Province of the
EASTERN CAPE
EDUCATION

NATIONAL
SENIOR CERTIFICATE

SUBJECT	:	GEOGRAPHY
GRADE	:	10
TERM	:	2
TIME	:	3 HOURS
TOTAL	:	150 MARKS
DATE OF IMPLEMENTATION	:	JUNE 2026
TERM WEIGHTING	:	60%
SBA WEIGHTING	:	20%

GRADE 10
MEMORANDUM

THIS MEMORNDUM CONSISTS OF 7 PAGES INCLUDING COVER

1.1

1.1.1 Y (1)
1.1.2 Y (1)
1.1.3 Z (1)
1.1.4 Z (1)
1.1.5 Z (1)
1.1.6 Y (1)
1.1.7 Y (1) (7x1) (7)

1.2

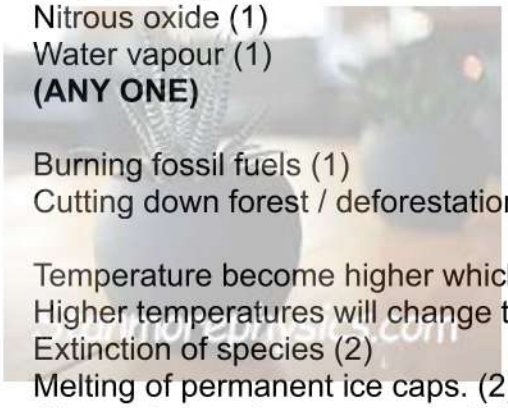
1.2.1 B (1)
1.2.2 A (1)
1.2.3 C (1)
1.2.4 B (1)
1.2.5 C (1)
1.2.6 C (1)
1.2.7 D (1)
1.2.8 B (1) (8x1) (8)



1.3 GLOBAL WARMING

1.3.1 The ability of the atmosphere to trap heat and remain warm enough to sustain life (2)
[**CONCEPT**] (1x2) (2)

1.3.2 Carbon dioxide (1)
Methane (1)
Nitrous oxide (1)
Water vapour (1)
(ANY ONE) (1x1) (1)



1.3.3 Burning fossil fuels (1)
Cutting down forest / deforestation (1) (2x1) (2)

1.3.4 Temperature become higher which leads to Global warming (2)
Higher temperatures will change the habitats of plants and animals (2)
Extinction of species (2)
Melting of permanent ice caps. (2)
Change in weather pattern and climate e.g. Droughts, fires and floods (2)
(ANY TWO) (2x2) (4)

1.3.5 Rewards and incentives for reducing carbon emissions (2)
Impose carbon tax on new cars (2)
Encourage the use of environmentally friendly sources of energy (accept examples – solar, wind …) (2)
Investment into renewable energy (2)
Planting trees to absorb carbon dioxide / afforestation (2)
Educating people and making them aware of how to conserve energy. (2)

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Scientific research into ways to capture carbon emissions and store it in the earth's crust (2)
Enforce stricter industrial emission regulations (2)
(ANY THREE) (3x2) (6)

1.4 TEMPERATURE

1.4.1 Distance from the sea (1)
Altitude (1) (1x1) (1)

1.4.2 Durban 28° C -21 °C = 7° C (1)
Bloemfontein 31° C-17 ° C=14° C (1) (1+1) (2)

1.4.3 Benguela Current: It has a cooling effect on Cape Town's temperatures, keeping them lower than they would be otherwise (1)
Prevailing winds blows the cold air onto Cape Town therefore decreasing the temperature of Cape Town (1) (2x1) (2)

1.4.4 Large seasonal range in temperature of 14° C (2)
Hot summers cold winters (2)
Extreme temperatures summer temp of 31° C and winter temperature of 17° C (2)
Continental Climate Evidence: Bloemfontein has a high summer maximum 31° C and a low winter maximum 17° C, showing a large seasonal temperature variation
(ANY TWO) (2x2) (4)

1.4.5 The moderate climate throughout the year allow tourist to partake in outdoor activities such as hiking thus increasing revenue for the city (2)
The moderate climate allows for beach activities throughout the year (2)
The lush vegetation and scenic coastline encourage ecotourist. (2)
The comfortable winter climate allows international tourist to escape colder regions (2)
Hotels and other tourist establishments benefit from the influx of tourist throughout the year (2)
(ANY THREE)

