education

Department of Education
FREE STATE PROVINCE

GEOGRAPHY

TEST ONE

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GRADE 10

MARKING GUIDELINE

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This MARKING GUIDELINE consists of 5 pages.

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1.1 1.1.1 **Y** (Insolation) (1)

1.1.2 **Y** (Reflection) (1)

1.1.3 **Z** (Absorption) (1)

1.1.4 **Y** (Scattering) (1)

1.1.5 **Y** (Terrestrial radiation) (1)

1.1.6 **Z** (Heat balance) (1)

1.1.7 **Y** (Conduction) (1)

1.1.8 **Z** (Convection) (1)

(8x1) (8)

1.2 1.2.1 Mesosphere (1)

1.2.2 Thermosphere (1)

1.2.3 Thermosphere (1)

1.2.4 Stratopause (1)

1.2.5 Stratosphere (1)

1.2.6 Troposphere (1)

1.2.7 Mesosphere (1)

(7x1) (7)

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1.3 1.3.1 The process whereby heat is trapped close to the surface of the earth by greenhouse gasses (2)
[CONCEPT] (1x2) (2)

1.3.2 Car smoke (1)
Industrial factory (1)
Solid waste (1)
[ANY TWO] (2x1) (2)

1.3.3 Carbon dioxide (CO_2) (1)
Methane (CH_4) (1)
Nitrous oxide (N_2O) (1)
[ANY ONE] (1x1) (1)

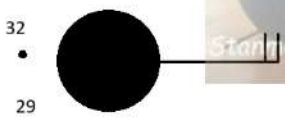
1.3.4 Global temperature rises and leads to the melting of ice caps (2)
Plants and animals that cannot adapt to higher temperatures die and become extinct (2)
More droughts and floods (2)
Warmer oceans lead to marine life and coral reefs to die (2)
Heat waves (2)
[ANY TWO] (2x2) (4)

1.3.5 Introduce measures to save electricity (2)
Switch to renewable sources of generating electricity (2)
Introduce carbon tax on generation of electricity (2)
Introduce an energy tax on combined heat and power (2)
Trade in petrol/diesel vehicles for EVs or hybrids. (2)
Plant trees/Afforestation, it can help absorb CO_2. (2)
People to opt for public transport, carpool, or cycle/walk when possible. (2)
Waste management, recycle, compost, and reduce single-use plastics. (2)
Educating people of ways in which they can conserve energy/Awareness campaigns. (2)
[ANY THREE] (3x2) (6)

(15)

1.4	1.4.1	Relief/Orographic (rainfall) (1)	(1x1)	(1)
	1.4.2	Mountain (1)	(1x1)	(1)
	1.4.3	A-Windward (slope) (1)	(1x1)	(1)
	1.4.4	Warm and moist air rises along slope A. (2) Rising air cools down and condenses (2) No condensation on leeward side where air sinks (2) and heats up (2) **[ANY TWO]**	(2x2)	(4)
	1.4.5	**POSITIVE** Irrigation of crops. (2) This rainfall fills rivers, lakes, and underground water tables, providing a sustainable water supply for both crops and livestock. (2) High soil fertility. (2) Help with moderating temperatures, creating a cooler, more favourable environment for specific crops that grow well under cooler conditions. (2) **NEGATIVE** Erosion of fertile soil. (2) High, persistent volumes of water can cause waterlogging in the soil, depriving roots of oxygen and causing root rot, which can kill crops. (2) Intense, heavy rainfall can physically damage, drown, or wash away young seeds and seedlings. (2) Can trigger landslides, damaging crops, farm infrastructure and blocking access roads. (2) **[ANY FOUR, RESPONSES MUST REFER TO BOTH POSITIVES AND NEGATIVES]**	(4x2)	(8)
				(15)

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1.5	1.5.1	A map showing a summary of the weather conditions. (2) **[CONCEPT]**	(1x2)	(2)
	1.5.2	Isobars. (1)	(1x1)	(1)
	1.5.3	South Indian (high pressure/anticyclone) (1)	(1x1)	(1)
	1.5.4	Summer (1)	(1x1)	(1)
	1.5.5	Date (Summer month) (2) Cold front passing further south. (2) The high pressures further south (2) **(ANY TWO)**	(2x2)	(4)
	1.5.6	 Air temperature (1) Dew point temperature (1) Cloud cover (1) Precipitation (1) Wind direction (1) Wind speed (1)	(6x1)	(6)
				(15)

TOTAL 60