Province of the
EASTERN CAPE
EDUCATION

NATIONAL SENIOR CERTIFICATE

GRADE 11

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GEOGRAPHY P1 MEMORANDUM

MARKS: **225**

This memorandum paper consists of 13 pages.

SECTION A: PHYSICAL GEOGRAPHY

QUESTION 1

1.1	1.1.1	Insolation ✓			
	1.1.2	Atmospheric pressure ✓			
	1.1.3	Climatic region ✓			
	1.1.4	Planetary winds ✓			
	1.1.5	Front ✓			
	1.1.6	Geostrophic flow ✓			
	1.1.7	Isotherm ✓		(7 x 1)	(7)
1.2	1.2.1	E	(Topography) ✓		
	1.2.2	G	(Weathering) ✓		
	1.2.3	A	(Canyon) ✓		
	1.2.4	H	(Erosion) ✓		
	1.2.5	F	(Back wasting) ✓		
	1.2.6	D	(Homoclinal shifting) ✓		
	1.2.7	C	(Exfoliation) ✓		
	1.2.8	B	(Plateau) ✓	(8 x 1)	(8)
1.3	1.3.1	Parallelism ✓✓		(1 x 2)	(2)
	1.3.2	A	C ✓		
		B	A ✓		
		C	D ✓		
		D	B ✓	(4 x 1)	(4)
	1.3.3	Places experience equal lengths of day and night. ✓		(1 x 1)	(1)
	1.3.4	22 June ✓		(1 x 1)	(1)

1.3.5 The Northern Hemisphere would be experiencing its summer Solstice. (Sun's direct rays shine on the Tropic of Cancer) ✓✓
(1 x 2) (2)

1.4 1.4.1 Process whereby once fertile areas become increasingly arid. ✓✓
(Concept) (1 x 2) (2)

1.4.2 Overgrazing ✓
Burning of the land. ✓ (2 x 1) (2)

1.4.3
- Supply of water on the surface in rivers and lakes is less. ✓✓
- Water becomes polluted and reduces water supply even more. ✓✓
- Reduced groundwater levels increase evapo-transpiration. ✓✓
- Poorer soils, more saline (salt rich) soil leads to reduced vegetation cover and soil erosion from wind and water. ✓✓
- Damage to the natural habitats reduces the variety of plants and animals in an area. ✓✓
- As water levels in rivers and lakes decline, fish and wildlife die from lack of water. ✓✓
- Dry vegetation, high temperatures and low humidity increases the frequency and intensity of veld fires. ✓✓ (Any 3 x 2) (6)

1.4.4
- Proper soil management reduces the risk of severe soil erosion. ✓✓
- Afforestation programmes ✓✓
- Land management that recognises rainfall variability and finds other ways of making a living in drought conditions. ✓✓
- Correction of land ownership laws to encourage the sustainable management of resources. ✓✓
- Enlisting the support of local farmers. ✓✓
- Destroy alien plants. ✓✓

(Accept other relevant answers.) (Any 4 x 2) (8)

1.4.5
- Poverty ✓✓
- Political conflict ✓✓
- Traditional farming methods ✓✓ (Any 2 x 2) (4)

1.5 1.5.1
A Butte ✓
B Pointed Butte ✓
C Mesa ✓ (3 x 1) (3)

1.5.2 Mesas can be differentiated from buttes as their width is greater than their height OR the height of a butte is greater than its width. ✓✓ (1 x 2) (2)

1.5.3 POSITIVE

- In humid climates, the slopes of hills are suitable for farming. ✓✓
- Basaltic plateaus are great tourist attractions ✓✓
- Some plateaus (e.g. Deccan plateau in India) are suited for human settlement and agriculture. ✓✓
- Canyon landscapes have impressive scenery and are tourist attractions. ✓✓
- Canyon landscapes can be used for recreational purposes example hiking, abseiling etc. ✓✓
- Karoo landscapes are suitable for stock farming. ✓✓

(Any 2 x 2) (4)

NEGATIVE

- In arid climates, rugged, steep slopes have little agricultural value. ✓✓
- Some plateaus have little value for human settlement and farming. ✓✓
- Canyon landscapes is impossible for farming. ✓✓
- Settlements are impossible on canyon landscapes. ✓✓
- Difficult to develop infrastructure on canyon landscapes.