1.5 SYNOPTIC MAP

1.5.1 Isobar is a line on a synoptic weather map joining places with the same atmospheric pressure (2)
[CONCEPT] (1x2) (2)

1.5.2 4 hPa e.g. from 1012 to 1016(1) (1x1) (1)

1.5.3 (a) North Westerly (1)
(b) 5 knots (1)
(c) -12 ° C (1) (3x1) (3)

1.5.4 The weather station shows a big difference between the air temperature and dew point temperature (1)
Located in a HP region (1)
Air is descending and heating up (High pressure/Anticyclone), which prevents condensation (1) (1x1) (1)

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1.5.5 South Indian High pressure cell (1) (1x1) (1)

1.5.6 Cold Front (1) (1x1) (1)

1.5.7 Frontal rain (2) (1x2) (2)

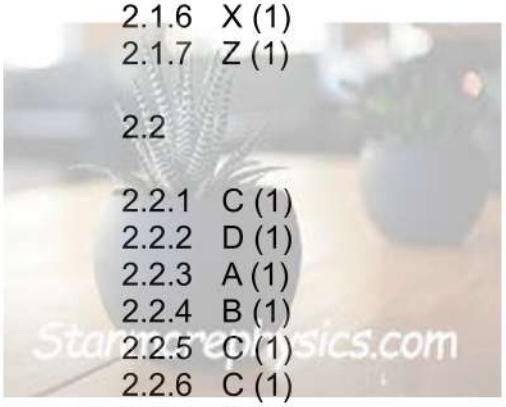
1.5.8 Warm air is forced to rise over cold dense air at a front (1)
The warm air cools as it rises and condensate to form cumulonimbus clouds (1)
Cumulonimbus clouds will cause heavy rain (1)
[Sentences] (3x1) (3)

Question 2: GEOMORPHOLOGY

2.1

2.1.1 X (1)
2.1.2 X (1)
2.1.3 Z (1)
2.1.4 X (1)
2.1.5 Z (1)
2.1.6 X (1)
2.1.7 Z (1) (7x1) (7)





2.2

2.2.1 C (1)
2.2.2 D (1)
2.2.3 A (1)
2.2.4 B (1)
2.2.5 C (1)
2.2.6 C (1)
2.2.7 A (1)
2.2.8 C (1) (8x1) (8)

2.3 IGNEOUS ROCK

2.3.1 Rock formed from magma that cools and solidifies on the Earth's surface (2)
[CONCEPT] (1x2) (2)

2.3.2 Granite (1)
Basalt (1)
Dolerite (1)
(ANY ONE) (3x1) (3)

2.3.3 They lack layers (strata) and are composed of a solid, uniform block of crystal (2)
(1x2) (2)

2.3.4 When magma cools down and solidifies (2) (1x2) (2)

2.3.5 When magma cools slowly it forms large crystals (2)
When the magma cools quickly the crystals will be small (2) (2x2) (4)

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2.3.6 **Construction:** Plain rocks like Granite and Basalt are used for building material, road crushed stone, and kitchen countertops due to their durability (2)
Mineral Resources: Igneous provinces (like the Bushveld Complex in SA) contain valuable ores like Platinum, Gold, and Chrome (2)
Soil Fertility: Weathered volcanic rocks (like basalt) create very rich, fertile soil that is excellent for agriculture (2).
Aesthetics/Jewelry: Many gemstones (like diamonds) are found in igneous pipes (Kimberlite) (2)
(ANY TWO) (2x2) (4)

2.4 EARTHQUAKES

2.4.1 Vibrations in the earth crust caused by plate movements (2)
A sudden release of energy in the Earth's crust that creates seismic waves (2)
[CONCEPT] (1x2) (2)

2.4.2 Siagang is located only 16Km from the epicentre. (1) (1x1) (1)

2.4.3 Informal settlements are built quickly and cheaply (2)
Buildings were poorly constructed without inspections (2)
People living in informal settlements have little access to Mortgage finance, loans or government support (2) (2x1) (2)

2.4.4 People lose their livelihood this leads to widespread unemployment (2)
Infrastructure that was damage must be repaired at huge cost (2)
Business close down because of the damage (2)
Huge insurance claims (2)
Tourism industry is affected (2)
(ANY TWO) (2x2) (4)

