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education

Department:
Education
North West Provincial Government
REPUBLIC OF SOUTH AFRICA

PROVINCIAL ASSESSMENT

GRADE 10

GEOGRAPHY P1
NOVEMBER 2024
MARKING GUIDELINES

MARKS: 150

These marking guidelines consist of 9 pages.

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SECTION A: THE ATMOSPHERE AND GEOMORPHOLOGY

QUESTION 1: THE ATMOSPHERE

1.1	1.1.1	Evaporation (1)		
	1.1.2	Condensation (1)		
	1.1.3	Precipitation (1)		
	1.1.4	Precipitation (1)		
	1.1.5	Evaporation (1)		
	1.1.6	Condensation (1)		
	1.1.7	Condensation (1)	(7 x 1)	(7)
1.2	1.2.1	Reflecction (1)		
	1.2.2	Insolation (1)		
	1.2.3	Radiation (1)		
	1.2.4	Conduction (1)		
	1.2.5	Convection (1)		
	1.2.6	Albedo (1)		
	1.2.7	Ocean currents (1)		
	1.2.8	Solar radiation (1)	(8 x 1)	(8)
1.3	1.3.1	The atmosphere is the air that surrounds the Earth. (**CONCEPT)**	(1 x 2)	(2)
	1.3.2	Colder (1) and decreases (1)	(2 x 1)	(2)
	1.3.3	Temperature increases (1)	(1 x 1)	(1)
	1.3.4	The reaction between sunlight and the ozone in the upper stratosphere generates heat. (2)	(1 x 2)	(2)
	1.3.5	Stratosphere (1)	(1 x 1)	(1)
	1.3.6	CFCs used in propellant of aerosol sprays (1) CFCs used in coolants in refrigerators (1) CFCs used in air conditioning systems (1) Global warming (1)		

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Unregulated rocket lounges (1)
Nitrogenous combustion (1)
[ANY ONE] (1 x 1) (1)

1.3.7 The Ozone layer absorbs most of the Sun's harmful UV rays and acts as a natural sun shield. (2) (1 x 2) (2)

1.3.8 People should try to use products labelled "ozone friendly" (2)
All CFCs should be replaced (2)
Plant more trees (2)
Use public transport (2)
Educational awareness programmes (2)
Save electricity (2)
Use a higher standard of electrical appliances (2)
Carbon tax (2)
Energy tax (2)
Set carbon emission limits (2)
Use electric vehicles (2)
Reduce the use of fertilizers (2)
Expand methane extraction (2)
[ANY TWO] (2 x 2) (4)

1.4.1 Increasing temperature near earth surface
[CONCEPT] (1 x 2) (2)

1.4.2 Burning of coal for power generation (1)
Burning of oil-based fuels for transport. (1)
Deforestation (1)
Overgrazing (1)
[ANY ONE] (1 x 1) (1)

1.4.3 Extreme drought (1)
Unprecedented floods (1) (2 x 1) (2)

1.4.4 Water stress – less rainfall warm temperature – high evaporation (1)
Crop failure – less rainfall/flooding (1)
Infrastructure damage – flooding extreme weather conditions (1)
Humanitarian crisis – drought/flooding can lead to poverty (1)
[ANY TWO] (2 x 1) (2)

1.4.5 Reduce greenhouse gas emissions (2)
Finding alternatives for fossil fuels – switch to renewable sources of energy. (2)
Create public awareness – encourage others to conserve (2)
Saving energy – buying energy-efficient products (2)
Use recyclable products (2)
Use less heat and air conditioning (2)

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Drive less and smart – make use of public transport – drive electrical vehicles(2)
[ANY FOUR] (4 x 2) (8)

1.5 1.5.1 Isobars (1) (1 x 1) (1)

1.5.2 High-pressure cell (1) (1 x 1) (1)

1.5.3 Atmospheric pressure reading is increasing towards the centre of the pressure cell.(2) (1 x 2) (2)

1.5.4 5 knots (1) (1 x 1) (1)

1.5.5 Cold front (1) (1 x 1) (1)

1.5.6 Frontal (1) (1 x 1) (1)

1.5.7 Warm air rises up the cold air (2)
Warm air rises and cools (2)
The water vapour condenses and clouds form. (2)
[ANY TWO] (2 x 2) (4)

1.5.8 <u>Convectional rainfall:</u>
The earth's surface is heated up by the Sun.(2)
The warm surface also heats up the air. (2)
Warm air rises by convection, water vapour condenses into towering cumulonimbus clouds. (2)
Heavy rainfall falls in short showers. (2)
[ANY ONE]
<u>Orographic rainfall:</u>
Precipitation/ rainfall produced by/ when the mountains of uploads act as barriers to any flow forcing it to rise (2)
The moist air moving upslope cool down and confederate- thereby producing rainfall. (2)
[ANY ONE] **(**2 x 2**)** (4)
[60]

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QUESTION 2: GEOMORPHOLOGY

2.1	2.1.1	Z (1)		
	2.1.2	Y (1)		
	2.1.3	Y (1)		
	2.1.4	Y (1)		
	2.1.5	Y (1)		
	2.1.6	Z (1)		
	2.1.7	Z (1)		
	2.1.8	Y (1)	(8 x 1)	(8)
2.2	2.2.1	D (1)		
	2.2.2	D (1)		
	2.2.3	C (1)		
	2.2.4	B (1)		
	2.2.5	D (1)		
	2.2.6	A/D (1)		
	2.2.7	A (1)	(7 x 1)	(7)
2.3	2.3.1	The theory that describes the earth's surface consisting of several plates that are slowly moving: (2) **[CONCEPT]**	(1 x 2)	(2)
	2.3.2	a) convergent (1) b) transform fault (1) c) divergent (1)	(3 x 1)	(3)
	2.3.3	Island arcs/ Volcanic islands(1) **[ANY ONE]**	(1 x 1)	(1)
	2.3.4	Fold mountains (1)	(1 x 1)	(1)
	2.3.5	A mid-oceanic ridge: forms when two oceanic plates are moving apart from one another. (2) As they pull apart, magma rises and solidifies on the surface to create new land. (2)		

