Province of the
EASTERN CAPE
EDUCATION

NATIONAL SENIOR CERTIFICATE

GRADE 11

NOVEMBER 2017

GEOGRAPHY P1
MARKING GUIDELINE

This marking guideline consists of 13 pages.

SECTION A: PHYSICAL GEOGRAPHY – THE ATMOSPHERE AND GEOMORPHOLOGY

QUESTION 1

1.1	1.1.1	B √		
	1.1.2	G √		
	1.1.3	D √		
	1.1.4	A √		
	1.1.5	C √		
	1.1.6	F √		
	1.1.7	E √	(7 x 1)	(7)
1.2	1.2.1	Crest √		
	1.2.2	Talus √		
	1.2.3	Pediment √		
	1.2.4	Knickpoint √		
	1.2.5	Escarp √		
	1.2.6	Escarp √		
	1.2.7	Crest √		
	1.2.8	Escarp √	(8 x 1)	(8)

1.3 1.3.1 A – Ferrell / Mid-Latitude cell √
B – Hadley / Tropical cell √ (2 x 1) (2)

1.3.2 Occurs within the mid-latitudes, between 30° and 60° north and south √
Air sinks at 30° and rises at 60° in this cell √
(Any ONE) (1 x1) (1)

1.3.3 The ITCZ is situated over the Tropic of Cancer. √√ (1 x 2) (2)

1.3.4 (a) Tropical easterlies / Trade winds √ (1 x 1) (1)

(b) In the southern hemisphere, deviation of winds is to your left as air moves from a high pressure to a low pressure √√
OR
In the northern hemisphere, deviation of winds is to your right as air moves from a high pressure to a low pressure √√
(Any ONE) (1 x 2) (2)

1.3.5 The wind originates in the southern hemisphere, with deviation to the left, as it crosses the equator it deviates to the right √√ (1 x 2) (2)

1.3.6 (a) ITCZ √ (1 x 1) (1)

(b) Heavy moisture laden tropical easterlies converge at the ITCZ/equatorial low. √√
Intensive heating causes rapid rising of air and subsequent condensation and the formation of clouds with a large vertical extent. √√ (2 x 2) (4)

1.4 1.4.1 Isobars √ (1 x 1) (1)

1.4.2 1020 hPa √ (1 x 1) (1)

1.4.3 C – Saddle√
D – Low pressure √ (2 x 1) (2)

1.4.4 ITCZ has moved southwards, because the south Atlantic and south Indian high pressure systems are close to the land √
Interior of the country experience high temperatures √ (2 x 1) (2)

1.4.5 (a) South √ (1 x 1) (1)

(b) Pressure gradient established√√, because of the high pressure over the ocean and low pressure over the land √√
As air starts to move from high to low, √√ Coriolis force starts to influence the direction. √√ The wind starts to deflect to the left √√ according to Ferrell's law √√ and thus causes southerly winds instead of westerly winds at the weather stations √√
(Any FOUR – Explanation is important) (4 x 2) (8)

1.5 1.5.1 Horizontally layered sedimentary rock √ (1 x 1) (1)

1.5.2 It is steep and terraced. √√ (1 x 2) (2)

1.5.3 The slopes consists of alternating soft and hard layered rock √√
The harder layers are difficult to erode and cause steep cliffs √√
The softer layers are easier to erode and cause more gentler slopes. √√
(Any TWO) (2 x 2) (4)

1.5.4 (a) Headward erosion √ (1 x 1) (1)

(b) The layers under the top layer are less resistant √√
Repeated undercutting into the softer layers will eventually cause the harder upper layer to tumble in √√
Repetitive undercutting and tumbling in, will eventually form a gorge √√
(**Any TWO**) (2 x 2) (4)

1.5.5 The river is too deep for any use in agriculture √√
The steep slopes make the construction of dams possible if the water can be directed to other areas √√
(**Any ONE**) (1 x 2) (2)

1.6 1.6.1 Laccolith √ (1 x 1) (1)

1.6.2 It consists of massive igneous rocks √
It has a mushroom shape √
It is connected to the magma chamber through a pipe √ (2 x 1) (2)

(a) Exfoliation √ (1 x 1) (1)

(b) Expansion during the day and contraction during the night √√
Repeating of this process, will later cause the top layers of the rock to slide off √√ (2 x 2) (4)

