



**SASTRI COLLEGE**  
**DEPARTMENT OF SOCIAL SCIENCES**  
**GEOGRAPHY MARCH CONTROLLED TEST**  
**GRADE 10: TERM 1**  
**2020**



**EXAMINER: MS K. SINGH**  
**MODERATOR: MRS G.T. MOODLEY/ MR A GOPAUL**

**TIME: 1.5 HOUR**  
**MARKS: 60**

**INSTRUCTIONS:**

1. This question paper consists of SEVEN PAGES.
2. There are THREE questions in this paper. Answer ALL questions completely.
3. Rule off after each question.
4. Write neatly and legibly.

**SECTION A**

**QUESTION ONE**

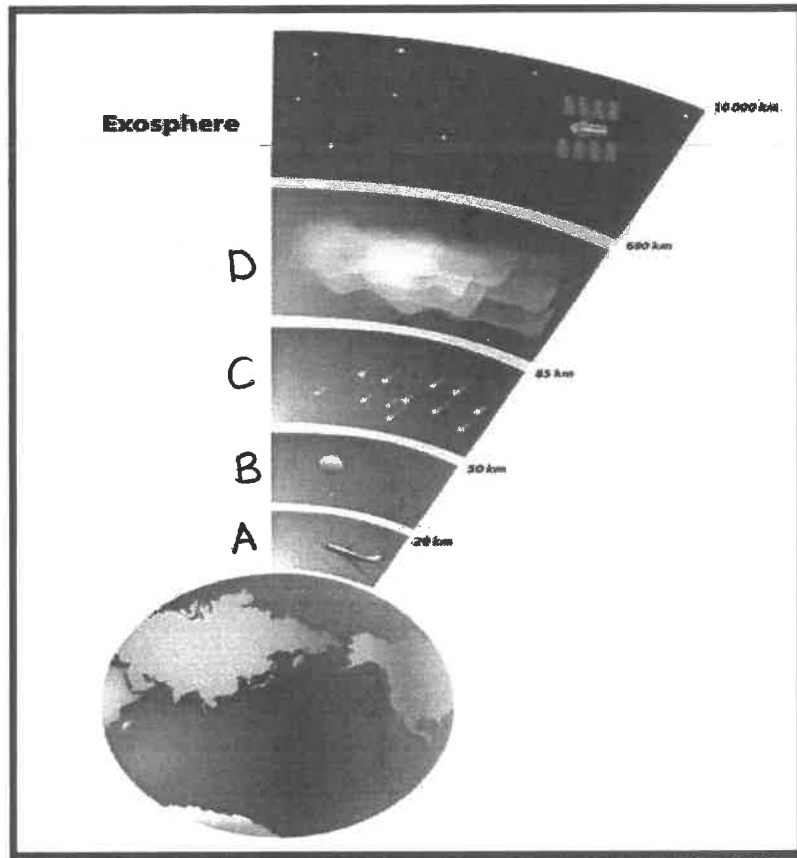
Match the descriptions in Column A with the correct terms in column B. Write only the correct letter.  
Example 1.11. Electromagnetic Spectrum

COLUMN A	COLUMN B
1.1. A decrease in temperature with an increase in altitude.	A. Synoptic map
1.2. Incoming radiation from the sun.	B. Deforestation
1.3. An increase in average temperature on Earth.	C. Albedo
1.4. The amount of solar energy that is reflected off earth, usually expressed as a percentage.	D. Temperature
1.5. A map depicting the weather at a specific area.	E. Global warming
1.6. Hidden heat energy used in changing the state of body.	F. Windward
1.7. Vertical transfer of heat energy by movement of air molecules.	G. Insolation
1.8. Side of the mountain which faces the ocean.	H. Convection
1.9. Measured in degrees Celsius.	I. Positive lapse rate
1.10. The removal of trees.	J. Latent heat

(10X1)[10]

