LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF
EDUCATION

SEKHUKHUNE

SOUTH DISTRICT

GRADE 10

GEOGRAPHY

COMMON TEST 1

11 MARCH 2024

Marks : 60

Duration : 1H30min

This question paper consists of 7 pages including the cover page.

Instructions

- Answer all questions.
- All diagrams are included in the QUESTION PAPER.
- Number the answers correctly according to the numbering system used in this question paper.
- Draw fully labelled diagrams when instructed to do so.
- Answer in full sentences, except when you have to state, name, identify or list.
- Write neatly and legibly.

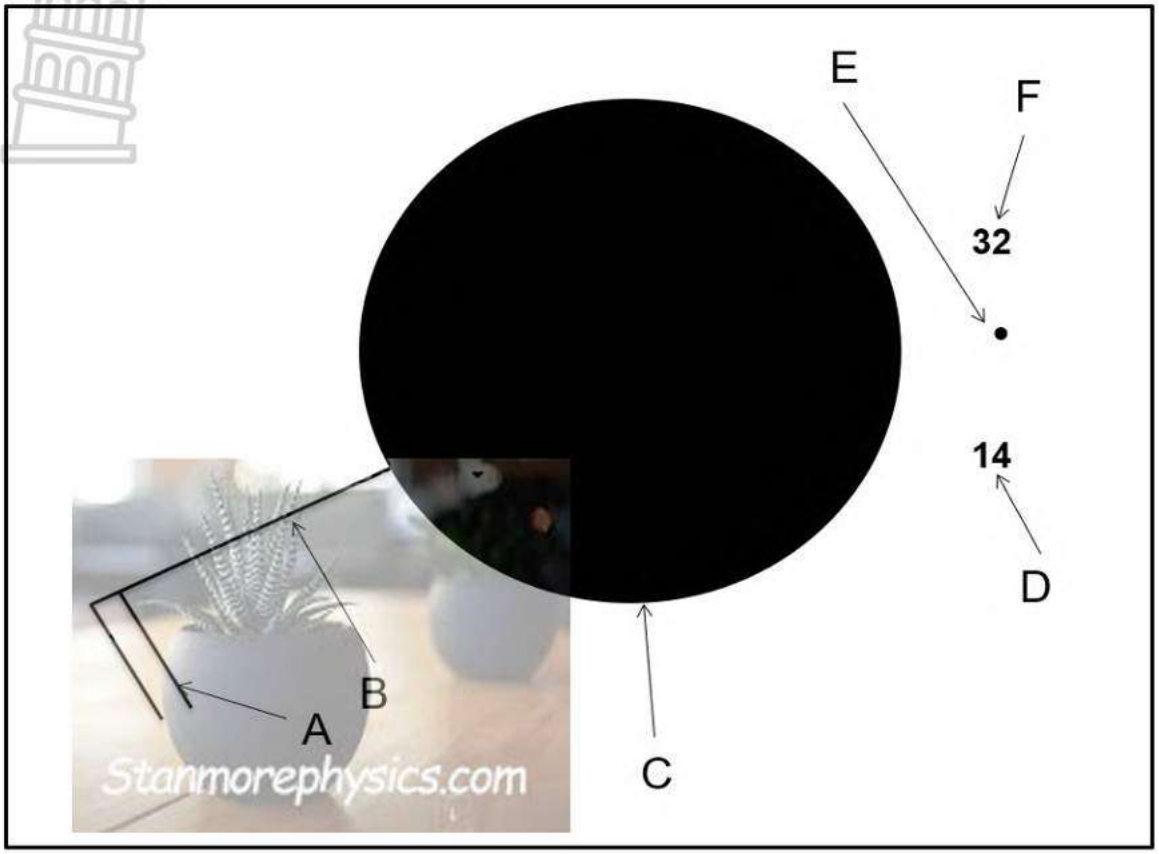
QUESTION 1

1.1 Match the statements in Column A with the terms in Column B. write only the correct letter next to the question number. E.g. 1.1.9. J.