1.6.4 **In stage 1**, a massive amount of magma moves to the surface, and the pressure of this movement is causes the layered rocks to bend upwards. √√
In stage 2, the molten magma solidifies and causes a laccolite √√
During **stage 3**, the upper softer layers are being removed through weathering and erosion. √√
In **stage 4**, the upper softer layers have been eroded away and exposes this hard resistant dome to the earth's surface. √√ (4 x 2) (8)

[75]

QUESTION 2

2.1	2.1.1	low √		
	2.1.2	Indian √		
	2.1.3	Tropic of cancer √		
	2.1.4	June to September √		
	2.1.5	southwest √		
	2.1.6	tropical √		
	2.1.7	macro √		
	2.1.8	floods √	(8 x 1)	(8)
2.2	2.2.1	tectonic activity √		
	2.2.2	bad lands √		
	2.2.3	conical hill √		
	2.2.4	basalt plateau √		
	2.2.5	butte √		
	2.2.6	mesa √		
	2.2.7	cap rock √	(7 x 1)	(7)

2.3 2.3.1 A – Chinook √
B – Föhn √ (2 x 1) (2)

2.3.2 windward √ (1 x 1) (1)

2.3.3 On the windward side of the mountains, condensation occurs and moisture is released in the form of precipitation √√
As the wind rises and moves over the mountain, more moisture is released and eventually becomes drier √√
On the leeward side, descending air causes the last available moisture to evaporate as it heats up √√
With descending air on the leeward side, there is no condensation √√
(**Any TWO**) (2 x 2) (4)

2.3.4 **Chinook**
The warm air melts the snow during winter √√
This allows for agricultural activities to proceed as water is available √√
It also causes more pleasant working conditions during the colder months √√
Melting snow may also cause floods √√
Föhn
The intense heat over central Europe makes people lazy and sick √√
The physical dehydration of people influences production negatively √√
Droughts / dry up agricultural land √√
Fires on agricultural land √√
(**Any FOUR – Conditions on both continents must be discussed**)
(4 x 2) (8)

2.4 2.4.1 Maritime tropical air √ (1 x 1) (1)

2.4.2 The mT air of Port Nolloth is influenced by cold waters √
The mT air of Durban is influenced by warm waters √ (2 x 1) (2)

2.4.3 Cold currents reduce temperatures and rainfall √√
Warm currents cause higher temperatures and rainfall √√ (2 x 2) (4)

2.4.4 During July the ITCZ moves northwards and the apparent direct sunrays are in the northern hemisphere, therefore temperatures are lower √√
During January the ITCZ moves southwards and the direct sunrays are over tropic of Capricorn, hence the higher temperatures √√ (2 x 2) (4)

2.4.5 Bloemfontein is situated inland, with the land influencing the temperature √√
Land heats up quicker than water and also releases heat faster √√
Land's albedo effect is very low, and therefore absorbs most of the heat √√
(Any TWO) (2 x 2) (4)

2.5 2.5.1 A – Cuesta √
B – Homoclinal ridge / Hogsback √ (1 + 1) (2)

2.5.2 (a) Retreat of the scarp slope without the height decreasing (1 x 1) (1)

(b) Westerly/westwards √ (1 x 1) (1)

(c) Undercutting will occur at the less resistant rocks, which is on the eastern side of the landforms √√ (1 x 2) (2)

2.5.3 **Cuestas**
Cuestas have a gentler dip slope √√
Agricultural activities are possible if contour ploughing is practiced √√
Settlements can develop, because infrastructure, like roads, railway lines, power lines, etc. can be constructed √√
Homoclinal ridge/Hogback
Homoclinal ridges have a very steep dip slope √√
Normal human activities are either impossible or very difficult and expensive √√
Dip slopes of homoclinal ridges are sometimes used for forestry purposes √√
(Any FOUR) (4 x 2) (8)

2.6 2.6.1 Soil creep √ (1 x 1) (1)

2.6.2 Leaning poles / fences √
Curved growth pattern of trees √
Broken retaining wall √
Terraced slope √
(**Any TWO**) (2x 1) (2)

2.6.3 (a) 1cm per year √ (1 x 1) (1)

(b) Wetting and drying of the sand grains √√
Heating and cooling of the sand grain √√ (2 x 2) (4)

(c) Higher rainfall will increase movement, as extensive expanding and contracting will take place √√
The steeper the slope, the faster soil will move down the slope √√ (2 x 2) (4)

2.6.4 Steeper slopes can be sprayed or covered with cement √√
Retaining walls can be built to stabilise a slope √√
Highly fractured rocks can be solidified by emplacing rock bolts on to it √√
Drainage pipes could be inserted into the slope to allow for quicker draining of the water out of the soil √√
(**Any TWO**) (2 x 2) (4)

