



basic education

Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

NATIONAL SENIOR CERTIFICATE

GRADE 12

**GEOGRAPHY P1
FEBRUARY/MARCH 2012
MEMORANDUM**

MARKS: 300

This memorandum consists of 16 pages.

SECTION A**QUESTION 1**

- | | | | | |
|-----|-------|--|---------|------|
| 1.1 | 1.1.1 | Subtropical belt (2) | | |
| | 1.1.2 | ITCZ (2) | | |
| | 1.1.3 | Coriolis (2) | | |
| | 1.1.4 | Westerlies (2) | | |
| | 1.1.5 | Hadley (2) | (5 x 2) | (10) |
| 1.2 | 1.2.1 | Surface flow (2) | | |
| | 1.2.2 | Watershed (2) | | |
| | 1.2.3 | Ground water (2) | | |
| | 1.2.4 | River mouth (2) | | |
| | 1.2.5 | Interfluve (2) | (5 x 2) | (10) |
| 1.3 | 1.3.1 | It is a zone between two air masses with different moisture content (2) | (1 x 2) | (2) |
| | 1.3.2 | A is the south westerly wind (2)
B is the north easterly wind (2) | (2 x 2) | (4) |
| | 1.3.3 | A is cold (2)
B is warm (2) | (2 x 2) | (4) |
| | 1.3.4 | A originates from the Atlantic Ocean which is cold (2)
B originates from the Indian Ocean which is warm (2) | (2 x 2) | (4) |
| | 1.3.5 | The cold dry south westerly wind and the warm north easterly wind converge at the moisture front (2)
The cold, dry south westerly wind sinks whilst the warm, moist air rises along the front (2)
Air will therefore cool and condenses forming cumulonimbus clouds which will result in heavy rainfall along the front (2)
[Any THREE] | (3 x 2) | (6) |
| | 1.3.6 | Cause floods which will sweep away crops (2)
Accompanied by hail which may damage crops (2)
Lightning could start a fire (2)
[Any TWO] | (2 x 2) | (4) |

1.4	1.4.1	Monsoon wind (2)	(1 x 2)	(2)
	1.4.2	The direction of the surface wind is reversed in winter and summer (2) The wind operates in the hot (summer) and cold (winter) season(2) Derived from Arabic word 'mausim', which means season (2) [Any ONE]	(1 x 2)	(2)
	1.4.3	Summer (2)	(1 x 2)	(2)
	1.4.4	Arrival: results in flooding (2) results in drowning (2) results in destruction of infrastructure (2) results in loss of personal property (2) results in spreading of diseases (2) Late arrival: absence of much needed rain (2) causes drought (2) crops will die (2) livestock will die (2) decrease in food production (2) famine (2) negative impact on food security (2) economy declines (2) the country affected will have to import food (2)		
		[Any SIX. Candidates must refer to both parts of the question]	(6 x 2)	(12)
1.5	1.5.1	Non-perennial/periodic/seasonal (2)	(1 x 2)	(2)
	1.5.2	Third order (2)	(1 x 2)	(2)
	1.5.3	Will reduce discharge (2) It intercepts precipitation (2) It adds to the rates of evapo-transpiration (2) Roots of plants take up water, reducing throughflow (2) [Any TWO]	(2 x 2)	(4)
	1.5.4	Dendritic (2)	(1 x 2)	(2)
	1.5.5	(a) Where one river captures/robs the headwaters of another river and so increases the size of its drainage basin (2)	(1 x 2)	(2)
		(b) Steeper gradient (2) Greater rainfall (2) Softer rock (2) Lower flow level (2) [Any TWO]	(2 x 2)	(4)

