



basic education

Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

SENIOR CERTIFICATE EXAMINATION

GEOGRAPHY P1

2015

MEMORANDUM

MARKS: 225

This memorandum consists of 13 pages.

QUESTION 1

- 1.1.1 Extratropical cyclone (1)
 1.1.2 Southern (1)
 1.1.3 Low (1)
 1.1.4 Wave (1)
 1.1.5 Easterly (1)
 1.1.6 Winter (1)
 1.1.7 60° (1) (7 x 1) (7)
- 1.2.1 D (1)
 1.2.2 I (1)
 1.2.3 E (1)
 1.2.4 F (1)
 1.2.5 H (1)
 1.2.6 B (1)
 1.2.7 A (1)
 1.2.8 C (1) (8 x 1) (8)
- 1.3.1 South Atlantic High/South Atlantic Anticyclone/St. Helena High (1) (1 x 1) (1)
 1.3.2 Cold front (1) (1 x 1) (1)
 1.3.3 1025 hPa (1); 1026 hPa (1); 1027 hPa (1) [NOT 1024 hPa or 1028 hPa]
 High pressure (1) (1 x 1) (1)
 1.3.4 The isobars are close together (2)
 Steep pressure gradient (2)
 [ANY ONE] (1 x 2) (2)
 1.3.5 The South Indian High is ridging warm moist air onto the east coast (2)
 The inversion layer is above the escarpment allowing for moisture to reach the Highveld (2)
 Summer (date on the map) - high evaporation rate and therefore more cloud cover (2)
 Warm moist air east of the low pressure (2)
 [ANY ONE] (1 x 2) (2)
 1.3.6 Presence of a low pressure trough (2)
 Heat/thermal low pressure (2)
 Temperatures along coastal areas and inland are high (2)
 Position of high pressure systems are further south (2)
 Cold front situated far south of the country (2)
 Overcast conditions over the eastern half of the country (2)
 Over 20°C temperature at Durban (2)
 Clear skies along the west coast (2)
 [ANY ONE] (1 x 2) (2)
 1.3.7 East-north-easterly wind as a result of anti-clockwise rotation (2)
 Wind speed low as isobars are far apart (weak pressure gradient) (2)
 Overcast as moist air is fed over Durban (2)
 High temperature as warm air flows over Durban (2)
 High dew point temperature shows high moisture content fed over Durban (2)
 [ANY THREE. DO NOT ACCEPT STATION MODEL VALUES ONLY] (3 x 2) (6)

- 1.4.1 Summer (1) (1 x 1) (1)
- 1.4.2 South Atlantic High/South Atlantic Anticyclone/St. Helena High (1)
South Indian High/South Indian Anticyclone/Mauritius High (1) (2 x 1) (2)
- 1.4.3 Gale force winds/Strong winds/Turbulence (1)
Cumulonimbus clouds/Overcast/Cloudy (1)
High humidity (1)
Forms of precipitation: Hail (1)
Heavy rainfall (1)
Lightning/ Thunder (1)
[ANY TWO] (2 x 1) (2)
- 1.4.4 Displaced along with the north-easterly movement of the line thunderstorm (2)
(1 x 2) (2)
- 1.4.5 **EVALUATE THE IMPACT OF LINE THUNDERSTORMS ON FARMING ACTIVITIES IN THE INTERIOR**
Torrential rainfall can result in floods (2)
Torrential rainfall can damage crops (2)
Soil nutrients leach lower down the soil profile making soil less fertile (2)
Valuable nutrients in the soil are washed away (2)
Valuable crop yields are lost (2)
Lightening can result in fires which can destroy crop yields (2)
Gale force winds can destroy crops (2)
It will kill animals/Animals will die (2)
Land available for agriculture is destroyed (2)
Rain for crops (2)
Rain for irrigation purposes (2)
[ANY FOUR - ACCEPT OTHER REASONABLE ANSWERS - POSITIVE AND NEGATIVE IMPACTS MAY BE ACCEPTED] (4 x 2) (8)
- 1.5.1 **Superimposed drainage**
River now flows on older uncovered rocks which are uncovered by erosion (1)
River is younger than the landscape over which it flows (1)
[CONCEPT]
Antecedent drainage
River flows on a young landscape which is altered by tectonic forces (1)
River is older than the landscape over which it flows (1)
[CONCEPT] (2 x 1) (2)
- 1.5.2 The river erodes downwards (vertical erosion) into the original surface to reach the underlying rock layers (2)
The rate of downcutting of the river is faster than the rate at which the current rock layer is exposed (2)
[Any ONE] (1 x 2) (2)
- 1.5.3 Both rivers maintain their original course (2) (1 x 2) (2)
- 1.5.4 Folding (2) (1 x 2) (2)
- 1.5.5 The rate of down cutting by the river is equal to the rate of upliftment/ there is a balance between the two processes (2) (1 x 2) (2)
- 1.5.6 High lying ridges form infrastructure obstructions (2)
Building roads and railways would be more expensive (2)
The landscape is hilly and it is difficult to use machinery (2)
The building costs of houses will be higher (2)
[ANY TWO] (2 x 2) (4)

