Province of the
EASTERN CAPE
EDUCATION

NATIONAL SENIOR CERTIFICATE

GRADE 11

NOVEMBER 2013

GEOGRAPHY P1 MEMORANDUM

MARKS: 225

This question paper consists of 12 pages.

SECTION A: PHYSICAL GEOGRAPHY: THE ATMOSPHERE AND GEOMORPHOLOGY

QUESTION 1

1.1
1.1.1 false √
1.1.2 false √
1.1.3 true √
1.1.4 true √
1.1.5 true √
1.1.6 false √
1.1.7 false √
1.1.8 true √
1.1.9 false √
1.1.10 true √
1.1.11 true √
1.1.12 false √
1.1.13 true √
1.1.14 false √
1.1.15 true √ (15 x 1) (15)

1.2 1.2.1 Elliptical √√ (1 x 2) (2)

1.2.2 NH – summer solstice √
SH – winter solstice √ (2 x 1) (2)

1.2.3 21 December √
Summer √ (2 x 1) (2)

1.2.4
- Warm ocean currents circulates warm water √ from the equator to the poles √ and increase temperatures. √
- Cold ocean currents circulates cold water √ from the poles to the equator √ and decrease temperatures. √ (2 x 3) (6)

1.3 1.3.1
- The low pressure belt in the equatorial region. √√
- The ITCZ where warm air from the northeast meets warm air from the southeast – warm air rises. √√
- There is no distinct seasonal change in temperature. √√
- Extensive cloudcover and heavy rainfall keep temperature from rising above 33 °C. √√
- The difference in day and night temperature is greater than the difference in summer and winter temperature. √√ (Any 1 x 2) (2)

1.3.2 Cloudcover that absorbs terrestrial radiation. √√ (1 x 2) (2)

1.3.3
- The ITCZ is a zone of rising air resulting in moist (humid) conditions. √√
- Relatively high temperatures throughout the year. √√ (Any 1 x 2) (2)

1.3.4 The subtropical high pressure system formed by the Hadley and Ferrel cells. √√ (1 x 2) (2)

1.3.5 Location between 0° – 30° N √√
Where dry air is constantly descending from the Hadley and Ferrel cells √√ (2 x 2) (4)

1.3.6
- Interaction between warm tropical and cool polar air masses. √√
- Polar front formed because these two air masses do not mix. √√
- Cold front is formed when warm air rises over cold air. √√
- During winter the frontal system moves northwards in the SH. √√

(Any 3 x 2) (6)

1.4 1.4.1 A – mesa √
B – butte √
C – conical hill √

Process: scarp retreat/back wasting √ (4 x 1) (4)

1.4.2 B is flat topped hill and C is pointed top hill √√
B has a resistant cap and C the resistant cap is removed √√
(Any 1 x 2) (2)

1.4.3
- Talus slope where rock falls and eroded debris from the cliff collects √√
- Inaccessibility √√ (2 x 2) (4)

1.4.4
- Poor quality of the soil makes the cliff unsuitable for agriculture. √√
- The instability of the cliff restricts commercial activities. √√
- To stabilise the slope is expensive. √√
- Used for recreation e.g. absailing, rock climbing. √√ (Any 3 x 2) (6)

1.5 1.5.1 The movement of weathered material down slopes under the influence of gravity-(process) √√ (1 x 2) (2)

1.5.2
- Heavy rain saturate slope materials √√
- Steepness of slope √√
- Modify slope to construct buildings √√
- Deforestation/removal of vegetation √√
- Undercutting of slope by human excavation √√ (Any 2 x 2) (4)

1.5.3
- Accelerated erosion √√
- Block flow of rivers √√
- Damage vegetation and animal life √√
- Can cause water level of dams to increase, damwalls break and flooding occurs √√
- Expensive to clear debris and fix damage √√ (Any 2 x 2) (4)

1.5.4
- Plant trees and vegetation √√
- Restrict activities along the slope √√
- Deposit material at the foot of the slope and use retaining walls to stabilise the upper slopes √√
- Stabilise slope with gabions and earth fill √√
- Terracing of the slopes √√
- Steel – mesh fencing √√
- Anchor unstable rocks with nuts and bolts √√
- Build drainage structures and canals to reduce run-off √√

(Accept any other relevant answers) (Any 2 x 2) (4)

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QUESTION 2

2.1 2.1.1 Climate change √

2.1.2 Heatwave √

2.1.3 Subsidence √

2.1.4 Jetstreams √

2.1.5 Weather √

2.1.6 Biome √

2.1.7 Desertification √

2.1.8 Dip slope √

2.1.9 Water movement √

2.1.10 Slope decline √

2.1.11 Weathering √

2.1.12 Talus slope √

2.1.13 Laccolith √

2.1.14 Knickpoint √

2.1.15 Hilly landscape √ (15 x 1) (15)

2.2 2.2.1 0° – Equatorial LP √
30° S – Subtropical HP √
60° S – Subpolar LP √
90° S – Polar HP √
2 – Ferrel cell √
3 – Polar cell √ (6 x 1) (6)

