



Province of the  
**EASTERN CAPE**  
EDUCATION

**NATIONAL  
SENIOR CERTIFICATE**

**GRADE 11**

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**GEOGRAPHY P1  
MEMORANDUM**

**MARKS: 225**

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This memorandum consists of 13 pages.

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## SECTION A: PHYSICAL GEOGRAPHY: THE ATMOSPHERE AND GEOMORPHOLOGY

### QUESTION 1

- 1.1 1.1.1 B ✓ millibars.  
 1.1.2 C ✓ isobars.  
 1.1.3 B ✓ 1030  
 1.1.4 A ✓ clockwise.  
 1.1.5 C ✓ saddle.  
 1.1.6 C ✓ sub-tropical high pressure.  
 1.1.7 C ✓ coriolis force and pressure gradient force are in balance.  
 1.1.8 B ✓ ITCZ is on the tropic of cancer. (8 × 1) (8)
- 1.2 1.2.1 C ✓  
 1.2.2 D ✓  
 1.2.3 B ✓  
 1.2.4 A ✓  
 1.2.5 F ✓  
 1.2.6 C ✓  
 1.2.7 E ✓ (7 × 1) (7)
- 1.3 1.3.1 Equatorial low ✓ (1 × 1) (1)  
 1.3.2 Tropical easterlies/Trade winds ✓ (1 × 1) (1)  
 1.3.3
  - Move in a westerly direction because of the influence of the coriolis force ✓✓
  - Deflect to the right in the northern hemisphere and to the left in the southern hemisphere according to Ferrell's law ✓✓**(Any ONE)** (1 × 2) (2)
- 1.3.4
  - The tropical regions are warm, as the wind blow over the ocean it collects moisture ✓✓
  - Converge at the equatorial low ✓✓
  - Intensive heating causes evaporation and condensation, thus causing cumulonimbus clouds ✓✓**(Any TWO)** (2 × 2) (4)
- 1.3.5
  - Intensive heating around the equator ( $0^{\circ}$ ) causes vertical rise of air ✓✓
  - The air reaches the top part of the troposphere and diverge towards the poles ✓✓
  - At  $30^{\circ}$  north and south the air starts to descend, because it cooled off ✓✓
  - High pressure zone develops ✓✓
  - The air diverge at the surface, where some air flows back to the equator ✓✓**(Any FOUR)** (4 × 2) (8)

- 1.4 1.4.1 Prolonged period of abnormally low rainfall leading to shortage of water. ✓✓  
(Concept) (1 × 1) (1)
- 1.4.2 • It is meteorological because of abnormal low rainfall ✓  
• It is agricultural because the shortage of water affects the agricultural production ✓ (1 + 1) (2)
- 1.4.3 • Decrease in production ✓  
• Food prices increase ✓  
**(Any ONE)** (1 × 1) (1)
- 1.4.4 • Food price increase will lead to less food being bought by the poor. ✓✓  
• Farm workers may lose their jobs. ✓✓  
• Decrease in food intake can lead to famine amongst the poor. ✓✓  
**(Any TWO – Accept other relevant responses)** (2 × 2) (4)
- 1.4.5 • To inform the public through water restriction campaigns ✓✓  
• To introduce emergency conservation programs ✓✓  
• To implement water restriction services ✓✓  
• To implement drought emergency pricing ✓✓  
• Water rationing programs ✓✓  
• Improvements in water systems (e.g. leak detection) ✓✓  
• Identification of emergency sources of supply (e.g. emergency interconnections, drilling of new wells) ✓✓  
• Proper management of available water resources (e.g. emergency banks) ✓✓  
• Search for new supplies of water ✓✓  
**(Any THREE)** (3 × 2) (6)
- 1.5 1.5.1 Igneous rocks ✓ (1 × 1) (1)
- 1.5.2 Western Ghats ✓  
Eastern Ghats ✓ (2 × 1) (2)
- 1.5.3 Basaltic lava flows across the earth's surface ✓✓ then cools down and solidifies ✓✓ (2 × 2) (4)
- 1.5.4 Hard resistant cap rock is hard to erode downward, therefore lateral erosion makes it narrower, but not lower. ✓✓ (1 × 2) (2)
- 1.5.5 The height of the plateau cuts moisture from the coastal region off. ✓✓ (1 × 2) (2)
- 1.5.6 • Cattle farming for cotton and wool industry in drier areas. ✓✓  
• Weathered igneous rocks produce fertile soil which makes it suitable for crop farming. ✓✓  
• Tourist attractions ✓✓  
• Levelness of the landscape make it suitable to plant crops. ✓✓  
**(Any TWO)** (2 × 2) (4)

