



Province of the
EASTERN CAPE
EDUCATION

**NATIONAL
SENIOR CERTIFICATE**

GRADE 10

NOVEMBER 2018

**GEOGRAPHY P1
MARKING GUIDELINE**

MARKS: 225

This marking guideline consists of 14 pages.

SECTION A: CLIMATE, WEATHER AND GEOMORPHOLOGY**QUESTION 1**

- 1.1 1.1.1 15
- 1.1.2 17
- 1.1.3 Over-cast
- 1.1.4 North-East
- 1.1.5 25 knots
- 1.1.6 Rain
- 1.1.7 Saturated with water vapour (7 x 1) (7)
- 1.2 1.2.1 D (geomorphology)
- 1.2.2 E (fault)
- 1.2.3 B (crust)
- 1.2.4 G (quartzite)
- 1.2.5 C (fossil)
- 1.2.6 H (folding)
- 1.2.7 F (mantle)
- 1.2.8 A (sediments) (8 x 1) (8)
- 1.3 1.3.1 Ozone depletion is the destruction of ozone so that holes form in the ozone layer
(Concept) (1 x 1) (1)
- 1.3.2 Stratosphere (1 x 1) (1)
- 1.3.3 Chlorofluorocarbon (1 x 1) (1)
- 1.3.4
- Cars
 - Coal
 - Factories
 - Industrial activities
 - CFCs
- (Any 3 x 1) (3)

- 1.3.5
- It may cause skin cancer
 - Eye cataracts
 - Lowering of immune systems, resulting in increased illness in people and animals
 - Increase in the incidence of malaria (Any 1 x 2) (2)
- 1.3.6
- People should try to use products which are labelled 'ozone friendly'
 - The Montreal Protocol is seen as one of the most successful attempts at reducing the effects of ozone depletion
 - All CFCs should be replaced
 - Plant more trees
 - Use public transport
 - Internationally, people should keep high altitude flights to a minimum as combustion in aeroplane engines reduces the amount of oxygen in the atmosphere (Any 4 x 2) (8)
- 1.4
- 1.4.1
- A – Cold air
- B – Warm air (2 x 1) (2)
- 1.4.2
- Cumulonimbus cloud (1 x 1) (1)
- 1.4.3
- (a) Lightning (1 x 1) (1)
- (b) Convectional currents within the cloud cause lightening. The particles in the cloud become charged. Positive charges move up by warm air and negative charges move down by cold air (Any 2 x 2) (4)
- 1.4.4
- Positive impacts**
- Thunderstorm is accompanied by rainfall
 - There will be enough water for crops and animals
 - There will be enough water for domestic use
- Negative impact**
- Heavy rainfalls can cause flash floods which may lead to the destruction of infrastructure and houses
 - The impact thunderstorms have on people can be very harmful e.g. electrocution, shock and even deaths
 - Thunder can destroy the environment
 - It can hurt animals
 - It can burn vegetation (Any 3 x 2) (6)

- 1.5 1.5.1 (a) Earthquake
- (b) Epicentre (2 x 1) (2)
- 1.5.2 7,6 Richter scale
79 000 people were killed (2 x 1) (2)
- 1.5.3 Seismograph (1 x 1) (1)
- 1.5.4 • Earthquakes happen close to plate boundaries where plates move towards each other. (1 x 2) (2)
- 1.5.5 • Many buildings collapsed
• 79 000 people were killed
• Broken sewerage pipes
• Spread of diseases (Any 2 x 2) (4)
- 1.5.6 • There is a lack of early warning systems in less developed countries
• Buildings are poorly built and collapse easily
• Often there are few plans that inform people of what to do when an earthquake strikes
• People rely on outside help, which can take a long time to arrive
• These countries have lower standards of living (Any 2 x 2) (4)
- 1.6.1 X – Mantle
Y – Inner core
Z – Crust (3 x 1) (3)
- 1.6.2
- | LAYER | THICKNESS |
|-------|------------|
| X | 2 900 km |
| Y | 1 200 km |
| Z | 5 to 90 km |
- (3 x 1) (3)
- 1.6.3 Decreasing (1 x 1) (1)
- 1.6.4 (a) Oceanic crust
- (b) Continental crust (2 x 1) (2)
- 1.6.5 • Layer X is formed of rocks that are in a hot, thick molten state.
• Magma has a plastic consistency that allows it to move and flow slowly. (Any 1 x 2) (2)
- 1.6.6 • It is suitable for buildings
• It is suitable for agricultural activities (2 x 2) (4)

