



# education

Department:  
Education  
**REPUBLIC OF SOUTH AFRICA**

**NATIONAL  
SENIOR CERTIFICATE**

**GRADE 12**

**GEOGRAPHY P1  
FEBRUARY/MARCH 2010  
MEMORANDUM**

**MARKS: 300**

**This memorandum consists of 14 pages.**

**SECTION A****QUESTION 1**

1.1.1 D (2)

1.1.2 A (2)

1.1.3 A (2)

1.1.4 A (2)

1.1.5 C (2)

(5 x 2) (10)

1.2.1 Crest (2)

1.2.2 Pediment (2)

1.2.3 Crest (2)

1.2.4 Cliff/ Free face/Scarp slope (2)

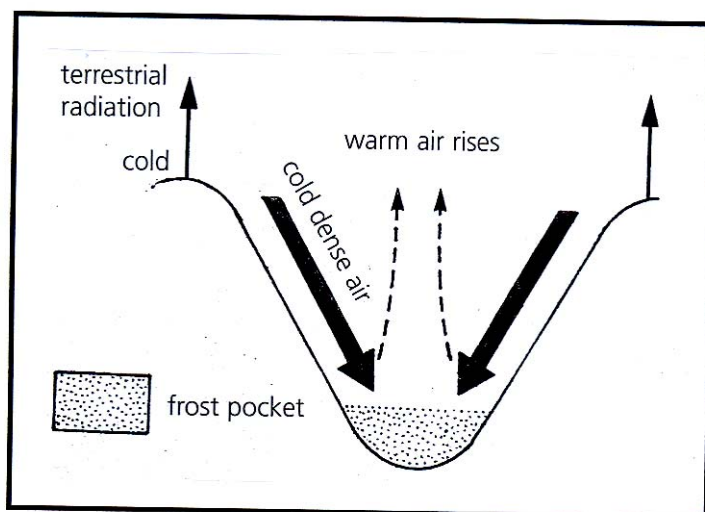
1.2.5 Talus/Debris/Scree slope (2)

(5 x 2) (10)

1.3.1 Katabatic/downslope/gravity winds (2)

(1 x 2) (2)

1.3.2



(3 x 2) (6)

1.3.3 Air sinks down the valley slopes (2)

Inversion forms close to the valley floor (2)

Inversion lower than the surrounding hills (2)

Carbon monoxide trapped in valley below the inversion (2)

[Any THREE]

(3 x 2) (6)

1.3.4 14 (2)

(1 x 2) (2)

1.3.5 **Reasons to reduce CO levels**

CO pose a health risk to city residents (2)

Reduces oxygen delivery to the body's organs and tissues (2)

May affect eyesight negatively (2)

Reduce work capacity of individuals (2)

Reduce manual dexterity (2)

Lead to poor learning ability and poor performance (2)

Individuals may find it difficult to perform complex tasks (2)

**Solutions**

Plant more trees (2)

Build chimneys (stacks) higher than inversion (2)

Filters to trap pollutants (2)

Limit industrial activity at night time (2)

Electrification of all households (2)

Laws controlling pollution (2)

Fines (2)

Reduce number of vehicles coming into city (2)

[Any SIX. Accept other. Must refer to Reasons to reduce and solutions]

(6 x 2) (12)

1.4.1 Coastal low (2)

(1 x 2) (2)

1.4.2 Air descends the plateau (2)

Warms adiabatically (2)

Subsiding air does not allow for condensation to take place (2)

It is dry since it is an offshore wind (2)

It decreases atmospheric humidity (2)

[Any THREE. Must refer to temperature and humidity]

(3 x 2) (6)

1.4.3 Fire breaks (2)

Early warning over weather reports (2)

[Any ONE]

(1 x 2) (2)

1.4.4 Mid-latitude cyclone (2)

(1 x 2) (2)

1.5.1 (a) Smooth profile showing a river in which there is an equilibrium between erosion and deposition (2)

[CONCEPT]

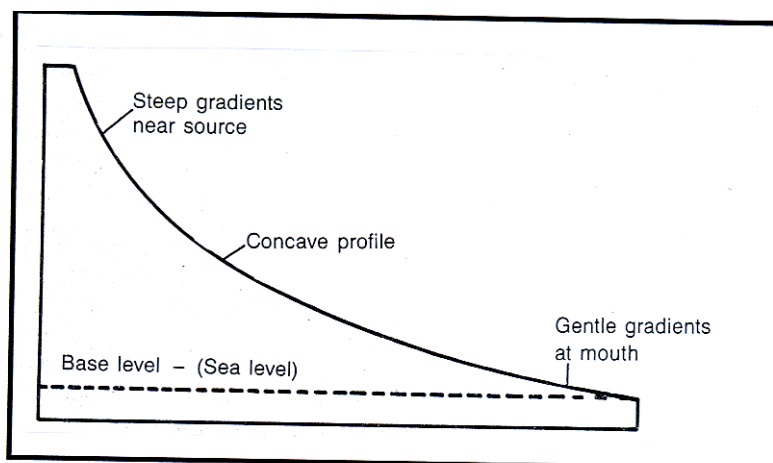
(1 x 2) (2)