[75]

SECTION B: DEVELOPMENT AND NATURAL RESOURCES

QUESTION 3

3.1 3.1.1 E √

3.1.2 G √

3.1.3 A √

3.1.4 H √

3.1.5 C √

3.1.6 I √

3.1.7 B √

3.1.8 D √ (8 x 1) (8)

3.2 3.2.1 Parent rock √

3.2.2 R-horizon √

3.2.3 C-horizon √

3.2.4 O-horizon √

3.2.5 A-horizon √

3.2.6 R-horizon √

3.2.7 Rainfall √ (7 x 1) (7)

3.3 3.3.1 Human Development Index √ (1 x 1) (1)

3.3.2 GDP/Capita √
Literacy (Education) √
Life Expectancy √
(**Any ONE**) (1 x 1) (1)

3.3.3 (a) Developed countries – Y √√
Developing countries – X √√ (2 x 2) (4)

(b) The Gini-coefficient refers to the unequal distribution of wealth in countries, therefore only concentrates on economic development. √√
The HDI combines social and economic indicators to differentiate between developed and developing countries √√
Both indicators provide a number out of I, but the HDI indicates a number nearest to 1 as more developed, whereas the Gini's nearest to 1, indicates very poor and unequal distribution of wealth √√
(Any TWO) (2 x 2) (4)

3.3.4 The population is still young and is an economic burden to the country √√
Youth cannot enter into work sectors √√
High population growth will put more pressure on human and natural resources √√
Overcrowded schools leads to poor education and low skills levels, which have a negative influence on productivity in the future √√
(Any TWO) (2 x 2) (4)

3.4 3.4.1 The balance between a country's imports and exports √
(**Concept**) (1 x 1) (1)

3.4.2 (a) The box of the imports is bigger √
The person is struggling to hold on to exports, implying that less exports occur √
(Any ONE) (1 x 1) (1)

(b) Quotas √
Embargoes √
Subsidies for farmers to produce more products √
Tariffs on goods √
(Any TWO) (2 x 1) (2)

3.4.3 Better trade relationships will be established √√
No restrictions on certain goods √√
Products will be exported at a fair price to other countries √√
More production of agreed products to the world market √√
(Any TWO) (2 x 2) (4)

3.4.4 It will build stronger international relationships √√
Countries will earn foreign exchange √√
Improved employment opportunities √√
Better industrialisation and import replacement √√
It will reduce poverty √√
Trade helps with capacity building √√
Infrastructure will be developed and upgraded √√
Multiplier effect will take effect, where one development will lead to the development of other sectors √√
(**Any FOUR**) (4 x 2) (8)

3.5 3.5.1 Lighting √ (1 x 1) (1)

3.5.2 Population increase will increase energy consumption √ (1 x 1) (1)

3.5.3 More households use electricity √√
Bigger percentage of South Africa's households are connected to the electrical grid √√
(Any ONE) (1 x 2) (2)

3.5.4 More financial expenses on the expansion of the energy grid and the building of power stations √√
Pressure on current energy supply causes load shedding, which retards economic growth √√
Extraction of more coal will exhaust the resource much quicker, with job losses and decrease in exports √√
(Any TWO) (2 x 2) (4)

3.5.5 Switch off lights in rooms where nobody is around √√
Shower rather than bath √√
Decrease the hot water cylinder setting by 5ºC √√
Use heaters only when necessary, instead wear warm cloths √√
Use solar power panels √√
Change the bulbs to higher efficiency, lower watt bulbs √√
Don't make the water kettle too full, only boil the amount needed √√
Wash clothes in cold water rather than hot water √√
Use the washing line rather than the tumble dryer √√
Use few ornamental lights √√
Open the fridge door less √√
(**Any FOUR**) (4 x 2) (8)

3.6 3.6.1 Thermal energy/ Use of coal √ (1 x 1) (1)

3.6.2 The resource being used by the industries is a non-renewable resource. √√ (1 x 2) (2)

3.6.3 (a) Carbon dioxide √
Carbon monoxide √
Nitrogen oxide √
(**Any ONE**) (1 x 1) (1)

(b) Global warming √
Acid rain √ (2 x 1) (2)

3.6.4 People continually use a non-renewable resource √√
Extracting the resource causes environmental harm √√
Ecosystems and habitat are destroyed √√
The gasses being emitted cause climate change √√
Biodiversity is destroyed √√
(Any TWO) (2 x 2) (4)