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QUESTION 2

- 2.1.1 D (Oxygen)
- 2.1.2 B (Insolation)
- 2.1.3 C (Mozambique)
- 2.1.4 B (Cumulonimbus)
- 2.1.5 B (Isobars)
- 2.1.6 C (Stratosphere and thermosphere)
- 2.1.7 D (Gauteng)
- 2.1.8 B (gaseous) (8 x 1) (8)
- 2.2.1 A – Batholith
B – Laccolith
C – Dyke
D – Sill (4 x 1) (4)
- 2.2.2 Erosion of top soil (1)
- 2.2.3 E (1)
- 2.2.4 (A) Batholith (1 x 1) (1)
- 2.3.1 Frontal rain (1 x 1) (1)
- 2.3.2 Front (1 x 1) (1)
- 2.3.3 Warm air – rising (1 x 1) (1)
Cold air – sinking (1 x 1) (1)
- 2.3.4 (a) Y (1 x 1) (1)
- (b) • Rising air that results in condensation and forms clouds
• Warm air for evaporation (Any 1 x 2) (2)
- 2.3.5 **Positive impact**
- More water will be available for domestic use
 - Farming will benefit
- Negative impact**
- Low temperatures
 - High risk of flooding
 - Poor visibility that will result in accidents
 - Availability of snow
 - Effect on the economy of the province (Any 4 x 2) (8)

- 2.4.1 Drought is a long period with little rainfall (**Concept**) (1 x 1) (1)
- 2.4.2
- Removal of vegetation
 - Overgrazing
 - Burning of fossil fuels (Any 2 x 1) (2)
- 2.4.3
- Shortage of food
 - Malnutrition
 - Shortage of water
 - Outbreak of diseases (Any 2 x 2) (4)
- 2.4.4
- Shortage of water for animals
 - Shortage of water for plants
 - Reduction in soil quality
 - Disruption of the natural ecosystem (Any 2 x 2) (4)
- 2.4.5
- Building dams to store water
 - Cloud seeding to artificially increase rainfall
 - Desalination of sea water
 - Crop rotation to protect soil to store water
 - Water restrictions
 - Recycling
 - Redirecting water to provide for irrigation in areas prone to drought
 - Harvesting rain water from rooftops
 - Development of sustainable agricultural practices
 - Educating people to change their attitude towards water usage
 - Increase price of water to reduce usage (Any 2 x 2) (4)
- 2.5.1 Tsunami is a wave of water produced when an earthquake occurs under the ocean. (**Concept**)
Earthquake is a violent shaking of the earth's crust caused by movement along a fault. (**Concept**) (2 x 1) (2)
- 2.5.2 Sri Lanka
Indonesia (2 x 1) (2)
- 2.5.3 8 people (1 x 1) (1)
- 2.5.4 South Africa is far away from the epicentre (8 000 km away) (1 x 2) (2)
- 2.5.5
- Survivors were left homeless as the houses were destroyed
 - Crops were destroyed that resulted in food shortages
 - Poor infrastructure as roads and bridges collapsed
 - No health care facilities
 - Businesses were affected as many survivors may have lost their jobs. (Any 2 x 2) (4)

- 2.5.6
- Build specially strengthened buildings
 - Educate people
 - Having disaster supplies on hand
 - Early warnings must be issued
- (Any 2 x 2) (4)
- 2.6.1 Plate tectonics is the theory of formation and motion of the plates that make up the Earth's crust (**Concept**) (1 x 1) (1)
- 2.6.2 continental drift (1 x 1) (1)
- 2.6.3 Africa (1 x 1) (1)
- 2.6.4 (a) Europe
North America (2 x 1) (2)
- (b) South America
Africa
Antarctica
Asia (Any 3 x 1) (3)
- 2.6.5 Pangea (1 x 1) (1)
- 2.6.6
- Rocks of similar type
 - The continents fit together like a jigsaw puzzle
 - Fossils of similar reptiles were also found
 - Fold mountain systems
 - The Rift Valley
 - Glaciers that covered large parts of the continents
- (3 x 2) (6)
- [75]**