(Any 2 x 2) (4)

1.5.4 Scarp retreat or Backwasting ✓✓ (1 x 2) (2)

1.6 1.6.1 Core stones ✓ (1 x 2) (2)

1.6.2 Laccoliths or Batholiths ✓ (1 x 2) (2)

1.6.3 Granite ✓ (1 x 1) (1)

1.6.4
- Igneous material cools at different rates below the Earth's surface. ✓✓
- Cracks and joints develop. ✓✓
- Water seeps into vertical and horizontal joints of igneous rocks. ✓✓
- Chemical and takes place.
- The mass of igneous rocks is broken down into rectangular blocks of rock. ✓✓
- The joints are widened by mechanical weathering by means of the freezing and melting of water. ✓✓
- Weathered material removed by erosion processes. ✓✓
- Core stones remain behind. ✓✓

(Description is important.) (Any 4 x 2) (8)

[75]

QUESTION 2

2.1	2.1.1	D ✓		
	2.1.2	H ✓		
	2.1.3	F ✓		
	2.1.4	E ✓		
	2.1.5	G ✓		
	2.1.6	B ✓		
	2.1.7	C ✓		
	2.1.8	A ✓	(8 x 1)	(8)
2.2	2.2.1	Knickpoint ✓		
	2.2.2	Laccolith ✓		
	2.2.3	Poort ✓		
	2.2.4	Debris ✓		
	2.2.5	Great Karoo ✓		
	2.2.6	Slumps ✓		
	2.2.7	Scree ✓	(7 x 1)	(7)
2.3	2.3.1	El Nino occurs when there is a disruption in the ocean atmosphere systems in the Southern Pacific Ocean area. ✓✓	(1 x 2)	(2)
	2.3.2	Summer ✓✓	(1 x 1)	(1)

2.3.3 El Nino causes hotter, drier summers than usual; sometimes droughts. ✓✓

La Nina causes milder and wetter summers than usual; sometimes floods. ✓✓ (2 x 2) (4)

2.3.4
- In La Nina years, the tropical easterly winds are stronger than normal. ✓✓
- Upwelling of cold water is increased, which causes water on the eastern side of the Pacific Ocean to be very cold. ✓✓
- There is heavy rain on the eastern side of Australia, Southeast Asia and over the west Pacific Ocean. ✓✓
- Drier than normal conditions exist over the west coast of South America. ✓✓ (4 x 2) (8)

2.4 2.4.1 A warm, dry wind that descends the leeward side of a mountain ✓✓ (Concept) (1 x 2) (2)

2.4.2 Berg wind ✓ (1 x 1) (1)

2.4.3
- Moist air moves up the windward side of the mountain ✓✓
- The air will expand and cool. ✓✓
- Any moisture that the air holds will precipitate out on the windward side of the mountain. ✓✓ (3 x 2) (6)

2.4.4
- Droughts ✓
- Fire ✓
- Avalanches ✓
- Floods ✓ (Any 3 x 1) (3)

2.4.5 Cool dry air will descend on the leeward side and will heat by 1 °C/ 100 m. ✓✓
Air cools off by 1 °C/100 m on the windward side as it rises. ✓✓ (2 x 2) (4)

2.5 2.5.1 Sedimentary ✓ (1 x 1) (1)

2.5.2 A Scarp slope ✓
B Dip slope ✓ (2 x 1) (2)

2.5.3
- A scarp slope is generally steeper and is eroded through sheet wash and mass wasting. ✓✓
- A dip slope is more gentle and less erosion takes place because the rock is more resistant. ✓✓ (2 x 2) (4)

2.5.4
- Cuesta has a steep scarp slope and a more gentle dip slope or an angle < 45°.
- Hogsbacks have steep dip and scarp slopes (angle between 25° and 45°). ✓ (2 x 1) (2)

2.5.5
- Cuesta Dome ✓
- Cuesta Basin ✓ (2 x 1) (2)

2.5.6
- Dip slope is used for farming. ✓✓
- Cuesta basins yield artesian water. ✓✓
- Cuesta domes may also contain oil and natural gas. ✓✓

(Any 2 x 2) (4)

2.6 2.6.1 Soil creep ✓ (1 x 1) (1)

2.6.2 Dry soil / Fine soil ✓ (1 x 1) (1)

2.6.3
- It is the slowest of all mass movements. ✓✓
- Associated with soil that dries after freezing and thawing of ice. ✓✓ (Any 1 x 2) (2)

2.6.4 It will cause significant displacement downslope. ✓✓ (1 x 2) (2)

2.6.5
- The removal of minerals in mining activities. ✓✓
- The building of houses on slopes that are too deep. ✓✓
- The building of hotels on the edges of cliffs for sea views. ✓✓
- The activity of blasting for the removal of earth materials. ✓✓
- Deforestation that loosens soil and creates earth movements. ✓✓
- Road construction and quarrying at the foot of the slope. ✓✓

(Any 4 x 2) (8)