- 1.6.1 (a) D (1)
(b) B (1)
(c) A (1) (3 x 1) (3)
- 1.6.2 The valley is too large for the stream flowing in it (1)
Stream volume decreases/ less water (1)
Energy reduced / less erosion (1)
Deposition increases (1)
[ANY ONE] (1 x 1) (1)
- 1.6.3 The Pungwe River has a higher volume of water (2)
The Pungwe River flows down a steeper slope (2)
The Pungwe River will start to erode downwards (2)
[ANY TWO] (2 x 2) (4)
- 1.6.4 **NEGATIVE IMPACT OF RIVER CAPTURE**
The amount of water will be reduced along the Nyakupinga River affecting livelihoods that depend on water supply (2)
People living along the Nyakupinga River will be forced to source water from other tributaries of the main river (2)
There will be a reduction in the available water for domestic purposes (2)
There will be a reduction in the available water for agricultural purposes/ farming (2)
Yields will decrease (2)
Loss of income (2)
Recreational activities associated with water sports will be affected negatively (2)
Fishing activities will be reduced due to the lack of flowing water (2)
Natural habitats (ecosystems) will be affected and result in less aesthetically pleasing environments for human recreation (2)
Polluted water will remain and can cause water borne diseases which will affect human health (2)
[ANY FOUR - ACCEPT OTHER REASONABLE ANSWERS] (4 x 2) (8)

[75]

QUESTION 2

- 2.1.1 Low pressure (1)
 2.1.2 Low pressure(1)
 2.1.3 High pressure(1)
 2.1.4 High pressure (1)
 2.1.5 High pressure (1)
 2.1.6 High pressure (1)
 2.1.7 High pressure (1)
 2.1.8 High pressure (1) (8 x 1) (8)
- 2.2.1 Longitudinal/long profile (1)
 2.2.2 Ungraded (1)
 2.2.3 Upper/Youthful/Torrent/Mountain(1)
 2.2.4 Downstream (1)
 2.2.5 Sea (1)
 2.2.6 Knickpoint/waterfall/barrier (1)
 2.2.7 Upstream (1) (7 x 1) (7)
- 2.3.1 From east to west (1)
 Westwards (1)
 Westerly (1)
 [ANY ONE] (1 x 1) (1)
- 2.3.2 No tropical cyclone can form there; they require Coriolis Force to develop/
 Only develop from 5° south (2) (1 x 2) (2)
- 2.3.3 11 days (2)
 From 20/01 to 31/01 (2) (1 x 2) (2)
- 2.3.4 2 600 km (2)
 [ACCEPT BETWEEN 2 400 km AND 2 800 km]
 [STRAIGHT LINE DISTANCE BETWEEN THE 20/1 and 31/1 IS NOT ACCEPTABLE] (1 x 2) (2)
- 2.3.5 Differences in temperature (2)
 Moisture content (2)
 Friction over land (2)
 Change in surface area (2)
 [ANY TWO] (2 x 2) (4)
- 2.3.6 The ship will be delayed (2)
 The ship will be forced to port at Beira or Maputo (2)
 The ship may be forced to release some of its cargo in open waters to reach the nearest port (2)
 Could sustain damage from stronger waves (2)
 Gale force winds will result in the ship being unable to maintain its course (2)
 Due to the severe weather the ship could lose its cargo/containers can be washed overboard (2)
 Emergency and rescue operations during the storm may force the ship to be abandoned (2)
 Containers can be washed overboard (2)
 Shipwrecked (2)
 The ship should sail within the path of the eye (2)
 [ANY TWO - ACCEPT OTHER REASONABLE ANSWERS] (2 x 2) (4)