Column A	Column B
1.1.1. The amount of water vapour in the air expressed as a percentage of the amount needed for saturation.	A. Dew point
1.1.2. Transfer of energy in the form of long waves	B. Isotherm
1.1.3. Climate with moderate temperatures, due to the influence of the ocean	C. Terrestrial radiation
1.1.4. The temperature at which condensation begins	D. Leeward
1.1.5. Lines on weather map joining places with same temperature	E. Sublimation
1.1.6. Process whereby water vapour turns into liquid when cooled	F. Relative humidity
1.1.7. Process whereby water changes from ice to gas	G. Maritime
1.1.8. Rain shadow on this side of a mountain	H. Condensation
	I. isobars

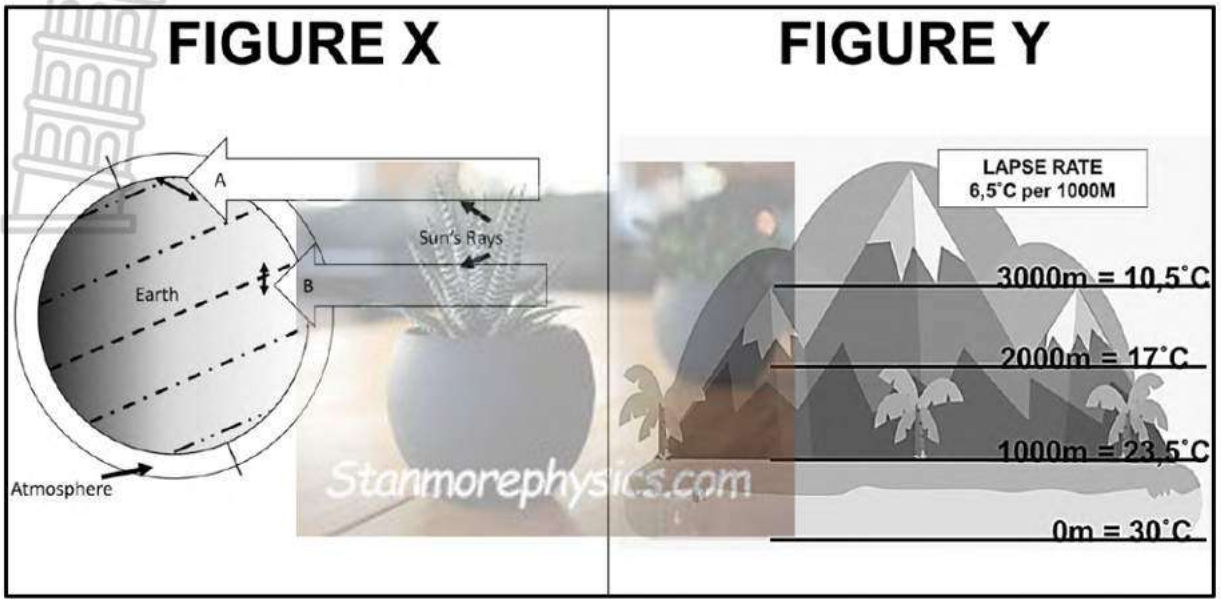
(8x1) (8)

1.2. Refer to the weather station model below and match each statement with a letter on the diagram. Letters may be used more than once.



1.2.1. Letter that shows the cloud cover on the station model.
1.2.2. The type of precipitation.
1.2.3. Dew point temperature is shown.
1.2.4. Wind speed is shown here.
1.2.5. The letter that shows wind direction.
1.2.6. Air temperature in degree Celsius.
1.2.7. Overcast conditions. (7x1) (7)

1.3. Study the figure below which shows the types of heating in the atmosphere and answer the questions that follows.



1.3.1. Name the factor that is causing the difference in temperature in figure X and Y respectively. (2x1)(2)

Refer to Figure X.

1.3.2. Identify the type of sun rays that will take place at the equator and Polar Regions respectively. (2x1)(2)

1.3.3. Is temperature likely to be higher at area A or area B? (1x1) (1)

1.3.4. Provide TWO reasons to support your answer to QUESTION 1.3.3. (2x2) (4)

Refer to figure Y.

