Province of the
EASTERN CAPE
EDUCATION

SUBJECT	:	GEOGRAPHY
CODE	:	GEOG
GRADE	:	10
TASK	:	**CONTROLLED TEST MARKING GUIDELINES**
TOTAL TIME	:	1 HOUR
TOTAL MARKS	:	60
IMPLEMENTATION	:	11 MARCH 2024

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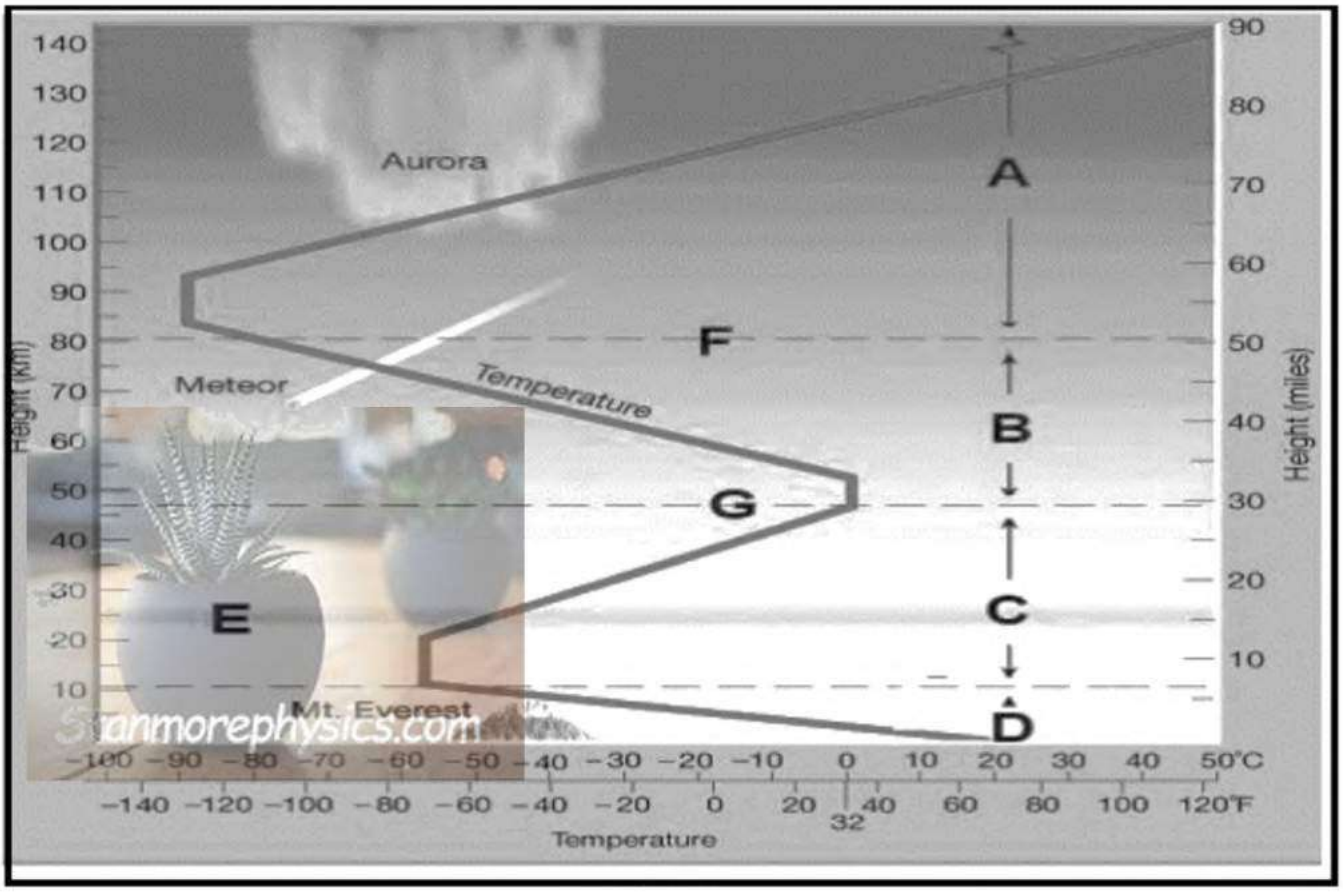
MARKING GUIDELINES

This Question paper consists of 6 pages, including the cover page.