3.6.5 It is a huge provider of employment √√
South Africa has a lot of coal reserves and it earns foreign exchange √√
Coal forms the basis of other industries like soap manufacturing, Sasol, etc. √√
It is relatively cheap to extract and cheap to generate power, therefore industries pay lower prices for energy compared to other parts of the world. √√
(Any TWO) (2 x 2) (4)
[75]

QUESTION 4

4.1 4.1.1 Core-periphery model √

4.1.2 Sustainable development model √

4.1.3 Rostow's model √

4.1.4 Core-periphery model √

4.1.5 Rostow's model √

4.1.6 Sustainable development model √

4.1.7 Core-periphery model √ (7 x 1) (7)

4.2 4.2.1 Renewable √

4.2.2 Non-renewable √

4.2.3 Renewable √

4.2.4 Renewable √

4.2.5 Renewable √

4.2.6 Non-renewable √

4.2.7 Non-renewable √

4.2.8 Non-renewable √ (8 x 1) (8)

4.3 4.3.1 Process where community members come together to take collective action to enhance development √
(Concept) (1 x 1) (1)

4.3.2 Socio-economic development of impoverished communities √
Significantly improves the well-being of households in rural communities √ (2 x 1) (2)

4.3.3 It is presented to many households throughout Southern Africa √√
All community members are invited to attend √√
Training covers several modules on homestead agriculture and food security √√
(Any ONE) (1 x 2) (2)

4.3.4 Monitoring makes sure that the skills acquired are correctly implemented √√
It makes sure that participants in the programmes can confront any challenge √√ (2 x 2) (4)

4.3.5 It helps with agricultural expansion √√
It centres around the development of human resources √√
It enhances organising and develops administrative skills √√
Helps with the understanding of health care and health services √√
Helps with nation building √√
It improves infrastructure and modern technology usage √√
It increases the standard of living and empowers women √√
(Any THREE) (3 x 2) (6)

4.4 4.4.1 Multilateral √ (1 x 1) (1)

4.4.2 More than one organisation (different people) are providing aid √ (1 x 1) (1)

4.4.3 The aid only provides a temporary solution to the problem, but does not have a long-term benefit for the community √√ (1 x 2) (2)

4.4.4 (a) Humanitarian aid √ (1 x 1) (1)

(b) The picture depicts a very dry environment, therefore aid during drought-stricken times √√ (1 x 2) (2)

4.4.5 It can increase the rate of economic growth √√
Helps with the development of resources and provision of energy √√
Encourages and helps to implement appropriate technical systems √√
Provides employment in new industries √√
Reduces the need for certain imported goods √√
Helps with agricultural production through the use of modern technology √√
Provides primary health care like the provision of injection programs and the training of nurses √√
Helps with family planning √√
Provides students with bursaries to study abroad √√
Provides technical assistance to governments that implement development programs √√
Can also help to protect human rights and dignity √√
(Any FOUR) (4 x 2) (8)

4.5 4.5.1 Wind energy √ (1 x 1) (1)

4.5.2 It kills birds √
It's not always available √ (2 x 1) (2)

4.5.3 No coal or water is being used √√
No emissions of greenhouse gasses, thus it does not contribute to global warming √√
There are no poisonous or dangerous waste products √√
The area beneath the windmills can be used for the cultivation of crops √√
Farmers can get rental money from the wind power utility company √√
(Any TWO) (2 x 2) (4)

4.5.4 (a) When more environmentally friendly energy sources is used to generate electricity √√ (1 x 2) (2)

(b) New machinery has to be manufactured, which leads to increased job opportunities √√
Non-conventional energy can be generated in smaller areas and regions, uplifting the economy of remote areas √√
Increased usage of non-conventional energy will lower the price of fossil fuel, which might benefit South Africa √√ (3 x 2) (6)

4.6 4.6.1 When we use the resource in such a way that future generations can also benefit from the same resource √
(Concept) (1 x 1) (1)

4.6.2 Recycle is when a resource is used to make other products, whereas Reuse refers to the use of a resource more than once without destroying it √√ (1 x2) (2)

4.6.3 Creates job opportunities and self-employed opportunities √√
New machines and facilities broaden the skills and knowledge levels of workers √√
Less use of products, save a lot of money for individuals, which can be used somewhere else. √√
(Any TWO) (2 x 2) (4)

4.6.4 It reduces landfill waste √√
Conserves natural resources √√
Saves forests and other natural habitats √√
Reduces energy consumption √√
Decreases pollution and global warming √√
(Any FOUR) (4 x 2) (8)
[75]

GRAND TOTAL: 225