2.4.1	Katabatic/downslope/gravity (1)	(1 x 1)	(1)
2.4.2	Mountain slopes cool at night (2) Winds in contact with the slopes cool down (2) Lower temperatures increase the density of the air and it is forced to sink to the valley floor (2)		
	[ANY TWO]	(2 x 2)	(4)
2.4.3	As cold air sinks into the valley during night time it displaces the warm air upwards (2)	(1 x 2)	(2)
2.4.4	WARM THERMAL BELT Suitable for human habitation (2) Creates stable warm weather conditions (2) Reduces costs of heating households during cold winter night (2) Suitable for the cultivation of crops that do not withstand frost (2)		
	VALLEY FLOOR Plant frost resistant crops only (2) Traps the cold air, fog and smoke (2) Causes pollution problems in the valley (2)		
	[ANY FOUR - ACCEPT OTHER REASONABLE ANSWERS]	(4 x 2)	(8)
2.5.1	A river becomes active again and the downward erosive power is renewed (1) [CONCEPT]	(1 x 1)	(1)
2.5.2	A - valley within a valley (1) B - River terraces (1)	(2 x 1)	(2)
2.5.3	It indicates where the old and new erosion level occurs/the point where rejuvenation started (2) [CONCEPT]	(1 x 2)	(2)
2.5.4	The depth of the river increases on the cross profile (2) It will become more narrow at the base (2)	(1 x 2)	(2)
2.5.5	Downward erosion is dominant; it cuts a new deep steep sided valley (2) Headward erosion cuts back into hard rock (2) Increased downward erosion cuts into the landscape (2)	(2 x 2)	(4)
2.5.6	Rapids for white river rafting (2) Extreme sports/adventure tourism (2) Appreciation of natural features such as gorge, waterfall, rapids (2) Aesthetically pleasing (2)		
	[ANY TWO - ACCEPT OTHER REASONABLE ANSWERS]	(2 x 2)	(4)

- 2.6.1 Pipeline depositing untreated sewage water into the river (1)
 Sign warning against untreated sewage (1)
 The waste disposal/litter along the river (1)
 There is a human settlement that suggests pollution (1)
 Human habitation suggests disposal of domestic waste (1)
 Use of river for bathing, washing clothes etc (1)
 [ANY THREE] (3 x 1) (3)
- 2.6.2 People will be more susceptible to water borne diseases e.g. cholera/
 contaminated water increases risk of diseases for people living along this
 section of the river (2)
 People living along this section of the river system are low income earners
 who generally cannot afford health care (2)
 Less clean/pure water can reduce crop growth (2)
 Polluted water contaminates soil and reduces soil fertility (2)
 Polluted water can make animals sick (2)
 [ANY TWO - ACCEPT OTHER] (2 x 2) (4)
- 2.6.3 Provide basic services like piped/tapped water for people living along a river
 (2)
 Supply bins and provide regular waste collection services (2)
 Recycling bins and containers (2)
 Have a buffer zone for human activities along the river (2)
 Purify sewage before dumping into the river (2)
 Fines for dumping waste into rivers (2)
 Constant monitoring of water quality (2)
 Increased education/awareness campaigns (2)
 [ANY FOUR - ACCEPT OTHER REASONABLE ANSWERS] (4 x 2) (8)
- [75]**