		(c) Less water available for agriculture (2)		
		Less deposition therefore drop in soil fertility (2)		
		Decrease in production (2)		
		Economic decline (2)		
		Lower volumes of water available for domestic and industrial use (2)		
		Aquatic organisms perish since the supply of water is reduced (2)		
		Food chains and food webs are disrupted (2)		
		Ecosystems are thrown into a state of imbalance (2)		
		[Any TWO]	(2 x 2)	(4)
1.6	1.6.1	Cross profile/transverse (2)	(1 x 2)	(2)
	1.6.2	Heavy rains (2)		
		Steep slope (2)		
		Ground almost saturated (2)		
		Rock with low porosity (2)		
		Low degree of permeability of rocks (2)		
		Lack of vegetation (2)		
		[Any TWO]	(2 x 2)	(4)
	1.6.3	<u>WAYS IN WHICH HUMANKIND MISMANAGES RIVERS</u>		
		Deforestation (2)		
		Discharge of sewage and industrial waste (2)		
		Overirrigation (2)		
		More settlements in drainage basins because of population increase (2)		
		Overcultivation (2)		
		Overgrazing (2)		
		Chemicals used in agriculture washed away by surface run-off (2)		
		The construction of dams decreases volume of water further downstream (2)		
		River ecosystems thrown in imbalance (2)		(12)
		[Any SIX. Accept other reasonable answers]	(6 x 2)	[100]

QUESTION 2

2.1	2.1.1	Cold front (2)		
	2.1.2	Cirrus (2)		
	2.1.3	Cumulonimbus (2)		
	2.1.4	Occlusion (2)		
	2.1.5	Warm front (2)	(5 x 2)	(10)
2.2	2.2.1	Under cut slope (2)		
	2.2.2	Slip off slope (2)		
	2.2.3	Oxbow lake (2)		
	2.2.4	Silt (2)		
	2.2.5	Flood plain (2)	(5 x 2)	(10)
2.3	2.3.1	Greenhouse effect (2)		
		Climate change (2)		
		Global warming (2)		
		[Any ONE]	(1 x 2)	(2)
	2.3.2	The short-term effects of climate change is of no concern, but rather the long-term effects and the cause of it (2)		
		Climate change will negatively affect the economy (2)		
		[Any ONE]	(1 x 2)	(2)
	2.3.3	Storms surges (2)		
		Tsunami (2)		
		Melting of ice caps (2)		
		[Any ONE]	(1 x 2)	(2)
	2.3.4	Loss of crops (2)		
		Less exports (2)		
		Less foreign capital (2)		
		Negative balance of trade (2)		
		Imports of agricultural products (2)		
		[Any TWO]	(2 x 2)	(4)
	2.3.5	<u>MEASURES TO ADDRESS CLIMATE CHANGE</u>		
		Concerted effort to reduce greenhouse emissions (2)		
		Legislation to restrict emissions (2)		
		Investigating the viability of renewable sources of energy (2)		
		Private funding to develop renewable energy resources (2)		
		Strict control of emissions from waste (methane) and transport sectors (fossil fuels)(2)		
		Prevent deforestation (2)		
		Practising forestation for trees to absorb carbon-dioxide (2)		
		Promote sustainable forms of agriculture (2)		
		Public awareness campaigns (2)		
		Educating public/in schools (2)		
		[Any SIX. Accept other reasonable answers]	(6 x 2)	(12)

- 2.4 2.4.1 A region of higher temperatures in an urban area surrounded by lower temperatures in the rural areas (2)
[Concept] (1 x 2) (2)
- 2.4.2 6°C (2) (1 x 2) (2)
- 2.4.3 Tall buildings which cause sun rays to be reflected and deflected (2)
Artificial material used in construction of buildings which helps to retain more heat (2)
More heat-generating activities such as restaurants, hotels, etc. in cities (2)
Vehicles and industries increase the production of pollutants that absorb and retain heat for longer (2)
The high density of tall buildings reduces the flow of air in the city and temperatures remain high (2)
Efficient drainage system remove water from the surface quickly, reducing the rate of evaporation causing the atmosphere to be hot (2)
Household heating systems (2)
Higher population (2)
There is less vegetation, therefore less heat is used for transpiration and photosynthesis (2)
Buildings create a larger surface area that is heated (2)
[Any THREE] (3 x 2) (6)
- 2.4.4 The city cools and dense air sinks (2)
Flow of air from the surrounding rural area is not so strong (2)
The warm polluted air is prevented from escaping into the upper atmosphere by the strong inversion conditions (2)
The dust dome or heat island is strongly developed (2)
Artificial heating (2)
[Any TWO] (2 x 2) (4)
- 2.4.5 People suffer from respiratory diseases (2)
Allergies, e.g. irritation of the eyes and skin disorders (2)
Heat stress may result in heart ailments that could result in death amongst the elderly (2)
Smog and fog reduces visibility increasing the incidence of accidents amongst motorists (2)
More condensation which causes more rainfall over a city resulting in flooding and drowning (2)
[Any THREE. Accept other reasonable answers] (3 x 2) (6)

