education

Department of Education
FREE STATE PROVINCE

GEOGRAPHY

TEST ONE

Stanmorephysics.com

GRADE 10

MARCH 2026

Stanmorephysics.com

MARKS: 60

TIME: 1 HOUR

This question paper consists of 7 pages.

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INSTRUCTIONS AND INFORMATION

1. Answer ALL the questions.
2. Answer the paragraph style questions as follows:

   Discuss ideas in detail.
   Write in the form of a paragraph.
3. ALL diagrams are included in the QUESTION PAPER.
4. Number the answers correctly according to the numbering system used in this question paper.
5. Where possible, illustrate your answers with labelled diagrams.
6. Write clearly and legibly.



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1. Complete the statements in COLUMN A with the options in COLUMN B. Write only **Y** or **Z** next to the question numbers (1.1.1 to 1.1.8).

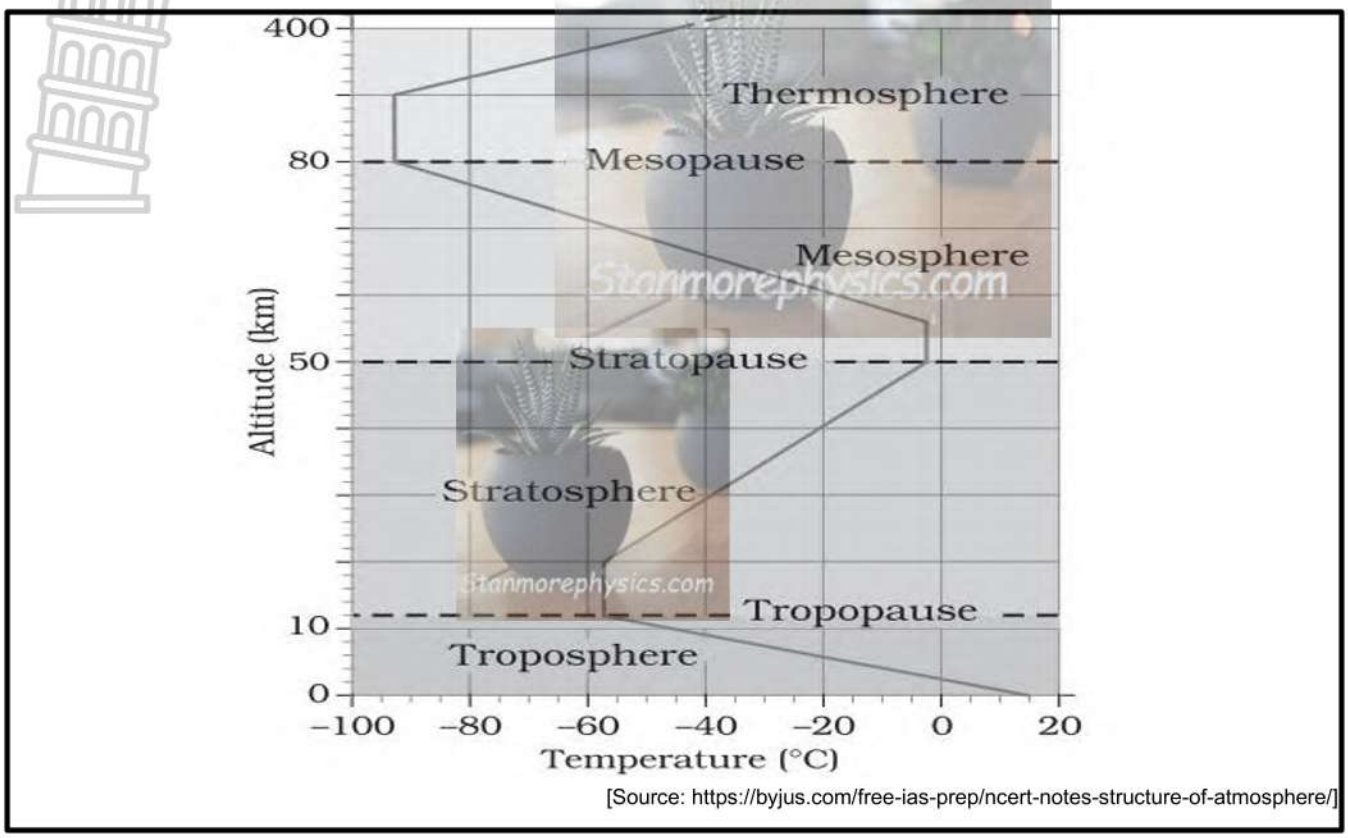
1

	COLUMN A	COLUMN B
1.1.1	Incoming radiation from the sun.	**Y:** Insolation **Z**: Electromagnetic spectrum
1.1.2	When radiation strikes the surface, but is sent back into the atmosphere without being absorbed	**Y:** Reflection **Z**: Refraction
1.1.3	When gases in the atmosphere take in radiation.	**Y:** Scattering **Z:** Absorption