2.2.2 Warm air rises near the equator and flows back to the poles √
Descends near 30° N and S and flows back to the equator close to the earths's surface √ (2 x 1) (2)

2.2.3 The equator/no.6 √ (1 x 1) (1)

2.2.4 Westerlies √ (1 x 1) (1)

2.2.5 Windspeed = pressure gradient force √
Wind direction – Coriolus force √ (2 x 1) (2)

2.2.6
- The westerlies blow between the Subtropical HP and the Subpolar LP √√
- NW – winds in the SH√√
- Greater Coriolus force results in a change of direction to SW-winds √√
- Blow at gale force speed √√
- Blow from warm to colder region and increase the temperature of the coastal areas √√
- With the migration of winds during winter, the Western Cape is under the influence of the Subpolar LP and the SW-winds bring rain to the area √√ (Any 3 x 2) (6)

2.3 2.3.1 A long peroid of below-average or no rainfall in an area. √√
(Concept) (1 x 2) (2)

2.3.2
- Drought has devastating effects on people and the environment √
- Food shortages √
- Food insecurity √
- Famine √
- People living in refugee camps √ (Any 2 x 1) (2)

2.3.3
- Reduced watervapour in the atmosphere. √
- A strong high pressure system that remains over the region for a long period. √
- Winds blowing over the region carry dry continental air. √
- High pressure system prevents thunderstorms and rainfall over the region. √
- El Niño causing dry conditions over an extended period. √
- Reduced cloudcover that results in a high evaporation rate. √

(Any 2 x 1) (2)

2.3.4
- Building small dams √√
- Recharging ground by discharging rainwater into the ground. √√
- Drought monitoring by continuous observation of rainfall levels.√√
- Carefully planned land use to reduce erosion. √√
- Farmers should plant less water dependent plants. √√
- Restricting irrigation √√
- Rain harvesting by collecting rainwater from roofs, etc. √√
- Recycling of water √√
- Protection of soil by restoring the natural balances within the soil √√
- Enrichment of soil by restoring soil fertility √√ (Any 2 x 2) (4)

2.3.5
- Restrict the flow of the river and reduce groundwater level √
- Water pollution increase because less fresh water flows into rivers and dams √
- Increased evapo-transpiration and higher temperatures results in reduced vegetation √
- Loss of biodiversity √
- Destruction of ecosystems and habitats√
- Soil erosion increase √
- Decrease in soil fertility √
- Salinity of soil increases √ (Any 2 x 1) (2)

2.4 2.4.1 A – tor √
B – granite dome √ (2 x 1) (2)

2.4.2 Batholith √√ (1 x 2) (2)

2.4.3
- Joints form in a granite batholith because of water seeping through the rock. √√
- Chemical weathering occurs along the joints, breaking the rock down and become more rounded. √√
- The core stones appear as a loose pile after the eroded material has been removed. √√ (3 x 2) (6)

2.4.4 A pile of granite rock made up of round weathered boulders/core stones √√
Have their base in the bedrock and is surrounded by weathered debris √√ (2 x 2) (4)

2.4.5 Rockfalls √√ (1 x 2) (2)

2.5 2.5.1 Dip slope √ (1 x 1) (1)

2.5.2 It has a gentle slope √√ (1 x 2) (2)

2.5.3 (a) talus/debris/scree slope √ (1 x 1) (1)

(b)
- It is parallel to the original slope √√
- It is a uniform slope √√
- Debris from the crest and cliff accumulate √√
- Deposition is the main activity √√
- Remains at a constant angle √√
- Subject to erosion √√ (Any 2 x 2) (4)

2.5.4
- Ridges makes it difficult to construct transport networks. √
- Ridges form barriers to development. √
- The valleys and plains between ridges provide opportunities for farming, mining and settlement. √
- Scarp slopes cannot be used for farming as it is to steep and rocky. √
- Forestry on the dip slope since they do not require fertile soil. √
- Dip slopes are used for settlement because it is gentle. √
- Basin cuestas have artesian wells that form oil traps. √

(Any 6 x 1) (6)

