

**KZN DEPARTMENT OF EDUCATION
GREENBURY SECONDARY SCHOOL
MARCH CONTROLLED TEST – 2015
GEOGRAPHY – GRADE 10**

EXAMINER : R. RANGANATHAN

DATE : 25/03/15

MODERATOR : F. PARUK

DURATION : 1 ½ HOURS

MAX MARKS: 100

NAME : _____

GR/DIV. : _____

INSTRUCTIONS :

1. This paper consists of TWO Sections, A and B.
2. Answer all questions in both sections.
3. Write neatly and legibly and rule off after each question.
4. Ensure that your question paper has 6 printed pages.

SECTION A**QUESTION 1**

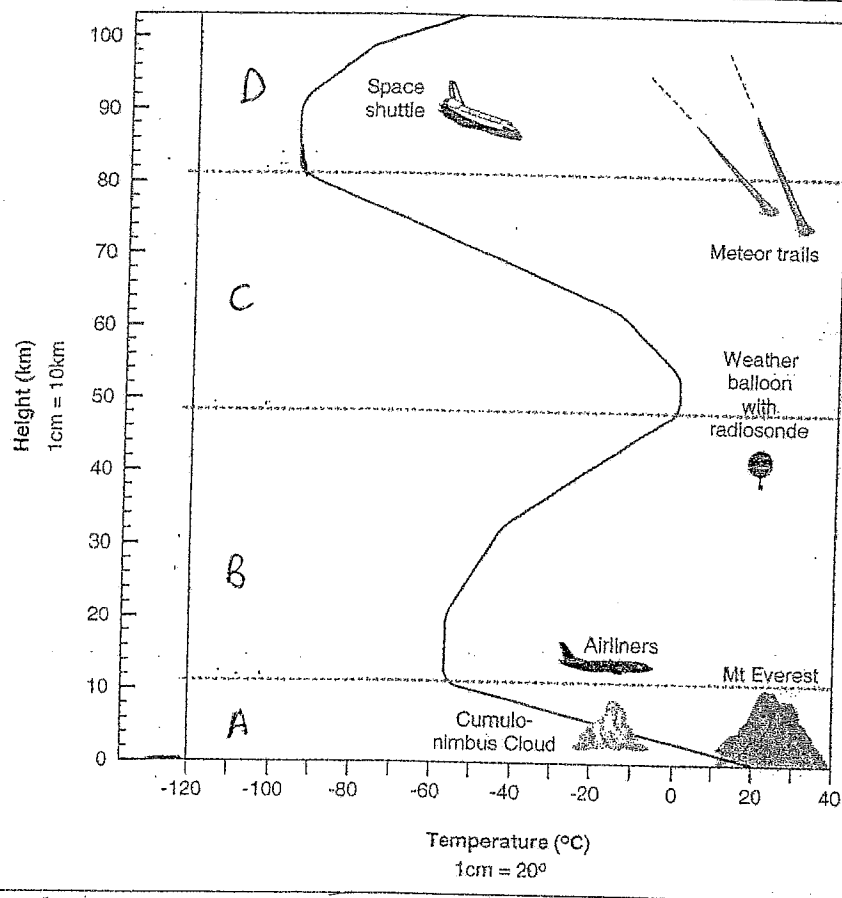
Match the statements in Column B with the terms in Column A. Write down numbers 1.1 – 1.10 and next to it, the letter of the correct answer from Column B.

COLUMN A	COLUMN B
1.1 Terrestrial radiation	a) Water changes from liquid to gas.
1.2 Condensation	b) Heat given off by the earth.
1.3 Atmosphere	c) Uppermost layer of the atmosphere.
1.4 Dew point temp	d) Layered clouds.
1.5 Thermosphere	e) Gaseous layer around the earth.
1.6 Stratus clouds	f) Water changes from gas to liquid.
1.7 Cumulonimbus	g) Temperature at which condensation takes place.
1.8 Precipitation	h) Any form of moisture release from the atmosphere.
1.9 Convection	i) Heat given off by the sun.
1.10 Evaporation	j) Associated with heavy rain, lightning and thunder.
	k) Important in heating the atmosphere.

10X1=[10]

QUESTION 2

Refer to the diagram showing the layers of the atmosphere and answer the questions that follow.



