Province of the
EASTERN CAPE
EDUCATION

Iphondo leMpuma Kapa: Isebe leMfundo
Provinsie van die Oos Kaap: Department van Onderwys
Porafensie Ya Kapa Botjhabela: Lefapha la Thuto

NATIONAL SENIOR CERTIFICATE

GRADE 10

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GEOGRAPHY P1

MARKING GUIDELINE

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This marking guideline consists of 8 pages.

SECTION A: THE ATMOSPHERE
QUESTION 1

1.1

1.1.1 Y (1)

1.1.2 Z (1)

1.1.3 Z (1)

1.1.4 Z (1)

1.1.5 Y (1)

1.1.6 Y (1)

1.1.7 Y (1)

1.1.8 Z (1) (8 x 1) (8)

1.2

1.2.1 Mesosphere (1)

1.2.2 Troposphere (1)

1.2.3 Thermosphere (1)

1.2.4 Mesosphere (1)

1.2.5 Stratosphere (1)

1.2.6 Mesosphere (1)

1.2.7 Troposphere (1) (7 x 1) (7)

1.3.

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

1.3.2 Electricity and heat production (1) (1 x 1) (1)

1.3.3 Carbon dioxide (CO_2) (2) Methane (CH_4), or Nitrous oxide (N_2O) (2 x 1) (2)

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] (2 x 2) (4)

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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)
[ANY THREE] (3 x 2) (6)
/15/

1.4.

1.4.1 Orographic/relief (1) (1 x 1) (1)

1.4.2 Windward side (1) (1 x 1) (1)

1.4.3 The windward side of the mountain receives the most rain, as the moist air is forced to rise and condense (1) (1 x 1) (1)

1.4.4 Warm moist Air rises from the ocean when the warm air reaches a mountain, the mountain forces the air upwards (2)
This causes the air to cool as it rises and condensation starts, leading to rain (2)
This leads to the formation of clouds and precipitation on the windward side of the mountain (2)
The air then descends on the leeward side, warming and becoming dry (2)
[ANY TWO] (2 x 2) (4)

1.4.5 Heavy rainfall can lead to soil erosion (2)
Landslides damaging the natural vegetation (2)
Biodiversity can be destroyed because of landslides (2)
Loss of habitats (2)
Food chains/food webs destroyed (2)
Mudslides due to heavy rain can destroy the environment (2)
Rockfalls can damage the environment (2) (4 x 2) (8)
/15/

1.5

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

1.5.2 Kalahari HP or Kalahari anticyclone (2) (1 x 2) (2)

1.5.3 a) Winter (2) (1 x 2) (2)

b) High pressure dominating over land (Kalahari H) (2)
No clouds over interior of S.A. (2)
No rain over the interior of S.A.
Mid latitude cyclone is present (2)
Cold front near Cape Town (2)
Rainfall at Cape Town (SW Cape) (2)
[ANY TWO] (2 x 2) (4)

1.5.4 a) Cloud cover: 8/8
100%
overcast (1)

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b) Wind direction: North Easterly (1)
c) Wind speed: 25 Knots (1)
d) Air Temperature: 17°C (1)
e) Dew point temperature: 15°C (1)
f) Precipitation: Rainfall (1) (6 x 1) (6)
/15/

QUESTION 2: GEOMORPHOLOGY

2.1

2.1.1 Inner Core (1)

2.1.2 Crust (1)

2.1.3 Mantle (1)

2.1.4 Inner core (1)

2.1.5 Mantle (1)

2.1.6 Crust (1)

2.1.7 Crust (1) (7 x 1) (7)

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2.2

2.2.1 A (1)

2.2.2 C (1)

2.2.3 C (1)

2.2.4 B (1)

2.2.5 B (1)

2.2.6 C (1)

2.2.7 A (1)

2.2.8 B (1) (8 x 1) (8)

2.3.1 The theory that explains how continents shift positions on the Earth's surface (1)
[CONCEPT] (1 x 2) (2)

2.3.2 South America (1) Africa (1) Antarctica (1) Australasia (1)
[NOT INDIA AND AUSTRALIA] [ANY TWO] (2 x 1) (2)

2.3.3 Faulting and Folding/ fluidity of magma (1) (1 x 1) (1)

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2.3.4 Two tectonic plates move away from each other (2)
Molten rock from the mantle solidify to create a new oceanic crust (2)
drifting of continents is convection currents in the mantle (2)
[ANY ONE] (1 x 2) (2)

2.3.5 The east coast of South America and the west coast of Africa
Match - puzzle (2)
Rock formations match up across the coastlines of South America and South Africa (2)
Identical deposits have been found in South America and Africa (2)
The discovery of fossils in both Africa and South America suggested that these two continents had once been joined (2)
[ANY TWO] (2 x 2) (4)

