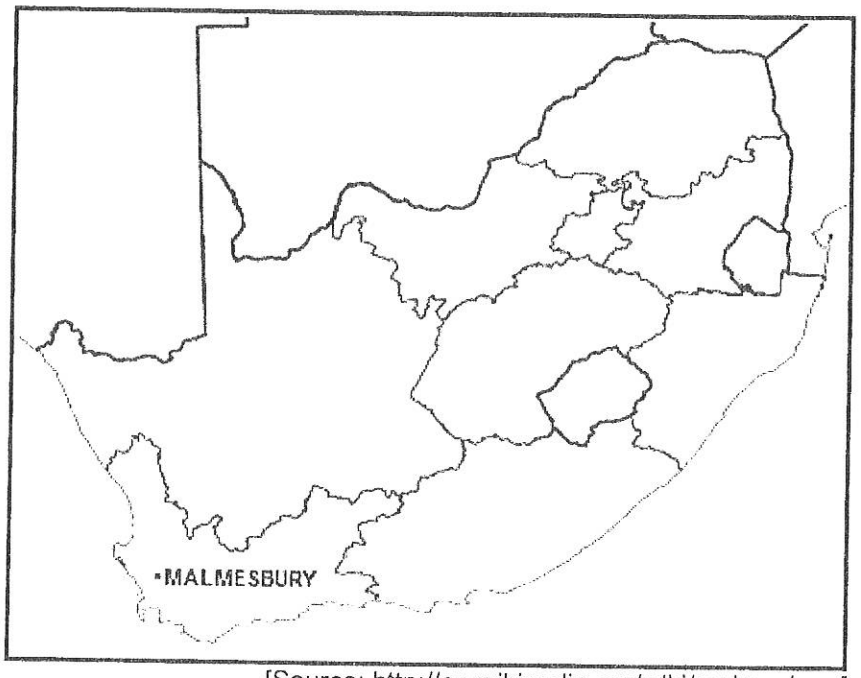
8. A non-programmable calculator may be used.

9. The following English terms and/or their Afrikaans translations may appear on the topographical map:

ENGLISH	AFRIKAANS
Canal	Kanaal
Furrow	Voor
Golf Course	Gholfbaan
Prison	Tronk
Refuse Dump	Vullisstortingterrein
River	Rivier
Sewage Works	Rioolwerks

GENERAL INFORMATION ON MALMESBURY

Malmesbury is a town of approximately 36 000 inhabitants, about 65 km north of Cape Town. The town has a moderate climate due to the influence of the Atlantic Ocean. Rainfall is seasonal, with the highest average rainfall being in winter. The area is especially known for its wheat farming and wine production.



[Source: http://en.wikipedia.org/wiki/malmesbury]

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. Write the letter of the correct answer in the space provided..

1.1. The contour interval of the topographic and the orthophoto map,respectively, is ...

A) The same
B) 5m and 20m respectively
C) 20m and 5m respectively
D) 1000m _____

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

A) Gauss Conform Projection
B) Central Meridian Projection
C) Mercator
D) Universal Transverse. _____

1.3. The scale of the topographic is ..... the/than the orthophoto map.

A) Smaller
B) Larger
C) Same as
D) None of the above _____

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

A) 0.5 km
B) 0.1km
C) 1cm
D) 1 000cm _____

1.5. The river at J on the topographic map a/an .....

A) Permanent river
B) Seasonal river
C) Episodic river
D) Exotic river _____

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1.6. The transport route to Klipheuwel, in a Southerly direction is a/an …

A) Secondary road
B) National road
C) Main road
D) Arterial route

_____

1.7. The orthophoto map is covering a …… area than the topographic map.

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

_____

1.8. The linear feature passing through J on the topographic map is a/an

A) Water pipeline
B) Power line
C) Provincial boundry
D) Oil pipeline

_____

1.9. The orthophoto map is an example of a/an …aerial photograph.

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

_____

1.10. The grid reference of Malmesbury is …..

A) 33°E, 18°S
B) 33°S, 18°E
C) 33°N, 18°W
D) 33°W, 18°N

_____

1.11. Malmesbury is found in the ….

A) Northern Cape
B) Eastern Cape
C) Western Cape
D) None of the above

_____

1.12. The cardinal direction of P from O on the topographic map is

A) South
B) West
C) South East
D) East of South East

_____

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1.13. Malmesbury receives most of it's rainfall in ....

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

1.14. The closest town/city to Malmesbury via road is

A) Klipheuwel
B) Cape Town
C) Paarl
D) None of the above _____

1.15. The shadows on the orthophoto map in the afternoon will point ....

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

(15 x 1) **[15]**

QUESTION TWO

MAP CALCULATIONS

2.1. Calculate the average gradient between points O and P on the topographic map.

_____
_____
_____
_____
_____ (4)

2.2. Calculate the straight line distance in metres, of the line marked 3 on the orthophoto map.

_____
_____
_____
_____
_____
_____ (2)

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2.3. Calculate the area in kms, using the topographic map, of the part that is covered on the orthophoto map.

