



GRADE 11 EXEMPLAR PAPERS

GEOGRAPHY MAPWORK: PAPER II

NAME: _____

Reading time: 10 minutes
Time: 1½ hours

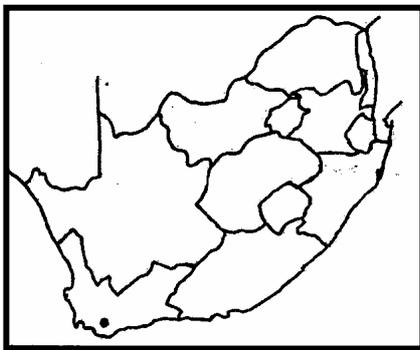
100 marks

Study the 1:50 000 topographical map extract and orthophoto map of Oudtshoorn very carefully.

Oudtshoorn is situated in the Klein Karoo 55 km from the large coastal town of George. This town with its wide-open spaces and broad streets is the capital of the Klein Karoo. The town is spread along both banks of the Grobbelaars River, a tributary of the Olifants River, and its fertile valleys are encompassed by the Swartberg Mountains to the north and the Outeniqua Mountains to the south. Warm, dry summers and sunny winter days make it the ideal breeding ground for the most majestic of flightless birds - synonymous with Oudtshoorn - the ostrich. The town is well known for the famous Cango Caves that attract hundreds of tourists each year.

[Source adapted from: <<http://www.oudtshoorn.info/>>]

Figure 1 Oudtshoorn's situation



QUESTION 1 Mapwork Skills

Refer to the world map below.

Figure 2 World map represented using the Mercator Projection



1.1 **Provide** TWO distinct features of the Mercator Map Projection.

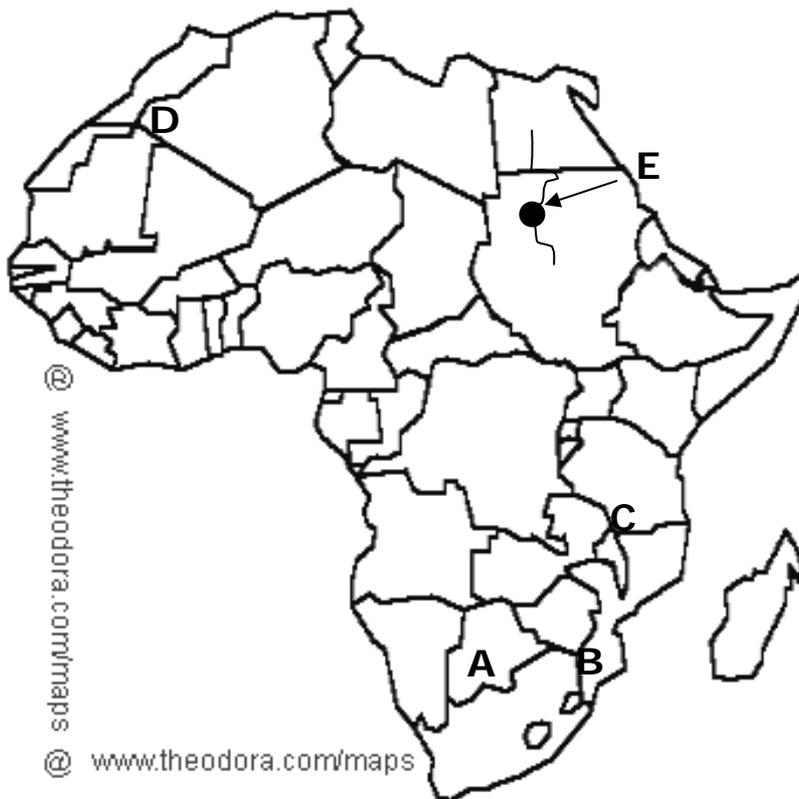
(2)

1.2 How accurate is this particular map projection? **Explain** your answer with valid reasons.

(3)

Atlas Skills

Refer to the map of Africa below and provide the label for each letter represented.



1.3 (a) Country to the north of South Africa.

(b) A large dam on the Zambezi River that has a hydro-electric power station.

(c) The highest mountain peak in Africa.

(d) A large mountain range in Morocco.