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SECTION B: DEVELOPMENT GEOGRAPHY, RESOURCES AND SUSTAINABILITY

QUESTION 3

3.1	3.1.1	Acid rain √		
	3.1.2	Topography √		
	3.1.3	Humus √		
	3.1.4	Carbon footprint √		
	3.1.5	Biomass √		
	3.1.6	Land degradation √		
	3.1.7	Sustainable energy √		
	3.1.8	Non-conventional √		
	3.1.9	Free trade √		
	3.1.10	Brandt √		
	3.1.11	Quotas √		
	3.1.12	Gross Domestic Product √		
	3.1.13	Import √		
	3.1.14	Trade surplus √		
	3.1.15	Human Development Index √	(15 x 1)	(15)
3.2	3.2.1	Development across the world is uneven. √√	(1 x 2)	(2)
	3.2.2	Access to food resources √√	(1 x 2)	(2)
	3.2.3	Panel 1: social development √ Panel 2: economic development √	(2 x 1)	(2)
	3.2.4	Panel 1: economically less developed √ Panel 2: economically more developed √	(1 x 1) (1 x 1)	(1) (1)
		Economically more developed countries have economic wealth and strong economies √ The social well-being is good and people have access to housing, services, education,food, health care and employment opportunities √	(Any 1 x 1)	(1)
		Economically less developed countries are poor and do not have strong economies √ Access to housing, education, food, health care, etc. are limited. √	(Any 1 x 1)	(1)
	3.2.5	Panel 1: limited access to food √ Panel 2: access to food √	(2 x 1)	(2)
	3.2.6	Panel 1: the traditional society √ Panel 2: mass production √	(2 x 1)	(2)

3.3 3.3.1
- Privatisation of state industries or corporations √
- GEAR/NEPAD √
- Public-Private Partnerships √
- Industrial Develpoment Corporations (IDC) √
- Service contracts √

(Accept other relevant examples) (Any 2 x1) (2)

3.3.2
- Pass laws and regulations to promote economic development and to promote access to jobs to benefit all. √√
- Law enfforcement to provide a framework that encourages business development and investment. √√
- Adopt development strategies that are sustainable that consider future needs, involve communities and supply new resources. √√

(Any 2 x 2) (4)

3.3.3 Obtain funds from investors. √√
Secure loans from commercial banks to supplement the financial assistance from the state. √√ (2 x 2) (4)

3.3.4
- Central control by national government is diminishing while the role of provincial and local government increased. √√
- Free market trade and practices diminished the states ability to intervene in trade and to establish trade barriers. √√
- Multinationals and global organisations broker business and trade between nations. √√ (3 x 2) (6)

3.4 3.4.1 Forests/food √
Soil/land √ (2 x 1) (2)

3.4.2
- Population growth increased the demand for fuelwood √√
- Plantation agriculture and commercial farming leads to desertification. √√ (Any 1 x 2) (2)

3.4.3
- It is their main source of energy. √√
- Forests are a renewable source of energy. √√ (Any 1 x 2) (2)

3.4.4
- Deforestation results in soil exposed and soil erosion increase. √√
- Possibility of desertification increase. √√
- Fewer trees and vegetation result in environmental deprivation. √√

(Any 2 x 2) (4)

3.4.5
- Forests are cut down to obtain more land for agriculture and Farming. √√
- Smaller trees are cut down therefore fewer trees reach maturity. √√
- Resource depletion of the forests. √√ (Any 1 x 2) (2)

3.4.6 It is over-used and depleted before it can be regenerated. √√ (1 x 2) (2)

3.5 3.5.1
- It is used to generate more than 70% of South Africa's electricity. √
- It is the country's primary source of energy. √
- There is no suitable alternatives for coal as an energy source. √
- South Africa has an abundant of coal reserves. √
- Coal power stations are reliable and cheap to operate. √

(Any 1 x 1) (1)

3.5.2
- Coal combustion releases greenhouse gasses in the atmosphere – air pollution. √√
- It contributes to global warming and formation of acid rain. √√
- Trucks that transport coal use diesel that increases air pollution and emission of greenhouse gasses. √√ (Any 2 x 2) (4)

3.5.3
- It is associated with nuclear weapons and war and is therefore not a safe way to generate energy √
- It is radio-active and dangerous to humans and the environment √ (Any 1 x 1) (1)

3.5.4 Yes. √ renewable √
Water is renewable √ (2 x 1) (2)

3.5.5 The high cost of renewable energy technologies relative to the small amount of energy generated. √√ (1 x 2) (2)

3.5.6
- Local environmental projects to educate and inform individuals and increase awareness about energy management. √√
- Consult with communities so that everyone is involved in problem solving around energy management. √√
- Empower people by involving them in local, grassroot resource projects e.g. recycling and re-use resources. √√
- Promote green economies by encouraging individuals to buy locally made, environmentally friendly products. √√ (Any 3 x 2) (6)

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QUESTION 4

4.1 4.1.1 C √
4.1.2 B √
4.1.3 B √
4.1.4 B √
4.1.5 A √
4.1.6 A √
4.1.7 B √
4.1.8 C √
4.1.9 C √
4.1.10 C √
4.1.11 B √
4.1.12 C √
4.1.13 C √
4.1.14 C √
4.1.15 B √ (15 x 1) (15)