QUESTION 3

3.1.1	B (1)		
3.1.2	A (1)		
3.1.3	B (1)		
3.1.4	A (1)		
3.1.5	A (1)		
3.1.6	B (1)		
3.1.7	A (1)		
3.1.8	B (1)	(8 x 1)	(8)
3.2.1	Gross domestic product (1)		
3.2.2	Secondary (1)		
3.2.3	Decentralisation (1)		
3.2.4	Sustainable development (1)		
3.2.5	Growth point (1)		
3.2.6	Subsidies (1)		
3.2.7	Imports (1)	(7 x 1)	(7)
3.3.1	Dispersed/Isolated/Scattered(1)	(1 x 1)	(1)
3.3.2	Buildings are scattered/far apart (1)	(1 x 1)	(1)
3.3.3	Farming/Agriculture/Cultivation(1) [NOT cultivated land]	(1 x 1)	(1)
3.3.4	The availability of water from the river (2) Flat land (2) Fertile soil (2) Access to transport (2) Enough arable land for farming (2) [ANY TWO - ACCEPT OTHER REASONABLE ANSWERS]	(2 x 2)	(4)
3.3.5	IMPACT ON THE ECONOMY Negative impact on the economy (2) Fewer investors/investments (2) Low production yields results in poor economic outlook (poverty) decreasing the economy (2) Land becomes less fertile (2) and less productive (2) resulting in poverty (2) Most farms become deserted due to increasing unemployment, lowering economic activity in rural areas (2) Infrastructure development to remote rural areas is reduced due to the decline in the rural economic activities (2) The number of central places for the buying and selling of goods is less, reducing economic activity (2) IMPACT ON RURAL DEPOPULATION Food security is threatened by poor farming practices (2) Possibility of malnourishment increases rural depopulation (2) Reduced employment opportunities on farms leads to rural depopulation (2) Migration of the younger population increases rural depopulation (2) [ANY FOUR ACCEPT OTHER- MUST REFER TO BOTH THE ECONOMY AND RURAL DEPOPULATION]	(4 x 2)	(8)

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3.4.1	Commercial/CBD (1)	(1 x 1)	(1)
3.4.2	Tall buildings (1)		
	High building density (1)	(2 x 1)	(2)
3.4.3	Transition zone/low income residential area/zone of decay (2)	(1 x 2)	(2)
3.4.4	Dilapidated buildings (2)		
	Crime (2)		
	Domestic violence (2)		
	Substance abuse (2)		
	Social ills (2)		
	Gangsterism (2)		
	Overcrowding (2)		
	Mixed functions (2)		
	High land values (2)		
	Urban renewal/renovation/succession and invasion (2)		
	[ANY TWO - ACCEPT OTHER]	(2 x 2)	(4)
3.4.5	Cheap rentals (2)		
	Conveniently located for informal trade (2)		
	Sub-letting of accommodation (2)		
	Ease of being anonymous (2)		
	[ANY TWO - ACCEPT OTHER REASONABLE ANSWERS]	(2 x 2)	(4)
3.4.6	High land value due to CBD expansion possibilities in the future (2)		
	Access to CBD (2)		
	[ANY ONE]	(1 x 2)	(2)
3.5.1	A condition in which people do not have access to (nutritious) food (1)		
	[CONCEPT]	(1 x 1)	(1)
3.5.2	Women (1) children (1) the elderly (1)		
	[ANY TWO]	(2 x 1)	(2)
3.5.3	Flood (2)		
	Drought (2)		
	Soil erosion/Infertile soils (2)		
	Desertification (2)		
	[ANY ONE ACCEPT ANY OTHER NATURAL DISASTERS]	(1 x 2)	(2)
3.5.4	Unemployment (2)		
	Poverty (2)		
	Low wages (2)		
	HIV/Aids (2)		
	Conflict (2)		
	Corruption with the distribution of food (2)		
	[ANY ONE - ACCEPT OTHER REASONABLE ANSWERS]	(1 x 2)	(2)
3.5.5	Subsidies for small scale farmers (2)		
	Use of genetically modified seeds (2)		
	Practise co-operative farming - farmers pool their resources (2)		
	Plant crops that can survive in a range of climatic conditions and use less water (2)		
	Plant crops that are more resistant to pests/diseases (2)		
	Increase production per hectare (2)		
	Invest more in agricultural research (2)		
	Planting of perennial crops that require less fertiliser and reduces erosion (2)		
	[ANY FOUR - ACCEPT OTHER REASONABLE ANSWERS]	(4 x 2)	(8)