(e) A dam along the Nile River.

(5)

Refer to the topographical map of Oudtshoorn.

1.4 **Provide** the latitude and longitude co-ordinates for the following points on the map:

(a) Kansa Station (B6)

(3)

(b) Trigonometrical beacon 286 (F3)

(3)

1.5 **Calculate** the length of the runway at the aerodrome (D 4 and D5).

_____m

(2)

1.6 A train leaves the station at Kansa (B6) at 10:00. It arrives at the station on the outskirts of Oudtshoorn (F5) at 10:05.

Calculate the average speed of the train (kilometers/hour).

Calculation:

Answer: _____km/hour

(2)

1.7 **Determine** both the bearing and direction the train is traveling from Kansa station to the station just outside of Oudtshoorn.

Bearing _____° (2)

Direction _____ (1)

1.8 **Calculate** the approximate area in (km²) of the golf course (F4).

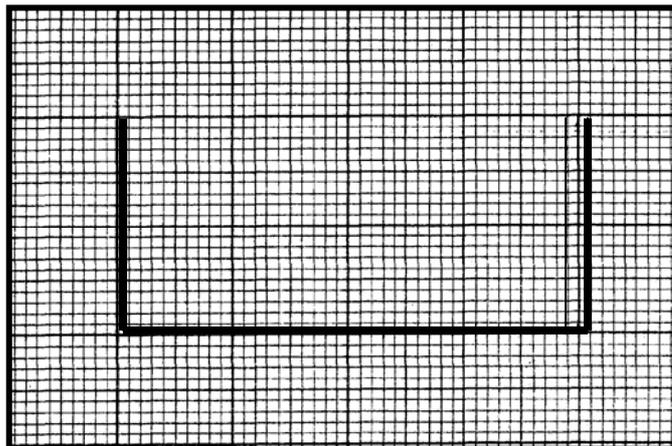
Approximate area of golf course _____ km². (3)

26 marks

QUESTION 2 Interpreting the topography of the area

2.1 **Draw** a cross section profile from Trig beacon 404 (C2) to Trig beacon 286 (F3). On your profile plot the position of:

- the R328 (1)
- the Grobbelaars River (1)



(5)

2.2 **Calculate** the vertical exaggeration of the above cross section, assuming you use a vertical scale of 1 cm = 2 cm.

Calculation:

(3)

Vertical Exaggeration _____ times.

2.3 There are several hiking trails/footpaths within the mountainous area to the south of Oudtshoorn. Locate spot height 404 (F7). You walk from this point to Trig Beacon 289 (G7). How steep is your hike?

Determine this by calculating the average gradient.

Calculation:

Difference in height between Trig beacon 289 and Spot height 404

_____ m

Distance along the footpath between Spot height 404 and Trig Beacon 289

_____ m

Gradient = 1: _____ (3)

2.4 From Trig Beacon 289 (G7), you are looking out towards the north west. Would you be able to see the peaks of spot height 404 (F7) and spot height 343 (F6)? Explain using map evidence.

Yes or No? _____

Evidence _____ (2)

| |
|-----------------|
| 15 marks |
|-----------------|

QUESTION 3 Map , Orthophoto interpretation and GIS

3.1 **Identify** the features at A and B as indicated on the orthophoto.

A = _____ (2)

B = _____ (2)

3.2 Oudtshoorn is located within the Klein Karoo region of South Africa. This area has a low average annual rainfall. Fortunately the town is positioned in close proximity to several perennial rivers.

(a) **Identify** TWO significant perennial rivers within the vicinity of Oudtshoorn.

_____ and _____

(b) An extensive irrigation scheme has been established in the area allowing for cultivation to take place. **Provide** evidence from the map indicating examples of irrigation methods used.

_____ (2)

3.3 Hydrologists constantly monitor the water quality with the surrounding rivers, but specifically within the Olifants River, south of Oudtshoorn. Some very disturbing results have been recorded indicating high levels of chemicals in the river.