- 2.1 Name the layers A, B, C and D. [4]
- 2.2 Match the letters A, B, C and D with the statements below. Write down only the letter/s of the correct answer.
- 2.2.1 Layers in which temperature increases with height. [2]
- 2.2.2 Layers in which temperature decreases with height. [2]
- 2.2.3 The layer in which the OZONE is found. [2]
- 2.2.4 The most important layer to man. [2]
- 2.2.5 The layer which is responsible for weather phenomena. [2]
- 2.2.6 The layers that are separated by the tropopause. [2]
- 2.3 a) State one important function of the ozone layer. [2]
 b) What are the causes of ozone depletion? (2 answers) 2x2=[4]
 c) Give one effect of ozone depletion on human beings. [2]

QUESTION 3

Refer to the article below on CLIMATE CHANGE and answer the questions set.

Sounding the climate change alarm

Be warned – climate change will affect the way we live. This is the harsh reality painted by the Intergovernmental Panel on Climate Change (IPCC), a United Nations research body that studies the effects of human activity on the world's weather patterns. Over the years, as the effects of global warming have become increasingly clear, scientists have presented theories about how a rise in global average temperatures could change the face of the world. While some

of those changes may take a long time to happen themselves, many seem to promise more sudden and quite dramatic effects. As a result, the panel is now warning governments about the dangers and what to expect. For example, the report predicts a general reduction in potential crop yields in tropical and sub-tropical regions.

In many water-scarce regions, the availability of water is expected to decrease further, particularly in the sub-tropics.

In other regions, more people will be exposed to diseases such as malaria. Deaths caused by too much heat are expected to increase. Then there is the issue of flooding and a rise in sea levels, increasing the risk for coastal areas and flood plains, home to tens of millions of people all over the world. Higher summer temperatures would also lead to a greater demand for energy as people increase their use of cooling systems.

(Argus, 5 September 2001)

- 2.1 Explain your understanding of climate change. [2]
- 2.2 What does the acronym IPCC stand for? [2]
- 2.3 What, according to the article are some of the dangers of climate change? 3x2=[6]
- 2.4 With specific reference to Africa, explain how climate change will impact on the poor African farmers. 2x2=[4]

QUESTION 4

With regards to heating of the atmosphere, answer the following questions.

4.1 What is the main source of heat? [2]

4.2 Name the 3 ways in which insolation is lost in the atmosphere. 3X2=[6]

4.3 The main result of the "GREEN HOUSE EFFECT" is a warmer atmosphere.
Explain your understanding of the "GREENHOUSE EFFECT". [2]

4.4 Draw a weather station model to show the following weather conditions :

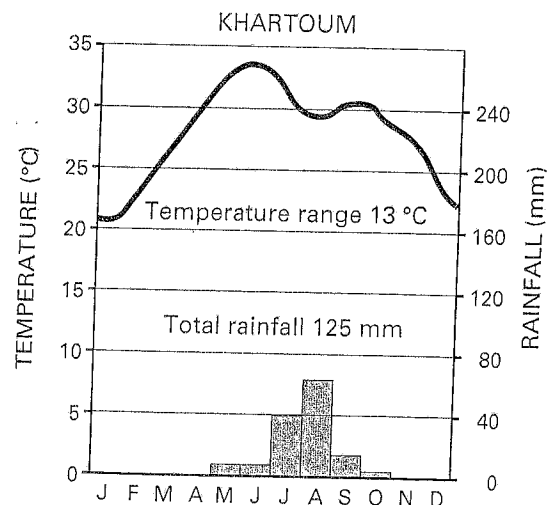
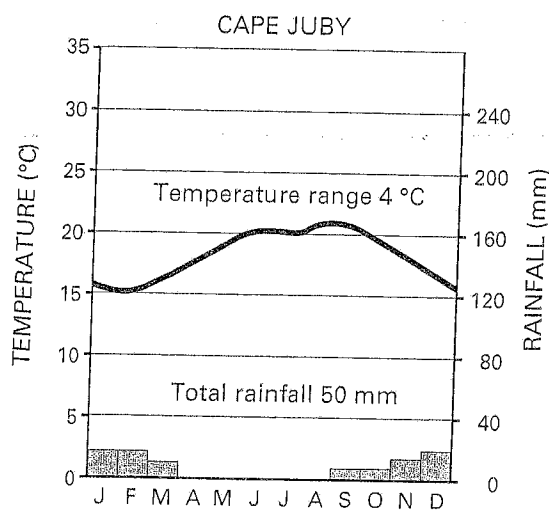
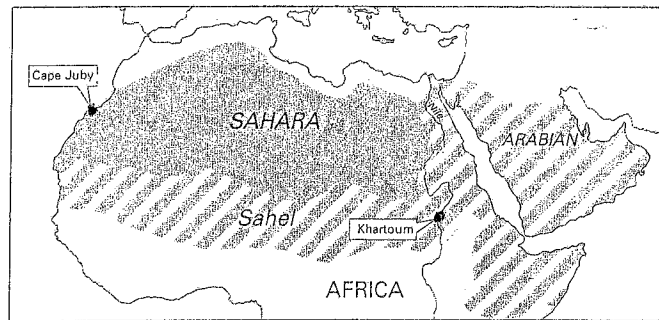
CLOUD COVER	-	$\frac{3}{4}$ cloudy
WIND DIRECTION	-	South Westerly
AIR TEMPERATURE	-	23°
DEW POINT TEMPERATURE	-	18°
WINDSPEED	-	15 knots
PRECIPITATION	-	drizzle