- 1.6 1.6.1 Batholith ✓  
Laccolith ✓  
**(Any ONE)** (1 × 1) (1)
- 1.6.2 Core stones ✓ (1 × 1) (1)
- 1.6.3 Granite ✓ (1 × 1) (1)
- 1.6.4
- The area consists of hard resistant rock and less resistant rock ✓✓
  - At the higher region, the rocks are more resistant to erosion, therefore difficult to erode ✓✓
  - The higher region takes longer to be broken down by agents of weathering and erosion ✓✓
  - At the lower regions, the area consists of less resistant rock, and therefore easier to erode ✓✓
- (Any TWO)** (2 × 2) (4)
- 1.6.5 Cracks and joints develop in granite, under the ground ✓✓ and is widened by chemical weathering, ✓✓ mechanical weathering and erosion remove the surface material, leaving the core stones exposed. ✓✓ The loose material between the core stones are being eroded through mechanical erosion. ✓✓ The base of the tor is still connected to the original intrusion. ✓✓  
**(Any FOUR)** (4 × 2) (8)
- [75]**

**QUESTION 2**

- 2.1 2.1.1 leeward ✓  
 2.1.2 Dry adiabatic ✓  
 2.1.3 0,5 °C per 100 m ✓  
 2.1.4 500 m ✓  
 2.1.5 18 °C ✓  
 2.1.6 Europe ✓  
 2.1.7 berg wind ✓ (7 × 1) (7)
- 2.2 2.2.1 A ✓  
 2.2.2 E ✓  
 2.2.3 G ✓  
 2.2.4 X ✓  
 2.2.5 A ✓  
 2.2.6 Y ✓  
 2.2.7 X ✓  
 2.2.8 D ✓ (8 × 1) (8)
- 2.3 2.3.1 It is a belt of low pressure which circles the Earth generally near the equator where the trade winds of the Northern and Southern Hemispheres come together. ✓  
**(Concept)** (1 × 1) (1)
- 2.3.2 • During **summer** the ITCZ moved northwards causing intensive heating and the convergence of tropical trade winds which results in massive evaporation ✓✓  
 • During **winter**, the ITCZ migrated south, so the Indian sub-continent is cooler and a high pressure dominates the interior so that air moves from the interior to the ocean, causing drier conditions ✓✓ (2 × 2) (4)
- 2.3.3 • Origin of the wind is in the southern hemisphere where the deflection is to the left ✓✓  
 • As it crosses the equator the deflection changes to the right, according to Ferrell's law ✓✓  
 • Influence of Coriolis force ✓✓  
**(Any TWO)** (2 × 2) (4)
- 2.3.4 **Blessing:**  
 • Fill up wells and dams ✓✓  
 • Agricultural products depends on yearly rainfall ✓✓  
 • The rains soften the hardened soil, and makes it easier to cultivate ✓✓  
 • With the amount of water, hydroelectricity can be generated ✓✓  
**Curse:**  
 • Flooding destroys houses, infrastructure and agricultural land ✓✓  
 • Mudslides can bury villages and destroy crops ✓✓  
**(Any THREE - BOTH ASPECTS MUST BE ANSWERED FOR THE FULL MARKS - Accept other reasonable responses)** (3 × 2) (6)

- 2.4 2.4.1 Tropical easterlies/Trade winds ✓ (1 × 1) (1)
- 2.4.2
- The winds weaken during El-Niño conditions, allowing warmer waters from the western pacific to move eastward. ✓✓
  - As the ocean water warms, a low pressure develops over the ocean, and air pressure increases over Indonesia. ✓✓ (2 × 2) (4)
- 2.4.3
- The air pressure increases, which leads to less evaporation and rainfall ✓✓
  - Droughts are experienced in season where there is usually rainfall ✓✓
  - This leads to crop failure and loss of income for farmers ✓✓
  - Occurrence of *veldfires* increases, which threaten livestock and crops ✓✓
- (Any ONE)** (1 × 2) (2)
- 2.4.4 **Sketch 1**
- Normal upwelling brings to the surface cold water rich in nutrients for plankton ✓✓
  - Plankton provides food for fish ✓✓
  - Fishing industry is normal and flourishes ✓✓
- Sketch 2**
- Weak upwelling is causing a lack of nutrients ✓✓
  - Fish either moves to other areas or die out ✓✓
  - There is a serious drop in the catch ✓✓
- (Any FOUR – Accept other relevant responses - BOTH SITUATIONS MUST BE DISCUSSED BY THE LEARNERS)** (4 × 2) (8)
- 2.5 2.5.1 Crest ✓  
Soil creep ✓ (1 + 1) (2)
- 2.5.2 Deposition ✓ (1 × 1) (1)
- 2.5.3 Head ward erosion of the escarp slope makes the area where the debris falls, wider. ✓✓ (1 × 2) (2)
- 2.5.4
- At **B** the slope is extremely steep, with hard resistant rocks and excessive erosion makes it impossible for vegetation to grow here ✓✓
  - At **C** the slopes are more gentle and with the deposition of more fertile soil, the area is ideal for vegetation to grow ✓✓ (2 × 2) (4)
- 2.5.5
- Too steep for cultivation due to excessive erosion and hard resistant rocks ✓✓
  - Can be used for recreation activities like abseiling and rock climbing ✓✓ (2 × 2) (4)