QUESTION 3: DEVELOPMENT GEOGRAPHY AND RESOURCES AND SUSTAINABILITY

3.1	3.1.1	MEDC ✓		
	3.1.2	LEDC ✓		
	3.1.3	MEDC ✓		
	3.1.4	LEDC ✓		
	3.1.5	MEDC ✓		
	3.1.6	MEDC ✓		
	3.1.7	MEDC ✓		
	3.1.8	LEDC ✓	(8 x 1)	(8)
3.2	3.2.1	Thermal energy ✓		
	3.2.2	Extraction ✓		
	3.2.3	Conventional ✓		
	3.2.4	Non-Conventional ✓		
	3.2.5	Biogas energy ✓		
	3.2.6	Biomass energy ✓		
	3.2.7	Fracking ✓	(7 x 1)	(7)
3.3	3.3.1	It is the value of all goods and services produced by a country in any year, with the addition of the value of goods and services made outside the country by citizens. ✓✓ The difference lies in the fact that Gross National Product includes earnings from foreign investments ✓✓	(Concept) (1 x 2)	(2)
	3.3.2	• Human Development Index (HDI) ✓✓ • Gini co-efficient ✓✓ • Trade balance ✓✓ • Employment ✓✓ • GDP/Capital ✓✓	(Any 2 x 2)	(4)
	3.3.3	Africa ✓✓	(1 x 2)	(2)

3.3.4 Wealthy countries are in the North and the poorer countries are in the South. ✓✓ (1 x 2) (2)

3.3.5
- Economic indicator statistics are generalised for the whole continent. ✓✓
- In the rich countries there are poor people and in the poor countries there are rich people. ✓✓ (2 x 2) (4)

3.4 3.4.1 Rostow's Development Model ✓✓ (1 x 2) (2)

3.4.2 5 – Mass consumption stage ✓✓ (1 x 2) (2)

3.4.3
- Industrialisation ✓✓
- Urbanisation ✓✓
- Economy matures ✓✓
- Economic growth spreads✓✓ (Any 2 x 2) (4)

3.4.4
- This model was based on West European countries only and not applicable to African and Asian countries. ✓✓
- It did not foresee that population growth rates can exceed that of economic growth. ✓✓
- It failed to foresee the expansion of deserts and the climate changes that have eroded the agricultural capacity of many sub-Saharan countries. ✓✓
- Asia, Middle East and Africa have a very different set of cultural, climatic, geographic and socio economic circumstances to the UK and USA. ✓✓
- The development of First World countries was dependent on the exploitation of the resources of Third World countries. ✓✓
- Third World countries were deprived of social, economic and political power to develop along a similar growth line. ✓✓

(Any 4 x 2) (8)

3.5 3.5.1 Air pollution ✓ (1 x 1) (1)

3.5.2 Sulphur dioxide ✓✓ (1 x 2) (2)

3.5.3
- Acid rain can corrode metal. ✓✓
- Fish can die when in contact with acid rain. ✓✓
- Destroys ecosystems. ✓✓
- Causes trees to die. ✓✓
- Soil becomes infertile. ✓✓ (Any 2 x 2) (4)

3.5.4
- Increases lung and heart disorders. ✓✓
- Linked to Alzheimer's disease. ✓✓
- Skin disease. (Any 1 x 2) (2)

3.5.5
- Decrease our reliance on fossil fuels. ✓✓
- Use alternative energy sources. ✓✓
- Reduce emissions from car exhausts / use of unleaded petrol. ✓✓
- Use of public transport. ✓✓
- Afforestation ✓✓
- International co-operation as acidic gases released by one country can result in acid rain in another country. ✓✓

(Any 2 x 2) (4)

3.6 3.6.1 It is the energy of wind which is changed into electrical energy, via wind turbines or windmills. ✓✓ (Concept) (1 x 2) (2)

3.6.2 Non-conventional energy ✓ (1 x 1) (1)

3.6.3 The use of energy sources that do not emit greenhouse gases. ✓✓ (1 x 2) (2)

3.6.4
- They spoil the beauty of the open countryside. ✓✓
- The noise caused by the turbines could disturb people. ✓✓
- The blades on turbines can destroy animals like birds and bats, and impact on ecosystems. ✓✓ (Any 2 x 2) (4)

3.6.5
- People are concerned about the effects of climate change. ✓✓
- Oil prices have increased. ✓✓
- Governments are giving financial support to research into efficient use of non-conventional energy. ✓✓
- Scientists are making progress in finding ways to use non-conventional energy sources more efficiently. ✓✓
- The threat posed by global warming. ✓✓
- Stricter implementation of the Kyoto Protocol and other agreements. ✓✓ (Any 4 x 2) (8)