QUESTION 1

1.1 Refer to FIGURE 1.1 below showing the structure of the atmosphere and answer the questions asked

Figure 1.1



1.1.1 Name layer of the atmosphere at D that supports people, plants and animals.

Troposphere✓

1.1.2 Layer G is known as the …

Stratopause✓

1.1.3 The importance the layer at C is ...

Protects the earth from ultra-violet rays from the sun✓

1.1.4 The temperature decreases as altitude increases in layer D and in layer...

B ✓

1.1.5 Temperature increases as altitude increases in layers...and ...

C or E ✓ *and A* ✓

1.1.6 Give the name of the layer where meteors burn up when entering the earth's atmosphere.

Mesosphere ✓

1.1.7 Name the layer where weather processes occur. (8 x 1)(8)

Troposphere ✓

1.2

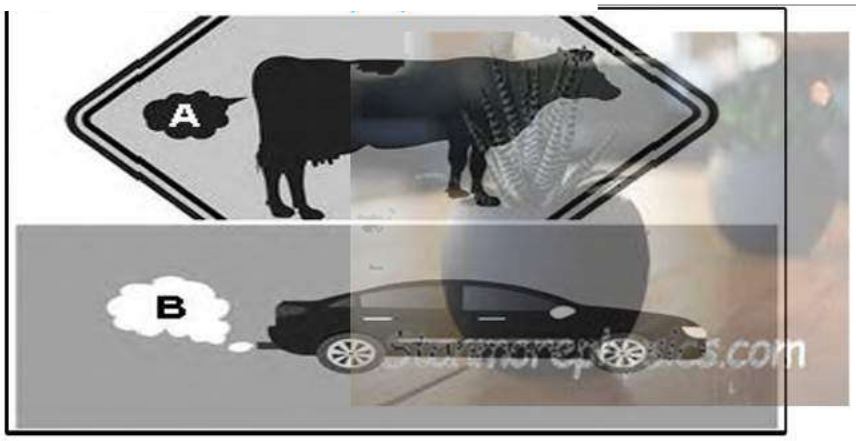
COLUMN A		COLUMN B	
1.2.1	The process by which liquid changes to gas.	*E*	*Evaporation* ✓
1.2.2	The change of state from gas to a solid form of water.	*G*	*Sublimation* ✓
1.2.3	The process by which water vapour in the atmosphere is changed into a liquid.	*B*	*Condensation* ✓
1.2.4	The process where plant leaves release gas into the atmosphere.	*A*	*Evapotranspiration* ✓
1.2.5	The process whereby water is absorbed by the earth's surface.	*F*	*Infiltration* ✓
1.2.6	A process when water is	*D*	*Precipitation* ✓

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	released from clouds in liquid form.		
1.2.7	The process where water is transported in rivers over the land.	*C*	*Runoff* ✔
			(7 X 1) (7)

1.3 Refer to FIGURE 1.3 illustrating the CAUSES OF GLOBAL WARMING below and answer the questions asked.

FIGURE 1.3



1.3.1 Define the concept global warming.

Increase of the average temperature of the globe

1.3.2 Identify TWO causes of global warming marked A and B in FIGURE 1.3.

A – Methane , B – Carbon Monoxide

1.3.3 Describe any TWO impacts that global warming would have on people and the environment.

Global warming will result in the earth's temp increasing ✓✓

Polar ice caps melting ✓✓

Polar bears may drown - Sea level will rise (because of ice caps melting) ✓✓

Coastal cities will flood (because of rising sea levels) ✓✓

Weather patterns may change ✓✓

certain species of plants and animals will be affected ✓✓

Extinction of certain species ✓✓

droughts may be experienced – which may lead to loss of money, poverty, famine, malnutrition and even death ✓✓ [AnyTwo]

1.3.4 You were tasked by the local government to come up with proposals (suggestions) to reduce the impact of global warming. Write a paragraph of not more than EIGHT lines in which you highlight your proposals to reduce global warming.

Reduce the amount of greenhouse gasses released by reducing burning of fossil fuels✓✓

Planting more trees to absorb CO2 ✓✓

Encourage government to make more use of renewable energy resources✓✓

Make use of more non-polluting energy resources e.g. wind power instead

of coal driven power stations✓✓

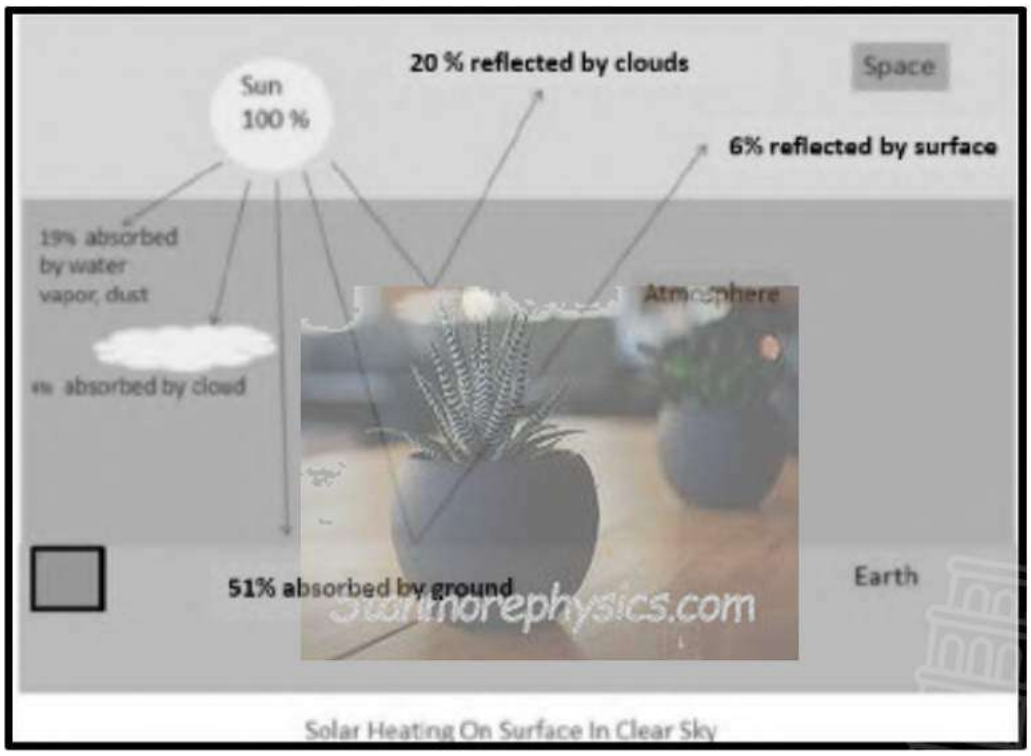
Industries must reduce pollutants released into the atmosphere / place filters on chimneys to absorb smoke✓✓ [Any four]