1.1.4	Radiation bouncing off particles of dust in the atmosphere.	**Y:** Scattering **Z:** Reflection
1.1.5	The heat energy that the Earth radiates is…	**Y:** terrestrial radiation. **Z:** latent heat.
1.1.6	When the Earth radiates the same amount of energy that it receives from the sun.	**Y**: Heat imbalance **Z**: Heat balance
1.1.7	The transfer of heat by contact	**Y:** Conduction **Z**: Convection
1.1.8	The transfer of heat by vertical movement.	**Y**: Conduction **Z**: Convection

(8x1) (8)
(8)

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1.2 Refer to the sketch below showing the structure of the atmosphere. Choose the correct word from within the brackets to make each sentence correct. Write only the word next to the question number (1.2.1–1.2.7).



[Source: https://byjus.com/free-ias-prep/ncert-notes-structure-of-atmosphere/]

1.2.1 The coldest layer is the (mesosphere/troposphere).

1.2.2 The (mesosphere/thermosphere) is the furthest from Earth.

1.2.3 A temperature inversion occurs in the stratosphere and the (troposphere/thermosphere).

1.2.4 The (stratopause/tropopause) is the boundary that demarcates the stratosphere from the mesosphere.

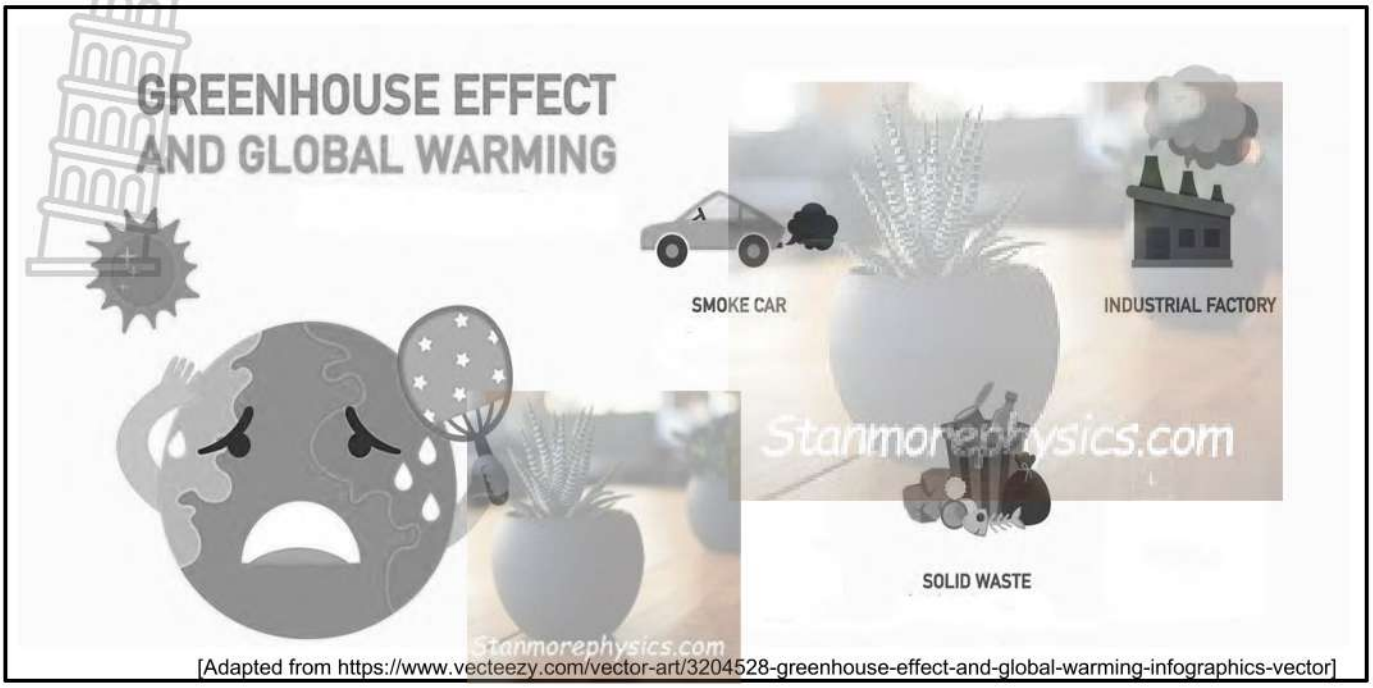
1.2.5 The layer of ozone is found in the (troposphere/stratosphere).