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Oceanic trenches:
form when a denser oceanic plate collides with a less dense continental plate (2).
The denser oceanic plate slides beneath the less. (2)
[ANY TWO] (2 x 2) (4)

2.3.6 The plates float on the molten mantle (2)
The crust of the earth is broken into several large pieces that constantly move in different directions. (2)
The crust of the earth had broken into seven plates which move around on the molten outer mantle. (2)
The different plates can move away and towards one another on the molten mantle of the earth. (2)
The plates are not fixed and can move because it slide around on the liquid and molten outer mantle of the earth. (2)
[ANY TWO] (2 x 2) (4)

2.4 2.4.1 Seismometer/ Seismograph (1)
[ANY ONE] (1 x 1) (1)

2.4.2 Place directly above the focus at the surface21)
[CONCEPT] (1 x 2) (2)

2.4.3 Kleksdorp/Orkney (1) (1 x 1) (1)

2.4.4 " It can cause damage to buildings with poor construction, and everybody will feel its tremors". (1) (1 x 1) (1)

2.4.5 Underground excavation can lead to stressors that cause earthquakes.(2) (1 x 2) (2)

2.4.6 **EFFECTS:**
Lead to injuries. (2)
Financial problems (2)
Deaths (2)
Destruction of infrastructure (2)

REDUCED IMPACT:
Locate active fault zones (2)
Identify high-risk areas (2)
Predict where earthquakes might strike (2)
Make sure emergency services are in place (2)
Build dams along fault lines to absorb the shocks (2)
Strengthen existing infrastructure and houses (2)
Build strong breakwaters to protect coastal areas (2)
Built earthquake-resistant buildings (2)
Early warning systems for tsunamis (2)
Build houses on higher ground (2)
Build specially strengthened buildings (2)

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Educate people (about the danger of earthquakes (2)
Having disaster supplies on hand (2)
[ANY FOUR] (4 x 2) (8)

2.5 2.5.1 Opening in the earth's surface from which magma erupts as lava. (1 x 2) (2)

2.5.2 stratovolcano/(1)
composite (1)
[ANY ONE] (1 x 1) (1)

2.5.3 Very tall volcano with steep slopes (2)
Alternating layers of ash and lava (2)
[**ANY ONE]** (1 x 2) (2)

2.5.4 Vent: opening or mouth of a volcano (2)
Crater: is the depression (hallow) at the top of the volcano (2)
[ANY TWO] (2 x 2) (4)

2.5.5 Volcanic ash can act as a fertilizer for soil (2)
Volcanic regions such as Hawaii become tourist attractions (2)
Underground water in volcanic areas is hot enough to use for heating systems and electricity generation (2)
[ANY THREE] (3 x 2) (6)
[60]

TOTAL SECTION A: 120

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SECTION B

QUESTION 3: GEOGRAPHICAL SKILLS AND TECHNIQUES

3.1	3.1.1	D (1)	(1 x 1)	(1)
	3.1.2	B (1)	(1 x 1)	(1)
	3.1.3	C (1)	(1 x 1)	(1
	3.1.4	1cm on the map represents 50 000 cm in reality (1)	(1 x 1)	(1)
	3.1.5	Actual Distance = 1.5 (1) cm x 500 m (Range 1.4 – 1.6) = 750 m (1) (Range 700 – 800 m)	(2 x 1)	(2)
	3.1.6	218º (2) (Range 217°to 219º)	(1 x 2)	(2)
	3.1.7	218º (1) + 26º 16' W = 244º 16' W (1)	(2 x 1)	(2)
3.2	3.2.1	Shows the same area of land (1) Both have contour lines (1) Both have ratio and linear scales **[ANY ONE]**	(1 x 1)	(1)
	3.2.2	King Shaka International (1)	(1 x 1)	(1)
	3.2.3	Morning (1)	(1 x 1)	(1)
	3.2.4	The shadows fall in a south-westerly direction. (2)	(1 x 2)	(2)
	3.2.5	Cheaper to be produced. (1) More accurate and readily updated if needed. (1) Larger scale means more details can be seen. (1) **[ANY ONE]**	(1 x 1)	(1)
	3.2.6	Reduce the windspeed, to protect crops (2) Aesthetic appeal (2) **[ANY ONE]**	(1 x 2)	(2)
	3.2.7	Gentle (1)	(1 x 1)	(2)
	3.2.8	Contour lines are spaced far apart (2)	(1 x 2)	(2)
	3.2.9	National Road (1)	(1 x 1)	(1)

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3.3	3.3.1	Collection, storing, and displaying of spatial data **[CONCEPT]**	(1 x 2)	(2)
	3.3.2	Collect, manage, analyse, and visualize spatial data, providing valuable insights and informing decision-making processes. (2)	(1 x 2)	(2)
	3.3.3	scanner (1) Keyboard (1) **[ANY ONE]**	(1 x 1)	(1)
	3.3.4	Remote sensing (1)	(1 x 1)	(1)
	3.3.5	Computers are faster/ cheaper/efficient (2) More information is coming into the world (2) The world's problems exist in a geographical context (2) GIS can be used in daily life, e.g. choosing a nearby school (2) **[ANY ONE]**	(1 x 2)	(2)
			TOTAL SECTION B:	**30**
			GRAND TOTAL:	**150**

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