2.4.5 Install warning systems which link government agencies, rescue services and the public (2)
Provide information through the media to create awareness (2)
Create evacuation routes (2)
Build safer buildings / enforce earthquake-resistant building codes (2)
Educate people on what to do in case of an earthquake (2)
Emergency services must be on standby (2)
(ANY THREE) (3x2) (6)

2.5 VOLCANOES

2.5.1 A volcano that has erupted recently and is likely to erupt again (2)
[CONCEPT] (1x2) (2)

2.5.2 Magma- intensely hot molten or semi molten rock found beneath the earth surface (1)
Lava- liquefied rock which erupts from volcanoes or fissures onto the earth surface (1) (2x1) (2)

2.5.3 Composite volcano (1)
Stratovolcano (1) (1x1) (1)

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2.5.4 Composite volcano contains a magma chamber (2)
Layers of ash and lava is visible (2)
The vent is indicated (2)
Appears to be a large volcano (2)
The volcano has fissures from where lava flows (2)
Steep sides (1)
(ANY ONE) (2x1) (2)

2.5.5 Habitats and landscapes damaged by lava flows or ash (2) (1x2) (2)

2.5.6 Volcano ash creates fertile soil for farming (2)
Hot springs and geysers attract tourist (income) (2)
Underground water is hot enough to generate electricity (geothermal) (2)
[Justify answers] (3x2) (6)

SECTION B

QUESTION 3: GEOGRAPHICAL SKILLS AND TECHNIQUES

3.1 MAPSKILLS AND CALCULATIONS

3.1.1 D (1) (1x1) (1)
3.1.2 C (1) (1x1) (1)
3.1.3 C (1) (1x1) (1)
3.1.4 3,4 cm (1) x 500 = 1700m (1)
Range (3,3cm-3,5cm) x 500 = (1650m -1750m) (2x1) (2)

3.1.5 108^0 (2)
Range (106^0 -110^0) (2x1) (2)

3.1.6 The difference (angle) between true north and magnetic north (1) (1x1) (1)

3.1.7 Help the hiker not to get lost (2)
For accurate navigation (2)
For safety a small error in navigation can lead to accidents (2)
Correcting map/compass discrepancy (2)
To orientate the map with the landscape (2)
(ANY ONE) (1x2) (2)

3.2 MAP INTERPRETATION

3.2.1 (a) natural feature (1) (1x1) (1)

(b) irrigation of crops (1)
Water for livestock (1)
(ANY ONE) (1x1) (1)

3.2.2 1092 metres (1) (1x1) (1)

3.2.3 Block **E1** is located higher than block **E4** therefore it will be colder (2)
With an increase in height there is an increase in temperature (2)
(ANY ONE) (1x2) (2)

3.2.4 (a) Non- perennial rivers (1)
Dams (1)
Windpump (1)
(ANY TWO) (2x1) (2)

(b) The farmer can use machines (2)
Better water management as the water flow slower over a gentle gradient (2)
Less erosion (2)
(ANY ONE) (1x2) (2)

3.2.5 Nucleated (1) (1x1) (1)

3.2.6 Safety advantage (1)
Social advantage (1)
Can share equipment and ideas (1)
(ANY TWO) (2x1) (2)

3.3 GEORAPHICAL INFORMATION SYSTEMS



3.3.1 (a) Data (1)
Software (1)
Hardware (1)
Methods (1)
People (1)
(ANY TWO) (2x1) (2)

(b) Satellite (1)
Maps (1)
(ANY ONE) (1x1) (1)

3.3.2 (a) Point - spot height (●1084, ●1103,●1159) (1) (1x1) (1)

(b) Line - railway line (1), power line (1), main road (1), other road (1), river (1) contour line (1), track/hiking trail (1)
(ANY ONE) (1x1) (1)

3.3.3 Is the acquisition of information about an object without physical contact with the ground (1) (1x1) (1)

3.3.4 A large area of the Klip river can be monitored for flooding risk (1)
It allows access to remote and dangerous areas of the river without physical presence (1)
It is cost effective (1)
Remote sensing can assist in disaster management during a flood (1)
(ANY TWO) (2x1) (2)

TOTAL 150