- 2.6 2.6.1 It is the movement of surface material caused by gravity. ✓  
**(Concept)** (1 × 1) (1)
- 2.6.2 Often takes place when human settlements encroaches on hilly slopes. ✓✓ (1 × 2) (2)
- 2.6.3
- The soil is not protected against the effect of rain anymore ✓✓
  - Roots of plants do not bind the soil any longer, therefore becoming easier to move or being washed away ✓✓
- (Any ONE)** (1 × 2) (2)
- 2.6.4
- Can damage the property or the houses ✓✓
  - Can cause serious injury or even death ✓✓
  - Rockslides may bury the house ✓✓
- (Any TWO)** (2 × 2) (4)
- 2.6.5
- Use netting or caging to keep loose material intact ✓✓
  - Building of rock walls or walls at the base of the slope to capture loose falling rocks ✓✓
  - Spraying of cement on the side of the slope to stabilise the rock ✓✓
  - Drilling of bolts and nuts into the slope to help stabilise it ✓✓
  - Channelling of water out of the soil to help keep it drier ✓✓
- (Any FOUR – Accept other relevant responses)** (4 × 2) (8)
- [75]**

## SECTION B: DEVELOPMENT AND NATURAL RESOURCES

### QUESTION 3

- 3.1 3.1.1 Preconditions for take off ✓  
 3.1.2 Take off ✓  
 3.1.3 Drive to maturity ✓  
 3.1.4 Traditional society ✓  
 3.1.5 Age of mass consumption ✓  
 3.1.6 Age of mass consumption ✓  
 3.1.7 Drive to maturity ✓  
 3.1.8 Traditional society ✓ (8 × 1) (8)
- 3.2 3.2.1 C ✓  
 3.2.2 E ✓  
 3.2.3 F ✓  
 3.2.4 A ✓  
 3.2.5 B ✓  
 3.2.6 G ✓  
 3.2.7 D ✓ (7 × 1) (7)
- 3.3 3.3.1 Developed countries have in abundance and developing countries have less than their basic needs ✓  
**(Concept)** (1 × 1) (1)
- 3.3.2
- Poor housing quality ✓
  - Low income ✓
  - Food insecurity ✓
  - Low standard of living ✓
  - Lack of employment security ✓
  - Overcrowded houses ✓
  - Lack of skills ✓
  - Lack of proper education and literacy ✓
  - Subsistence farming dominates ✓
- (Any TWO)** (2 × 1) (2)
- 3.3.3 **Economic indicator:**  
 In developing countries, primary activities dominate with generally low income for the majority of people, whereas in developed countries secondary, tertiary and quaternary activities dominate. ✓✓
- Social Indicators:**  
 Availability of services like water, electricity, education and health care is higher in developed countries (B) than developing countries (A). ✓✓  
 In developing countries (A) the food and nutrition is poor, whereas it is in abundance in developed countries (B). ✓✓ (3 × 2) (6)