**QUESTION TWO: ATMOSPHERE**

**2.1. Study the graph below depicting the atmosphere and answer the questions that follow.**



2.1.1. Define the term 'atmosphere'. (1x1)(1)

2.1.2. Identify layers A and C respectively (1+1)(2)

2.1.3. Which gas constitutes the most percentage in the atmosphere? (1x1)(1)

2.1.4. Mention the layer that is found in the stratosphere that acts as a sunshield against ultraviolet rays. (1x1)(1)

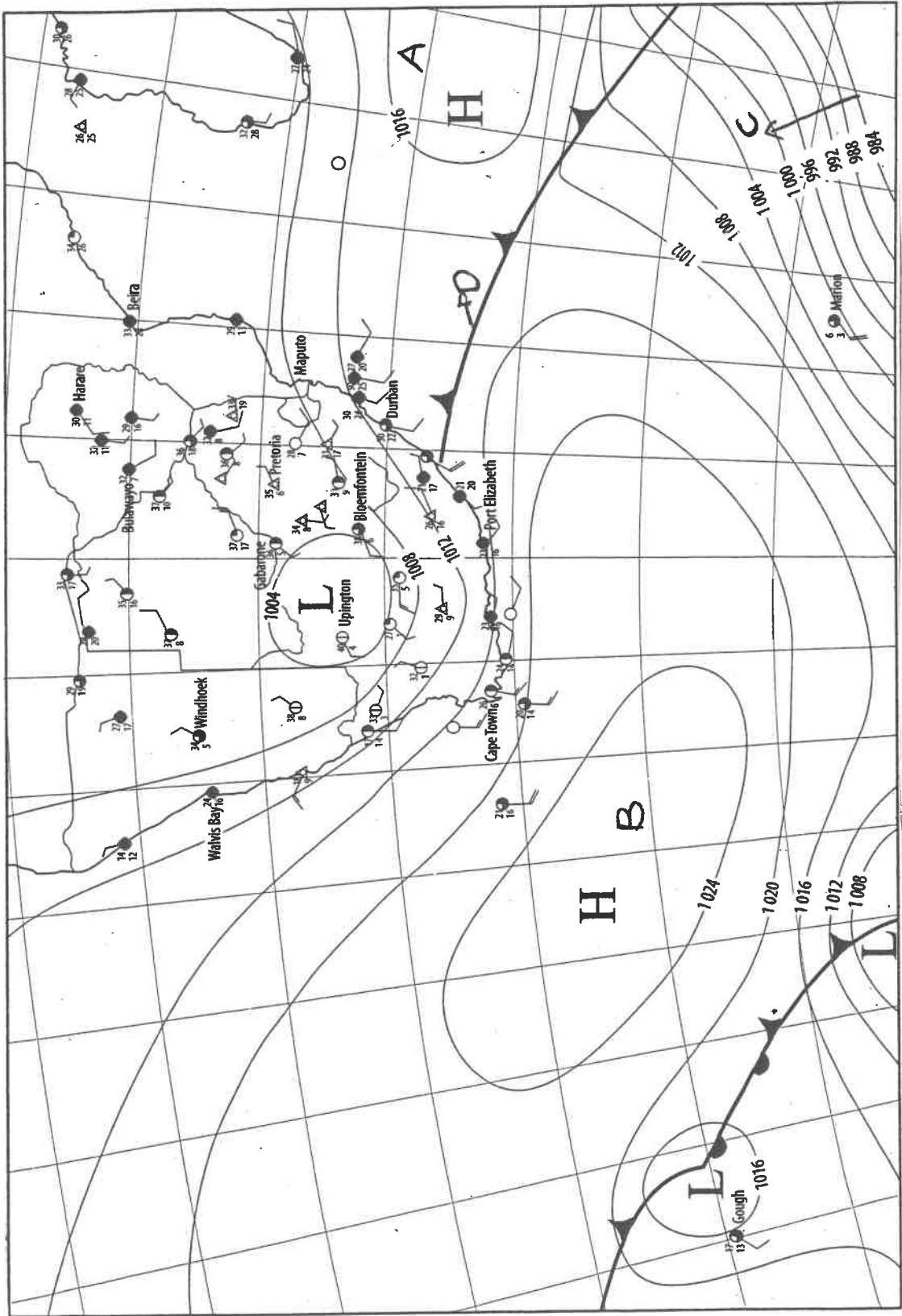
2.1.5. Explain the relationship that exists between temperature and height at layer D. (1x1)(1)

2.1.6. Discuss any **TWO** climatic importance of layer A? (2x2)(4)

[10]

**2.2. Draw a fully labeled diagram depicting relief rainfall. (5x1)(5)**

2.3. Study the synoptic map below then answer the questions that follow.



southern Africa

- 2.3.1. Does the map above represent a **summer or winter** map? (1x1)(1)
- 2.3.2. Give a reason to support your answer in question 2.3.1. above. (1x1)(1)
- 2.3.3. Name the **high pressure** cell labelled **A** and **B** respectively. (1+1)(2)
- 2.3.4. State the **isobaric interval** of southern Africa. (1x1)(1)
- 2.3.5. Is the pressure gradient at **C** **steep** or **gentle**?  
Give a reason to support your answer. (1+1)(2)
- 2.3.6. Describe the weather associated with the **front labelled D**. Mention **TWO**. (2x1)(2)
- 2.3.7. A group of students must go on a field trip to Windhoek on the day presented by this synoptic weather map.  
Describe the weather that they will experience on the day of the field trip. (6x1)(6)

[15]

2.4. Read the following article based on ozone depletion and answer the questions that follow.

**Mysterious rise in banned CFC gas emissions from China could delay the healing of the hole in the ozone layer over the Antarctic by almost 20 years**

Unexpected emissions of banned gases from China could delay the recovery of the hole in the ozone layer above the Antarctic by almost 20 years, a study has found.