SECTION B: POPULATION AND WATER RESOURCES**QUESTION 3**

- 3.1 3.1.1 Rainfall distribution
- 3.1.2 freezing
- 3.1.3 Desalination
- 3.1.4 transpiration
- 3.1.5 Infiltration
- 3.1.6 oceans
- 3.1.7 Marine pollution (7 x 1) (7)
- 3.2 3.2.1 D
- 3.2.2 E
- 3.2.3 B
- 3.2.4 H
- 3.2.5 C
- 3.2.6 G
- 3.2.7 A
- 3.2.8 I (8 x 1) (8)
- 3.3 3.3.1 Population is the total number of people within a given area (1 x 1) (1)
- 3.3.2 2002 = 44,8 million
2016 = 54,9 million (2 x 1) (2)
- 3.3.3 Lowest – Western Cape (6,3 million)
Highest – Gauteng (13,4 million) (2 x 1) (2)
- 3.3.4 From 2002 to 2016 the population of South Africa increased (1 x 2) (2)
- 3.3.5
- Demand for water increases with a growing population
 - As population increases, so available cropland decreases
 - Original forests have disappeared
 - Shortage of food (Any 2 x 2) (4)

- 3.3.6
- Practise birth control
 - Availability of contraception
 - Sterilisation
 - Family planning
 - People can be educated about the problems of population growth
 - Encourage abortion (Any 2 x 2) (4)
- 3.4 3.4.1 Acquired Immune Deficiency Syndrome (1 x 1) (1)
- 3.4.2 Highest – KwaZulu Natal (14,9%)
Lowest – Western Cape (5,1%) (2 x 1) (2)
- 3.4.3
- Frequent fevers and sweats
 - Lack of energy
 - Swollen lymph nodes
 - Persistent skin rashes or flaky skin
 - Persistent or frequent yeast infections (oral or vaginal)
 - Pelvic inflammatory disease in women that does not get better with treatment (Any 2 x 1) (2)
- 3.4.4
- South Africa has more people living with HIV than any other country in the world.
 - The number of HIV-positive people in 2009 was estimated to be 5,6 million (Any 1 x 2) (2)
- 3.4.5
- HIV is spread through body fluids such as blood, semen, vaginal fluids and breast feeding
 - Through unprotected sex
 - During pregnancy
 - During birth
 - Reusing and sharing needles (Any 2 x 2) (4)
- 3.4.6
- Motivate people to change their negative attitude, ideas and behaviour towards people with HIV and Aids
 - Make people more aware of what a stigma is and provide them with the knowledge and skills to reduce it
 - Address the fears and misconceptions about HIV transmission
 - Discuss taboo topics such as gender, violence, sexuality, sex and drug use
 - Provide skills to challenge the stigma and change people's behaviour (Any 2 x 2) (4)
- 3.5 3.5.1 Water transfer is moving water from one area to another (1 x 1) (1)
- 3.5.2 Nelson Mandela Metropolitan Municipality
Eastern Cape (2 x 2) (2)

- 3.5.3
- Water is used for irrigation
 - Supplying urban centres in the Nelson Mandela Metropolitan area (2 x 1) (2)
- 3.5.4
- Water is piped from the Gariiep Dam to the Great Fish River basin
 - A weir, Elandsdrift, diverts water from the Great Fish River into a canal and through a tunnel into the Little Fish River
 - A pipeline pipes water into a canal and to the Darlington Dam on the Sundays River. (2 x 2) (4)
- 3.5.5 **Human factors**
- The population is increasing
 - Commercial farmers are using more water for irrigation
 - Urbanisation
 - Untreated waste water
 - Mines and factories use a lot of water
 - Pollution of water sources
- Physical factors**
- Rainfall is not evenly distributed in South Africa
 - Alien vegetation consumes more water
 - Climate change (Any 3 x 2) (6)
- 3.6 3.6.1 Hydro-electricity (1 x 1) (1)
- 3.6.2 Renewable (1 x 1) (1)
- 3.6.3 It is used to generate electricity (1 x 1) (1)
- 3.6.4
- Domestic use (an example of any domestic use is accepted)
 - Used for agricultural activities (2 x 1) (2)
- 3.6.5
- The availability of groundwater helps to make up for high evaporation rates
 - People can tap into this groundwater supply through wells and boreholes
 - At present, over 2 000 m³ of water is removed from the ground through boreholes everyday (Any 1 x 2) (2)

3.6.6 In the home:

- Close taps when not using the water
- Fix dripping taps and leaks
- Use water-saving showerheads
- Flush toilets less often
- Take showers and fewer baths
- Re-use dirty water for cleaning e.g. washing cars or floors