6X2=[12]

SECTION A – THEORY – [70 MARKS]

SECTION B – MAPWORK + GIS**QUESTION 5**

Refer to the temperature and rainfall graphs for 2 places in the Sahara (North Africa).
NB – The Sahara is in the Northern Hemisphere and hence they experience summer when we in the Southern Hemisphere experience winter.

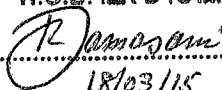


- 5.1 During which season does each of the two places receive its rainfall.
- a) Cape Juby - [1]
- b) Khartoum - [1]
- 5.2 Which of the 2 places receive a higher rainfall? [2]
- 5.3 Suggest a reason for this place (ans. 5.2) having higher rainfall. [2]
- 5.4 Explain why you think Cape JUBY has a lower temperature range than Kartoum. (With reference to their Location). [4]

QUESTION 6 – GIS

- 6.1 What does the acronym GIS stand for? [2]
- 6.2 List the 4 components of GIS. [4]
- 6.3 Give 2 ways in which GIS can be a useful tool to man. 2x2=[4]
- 6.4 Name the 3 types of spatial objects. 3x2=[6]
- 6.5 Differentiate between Vector and Raster maps. [4]

SECTION B - MAPWORK – [30 MARKS]

GREENBURY SECONDARY SCHOOL
DEPARTMENT OF HSS
H.O.D. MR D RAMASAMI

18/03/15

Geography - Grade 10
March Controlled Test

Marking Memo & Model Answers.

Question 1

11. B

12. F

13. E

14. C

15. G

16. D

17. J

18. H

19. K

1-10. A

Question 2

2.2.1. B - Stratosphere

D - Thermosphere

2.2.2. A - Troposphere

C - Mesosphere

2.2.3. B

2.2.4. A

2.2.5. A

2.2.6. A and B.

2.3.9) Ozone layer protects us from bombardment of the dangerous

(iv) Ultra-violet rays.

b) (Open Ended) - Pollution → industrial, motor car etc.

- CFCs - refrigerators, aerosol sprays. (any 2)

- Greenhouse gases eg CO₂.

c)

Global Warming → all associated effects eg rising of sea levels

- Flooding of coastal areas ∴ Also drought - water scarcity.

- Impacting - rely on soil → crops → food - insecurity.

Question 3

Rise in global average temperatures

3.1. Changing in weather patterns / Increase in average world temperatures.

3.2. Intergovernmental Panel on Climate Change.

3.3. - Reduction in crop yields

- Decrease in availability of water

- diseases such as malaria

- deaths caused by heat.

- Flooding & rise in sea levels

- Greater demand for energy.

3.4. - African farmer - will have no/little water

- cannot plant crops - hence lose profits/money.

- No food to feed their families → food insecurity.

accept any 2 reasonable open ended answers.

Question 4

4.1. Sun / solar Energy.

4.2. Scattering / Reflection / Absorption.

4.3. Trapped heat in the atmosphere.

4.4

23°



18°

Question 5.

5.1. a) Winter

b) Summer.

5.2. Khar town.

5.3. Khar town has higher temperatures

- hence greater evaporation \Rightarrow more rainfall.

5.4. Cape Jubay is a coastal area. - Has moderate temperatures because it is closer to the sea.

Khar town is inland - has extreme temperatures because it is further away from the sea (inland)

Question 6.

6.1. Geographical Information System.

6.2. hardware

software

Data

User.

6.3. Remote sensing - capturing images from other eg satellite.

- Crime prevention - statistics etc

- Shopping Centres/Complexes - tells you about target markets

- Helps give info when developing areas - eg soil type, rock type.

(except any reasonable answer).

6.4. Line, Polygon, Point.

6.5 -