_____

_____

_____

_____

_____

_____

_____

_____(3)

2.4. State the grid reference of the reservoir labeled Q [B5]. Marks will be allocated for seconds and direction.

latitude_____

ongitude_____ (4)

2.5. Calculate the vertical exaggeration of a cross section drawn from the Topographic map.. Use the vertical scale of 2cm represents 50m.

_____

_____

_____

_____

_____

_____ (4)

2.6. Calculate the true bearing of the reservoir at Q [B5] from spot height 317 [D8] on the topographic map.

_____ (3)

[20]

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QUESTION 3

MAP AND PHOTO INTERPRETATION

3.1.1. Identify the natural linear feature, indicated by the green circles in I 12 and state it's function.

_____

_____ (2)

3.1.2. Name two features which suggest that Malmesbury and the surrounding areas are keen on protecting the environment. .

_____

_____ (2)

3.2. Refer to the topographic map and orthophoto map to answer the questions below:

3.2.1. Provide two pieces of evidence to suggest that farming in C9 is commercial.

_____

_____ (2)

3.2.2. State two factors that favour farming in The area demarcated around T.

_____

_____ (2)

3.2.3. Explain why the railway line is more winding than the roads..

_____ (2)

3.3.1. Identify the recreational activity found in the NW corner of Malmesbury...

_____ (2)

3.3.2. State two measures implemented to overcome the problem of low rainfall in the area.

_____

_____ (2)

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

L [area] _____

1 _____

5 _____

6 _____(8)

3.4.1. Identify the feature represented by 3 on the orthophoto map. Give evidence from the map to support your answer

_____

_____ (3)
[25]

QUESTION 4

GEOGRAPHICAL INFORMATION SYSTEM

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

_____

_____ (2)

4.2. State ways in which GIS can be used by a town planner

a)_____

_____(2)

b)_____

_____ _ (2)

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

Polygon:_____ _____

_____ (2)

Raster data: _____

_____ (2)

4.4. Explain why resolution is important when using GIS images.

_____(2)

4.5. Differentiate between active and passive remote sensing.

_____

_____(2)

4.6. Name the instrument used in remote sensing.

_____(1)
[15]

TOTAL = 75

ROUGH WORK

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MEMO

1.1.	B	1.9.	A
1.2.	A	1.10.	B
1.3.	A	1.11.	C
1.4.	B	1.12.	D
1.5.	B	1.13.	B
1.6.	C	1.14.	A
1.7.	A	1.15.	B
1.8.	B		[15]

2.1. G = VI : HE √ or V I÷ HE

= 162 – 120m : 6.3 ÷ 2km [6.2 – 6.4]

= 42m √ : 3.15km [3.1 – 3.2]

= : 3150m [3100 – 3200] √

= 42 ÷ 42 : 3150 ÷ 42

= 1 : 75 √ [73.81 – 79.19] [4]

2.2. MD = 8.6 √ [8.5 - 8.7]

GD = MD ÷ 10 [x 0.1]

= 8.6 ÷ 10km

= 0.86km

= 860m √ [850m – 870m] [2]

2.3. A = L x B √

L = 7.4 ÷ 2 = 3.7km [3.65km – 3.75km]

B = 7.4 ÷ 2 = 3.7km [3.65km – 3.75km]

A = 3.7 x 3.7km √

= 13.69km √ [13.32km – 14.06km] [3]

2.4. Lat = 33° 22' 47" √ S √ [45" – 49"]

Long = 18° 37' 56 √" E √ [54" – 58"] [4]

2.5. VE = VS x HS √

= 2cm rep 50m x 1:50 000 √

= 1cm rep 25m x 1 : 50 000

= 1: 2500 x 1: 50 000 √

= 50 000 ÷ 2500

= 20 times √ [4]

2.6. 180° + 129° √√ = 309° √ [3]

3.1.1. Row of trees √ – windbreaker, oxygen √ [2]

3.1.2. Riverlands Nature Reserve √

Pella Nature Reserve √ [2]

3.2.1. Large Farms √

Fruit Farming √

Roads on farms [2]

3.2.2. Flat land √

Presence of rivers √ [2]

3.2.3. Railway lines constructed around obstacles. √√ [2]

3.3.1. Golf course √√ [2]

3.3.2. Windpumps √, Dams √, Reservoirs [2]

3.3.3. L – Refuse dump √√

1 – Prison √√

5 – Sewage works √√

6 – Orchard and vineyards √√ [8]

3.4.1. Valley √√ - the v of the contours point towards higher altitude √ [3]

River flows in valleys

4.1. Maps are durable √

User can select the information he/she needs to use √

Easy to change information [2]

4.2. Identify vacant plots √√

Check topography √√ [4]

4.3. Polygon – Object that can be referenced by two lines of latitudes and two

Lines of longitude. √ eg. Golf course √ [2]

Raster Data – Information represented by grid cells or pixels. √

eg. orthophoto map √ [2]

4.4. It allows the user to see features clearly. [2]

4.5. Active RS – Sending out a signal and receiving images. √

Passive RS – Capturing the natural radiation of the earth. √ [2]

4.6. Satellite √ [1]