3.6.1	Gauteng/PWV (1)	(1 x 1)	(1)
3.6.2	Chemical (1)		
	Metal processing (1)		
	Iron and steel (1)		
	Motor manufacturing/assembly (1)		
	Food processing (1)		
	Engineering (1)		
	Electronic (1)		
	Textiles (1)		
	[ANY TWO CAN INCLUDE EXAMPLES OF INDUSTRIAL ACTIVITIES APPLICABLE TO THE REGION]	(2 x 1)	(2)
3.6.3	Iron ore: Iron and steel industry (2)		
	Used in the building/construction industry (2)		
	Platinum: Jewellery manufacturing (2)		
	Coal: Generation of power (2)		
	Used in the chemical industry (2)		
	Water: Cooling and cleaning purposes (2)		
	Beneficiation (2)		
	Crop farming: Supplies food processing industry (2)		
	Secures food for a larger population (2)		
	[ANY TWO - ACCEPT OTHER]	(2 x 2)	(4)
3.6.4	Tugela-Vaal water scheme (2)		
	Lesotho Highlands water project (2)		
	Education and Awareness programs on the usage of water (2)		
	Recycling water (2)		
	Construction of dams (2)		
	Restrictions on water usage (2)		
	[ACCEPT OTHER REASONABLE ANSWERS]	(2 x 2)	(4)
3.6.5	The region is landlocked (2)		
	Located in the interior of the country away from harbours, thus reduced accessibility (2)		
	Goods will have to be transported by road or rail or air (2)		
	and this adds to the cost of the goods (2)		
	Landlocked – no access to harbours (2)		
	However, good infrastructure in place to transport goods (2)		
	Closest region to access African markets (2)		
	[ANY TWO - MAY FOCUS ON NEGATIVE AND/OR POSITIVE]	(2 x 2)	(4)

[75]

QUESTION 4

- 4.1.1 D (1)
 4.1.2 F (1)
 4.1.3 E (1)
 4.1.4 B (1)
 4.1.5 G (1)
 4.1.6 A (1)
 4.1.7 C (1) (7 x 1) (7)
- 4.2.1 C (1)
 4.2.2 B (1)
 4.2.3 A (1)
 4.2.4 C (1)
 4.2.5 A/C (1)
 4.2.6 B (1)
 4.2.7 D (1)
 4.2.8 B (1) (8 x 1) (8)
- 4.3.1 Minimum number of customers needed to make a business profitable (1)
 [Concept] (1 x 1) (1)
- 4.3.2 **Range** Distance a customer is prepared to travel (1)
 [Concept]
- Sphere of influence** Area from which a business draws its customers (1)
 [Concept] (2 x 1) (2)
- 4.3.3 (a) Theatre or opera/Specialised hospitals/Jewellery shops/Furniture shops/
 High court (1)
 [ANY ONE - ACCEPT OTHER REASONABLE ANSWER] (1 x 1) (1)
- (b) High order services are more expensive (2)
 Variety of options (2)
 They are not required on daily basis (2)
 High quality services (2)
 Personal preferences (2)
 [ANY ONE] (1 x 2) (2)
- (c) Not regular uses of services (2)
 Require many people to ensure business is profitable. (2)
 High order services are more expensive and require more people (2) (2)
 [ANY ONE] (1 x 2)
- 4.3.4 Sphere of influence increases (2)
 More high order services (2)
 Greater variety of goods and services (2)
 People prepared to travel further (2)
 Specialised services increase (2)
 Threshold population increases (2)
 More money spent to boost the economy of the city (2)
 One stop shops – variety of services (2)
 More money for infrastructural development (2)
 [ANY FOUR – ACCEPT OTHER REASONABLE ANSWER] (4 x 2) (8)