- 3.3.4 (a) X ✓✓ (1 × 2) (2)
- (b) • The graph indicates that X has a very high workforce in the tertiary sector, which generally is an indication of a very high GDP. ✓✓  
 • The sketch representing the developed countries indicate a lifestyle of people with wealth. ✓✓ (2 × 2) (4)
- 3.4 3.4.1 It is a corporation that has their facilities and other assets in at least one other country than in its own country. ✓  
**(Concept)** (1 × 1) (1)
- 3.4.2 • It makes third world countries dependent on first world countries. ✓  
 • It imposes Western cultural values on third world countries. ✓ (2 × 1) (2)
- 3.4.3 • The extract sees multinational corporations having a positive influence on developing countries. ✓✓  
 • The image illustrates how multinational corporations exploit the resources of developing countries. ✓✓ (2 × 2) (4)
- 3.4.4 **Improving Economy:**  
 • Create employment which will increase the GDP ✓✓  
 • Strengthen the economy by acquiring foreign currency ✓✓  
 • The size and scale of the operations enable MNC to offer lower costs on products, which benefits the consumer ✓✓  
 • Profits can be used for research and further development in developing countries ✓✓
- Improving Services:**  
 • MNC's will work with local companies to develop their innovations and technology management. ✓✓  
 • MNC's can help fight diseases like HIV/Aids through research to benefit production output. ✓✓  
 • MNC's can improve the skills and knowledge of locals by providing educational and technical assistance and schooling. ✓✓  
 • When factories are built, it will have a ripple effect on services like transport, electricity, education, etc. ✓✓
- (Any FOUR – Accept other relevant responses. BOTH ASPECTS SHOULD BE DISCUSSED FOR THE FULL MARKS)** (4 × 2) (8)
- 3.5 3.5.1 **A** Terracing ✓  
**B** Rotational grazing ✓ (2 × 1) (2)
- 3.5.2 The formation of soil is a very slow process and takes millions of years. ✓  
**(Concept)** (1 × 1) (1)
- 3.5.3 Inexpensive method of increasing the area of arable land. ✓✓  
 The flat area makes it possible to use modern machinery. ✓✓ (2 × 2) (4)

- 3.5.4
- Immediate and long term loss of production ✓✓
  - Leads to decrease in production ✓✓
  - Food prices will increase as agricultural products will have to be imported or higher financial costs for production ✓✓
  - Loss of foreign currency as exports decrease ✓✓
  - Negative impact on the GDP of the country ✓✓
  - Negative ripple effect on the provision of services as money is lost ✓✓
- (Any FOUR – Accept other relevant responses)** (4 × 2) (8)

- 3.6 3.6.1
- Improved maintenance of Eskom power stations ✓
  - Managing the electrical demand ✓
- (Any ONE)** (1 × 1) (1)

- 3.6.2
- Increase the use of non-conventional energy production to reduce the use of coal as power generator ✓✓
  - The management of energy in a more sustainable way ✓✓
  - Increased government investment to keep energy prices as low as possible to attract foreign investment and stimulate local economic growth ✓✓
  - Embarking on an educational, information and awareness programs, to make all stakeholders aware of the most cost efficient ways to save energy ✓✓
- (Any TWO – Accept other relevant responses)** (2 × 2) (4)

- 3.6.3
- Retards economic progress in the community ✓✓
  - Businesses will have to pay more taxes and become less economically viable and will be forced to close down ✓✓
  - Job losses due to shortage of production will increase economic and financial instability ✓✓
- (Any TWO)** (2 × 2) (4)

- 3.6.4 **Not sustainable because:**
- It increases the costs necessary to supply electricity as it is more expensive to generate electricity from diesel than from coal ✓✓
  - Cost of diesel will increase and this will unfairly and negatively affect the consumer ✓✓
  - It will place a burden on the economy because imports of diesel will have to increase ✓✓
  - Pressure on financially challenged households because of an increase in food prices due to electricity hikes ✓✓
- (Any THREE)** (3 × 2) (6)

[75]

**QUESTION 4**

- 4.1 4.1.1 Economic development ✓  
 4.1.2 Balance of trade ✓  
 4.1.3 Import quotas ✓  
 4.1.4 Embargo ✓  
 4.1.5 Protectionism ✓  
 4.1.6 Bilateral aid ✓  
 4.1.7 Humanitarian aid ✓ (7 × 1) (7)
- 4.2 4.2.1 C ✓ Natural gas  
 4.2.2 C ✓ Geo thermal  
 4.2.3 A ✓ Biomass  
 4.2.4 C ✓ Uranium  
 4.2.5 B ✓ Solar  
 4.2.6 A ✓ Uranium  
 4.2.7 A ✓ Uranium  
 4.2.8 D ✓ Coal (8 × 1) (8)
- 4.3 4.3.1 Trade between companies in developed countries and producers in developing countries in which fair prices are paid to the producers. ✓  
**(Concept)** (1 × 1) (1)
- 4.3.2 • It offers better prices ✓  
 • Improved terms of trade ✓  
 • Acquire the business skills necessary to produce high quality products ✓  
 • Improve their lives and plan for their future ✓  
**(Any ONE)** (1 × 1) (1)
- 4.3.3 • Through common agreement, companies keep prices of products low, therefore the consumer saves money. ✓✓  
 • Because farmers are not exploited in fair trade, they tend to keep the prices of their products low. ✓✓  
**(Any ONE)** (1 × 2) (2)
- 4.3.4 • There is no protectionism ✓✓  
 • Profits are shared equally ✓✓  
 • Both promote competition which decrease prices for the consumer ✓✓  
 • Both improve relationships between countries ✓✓  
**(Any TWO)** (2 × 2) (4)
- 4.3.5 • Protecting of water resources and natural vegetation areas ✓✓  
 • Promoting agricultural diversification, erosion control and restricting the use of pesticides and fertilisers ✓✓  
 • Banning the use of genetically modified organisms (GMO's) ✓✓  
 • Requiring proper management of waste, water and energy ✓✓  
**(Any FOUR – Accept other reasonable responses)** (4 × 2) (8)