2.5	2.5.1	Inclined (tilted) strata (2)	(1 x 2)	(2)
	2.5.2	(a) A – Scarp slope (2) B – Dip slope (2)	(2 x 2)	(4)
		(b) Higher angle of inclination (2) Resistant rock does not erode easily (2)	(2 x 2)	(4)
	2.5.3	When the plunging(dipping) layers erode, the harder layers provide less fertile soil (2) The scarp slope cannot be used for farming as it is too steep for farming (2) Ridges make it difficult to construct transport networks (2) Steep scarps can cause traffic problems (2) [Any TWO]	(2 x 2)	(4)
	2.5.4	Horizontal strata/layers found in the Karoo (2)	(1 x 2)	(2)
2.6	2.6.1	A – Crest (2) B – Cliff/scarp slope/free face (2)	(2 x 2)	(4)
	2.6.2	Elevated plateau exposed to erosion by running water (backwasting) (2) Reduced in size(cut up) into larger, free standing blocks (2) Mesas is formed when a plateau is reduced in size due to erosion by running water (2) The caprock is reduced from the sides (2) Backwasting occurs (2) Slope retains the height (2) Parallel retreat of slopes (2) Ultimately the height of the feature is greater than the diameter(2) [Any TWO]	(2 x 2)	(4)
	2.6.3	The diameter is larger than the height (2) It has steep slopes (2) A cap of hard rock protects the soft rock underneath (2) It is typically associated with all four slope elements (2) [Any ONE]	(1 x 2)	(2)
	2.6.4	<u>CLIFF</u> Vertical cliff attract adventure tourists (2) Rock climbing and abseiling activities (2) <u>THE PEDIMENT</u> Gentle/low angle slope ideal for human settlement (2) Easy to construct roads and other infrastructure (2) Farming activities on pediment (2) Low rainfall and thin soil layer in Karoo only suitable for sheep/goat farming (2) <u>CREST</u> Resistant layer not suitable for human use (2)		

TALUS

Little human use due to steep angle and unweathered material (2)

LANDSCAPE IN GENERAL

Ideal for photography (2)

Survey for water trapped between sedimentary layers (2)

Karoo ideal for satellite dishes due to clear skies (2)

[Any SIX. Accept other reasonable uses] (6 x 2) (12)
[100]

QUESTION 3

- | | | | | |
|-----|-------|---|---------|------|
| 3.1 | 3.1.1 | Conurbation (2) | | |
| | 3.1.2 | Hamlet (2) | | |
| | 3.1.3 | X (2) | | |
| | 3.1.4 | Central place theory (2) | | |
| | 3.1.5 | Break of bulk point | (5 x 2) | (10) |
| 3.2 | 3.2.1 | D (Centralisation) (2) | | |
| | 3.2.2 | F (Gauteng/PWV) (2) | | |
| | 3.2.3 | B (Footloose industries) (2) | | |
| | 3.2.4 | C (Market orientated) (2) | | |
| | 3.2.5 | A (Heavy industries) (2) | (5 x 2) | (10) |
| 3.3 | 3.3.1 | An isolated farmstead (2) | | |
| | | Farmstead away from other houses (2) | (2 x 2) | (4) |
| | 3.3.2 | Much larger than neighbourhood shopping centre (2) | | |
| | | Close to major roads/Accessibility (2) | | |
| | | Massive parking space (2) | | |
| | | A large variety of shops (2) | | |
| | | Many high order/specialised functions (2) | | |
| | | [Any ONE] | (1 x 2) | (2) |
| | 3.3.3 | Road (2) | | |
| | | Flat land (2) | | |
| | | Fertile soil (2) | | |
| | | [Any ONE] | (1 x 2) | (2) |
| | 3.3.4 | Flat land (2) | | |
| | | Near sea for exports/harbour (2) | | |
| | | Availability of water (2) | | |
| | | [Any ONE] | (1 x 2) | (2) |
| | 3.3.5 | Expansion of city is limited to south by ocean (2) | | |
| | | Expansion limited to east by river (2) | | |
| | | Possible expansion to west/north will result in farming activities stopping (2) | | |
| | | Loss of income from farming (2) | | |