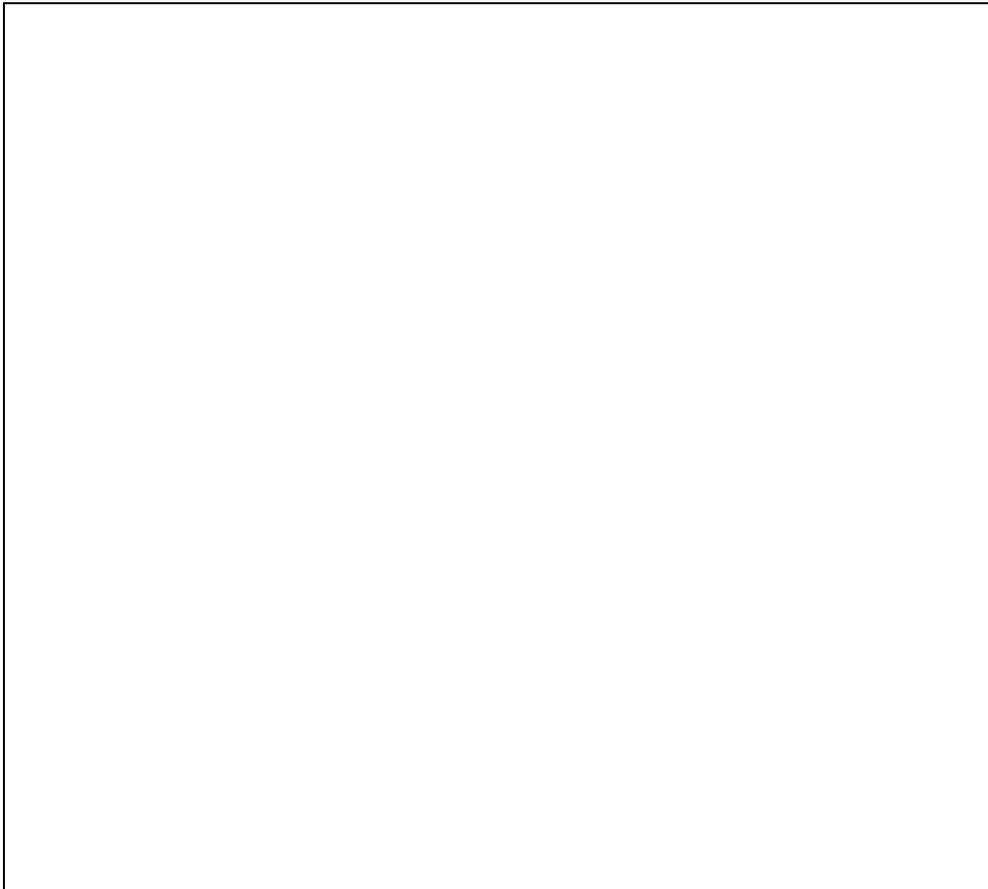
Account for these findings. Use map and orthophoto evidence to support your argument.

_____ (5)

3.4 Drought is a common occurrence in the Klein Karoo area. Sheep and ostrich farmers need to be very careful that overgrazing and consequent land **degradation*** does not occur. As a result of this concern, the Department of Agriculture and Environmental Affairs has been analysing a variety of satellite images of the area over the past few years in an attempt to monitor land degradation.

(*degradation – to make worse, to damage.)

(a) **Explain** how satellite data is transmitted and eventually processed. You may use a diagram to assist your explanation.



(5)

QUESTION 4 Fieldwork and Data Analysis Skills

You are conducting fieldwork for a Grade 11 Research Enquiry in the Oudtshoorn area. Your school takes a trip to the Bakenskraal Farm (D7-8, E7-8 F7-8 G7-8).

4.1 As part of the research requirements you need to **draw** a sketch map of the farm. Your teacher has emphasised the importance of including significant human and natural features. Your sketch map must include a key. Use the space below. Note: use the grid indicators as shown.

| | | | |
|----------|----------|----------|----------|
| 7 | | | |
| 8 | | | |
| 9 | | | |
| | D | E | F |

(8)

4.2 The Research Enquiry carried out on the Bakenskraal farm aims to investigate sustainable use of the farmland. Make a list of FIVE questions you would like to ask the farmer to find out more about the farm as a whole in order to assess its potential for sustainable use.