4.2 4.2.1 Globalisation is the interconnection of places around the world in terms of economic, social, political and cultural ways of life. √√ (1 x 2) (2)

4.2.2
- Factory is built in panel B √√
- Improvement in the standard of living as a result of job opportunities √√
- Improvement in services e.g. housing √√
- Infrastructure established √√ (Any 1 x 2) (2)

4.2.3 Reduce poverty √√ (1 x 2) (2)

4.2.4 Multinational/transnational corporation √√ (1 x 2) (2)

4.2.5 Export-led development √√ (1 x 2) (2)

4.2.6 **POSITIVE**
- Stimulates economic development √
- Creates jobs √
- Reduces poverty √
- Improves standard of living √
- Increases the flow of ideas between countries √
- Stimulates foreign investment √ (Any 3 x 1) (3)

NEGATIVE
- Widened gap between rich and poor countries √
- Foreign countries have economic control of local and domestic industries, commerce and agriculture √√
- Exploits the resources of less developed countries √
- Exploits workers e.g. low wages and long working hours √
- Cultures of indigenous societies are disrupted √
- Rural-urban migration increased √ (Any 3 x 1) (3)

4.3 4.3.1 Aid which is directed towards alleviating the suffering of people. √√ (1 x 2) (2)

4.3.2 **POSITIVE** √

- To coördinate funding and resources as to provide an effective response to disasters and emergencies around the world. √√
- It promotes preparedness for and prevention of the impact of disasters. √√
- To identify priorities and sustainable solutions. √√
- Implement long-term safety strategies. √√
- Transporting necessities and providing food, water, sanitation and housing. √√
- To alleviate poverty. √√ (Any 2 x 2) (4)

NEGATIVE

- Corruption as politicians and officials benefit from it instead of the local population. √√
- Food sold on the black market. √√
- Money donated has not been spent and is still in the bank. √√
- Bribery and corruption resulted in the poor becoming poorer and the rich richer. √√ (Any 2 x 2) (4)

4.3.3

- Women manage food, water, fuelwood and households through raising children and caring for the family. √√
- Poverty relief programs and world development issues depend on women to be successfully implemented e.g. food production, climate change etc. √√ (Any 1 x 2) (2)

4.3.4

- Humanitarian aid was given to women because they care for and ensured that children will be fed, i.e. the quality of women in social issues. √√
- The role of women in development has been recognised, i.e. empowering of women. √√ (Any 1 x 2) (2)

4.4 4.4.1 The removal of soil by wind and water. √√ (1 x 2) (2)

4.4.2

- Overstocking √ and overgrazing √
- Ploughing against the contours √
- Absence of plant cover √ (Any 3 x 1) (3)

4.4.3 B √ (1 x 1) (1)

4.4.4

- Windbreaks √√
- Limit livestock √√
- More water points √√
- Cattle pens √√
- Rotational grazing √√
- Encourage the growth of plant cover √√ (Any 2 x 2) (4)

4.4.5 **ENVIRONMENT**

- Less soil fertility √
- Reduce productivity of soil √
- Land degradation √
- Gullies become deeper because increased run-off remove topsoil √
- Deep gullies lower the watertable √
- Sedimentation deposited in dams decrease water capacity of dams √
- Destroy ecosystems and habitats √ (Any 3 x 1) (3)

HUMANS

- Land become unsustainable and cannot support people √
- Decline in food production and food shortages √
- Job losses on commercial farms √
- Poverty and famine √
- Health risks linked to the discharge of chemicals in downstream
- waterbodies √
- Collapse in farm production leads to rapid urbanisation√
- Social problems and conflicts due to increased competition for resources and services √

(Refer to both environment and humans) (Any 3 x 1) (3)

4.5 4.5.1

- It has an abundance of sunshine√√
- Vast areas of available and sparsely populated land √√
- High incoming solar radiation due to the long sunshine period √√

(Any 1 x 2) (2)

4.5.2

- Coastal areas receive less incoming solar radiation √√
- Windy conditions along coastal areas √√
- Ocean has a cooling effect on temperature √√ (Any 1 x 2) (2)

4.5.3 Wind energy √√ (1 x 2) (2)

4.5.4

- It reduces dependence on fossil fuels √√
- It is a renewable energy resource √√
- It is a sustainable resource √√
- It protects the environment √√
- It helps diversify energy resources √√
- It is a solution to global warming and climate change √√
- None or less air pollution √√ (Any 2 x 2) (4)

4.5.5

- Energy production and usage will become cleaner and cheaper in future √√
- Will attract foreign investors √√
- Industries will grow √√
- Create job opportunities √√
- Promotes economic development √√
- Is well-suited to rural areas where electricity is lacking √√

(Any 2 x 2) (4)

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GRAND TOTAL: 225