[Any FOUR]

[15]

1.4 **Refer to FIGURE 1.4 illustrating HEATING OF THE ATMOSPHERE and answer the questions that follow.**

Figure 1.4



1.4.1 What is insolation?

Energy radiated by the sun ✓

1.4.2 List THREE processes responsible for the loss of the sun's heat in the atmosphere.

Radiation ✓ , Reflection ✓, Scattering ✓

1.4.3 How much is the percentage of the sun's energy that eventually reaches the earth?

51% ✓✓

1.4.4 Name the surface responsible for the massive reflection of sun's rays on the earth's surface.
Ocean ✓ / Sea ✓ / Water Bodies ✓ [Any One]

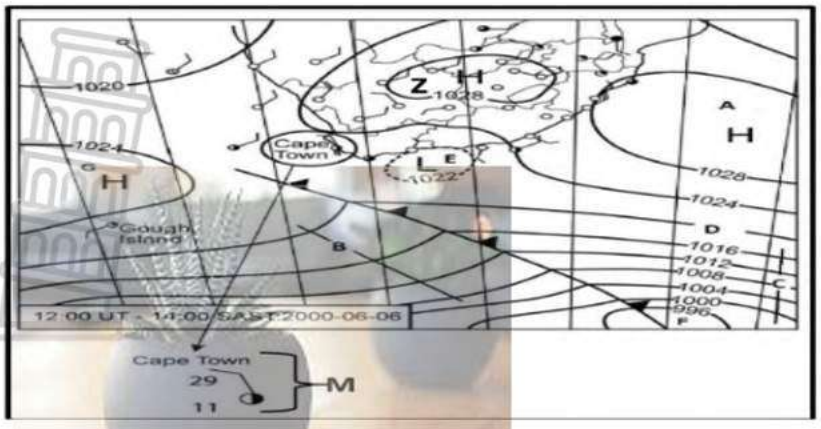
1.4.5 In a paragraph of approximately EIGHT lines, discuss the various ways in which the atmosphere is heated.

Earth's surface absorb longwave incoming solar radiation. ✓✓ Earth's surface re-radiate longwave terrestrial radiation into the atmosphere. ✓✓ Carbon dioxide, water vapour and other greenhouse in the atmosphere absorb re-emitted longwave terrestrial radiation. ✓✓Atmosphere gets heated through convection.✓✓ This increases temperature in the atmosphere. ✓✓ [Any four]

[15]

1.5 Study FIGURE 1.5 showing a SYNOPTIC WEATHER MAP and answer the questions asked.

Figure 1.5



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1.5.1 What is a synoptic weather map?

A map used to show weather conditions of a particular area over a 24 hour period. ✓✓

1.5.2 (Choose the correct answer from those given in brackets). The season represented on the synoptic weather map is (**summer / winter**) season.

Winter✓

1.5.3 Provide a reason for your choice in question 1.5.2 above.

The date shows a winter season ✓✓

1.5.4 Explain why does point Z experience no rainfall?

There are clear skies in the central interior✓✓ *Presence of the High Pressure Cell*✓✓ *[Any one]*

1.5.5 State the importance of the line marked D on the synoptic weather map.

To join all places with the same recording of atmospheric pressure on the synoptic weather map. ✓✓

1.5.6 State the recording of atmospheric pressure reading at D.

1020✓

1.5.7 Refer to the enlarged weather station labelled M.

(a) Describe the cloud cover, wind direction and wind speed in Cape Town.

Cloud cover 2/4, ✓*wind direction is north westerly,* ✓ *wind speed is 10 knots*✓

(b) Explain why does Cape Town experience less chances of rainfall.

Huge difference between air temperature and dew point temperature. ✓✓