Province of the
EASTERN CAPE
EDUCATION

GEOGRAPHY

GRADE 11

MARCH 2025

Stanmorephysics.com

CLIMATOLOGY

MEMORANDUM

Stanmorephysics.com

MARKS : 60

TIME : 1 HOUR

This question paper consists of 4 pages.

mark middleton |

1.1 SHORT QUESTIONS

1.1.1 Westerlies (1)
1.1.2 Equator (1)
1.1.3 Tropical easterlies (1)
1.1.4 Polar front (1)
1.1.5 Southern (1)
1.1.6 Westerlies (1)
1.1.7 Planetary winds (1) (7x1) (7)

1.2
1.2.1 A (1)
1.2.2 B (1)
1.2.3 A (1)
1.2.4 C (1)
1.2.5 A (1)
1.2.6 B (1)
1.2.7 C (1)
1.2.8 D (1) (8x1) (8)



1.3 SYNOPTIC CHART

1.3.1 Low pressure cell in the interior (1)
High temperatures over the interior of South Africa (1)
Cold front more to the South of the land (1)
High pressure cells South of the land (1) (2x1) (2)
Date: 25/02/2010 (1)
[Any TWO]

1.3.2 South Indian High (1) (1x1) (1)

1.3.3 Atmospheric pressure increases towards the centre (2)
Highest atmospheric pressure found in the centre (2)
Atmospheric pressure 1020 hPa (above 1012hPa) (2)
[**Any ONE**] (1x2) (2)

1.3.4 Saddle (2) (1x2) (2)

1.3.5 Warm temperatures over the interior leads to the development of a low pressure cell (2)
Rising warm air cools condensate and form clouds and rain will occur (2)
Warm moist air from the Indian Ocean leads to convection and thunderstorms (2)
[Any TWO] (2x2) (4)

mark middleton |

1.3.6 The warm Agulhas ocean (Mozambique) current raises the temperature of places on the East coast of southern Africa (2)
The cold Benguela ocean current cools the temperature of places on the West coast of southern Africa (2) (2x2) (4)

1.4 MONSOON

1.4.1. Monsoon winds are regional winds that mainly occurs in tropical regions (2)
Seasonal wind reversal bringing heavy rain in summer and dry conditions in winter (2) (1x2) (2)
[Concept]

1.4.2 Summer (1) (1x1) (1)

1.4.3 Indian ocean (2) (1x2) (2)

1.4.4 The air over the Siberian plateau become colder than the surrounding seas (2)
This cold air sinks and causes high pressure (2)
Cooling of land leads to dense, descending air forming high pressure (2)
[Any ONE] (1x2) (2)

1.4.5. Pressure is lower over the interior plateau than over the sea (2)
South westerly winds bring moist air over the land causing a drop in temperature bringing heavy downpours (2) (2x2) (4)

1.4.6. Fill dams, reservoirs for irrigation (2)
Increase level of underground water (2)
Fill up rivers for irrigation (2)
Provide water for crops (2)
Restore natural vegetation (2)
Provide moisture for soil (2)
[Any TWO] (2x2) (4)

1.5 DROUGHTS

1.5.1 Lack of sufficient moisture for crops during growing seasons (2).
A long period with little or no rain results in fewer crops (2)
[CONCEPT] (1x2) (2)

1.5.2 Zimbabwe (1)
Malawi (1)
Mozambique (1)
Madagascar (1)
[Any ONE] (1x1) (1)

1.5.3 Ongoing El Nino with shifting rainfall patterns (2)
Insufficient rain/prolonged dry spell (2)
High temperatures (2)
[Any TWO] (2x1) (2)

mark middleton |

1.5.4 Less income from tourism (2)
The number of exports of a country is reduced as there is less exports (2)
Farm products become more expensive (2)
Crop failure leads to food shortages (2)
Industries associated with farm products suffer e.g. job loss (2)
[Any ONE] (1x2) (2)

1.5.5. Satellite images assist in determining the vegetation cover of a drought stricken area so that governments relief agencies can be alerted of possible food shortages (2)
Monitoring weather conditions to inform farmers what type of crops to plant (2)
Promote crops that need less water e.g. genetically modified (GM) (2)
Monitoring the possibility of drought enables people to be aware of possible food shortages and to make plans with regard to supply of food and famine relief programmes (2)
Constructing water storage facilities allow water to be stored (2).
Invest in efficient drip or sprinkler systems (2).
Ongoing research (2)
Water restrictions can be implemented (2)
Plant trees to improve rainfall and prevent soil erosion (2).
[Any FOUR] (4x2) (8)

mark middleton |