		Destruction of natural resource/soil (2)		
		More pressure on river in terms of pollution (2)		
		More open spaces in city will be used for building projects (2)		
		Green belts under threat (2)		
		Further increase in building density (2)		
		Reduced accessibility (2)		
		Increased pollution (2)		
		Increase in land value (2)		
		An outdated street pattern (2)		
		More traffic congestion (2)		
		[Any SIX. Accept other possible answers]	(6 x 2)	(12)
3.4	3.4.1	Rural-urban migration (2)	(1 x 2)	(2)
	3.4.2	More job opportunities (2)		
		Higher salaries and wages (2)		
		More permanent jobs (2)		
		Greater scope for promotion (2)		
		Superior social amenities (2)		
		Better educational facilities (2)		
		Better housing (2)		
		Availability of clean and pure water (2)		
		Efficient transport system (2)		
		Health and medical services are readily available (2)		
		Lack of security on farms (2)		
		[Any TWO]	(1 x 2)	(2)
	3.4.3	Lack of housing (2)		
		Growth of informal settlements (2)		
		Increase in levels of crime (2)		
		Unskilled people cannot find jobs (2)		
		Traffic congestion and pollution increases (2)		
		Insufficient services to cope with large population (2)		
		Waste management becomes uncontrollable (2)		
		Hygiene is a problem in informal settlements (2)		
		Lack of purified water and sewage facilities in informal settlements (2)		
		Values, traditions and customs break down when people get caught up in city life (2)		
		Overcrowding and lack of shelter leads to the rapid spread of diseases such as TB (2)		
		[Any THREE]	(3 x 2)	(6)
	3.4.4	Increased medical costs and reduced ability to work (2)		
		To meet daily expenses family has to sell livestock and other assets including land (2)		
		Other members of the family also spend more time caring for the Aids patient and spend less time on farming (2)		
		Child labour increases where children are taken out of school (2)		
		Results in shortage of food and poverty because of decreased family income (2)		

The family becomes socially excluded due to the stigma attached to HIV/Aids (2)

Death of women as care givers have a severe impact (2)

Child-headed households (2)

HIV/Aids patients cannot meet the demands of labour intensive subsistence farming (2)

Households limit their cultivation of crops to fields near their farmsteads so that they can care for the ill (2)

Distant fields are not used and this effectively reduces the area under cultivation (2)

Death of young adults will result in higher proportion of elderly and young children in rural areas (2)

[Any TWO] (2 x 2) (4)

3.5 3.5.1 Activity concerned with the extraction of raw materials from the natural environment (2)
[Concept] (1 x 2) (2)

3.5.2 Primary activities provide raw materials for secondary activities (2)
Secondary activities process the raw material (2)
[Any ONE] (1 x 2) (2)

3.5.3 A Y (2) (1 x 2) (2)
B X (2) (1 x 2) (2)

3.5.4 High percentage of primary activities (2)
Lower percentage secondary and tertiary (goods and services) (2)
Fewer finished goods to sell/export (2)
Less contributions to GDP (2)
[Any ONE] (1 x 2) (2)

3.5.5 **PWV/GAUTENG**

1. RAW MATERIALS:

Abundant raw materials (2)

Gold, iron-ore and maize (2)

Closer to coal-fired power stations

Produced in close proximity to the industries (2)

2. TRANSPORT:

A dense network of roads and railways (2)

Many airports (2)

It facilitates the distribution of the goods that are manufactured (2)

3. MARKETS:

The population is dense (2)

This creates a growing demand for a variety of goods (2)

Linked to all major towns and cities (2)

Access to overseas markets through harbours (2)

DURBAN-PINETOWN**1. RAW MATERIALS:**

A variety of resources (2)

Sugar cane, dairy products, meat and subtropical fruit are produced in this area (2)

Close to coal-fired power stations in KZN (2)

2. TRANSPORT:

The presence of the harbour (2)

Facilitates the export of goods (2)