1.3.5. Describe how the area of the ground has an effect on the temperature change. (1x2) (2)

1.3.6. Discuss why the temperature would change from sea level to 3000m on the mountain. (2x2)(4)

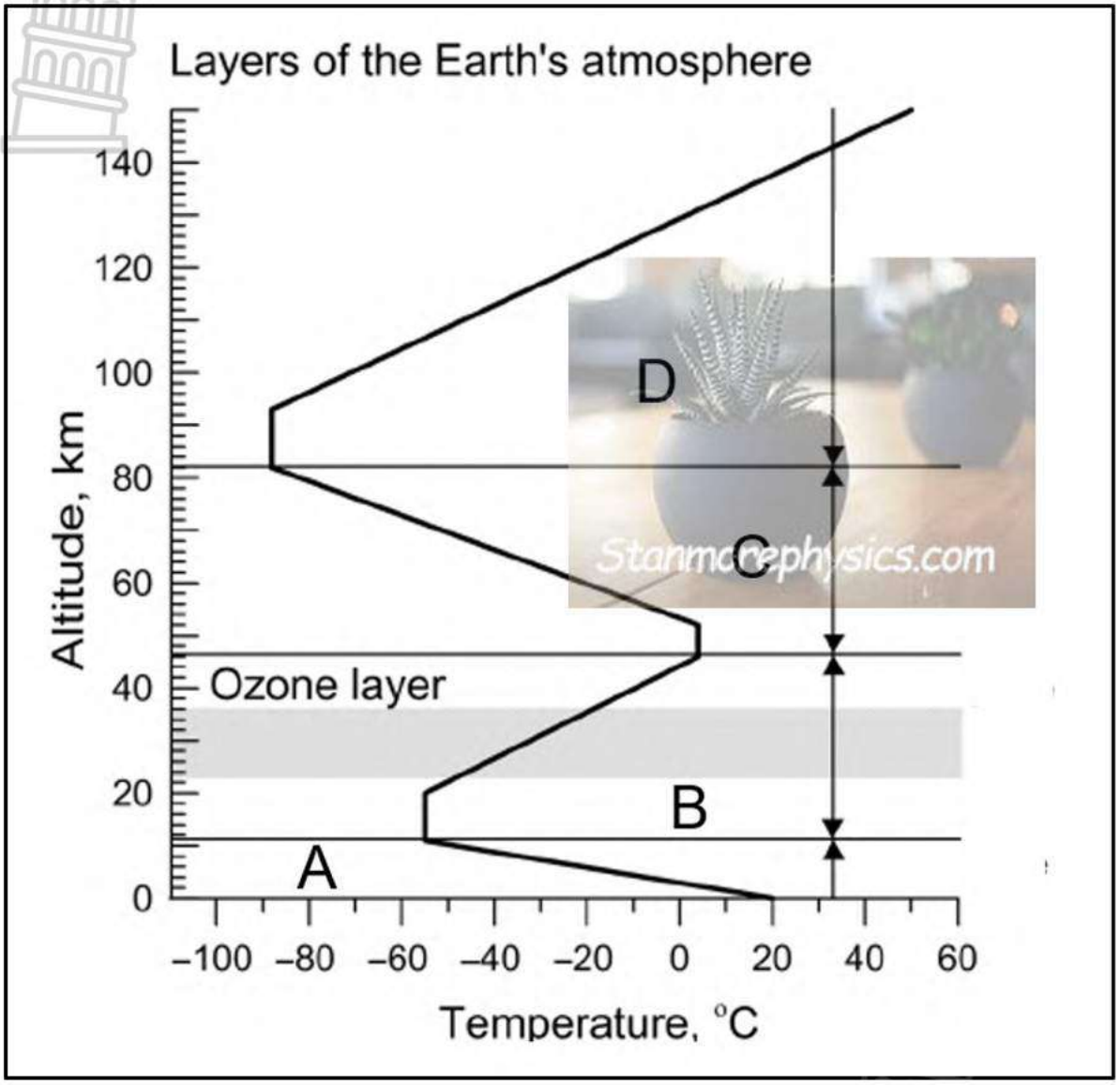
[15]

1.4. Study the picture below and answer the questions that follow.

1.4.1. Name the phenomenon depicted by the picture. (1x1) (1)
1.4.2. Define the phenomenon mentioned in QUESTION 1.4.1. (1x2) (2)
1.4.3. Discuss TWO causes that lead to this phenomenon mention in 14.1.(2x2) (4)
1.4.4. In a paragraph of approximately EIGHT lines, discuss the solutions and strategies to deal with this phenomenon mentioned in 1.4.1. (4x2)(8)

[15]