1.2.6 The (troposphere/thermosphere) contains most of the air of the atmosphere.

1.2.7 The (stratosphere/mesosphere) prevents dust and rocks from space entering the lower layers of the atmosphere.

(7x1) (7)
(7)

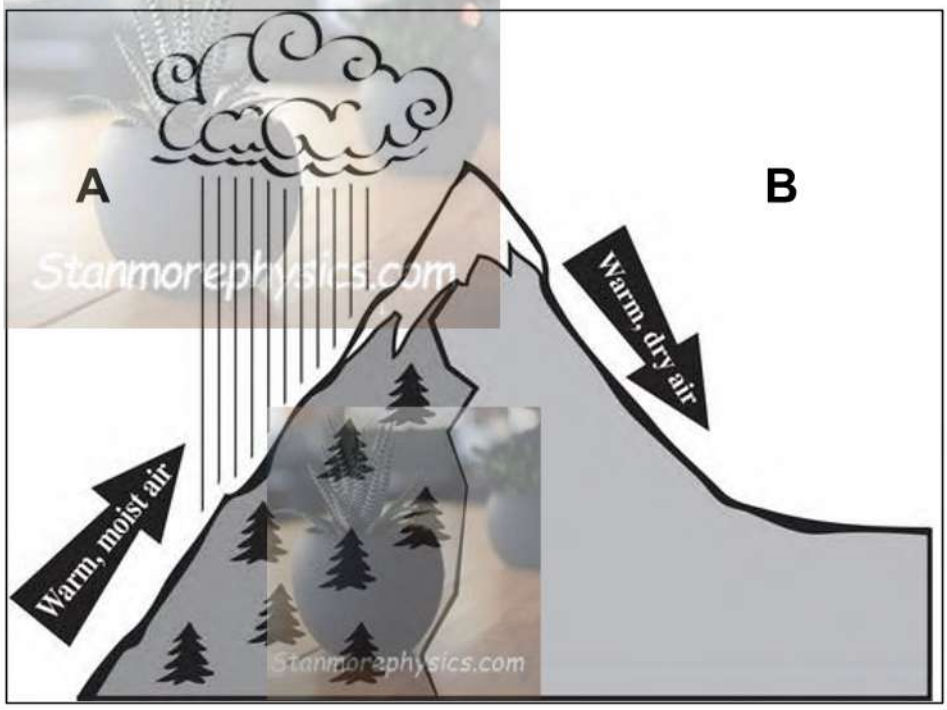
1.3 Refer to the diagram on the greenhouse effect and global warming.



[Adapted from https://www.vecteezy.com/vector-art/3204528-greenhouse-effect-and-global-warming-infographics-vector]

1.3.1	Explain the concept the greenhouse effect.	(1x2)	(2)
1.3.2	According to the diagram, give any TWO human activities that contribute to greenhouse emissions.	(2x1)	(2)
1.3.3	Name ONE greenhouse gas emitted by any of the human activities mentioned in QUESTION 1.3.2.	(1x1)	(1)
1.3.4	Explain how greenhouse gases in the atmosphere will have a negative impact on the environment.	(2x2)	(4)
1.3.5	Suggest THREE strategies that can be implemented to reduce the emission of greenhouse gases.	(3x2)	(6)
			(15)