Good transport links to the interior of the country (2)

3. MARKETS:

Dense population (2)

Great demand for the manufactured goods (2)

Easy access to Asian market via the harbour (2)

Access to inland market (2)

SOUTH WESTERN CAPE**1. RAW MATERIALS:**

Abundant supply of deciduous fruit, grape and fish (2)

Many food processing industries have been established here (2)

Little access to coal and power stations (2)

2. TRANSPORT:

Table Bay facilitates an excellent access for oceanic trade (2)

The dense rail network provides a vital link to the interior (2)

3. MARKETS

Dense population (2)

There is a large market with a high purchasing power (2)

Many dependent towns surrounding Cape Town (2)

The coastal location favours access to a large European market (2)

Access to inland markets (2)

PORT ELIZABETH-UITENHAGE**1. RAW MATERIALS:**

Abundant raw materials (2)

Wool, sub-tropical fruit and cotton are readily available (2)

Little access to coal and power stations (2)

2. TRANSPORT

An excellent transport system (2)

Raw materials can easily be transported here for processing (2)

Harbour links with overseas market (2)

Links this region to interior of the country(2)

3. MARKETS:

Presence of harbour links with overseas market (2)

Facilitates importing of raw materials and the export of goods
(2)

Access to inland market (2)

**[Any SIX. Candidates must refer to Raw materials, Transport
and Markets in ONE industrial area only] (6 x 2) (12)**

- 3.6 3.6.1 The environment is abused or treated unfairly in some way (2)
[Concept] (1 x 2) (2)
- 3.6.2 Nuclear waste disposal in ground water and ocean (2)
Ecological destruction (2)
[Any ONE] (1 x 2) (2)
- 3.6.3 No (2)
Polluting the oceans also causing harm to environment and man
(2) (2 x 2) (4)
- 3.6.4 Rainfall is low and unreliable (2)
Rainfall is highly variable (2)
There are only a few natural lakes (2)
Most rivers are non-perennial (2)
Many rivers are silted from soil erosion thus making them shallow
(2)
Evaporation rates are high since the climate is hot and dry (2)
There are few deep valleys and gorges, therefore the dams built
are shallow with larger surface areas that promote evaporation (2)
[Any TWO] (2 x 2) (4)
- 3.6.5 Sustained economic growth of the region (2)
Provides clean water to Gauteng (2)
Used for generation of hydroelectricity (2)
Supply water for industrial use (2)
Supply water for municipal use (2)
Supply of water for agricultural use (2)
Support recreation facilities such as skiing, boating and camping
(2)
Promotes tourism (2)
[Any THREE] (3 x 2) (6)

[100]

QUESTION 4

4.1	4.1.1	E (2)		
	4.1.2	B (2)		
	4.1.3	C (2)		
	4.1.4	D (2)		
	4.1.5	A (2)	(5 x 2)	(10)
4.2	4.2.1	D (2)		
	4.2.2	C (2)		
	4.2.3	B (2)		
	4.2.4	A (2)		
	4.2.5	D (2)	(5 x 2)	(10)
4.3	4.3.1	Concentric (accept sector model) (2)	(1 x 2)	(2)
	4.3.2	(a) CBD (2)		
		(b) Central location (2)		
		(c) Physical obstacles make it impossible to have circular shape (2)	(1 x 2)	(2)
	4.3.3	Lack of housing (2) People want to stay close to work (2) Expensive transport (2) Poverty (2) Unemployment (2) Overcrowding (2) [Any TWO]	(2 x 2)	(4)
	4.3.4	Structures put up not according to municipal regulations (2) Unsanitary (2) Unhygienic conditions (2) Pollution (2) Crime (2) Social ills (2) Lack of basic facilities (2) No open spaces (2) [Any TWO]	(2 x 2)	(4)
	4.3.5	Informal settlements on outskirts (2)	(1 x 2)	(2)
4.4	4.4.1	The percentage of the total population of a region or country that lives in urban areas rather than in rural areas (2) [Concept]	(2 x 2)	(4)