1.5. Refer to the diagram below, showing the structure of the atmosphere and answer the questions that follow:



1.5.1. Name the layers **A, B, C**, and **D** shown in the diagram above. (4x1)(4)

1.5.2. What gas makes up most of the atmosphere?
(Nitrogen/Oxygen/Argon) (1x1)(1)

1.5.3. In which **TWO** layers do we find an increase in temperature with height? (2x1)(2)

1.5.4. Provide an explanation why the temperature increases in **layer B**. (1x2) (2)

1.5.5. Why do long-distance aircraft choose to fly in the lower part of **layer B**? (1x2)(2)

1.5.6. Explain why **layer A** is such an important layer. (2x2) (4)

THE END **[15]**

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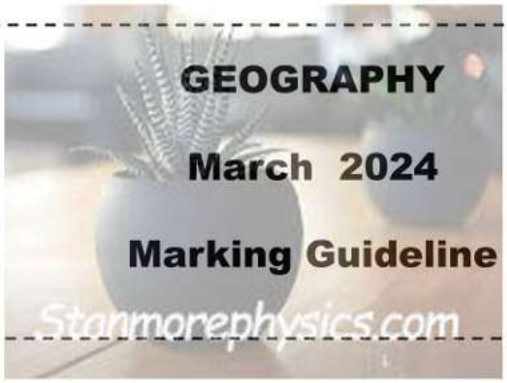

Marks : 60

This marking guideline consist of 4 pages including the cover page.

Question 1

1.1. Match columns.

1.1.1. F.
1.1.2. C
1.1.3. G
1.1.4. A
1.1.5. B
1.1.6. H
1.1.7. E
1.1.8. D (8x1) (8)

1.2. Weather station model.

1.2.1. C
1.2.2. E
1.2.3. D
1.2.4. A
1.2.5. B
1.2.6. F
1.2.7. C (7X1) (7)

1.3. Heating of the atmosphere

1.3.1. X-latitude Y-altitude. (2x1) (2)
1.3.2. Equator- direct rays ; Polar region- oblique rays (2x1) (2)
1.3.3. B. (1x1) (1)
1.3.4. The equator has a smaller surface area to heat in comparison to a larger area at the poles.

The equator receives direct rays while the poles receive oblique rays.(2x2) (4)

1.3.5. The sun heats up the surface of the earth and then heat is radiated back into the atmosphere. (1x2) (2)
1.3.6. The air in the higher atmosphere is less dense and cannot hold heat as easily.

Higher altitudes mean the air is thinner with fewer greenhouse gases therefore less heat is absorbed, resulting in cooler air. (2x2) (4)

1.4. Global warming

1.4.1. Global warming (1x1) (1)

1.4.2. Refer to the increase in average temperature on earth (concept). (1x2) (2)

1.4.3. Cutting down of trees and removal of natural vegetation.

Increase in carbon dioxide from burning fossil fuels in factories, coal-fired power stations, carbon dioxide from the burning of fuels in transport.

Methane from rice paddles, cattle and clathrates.

When the waste in landfills begins to decompose/break down it releases harmful gases into the atmosphere which contribute to global warming. (2x2) (4)

1.4.4. Renewable energies

- The first way to prevent climate change is to move away from fossil fuels, and start using renewable energies such as sola, wind biomass and geothermal.

Sustainable transportation

- Promoting public transportation, carpooling, but also electric and hydrogen mobility, can help reduce carbon dioxide emissions and thus fight global warming.

Sustainable infrastructure

- In order to reduce the carbon dioxide emissions from buildings- caused by heating, air conditioning, hot water or lighting- it is necessary both to build new low energy buildings, and to renovate the existing constructions.

Sustainable agriculture & forest management

- Encouraging better use of natural resources, stopping massive deforestation as well making agriculture greener and more efficient should also be a priority.
- Reforestation is the most cost-effective way to prevent global warming, trees absorb carbon dioxide so planting more trees can help reduce the amount of carbon in our atmosphere.

Ensuring sustainable development

- A successful global compact on climate change must include financial assistance from richer countries to poorer countries to help make the transition to low-carbon development pathways and to help adapt to the impacts of climate change. (4x2) (8)

1.5. Layers of the atmosphere

1.5.1. A-troposphere B-stratosphere C-mesosphere D-thermosphere. (4x1) (4)

1.5.2. Nitrogen. (1x1) (1)

1.5.3. B or stratosphere and D or thermosphere. (2x1) (2)

1.5.4. Layer B contains the ozone layer which absorbs rays therefore increase in temperatures. (1x2) (2)

1.5.5. No weather interference/no wind/ calm/no rain/ no turbulence. (1x2) (2)

1.5.6. Contains gases needed for life e.g oxygen and carbon dioxide

Has oxygen needed for respiration and combustion

Clouds found in this layer protects earth from unkind sun rays

Weather occurs in this layer providing rainfall

Water vapour cools off atmosphere

Water vapour provides earth with moisture e.g. rainfall

Protects earth from harmful sun rays

Protects earth from meteorites

Allows for change in weather to take place as air is able to distribute heat.

(2x2) (4)

End.