education

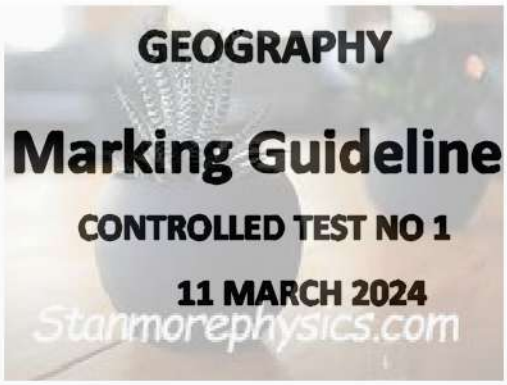
MPUMALANGA PROVINCE

REPUBLIC OF SOUTH AFRICA



GRADE 11

Steve Tshwete 3



MARKS: 60

This memo consist of 5 pages.

1.1 1.1.1 F (Westerlies) (1)

1.1.2 D (Earth's radiation) (1)

1.1.3 E (ITCZ) (1)

1.1.4 A (Air pressure gradient) (1)

1.1.5 H (Jet stream) (1)



1.1.6 B (Adiabatic) (1)

1.1.7 I (Polar front) (1)

1.1.8 C (Air mass) (1) (8 x 1) (8)

1.2 1.2.1 Polar (1)

1.2.2 Hadley (1)

1.2.3 Ferrel cell (1)

1.2.4 Hadley (1)

1.2.5 Polar (1)

1.2.6 Ferrel (1)

1.2.7 Hadley (1) (7 x 1) (7)

1.3 1.3.1 It affects only smaller areas and only blows at certain times of the year (1)

[**CONCEPT**] (1 x 1) (1)

1.3.2 Windward (1) (1 x 1) (1)

1.3.3 Moist air rising on the windward side of the mountain (1)
Cooling causes water vapour to condense to form clouds (1)
Clouds are evident at **A** (1)
[**ANY ONE**] (1 x 1) (1)

1.3.4 Moisture is released at the windward side (2)
Moisture evaporates as air descents (2)
The temperature increases adiabatically as air descents (2)
[**ANY TWO**] (2 x 2) (4)

1.3.5 There is a possibility of fires that can cause destruction (accept examples) (2)
Vegetation/crops can dry out, affecting agriculture (2) It can cause dehydration of the vulnerable like children and the aged (2)
It can cause snow to melt in certain countries causing avalanches and floods (2)
Due to floods, avalanches can cause widespread destruction and even death (2)
Crops can get washed away (2)
[ANY FOUR] (4 x 2) (8)

1.4

1.4.1 Isobars (1x1)(1)

1.4.2 4 hPa / 4 mb (1x2)(2)

1.4.3 J-(Warm) Mozambique / Agulhas current (1x1)(1)

K-(Cold) Benguela current (1x1)(1)

1.4.4 Cold front (1x1)(1)

1.4.5 The warm ocean current raises the temperature along the East Coast (2) and as a result the air contains more moisture (2)
The air is (relatively) moist / has more moisture content (2) and

high temperature / cold (2) (2x2)(4)

1.4.6 (a) Cloud cover - $\frac{1}{2}$
(b) Air temperature - 24^0C
(c) Dew Point temperature - 16^0C
(d) Wind direction - South west
(e) Wind speed - 10 knots (5x1)(5)

1.5

1.5.1 Drought is a lengthy period with little or no rainfall that impacts on the demands of human activities (1)
(**Concept**) (1 x 2) (2)

1.5.2 A – Hydrological drought (1)
B– Meteorological drought (1)
C – Agricultural drought (1) (3 x 1) (3)

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1.5.3 If there is a decrease in rainfall the crop output will also decrease (2) The longer a meteorological drought exists, the less the agricultural output will be (2) (2 x 2) (4)

1.5.4 Water shortages can lead to conflicts between community members (2)
Unproductive land leads to poverty (2)
Rural-urban migration due to food shortages and food insecurity (2)
Multiplier effect of rural-urban migration (2)
Job shortages due to less investment, leads to social evils like drug abuse, gangsterism, prostitution, etc. (2)
(**Any Three**) (3 x 2) (6)