education

Department of Education
FREE STATE PROVINCE

GEOGRAPHY

TEST ONE

GRADE 11

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MARKING GUIDELINE

This Marking Guideline consists of 6 pages.

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QUESTION 1

1.1 The atmosphere

1.1.1	B	(1x1)	(1)
1.1.2	B	(1x1)	(1)
1.1.3	A	(1x1)	(1)
1.1.4	A	(1x1)	(1)
1.1.5	C	(1x1)	(1)
1.1.6	C	(1x1)	(1)
1.1.7	B	(1X1)	(1)
			(7)





1.2 Pressure belts, winds and geostrophic flow

1.2.1	convergence	(1x1)	(1)
1.2.2	Equatorial low-pressure Belt	(1x1)	(1)
1.2.3	subtropical high-pressure belt	(1x1)	(1)
1.2.4	Westerlies	(1x1)	(1)
1.2.5	pressure gradient	(1x1)	(1)
1.2.6	Coriolis force	(1x1)	(1)
1.2.7	Parallel	(1x1)	(1)
1.2.8	Southern	(1x1)	(1)
			(8)

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1.3 The **Föhn winds**

concept

1.3.1 Föhn winds are warm dry winds that descend o the leeward slopes of mountain. (2) (1x2) (2)

season

1.3.2 Winter (1) (1x1) (1)

why the wind is warmer and dry

1.3.3 As the air descends on the leeward side of the mountain, it warms rapidly at the DALR because now there is little moisture in the air/ and a drop in relative humidity (RH). (2) (1x2) (2)

why the windward side is usually wet/ rainy.

1.3.4 Moist air rising up the windward slope, cools as it ascends. (2) The air cools and causes water vapour to condense to form clouds, then there will be rain or snow on the windward slope. (2)
Any ONE (1x2) (2)

Impacts of the **Föhn winds** on the natural environment and management strategies

1.3.5 IMPACT ON NATURAL EVIROMENT

- Föhn winds may cause drought conditions. (2)
- Dry out the vegetation (2)
- Promote the ignition and rapid spread of the forest fires (veld fires). (2)
- They may also melt the snow, causing avalanches and floods (2)

MANAGEMENT STRATEGIES

- Early warning systems (2)
- Educating the public about the risks and potential impact of (2)
- Föhn winds on the natural environment can help foster a sense of responsibility towards its protection. (2)
- Raising awareness about the importance of conserving natural resources and taking preventive actions can lead to a collective effort to reduce the impact of these winds (2)
- Plant windbreaks: Create natural barriers using trees and shrubs to reduce the direct impact of Föhn winds on the environment. (2)
- Planting dense vegetation along the perimeter of susceptible areas can help protect plants, soil, and wildlife. (2)
- Preserve natural habitats: Protecting natural habitats can help safeguard the flora and fauna from the destructive force of Föhn winds. (2)
- By preserving forests, wetlands, and other natural areas, the impact of these winds can be minimized. (2)

(4x2) (8)

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ANY FOUR: MUST REFER TO BOTH THE IMPACT AND THE MANAGEMENT STRATEGIES.

[15]

1.4 Infograph on the role of oceans in climate control in Africa

diurnal temperature range

1.4.1 Difference between the high temperatures of the day and the low temperatures of the night (2) (1x2) (2)

city with the smallest diurnal temperature range?

1.4.2 Durban (1)
8ºC (1) (2x1) (2)

ocean current **A** and **B**

1.4.3 **A** cold Benguela current (1)
B warm Agulhas current (1) (2x1) (2)

wind that blows from the ocean

1.4.4 Onshore winds (1) (1x1) (1)

why ocean current **A** is responsible for cold and dry west coastal conditions

1.4.5
- The air above the cold ocean currents is cold and prevailing winds blow this cold air towards the land (west coast)(2), decreasing the temperatures of (coastal regions), places they flow past (2)/ The cold Benguela ocean current cools the temperature of places on the west coast (2)
- The air above the cold ocean current holds little water vapour/ little moisture so places washed by cold Benguela current are drier. (2)

(ANY TWO 2: MUST REFER TO BOTH TEMPERATURE AND MOISTURE) (2x2) (4)

Account for warm temperatures and high rainfall in Durban

1.4.6
- The air above the warm ocean currents is warm and prevailing winds blow this warm air towards the land, raising the temperatures of places they flow past (2)/
- The warm Agulhas Ocean current raises the temperature of places on the east coast of South Africa (2)
- The air above the warm ocean current holds more water vapour and therefore is more likely to bring rain in Durban. (2)

(ANY TWO 2: MUST REFER TO BOTH TEMPERATURE AND RAINFALL) (2x2) (4)

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1.5 Synoptic weather map

season — 1.5.1 a) Winter (1) (1x1) (1)

evidence from the synoptic weather map. — b) Clear skies on the east and the interior of the country (2)
Presence of cold front in the interior of the country (2) / (midlatitude cyclone) (2)
South Atlantic High-pressure cell is close to the continent (2)
ANY ONE (1x2) (2)

isobaric interval — 1.5.2 4 hPa (1) (1x1) (1)

High pressure system on the west — 1.5.3 South Atlantic High-pressure cell (1) (1x1) (1)

how the high-pressure system identified in **Q 1.5.3** affects the weather — 1.5.4 It brings cold and dry weather conditions (2) (1x2) (2)

wind strength between line D-E and line G-F in respect to spacing of the isobars. — 1.5.5 D-E: weak winds or low wind speed; gentle pressure gradient (2)
G-F: strong winds or fast wind speed; steep pressure gradient (2) (2x2) (4)

weather conditions experienced in Durban — 1.5.6 Air temperature: 35ºC (1)
Dew point temperature: 3ºC (1)
Cloud cover: clear skies (1)
Wind speed: 10 knots (1)
Wind direction: South Westerly (1)
Precipitation: none (1)
ANY FOUR (4x1) (4)

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TOTAL 60

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