2.3.6 Continental drift states that the world was made up of a single continent (2)
The theory of plate-tectonics, states that earth's surface is broken into numbers of shifting plates (2) (2 x 2) (4)

2.4

2.4.1 Vibration in the earth crust. Vibrations are sent in the form of shockwaves from the point in the crust where faulting and movement occur (2) (1 x 2) (2)
[CONCEPT]

2.4.2 The earthquake took place at a conservative plate boundary, where the Caribbean plate moves eastwards (1) (1 x 1) (1)

2.4.3 The point below the earth where the earthquake occurs (2) (1 x 2) (2)

2.4.4 High fatalities in densely populated areas, instant loss (2)
People lose their homes (2)
Infrastructure destroyed makes communication difficult (2)
Secondary hazards such as fires, mudslides often follow an earthquake which can cause more fatalities and injuries (2)
Widespread displacement and poverty (2)
[ANY TWO] (2 x 2) (4)

2.4.5 Setting up earthquake warning systems (2)
Building safer buildings (2)
Establish evacuation routes (2)
Establishment of first aid stations with volunteer doctors and nurses (2)
Educate the public on emergency preparedness
[ANY THREE] (3 x 2) (6)

2.5

2.5.1 An opening on Earth's crust through which lava, ash and gases erupt (2)
[CONCEPT] (1 x 2) (2)

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2.5.2 Composite volcano (or Stratovolcano) (2) (1 x 2) (2)

2.5.3 A - crater/ vent (1)
B - volcanic pipe (1)
C - magma chamber (1) (3 x 1) (3)

2.5.4 **Positive**
Volcanic ash used as fertile soil (2)
Ground water used for electricity generation/ Geothermal energy (2)
Hot springs and geysers become tourist attraction (2)
Creation of new land (2)
Source of mineral resources/ mining resources (2)
Negative
Volcanic ash causes respiratory problems (2)
Displacement and evacuation of people (2)
Create smog that irritate the skin, eyes, nose and trough (2)
Economic downturns if tourism affected (2)
Destruction of infrastructure (2)
Visibility reduction (2)
Contaminate water supplies which affects people (2)
People can become ill because of breathing in poisonous gases (2)
Volcanic ash can disrupt air travel and affect the climate (2)
[ANY FOUR] (4 x 2) (8)

[60]

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SECTION B

QUESTION 3: MAP SKILLS AND CALCULATIONS

3.1 3.1.1 B (1) (1 x 1) (1)

3.1.2 A (1) (1 x 1) (1)

3.1.3 C (1) (1 x 1)(1)

3.1.4 D (1) (1 x 1) (1)

3.1.5 **FORMULA: Area = length (L) x breadth (B)**

3 cm x 1,3 cm
(3 x 100) x (1,3 x 100)

300 m (1) x 130 m (1)

Area: 39 000 m^2 (1) (3 x 1) (3)

3.1.6 Total change: 24 x 4' = 96' (1° 36') (1)

Magnetic Declination for 2025: 23° 46' + (1) 1°36'

(24° 82' W) 25° 22' W of true north (1) (3 x 1) (3)

3.2 MAP INTERPRETATION

3.2.1 Mediterranean (1)
Caledon is in the Western Cape (1)
Latitude 34° (1) (western side of South Africa)
[ANY ONE] (1 + 1) (2)

3.2.2 (C) Silo (1) (1 x 1) (1)

3.2.3 Dams (1)
Wind pumps (1) (2 x 1) (2)

3.2.4 Mountainous landscape could attract hiking (2)
Protected area (Caledon Nature Reserve) opened up to visitors (2)
Wild Flower Garden would attract visitors (2)
Hot Spring would attract visitors (2)
Golf course could have organised events (2)
Showgrounds could hold events (2)
Caledon Casino and Spa Resort could advertise to have regular visitors (2)
[ANY TWO – Must justify answer] (2 x 2) (4)

3.2.5 Tertiary (1) (1 x 1) (1)

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3.2.6 Accessible by roads/national route (2)
Close proximity to residential areas (2)
Available land makes provision for parking (2)
Land available for future expansion (2)
[ANY ONE] (1 x 2) (2)

3.3. GEOGRAPHICAL INFORMATION SYSTEMS

3.3.1 Computer system which captures, stores, analyses, manipulate and display geographical data. (1 x 2) (2)

3.3.2 (a) power line (1) main road (1) contour line (1) other road (1)
[ANY ONE]

(b) Reservoir (1) spot height (1)
[ANY ONE] (2 x 1) (2)

3.3.3 Raster (1) (1 x 1) (1)

3.3.4. Capturing data from a distance using satellites, drones without physical contact of ground (1) (1 x 1) (1)

3.3.5 You don't physically have to be around the area of study (2)
Can obtain information of areas that are inaccessible (2)
Does not disturb natural inhabitants (2)
Can cover a large area from above the ground (2) (2 x 2) (2)
[30]

GRAND TOTAL :150

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