In the garden

- Use a watering can instead of a hose pipe
- Collect rainwater from the roof
- Use bath water to water vegetables
- Water plants in the evening

In the community

- Report leaking pipes to the municipality
- Remove invasive alien plants
- Educate others about using water sustainably

(Any 4 x 2) (8)
[75]

QUESTION 4

- 4.1 4.1.1 Push factor
- 4.1.2 Voluntary
- 4.1.3 Immigrant
- 4.1.4 Refugee
- 4.1.5 Xenophobia
- 4.1.6 Emigration
- 4.1.7 Pull factor (7 x 1) (7)
- 4.2 4.2.1 Oceans
- 4.2.2 Low pressure
- 4.2.3 High pressure
- 4.2.4 Moist
- 4.2.5 Clouds
- 4.2.6 Precipitation
- 4.2.7 Surface runoff
- 4.2.8 Rise (8 x 1) (8)
- 4.3 4.3.1 Migration (1)
- 4.3.2 (a) International
- (b) Voluntary
- (c) Temporal (3 x 1) (3)
- 4.3.3
- He is looking for better job opportunities
 - He is not feeling safe in South Africa (Any 1 x 1) (1)
- 4.3.4
- Better job opportunities
 - Better standard of living
 - Safety (Any 2 x 2) (4)

- 4.3.5
- Migration increase skills shortages in South Africa
 - Brain drain
 - It leaves older people only in South Africa
 - There is less money to support local businesses because many people leave the country
 - Population shrinks so local authorities find it too expensive to maintain schools, clinics and other services (Any 3 x 2) (6)
- 4.4
- 4.4.1 Demographic transition model is a model explaining how country's population changes over time (**Concept**) (1 x 1) (1)
- 4.4.2 Stage 2 (1 x 1) (1)
- 4.4.3 Stage 4 (1 x 1) (1)
- 4.4.4 Birth rate and death rate in stage 1 are high (1 x 2) (2)
- 4.4.5
- Improved medical services
 - Better diet
 - Better services and infrastructure
 - Fewer wars
 - Better quality of life (Any 2 x 2) (4)
- 4.4.6
- The availability of contraception
 - The status of women
 - Education
 - Job opportunities
 - Medical care
 - Culture and tradition
 - Religion
 - The age of marrying
 - Polygamy
 - Political system (Any 3 x 2) (6)
- 4.5
- 4.5.1 Overfishing is catching fish faster than they can reproduce, thereby gradually reducing the fish resources. (**Concept**) (1 x 1) (1)
- 4.5.2
- More people and companies are fishing in the world's oceans
 - The lack of other jobs in coastal communities, forces people to survive by fishing
 - Fishing technology has greatly improved, which results in more fish being caught
 - Lack of laws to control the quantity of fish which can be removed from the world's oceans (Any 2 x 2) (2)

4.5.3	<ul style="list-style-type: none"> • Overfishing reduces the amount of food available for people to eat • Overfishing one species affects many other species • A decline in fish stocks leads to job losses and hardship 	(Any 2 x 2)	(4)	
4.5.4	<ul style="list-style-type: none"> • The oceans contain vast stores of oxygen • Sea weed is used by people as food • There are oil and gas fields in many oceans • Ocean can provide tidal and wave energy • Ocean transport is one of the most affordable forms of transport • Human use oceans for tourism and holidays • They moderate our climate and temperature 	(Any 4 x 2)	(8)	
4.6	4.6.1	Mozambique	(1 x 1)	(1)
	4.6.2	South Africa	(1 x 1)	(1)
	4.6.3	SA Military Health Services	(1 x 1)	(1)
	4.6.4	<ul style="list-style-type: none"> • Houses are built out of plastic, wood, zinc, etc. • Very dense housing with unplanned street patterns 	(Any 1 x 2)	(2)
	4.6.5	<ul style="list-style-type: none"> • Poor road junctions were washed away • Low bridges were washed away which made the area unreachable (inaccessible) 	(2 x 2)	(4)
	4.6.6	<ul style="list-style-type: none"> • Providing of formal housing in other areas • Relocating buildings within settlements • Preventing people from building houses in areas at high risk of flooding • Improving the design of houses • Installing and maintaining drains • Designing disaster plans to handle a flood situation when it happens • Educating people about flood dangers 	(Any 3 x 2)	(6)
			TOTAL:	225
				[75]