[75]

QUESTION 4

4.1 4.1.1 Capitalism ✓

4.1.2 Modernisation ✓

4.1.3 Tertiary activities ✓

4.1.4 Life expectancy ✓

4.1.5 Infant mortality ✓

4.1.6 Industrialised ✓

4.1.7 Primary activities ✓ (7 x 1) (7)

4.2 4.2.1 E Hydro power ✓

4.2.2 F Carbon footprint ✓

4.2.3 G Global warming ✓

4.2.4 B Geothermal energy ✓

4.2.5 C Land degradation ✓

4.2.6 D Despoliation ✓

4.2.7 A Solar energy ✓

4.2.8 H Sustainable energy ✓ (8 x 1) (8)

4.3 4.3.1 Community-based development is about changes made at grassroots level by the people whose lives will be affected, rather than development being imposed by outsiders or from government on people. ✓✓ (Concept) (1 x 2) (2)

4.3.2
- Farmers bring fruits to a central point. ✓✓
- People make tomato paste, jam, juice and cheese in factories. ✓✓
- Packaging and marketing centres operate. ✓✓ (Any 2 x 2) (4)

4.3.3
- Agricultural skills ✓
- Technical skills ✓
- Marketing skills ✓
- Management skills ✓ (Any 3 x 1) (3)

4.3.4 ADVANTAGE

- Many people are better than few in accomplishing tasks. ✓✓ (1 x 2) (2)

DISADVANTAGE

- Individualism is stifled OR competitive advantages are lost. ✓✓ (1 x 2) (2)

4.4 4.4.1 Private business initiate development projects which range from local to national. ✓✓ (1 x 2) (2)

4.4.2 The withdrawal of the state from providing the main services that are required for development such as education, health care and income security. ✓✓(Concept) (1 x 2) (2)

4.4.3 South Africa does not impose restrictions on trade relations with certain countries. ✓✓ (1 x 2) (2)

4.4.4 Yes ✓

- The government allows the buying and selling of goods without restrictions like taxes or tariffs on goods and services. ✓✓

OR

No ✓

South Africa operates in a global market and restrictions on certain commodities will allow other countries to enforce their own restrictions on South Africa. ✓✓
(**NOTE**: Yes or No, with the relevant response is acceptable)
(1 + 2) (3)

4.4.5 Challenges to include but not limited to:

- Levels of poverty. ✓✓
- Weak systems of education. ✓✓
- Weak systems of health and transport. ✓✓
- High levels of raw material exports. ✓✓
- Importing of manufactured goods. ✓✓
- High level of debt from financial aid. ✓✓ (Any 4 x 2) (8)

4.5 4.5.1 Uranium ✓ (1 x 1) (1)

4.5.2 To meet the requirements of the increasing energy needs in the Western Cape. ✓✓ (1 x 2) (2)

4.5.3 Radioactive waste ✓ (1 x 1) (1)

4.5.4
- Located outside Cape Town. ✓✓
- No high rise buildings are allowed to be built in the vicinity. ✓✓
- The power station is surrounded by an extensive nature reserve. ✓✓
- Nuclear reactors are cooled by water from the Atlantic Ocean. ✓✓ (Any 2 x 2) (4)

4.5.5
- Nuclear power stations can produce energy if coal and oil become exhausted. ✓✓
- It is a sustainable source of energy, as it uses small amounts of uranium. ✓✓
- Less greenhouse gases released from nuclear power stations. ✓✓
- The production of nuclear energy is not affected by changing weather conditions. ✓✓
- The running costs of a nuclear power station is low. ✓✓
- New generation nuclear power stations are cheaper, safer and more reliable. ✓✓
- Waste products from a nuclear power station can be stored underground. ✓✓ (Any 4 x 2) (8)

4.6 4.6.1 Machines and processes that cause less pollution and use fewer non-renewable resources. ✓✓ (Concept) (1 x 2) (2)

4.6.2
- Changing the fuel mix. ✓✓
- Using available energy more efficiently. ✓✓ (2 x 2) (4)

4.6.3 <u>ENVIRONMENTAL</u>

- Reducing carbon dioxide emissions and local air pollution. ✓✓
- Improving the level of environmental health. ✓✓
- Creating a more aesthetically pleasing environment. ✓✓

(Any 2 x 2) (4)

<u>ECONOMIC</u>

- Lowering the cost of energy. ✓✓
- Changing human behaviour on consumption levels and pricing. ✓✓
- Promoting energy efficient appliances. ✓✓ (Any 2 x 2) (4)

TOTAL: 225