4.4.1	An increase in the percentage of people living in urban areas (1) [Concept]	(1 x 1)	(1)
4.4.2	2010 (1)	(1 x 1)	(1)
4.4.3	Employment opportunities (1) Better services (1), Better services such as health (1) educational (1), transport facilities etc (1) Proper housing (1) Entertainment (1) [ANY TWO – ONLY PULL FACTORS ARE ACCEPT -ACCEPT OTHER REASONABLE ANSWERS]	(2 x 1)	(2)
4.4.4	Ageing population dies out (2) Lower fertility rate in the area (2) Reduction in the natural increase (2) [ANY TWO - ACCEPT OTHER REASONABLE ANSWERS]	(2 x 2)	(4)
4.4.5	Rapid increase in the number of informal settlements (2) The size of the informal settlement increases (2) Greater need for informal settlements due to natural increase of population in the city (2) The impact is not only the outskirts but other land use zones (2) [ANY THREE - ACCEPT OTHER REASONABLE ANSWERS]	(3 x 2)	(6)
4.5.1	Nickel (1)	(1 x 1)	(1)
4.5.2	Copper (1)	(1 x 1)	(1)
4.5.3	Less coal sold in July to September due to it being summer in the Northern Hemisphere as they are our biggest customer (2) Greater demand domestically (2) Our biggest customers in the Northern Hemisphere (2) Sell more to the Northern Hemisphere customers in winter as the demand is higher (2) Need to generate more electricity in winter due to cold temperatures (2) [ANY TWO - ACCEPT OTHER REASONABLE ANSWERS]	(2 x 2)	(4)
4.5.4	Wide variety minerals (2) Large mineral reserves (2) Local and foreign demand (2) Good infrastructure/roads/railway lines make mining areas accessible (2) Raw materials for industries (2) Skilled and unskilled labour force is available (2) Production costs are lower where minerals are close to the surface (2) Lower rock temperatures (geothermal gradient) allows for deeper mining (2) Capital for mining is available (2) Many countries have invested in our mines (2) Infrastructure such as railway lines, water, electricity have been readily available (2) [ANY TWO - ACCEPT OTHER REASONABLE ANSWERS]	(2 x 2)	(4)

4.5.5	Contribution to the GDP (2) Provision of employment opportunities (2) Availability of raw materials for the industries (2) Revenues from the sales (2) Development of infrastructure (2) Up-skilling people (2) International trade (2) Industrial development was triggered/started by mining (2) Earn foreign exchange (2) Contribution to rapid urbanisation (2) Contribution to socio-economic development of the country (2) [ANY TWO - ACCEPT OTHER REASONABLE ANSWERS]	(2 x 2)	(4)
4.6.1	Employment in the formal sector initially increases over time and then decreases (1) Employment in the informal sector increases then decreases and increases again (fluctuates) (1) More people in the formal sector (1)	(2 x 1)	(2)
4.6.2	They are not legally registered as a business (2) They do not pay tax to the receiver of revenue (2) Difficult to quantify (2) [ANY ONE]	(1 x 2)	(2)
4.6.3	Allocated specific areas near stations, bus terminal and taxi ranks (2) Foster partnership between the private sector and informal vendors (2) Upgrade business acumen and business skills (2) Provide infrastructure such as hawker stalls and carts in areas zoned for informal trading (2) Municipalities could play an active role in providing training and improve skills through learner-ship programmes (2) Provide easier access to bank loans (2) Provide proper storage facilities (2) [ANY TWO - ACCEPT OTHER REASONABLE ANSWERS]	(2 x 2)	(4)
4.6.4	Reduces profits of formal sector as they sell goods at a cheaper rate (2) The informal sector is growing therefore reduces the contribution of the formal sector to the economy (2) Do not pay premises rentals therefore no income for formal sector (2) No taxes paid reduces income (2) Some formal businesses close down as they cannot compete (2) Results in people becoming unemployed (2) The increase in unemployment means more people will support the informal sector with less money being directed to the formal sector (2) Informal trading services the formal sector indirectly e.g. taxi industry and recycling industry (2) The informal sector lays the foundation for sustainable livelihoods (2) [ANY FOUR - ACCEPT OTHER REASONABLE ANSWERS]	(4 x 2)	(8)
			[75]

GRAND TOTAL: 225