1. _____

2. _____

3. _____

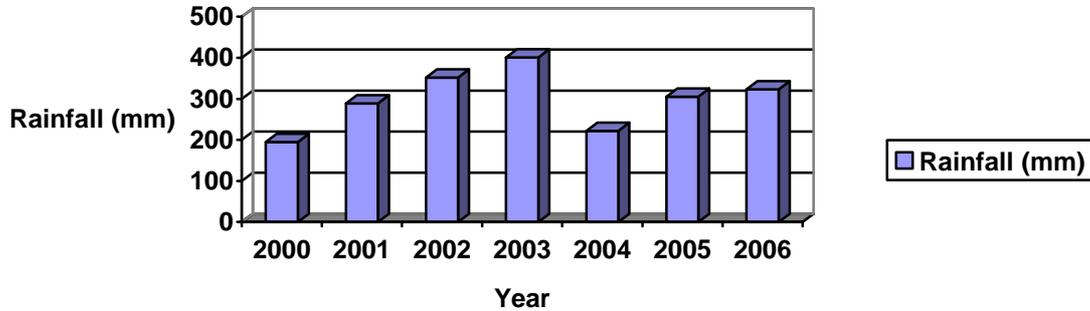
4. _____

5. _____

(5)

4.3 The farmer presents you with Bakenskraal's annual rainfall figures for the past seven years. Study the graph below.

Annual Rainfall Figures for Bakenskraal Farm (2000-2006).



Average Annual Rainfall for Bakenskraal farm = 331 mm (30 year period)

4.3.1 **Calculate** the total rainfall (mm) which fell over the period 2000-2006.

_____ mm (2)

4.3.2 Why has the farmer not recorded a value for 2007?

_____ (1)

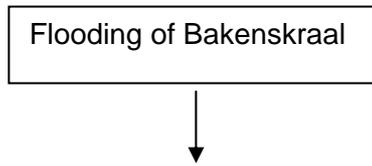
4.3.3 During which years did the farm receive above average rainfall?

_____ (2)

4.3.4 The farmer recorded that in 2000 the farm ran at an economic loss. She had to purchase additional fodder for her sheep, and spent large sums of money improving her irrigation scheme. **Account for** this situation.

 _____ (2)

4.3.5 During the winter of 2006, the farmer reported that the Bakenskraal farm experienced serious flooding. This had serious consequences for the farm. **Draw a flow chart** highlighting the possible consequences of this flooding for the farm as a whole.



(10)

4.3.6 The farmer has indicated to you that Bakenskraal farm is worth a lot of money. **List** SIX pieces of evidence using the map that would make this a valuable agricultural property.

- 1. _____

- 2. _____

- 3. _____

- 4. _____

- 5. _____

- 6. _____

(6)

36 marks

Total: 100 mark

GLOSSARY OF TERMS USED IN THE EXAMINATION PAPER

| WORD | MEANING |
|--------------------|---|
| Account for | To give reasons for a particular observation, occurrence or point of view |
| Calculate | Work out using mathematical formula |
| Classify | To divide into groups or types so that things with similar characteristics are in the same group |
| Compile | To put together |
| Describe | To list the main characteristics of something; to give an account of (A diagram may be included as part of a description, provided that it is labelled) |
| Determine | To decide upon, to find |
| Discuss | In paragraph format, to provide reasons and an analysis of an issue, occurrence, observation |
| Draw | To draw a diagram using labels |
| Explain | To make clear or plain or make sure that reader understands what is being said |
| Flow Chart | A number of ideas which are linked together by means of a process |
| Identify | To give the essential characteristics of ... |
| List | To present a number of facts, aspects or items |
| Mindmap | A number of ideas, details which are linked by a central theme or point |
| Name | To state something; to list; to give ; to identify; to mention |
| Outline | To give the main features or general principles of a subject |
| Propose | To put forward an idea or strategy |
| Provide | To give/or name/state something |
| Suggest | To propose an explanation or a solution by way of plan or suggestion |

TRANSLATION OF AFRIKAANS TERMS USED ON THE MAP

| AFRIKAANS | ENGLISH |
|--------------------------|--------------------|
| Rivier | river |
| Besproeiingskemas | Irrigation schemes |