- 4.4 4.4.1 Gender equality is when women and men enjoy the same rights and opportunities across all sectors of society. ✓  
**(Concept)** (1 × 1) (1)
- 4.4.2 Ghana ✓ (1 × 1) (1)
- 4.4.3 • Women are working more hours for unpaid labour ✓✓  
• Women are paid less for labour ✓✓  
• Women are doing more hours of work than men ✓✓  
**(Any TWO)** (2 × 2) (4)
- 4.4.4 • Women have restricted access to health care facilities ✓✓  
• Women's access to education is limited, therefore there are high levels of illiteracy amongst women ✓✓  
• Most women are part of the informal business sector, due to difficulties they experience in the corporate world ✓✓  
• Women still do not have voting rights in some countries ✓✓  
• Women can't own land and go into formal transactions ✓✓  
**(Any TWO)** (2 × 2) (4)
- 4.4.5 • Enhanced skills and knowledge by women could improve the production output of countries ✓✓  
• Higher paid work for women, means greater local development through higher spending, causing a ripple effect of development ✓✓  
• With women earning more money, the household have more to spend, giving children a better quality of life ✓✓  
**(Any TWO – Accept other reasonable responses)** (2 × 2) (4)
- 4.5 4.5.1 Deforestation ✓ (1 × 1) (1)
- 4.5.2 It can be replenished. ✓✓ (1 × 2) (2)
- 4.5.3 • The people are using the resource for day to day living faster than it can be replenished. ✓✓  
• The people are not using the resource for economic growth, which will willingly cause environmental degradation. ✓✓  
**(Any ONE)** (1 × 2) (2)
- 4.5.4 • Removing trees and plants will increase greenhouse gases in the air and contribute to global warming and climate change. ✓✓  
• Removing trees and plants will increase soil erosion. ✓✓  
• Habitats of animals will be destroyed. ✓✓  
• Biodiversity and ecosystems disturbed. ✓✓  
**(Any TWO)** (2 × 2) (4)
- 4.5.5 • Forestry as an industry creates jobs ✓✓  
• Selling of wood earns income for locals ✓✓  
• Creating an industry for making curios for tourists ✓✓  
**(Any TWO – Accept other reasonable responses)** (2 × 2) (4)

- 4.6 4.6.1 **A** Nuclear power station ✓  
**B** Thermal power station ✓  
**C** Hydro-electrical power station ✓ (3 × 1) (3)
- 4.6.2 • Transport ✓  
• Spoornet ✓  
• Farmers ✓  
• Domestic use ✓  
• Industries ✓  
• Recreational activities ✓  
**(Any TWO)** (2 × 1) (2)
- 4.6.3 • Burning of coal increases greenhouse gases ✓✓  
• Causes climate change and global warming ✓✓  
• Produces acid rain ✓✓  
• Mining of coal for generating energy cause environmental despoliation ✓✓  
• Waste of power stations destroys habitats of land and marine life ✓✓  
**(Any TWO)** (2 × 2) (4)
- 4.6.4 • Pulverising, grind the coal into powder ✓✓  
• Coal powder is mixed with hot air and moved to the furnaces ✓✓  
• Burning coal heats water in a boiler, creating steam ✓✓  
• Steam released from the boiler powers the turbine ✓✓  
• The turbine transforms heat energy into mechanical energy that spins the turbine ✓✓  
• Spinning turbine powers a generator, that turns mechanical energy into electrical energy ✓✓  
**(Any FOUR)**  
**(The WHOLE PROCESS should be explained for the FULL marks)**  
(4 × 2) (8)  
**[75]**
- TOTAL: 225**