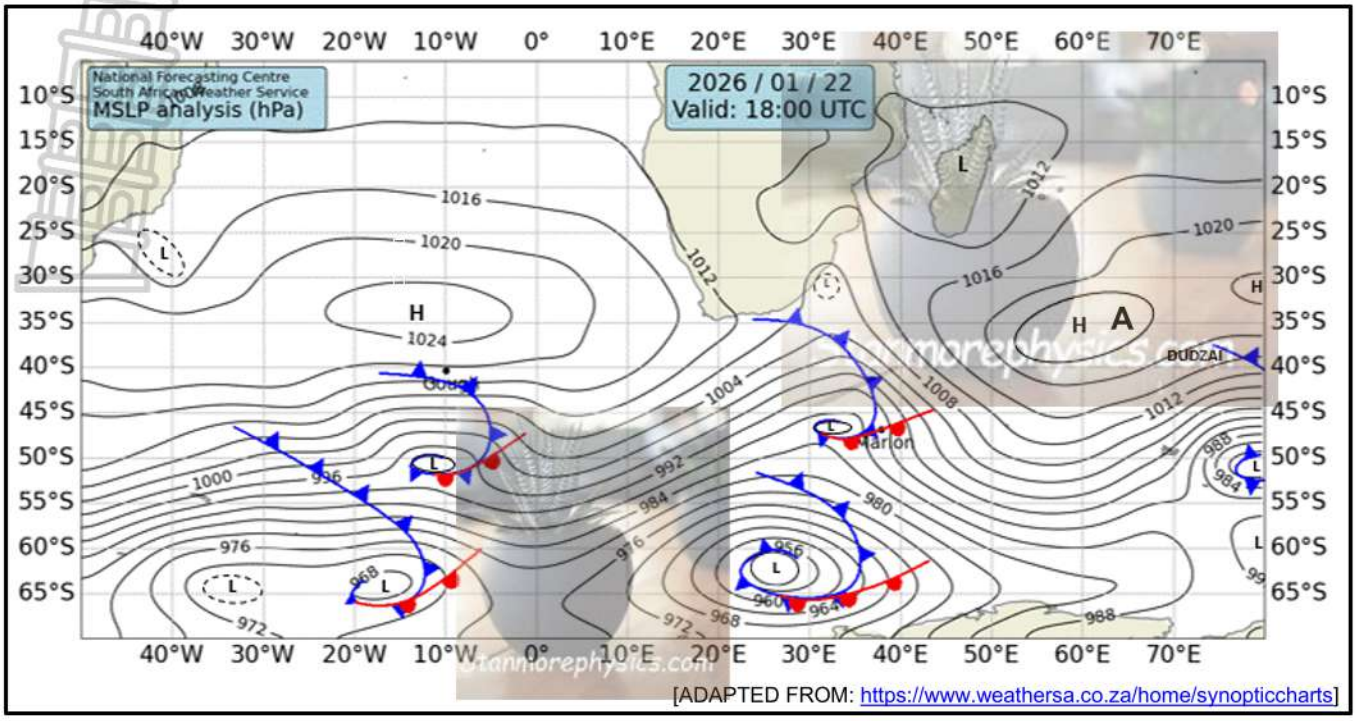
1.4 Refer to the diagram showing a type of rainfall.



[Adapted from: https://www.crackap.com/ap/environmental-science/question-475-answer-and-explanation.html]

1.4.1	Identify the type of rainfall illustrated in the diagram.	(1x1)	(1)
1.4.2	Mention the trigger action that forces air to rise in this diagram.	(1x1)	(1)
1.4.3	Name the slope labeled **A**.	(1x1)	(1)
1.4.4	Explain why rainfall occurs along slope **A** only.	(2x2)	(4)
1.4.5	In a paragraph of approximately EIGHT lines, outline the positive and negative impact of rainfall on farming along slope **A**.	(4x2)	(8)
			(15)

1.5 Refer to the synoptic weather map.



[ADAPTED FROM: https://www.weathersa.co.za/home/synopticcharts]

1.5.1	What is a synoptic weather map?	(1x2)	(2)
1.5.2	What do we call lines joining places with the same pressure on a synoptic weather map?	(1x1)	(1)
1.5.3	Name the high pressure labelled **A**.	(1x1)	(1)
1.5.4	State the season depicted (shown) on the synoptic weather map.	(1x1)	(1)
1.5.5	Give **TWO** pieces of evidence to substantiate your answer in QUESTION 1.5.4.	(2x2)	(4)
1.5.6	Draw a weather station using weather conditions below: Air temperature: 32°C Dew point temperature: 29°C Cloud cover: overcast Precipitation: rain Wind direction: east Wind speed: 20 knots	(6x1)	(6)
			(15)

TOTAL 60

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