- 4.4.2 Developing Countries/LEDCs (2)
Still large percentage of people living in rural areas moving to cities (2) (2 x 2) (4)
- 4.4.3 Rural-urban migration (2)
Natural population growth (2)
Immigrants and refugees from other countries (2)
[Any TWO] (2 x 2) (4)
- 4.4.4 **DEFINITION OF GREEN BELT**
Buffer zone/large open space with gardens (2)
ADVANTAGES OF ESTABLISHING GREEN BELTS IN CITIES:
Reduce level of noise (2)
Add to aesthetic value (2)
Photosynthesis possible (2)
Release oxygen (2)
More clean air (2)
Use carbon dioxide (2)
Thus helps with reduction in pollution levels (2)
Create recreational areas (2)
Protect wild life in cities (2)
[Any SIX. Candidates must refer to both Definition and Advantages] (6 x 2) (12)
- 4.5 4.5.1 Occurs when sufficient food is produced to meet the needs of people (2)
[Concept] (1 x 2) (2)
- 4.5.2 Limits production (2)
More subsistence farming (2)
Usually no surplus production (2)
Land overexploited 2)
Increases soil infertility (2)
[Any TWO] (2 x 2) (4)
- 4.5.3 **DROUGHT:**
Lack of rain for long spells burns crops and causes them to die (2)
Grazing land for livestock is reduced (2)
Overgrazing leads to the spread of desert conditions (2)
FLOODS:
Fertile topsoil is washed away (2)
Food production thus decreases (2)
Food has to be imported at high prices (2)
Stock farmers suffer heavy losses when valuable grazing lands are destroyed (2)
Shortage of livestock causes food prices to increase (2)
SOIL INFERTILITY:
Soils are thin and infertile in most regions (2)
Poor farming practices like monoculture and cultivating crops in marginal areas
Destroys large tracts of valuable farmland (2)
[Any TWO. MUST refer to TWO aspects] (2 x 2) (4)

4.5.4 **ADVANTAGES OF USING GENETICALLY MODIFIED CROPS**

- They have greater pest resistance (2)
- They are more resistant to disease (2)
- They have greater herbicide tolerance (2)
- They have a high level of cold tolerance (2)
- They are resistant to drought (2)
- They have a high nutritional value (2)
- They have a longer storage life (2)
- More food per hectare can be produced (2)

DISADVANTAGES OF USING GENETICALLY MODIFIED CROPS

- GM seeds have been developed by a few multinational companies that have the monopoly over them (2)
- The long-term effects of genetic modification on man’s health are unknown (2)
- New seeds have to be planted every year and this is costly (2)
- The effects on the environment, e.g. food chains, are not known (2)

[Any SIX. Candidates may refer to either Advantages or Disadvantages. If they refer to both, accept] (6 x 2) (12)

- | | | | | |
|-----|-------|--|---------|-----|
| 4.6 | 4.6.1 | Informal trading (2) | (1 x 2) | (2) |
| | 4.6.2 | The contribution of this economic sector to the economy of a country is usually not shown in 'official figures' (2)
The businesses are not registered therefore they don't pay tax (2)
Employees do not have benefits (2) | (2 x 2) | (4) |
| | 4.6.3 | Traders are frequently harassed by local authorities as informal sector activities are considered to be illegal (2)
Informal traders could experience competition (2)
[Any ONE] | (1 x 2) | (2) |
| | 4.6.4 | Introduce licensing requirements to regulate this sector (2)
Allocate specific areas near stations, bus terminals and taxi ranks (2)
Partnerships between the private sector and informal traders (2)
Provide permanent structures such as hawker stalls and carts in areas that are zoned for informal trading (2)
Small businesses can play an active role in providing training and improving skills through learnership programmes (2)
Provide easier access to bank loans (2)
Provide storage facilities (2)
[Any TWO] | (2 x 2) | (4) |

4.6.5	Not enough work in formal sector (2) A slump in the economy that has caused large scale job losses (2) Mechanisation of farming operations (2) Increased frequency of climatic hazards (2) Many large-scale businesses are sub-contracting to the informal sector (2) [Any ONE]	(1 x 2)	(2)
4.6.6	Provide a source of income for those that cannot find a job in the formal sector (2) Reduces crime by creating employment (2) Goods can be purchased at a lower price (2) [Any TWO]	(2 x 2)	(4) [100]
		GRAND TOTAL:	300