The ozone layer is important to life as it acts like a shield — filtering out the Sun's harmful ultraviolet rays before they reach the Earth's surface.

The production of ozone-damaging (CFCs) — used as refrigerants and foaming agents — is restricted by the Montreal Protocol of 1987.

Following the protocol's implementation, it was expected that the size of the ozone hole above the Antarctic would return to its 1980 level by the late 21st century.

In 2018, however, scientists reported that emissions of trichlorofluoromethane (CFC-11) had not been continuing to decline as expected since the mid-2000s.

CFC-11 contributes around a quarter of the man-made chlorine transported into the stratosphere which reacts with and breaks down ozone.

The unexpected emissions have been attributed to Chinese factories using the banned chemicals in the production of insulating foam.

According to the experts, however, the impact of the emissions has been limited so far - and their rapid halt could reduce the delay in the hole's recovery to a few years.

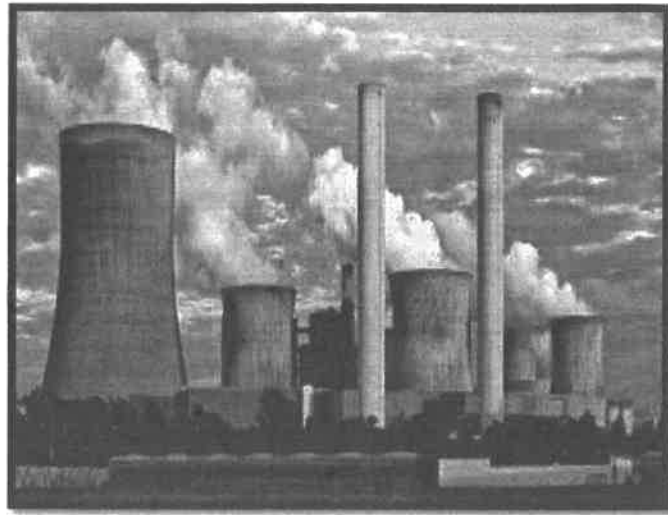
*MailOnline 2019*

- 2.4.1. What is meant by **ozone depletion**? (1x1)(1)
- 2.4.2. Write **CFCs** in full. (1x1)(1)
- 2.4.3. According to the case study, what world summit addressed the issue of the production of ozone-damaging CFCs? (1x1)(1)
- 2.4.4. Explain **TWO** possible reasons why the natural recovery of the hole in the ozone layer is being delayed. (2x1)(2)

**[5]**

2.5. Read the case study below based on global warming and answer the questions that follow.

### HOW DOES COAL CONTRIBUTE TO GLOBAL WARMING?



Of all the fossil fuels (coal, oil and natural gas), coal is the one that produces most carbon dioxide when burnt (to make electricity). And carbon dioxide is a greenhouse gas that is contributing to global warming.

Coal is plentiful and cheap to mine and burns easily to produce electricity, so it is difficult for governments to legislate to close coal mines.

Therefore, it is so important to continue research and development in the areas of renewable energy like solar, wind and waterpower.

When coal is burnt, it releases poisonous gases and it doesn't burn completely which contributes to global warming.

- 2.5.1. Differentiate between global warming and climate change. (2x1)(2)
- 2.5.2. Identify the gas mentioned from the case study that contributes to global warming. (1x1)(1)
- 2.5.3. Why are governments reluctant (not willing) to shut down coal mines? (1x1)(1)
- 2.5.4. Explain **ONE** impact of burning fossil fuels such as coal to the Africa's natural environment. (1x1)(1)

[5]

**SECTION B GIS**

**QUESTION THREE**

3.1. Give the **definition** of GIS.

(1x1)(1)

3.2. State **FOUR** **components** of GIS.

(4x1)(4)

3.3. Write a paragraph to a friend who lives in the states explaining how GIS is being used in South Africa in terms of crime prevention.

(5x1)(5)

[10]

**TOTAL MARKS 60**

**GOOD LUCK**