(b) The lowest level to which a river can erode (2)

[CONCEPT]

(1 x 2) (2)

1.5.2



(1 x 2) (2)

1.5.3 Knick-point (2)

New base level (2)

New graded profile (2)

[Any ONE]

(1 x 2) (2)

- 1.5.4 Drop in base level (2)  
 Land rises (2)  
 Periods of glaciation (2)  
 Prolonged higher rainfall (2)  
 Tectonic change in the landscape (2)  
 Global warming increase meltwater (2)  
 [Any TWO] (2 x 2) (4)
- 1.5.5 **Advantages**  
 Water can be stored (2)  
 Can be used for household purposes (2)  
 Can be used for irrigation (2)  
 Can be used for industries (2)  
 Infrastructural development (2)  
 Economic advantages (2)  
 Flood control (2)  
 Periodic stream can become permanent (2)  
 Recreational facilities and tourism (2)  
**Disadvantages**  
 Characteristics of the river channel will change (2)  
 Lower reaches of the river may be dry most of the time (2)  
 People living in the lower reaches might not be able to practice crop farming (2)  
 Flow characteristics of river will also change (2)  
 Displacement of local inhabitants (2)  
 Local ecosystems destroyed (2)  
 [Accept other reasonable answers]  
 [Any SIX. Must give advantages and disadvantages] (6 x 2) (12)
- 1.6.1 B (2) - C (2) - A (2)  
 [Must be in correct order] (3 x 2) (6)
- 1.6.2 The landscape is arid (2)  
 Coarse grained infertile soil (2)  
 Narrow floodplain (2)  
 River flows in deep, steep sided valley (2)  
 Not suited for agriculture (2)  
 Not suited for settlement (2)  
 Development of infrastructure is limited (2)  
 Only suitable for adventure tourism (2)  
 [Any TWO] (2 x 2) (4)
- 1.6.3 C (2) (1 x 2) (2)
- 1.6.4 Mesa (2) (1 x 2) (2)
- 1.6.5 Because it is horizontally layered (2) (1 x 2) (2)

**[100]**

**QUESTION 2**

- 2.1.1 mid-latitude (2) (1 x 2) (2)
- 2.1.2 warm sector (2) (1 x 2) (2)
- 2.1.3 clockwise (2) (1 x 2) (2)
- 2.1.4 winter (2) (1 x 2) (2)
- 2.1.5 cold (2) (1 x 2) (2)
- 
- 2.2.1 True (2) (1 x 2) (2)
- 2.2.2 True (2) (1 x 2) (2)
- 2.2.3 False (2) (1 x 2) (2)
- 2.2.4 True (2) (1 x 2) (2)
- 2.2.5 False (2) (1 x 2) (2)
- 
- 2.3.1 A = summer (2)  
B = winter (2) (2 x 2) (4)
- 
- 2.3.2 Kalahari / Continental High Pressure Cell (2) (1 x 2) (2)
- 
- 2.3.3 Descending air (2)  
Air warms adiabatically as it goes down (2)  
Blocks moisture from reaching the interior (2)  
No condensation will occur (2)  
[Any TWO] (2 x 2) (4)
- 
- 2.3.4 B (2) (1 x 2) (2)
- 
- 2.3.5 (a) From 0 to 1 000 m there is a decrease in temperature with height (2)  
At Y there is an increase in temperature with height (2)  
Above Y there is a decrease in temperature with height (2) (3 x 2) (6)  
(b) Temperature inversion (2) (1 x 2) (2)
- 
- 2.3.6 A period when rainfall is below average for a region during which  
vegetation cover decreases (2)  
[CONCEPT] (1 x 2) (2)
- 
- 2.3.7 Kalahari HP remains lower than escarpment (2)  
This system blocks all moisture from the ocean to reach the interior of the  
country (2)  
The Kalahari high is associated with stable air (2)  
Rainfall will decrease over the interior (2)  
If the stability of air persists the interior will experience dry conditions over a  
period of time (2)  
[Any THREE] (3 x 2) (6)

**2.3.8 Preventative measures**

- Plant trees to reduce run-off and increase infiltration (2)
- Eliminate alien trees which uses high quantities of water (2)
- Build dams in areas with low evaporation (2)
- Cotour ploughing to reduce run-off / apply scientific farming techniques (2)
- Limit irrigation in dry areas / less wasteful irrigation techniques (2)
- Water transfer schemes to increase water (2)
- Recycling of water for re-use (2)
- Conserve underground water supplies (2)
- Decentralisation of activities away from one major water source (2)
- Public awareness campaigns on importance of using water sparingly (2)

**Importance of introducing preventative measures**

- Droughts reduce yields of crop farmers (2)
- Reduction in number of livestock (2)
- Negative implications for exporting (2)
- Farmers suffer economically (2)
- Farm workers laid off (2)
- Fewer raw materials for industries (2)
- Unemployment rises (2)
- Balance of trade affected negatively (2)
- [Accept if learners refer to positive aspects of limiting the effects of droughts]
- [Accept other reasonable answers]
- [Any SIX. Must refer to preventative measures and importance of introducing preventative measures] (6 x 2) (12)

- 2.4.1 (a) The total area drained by the river system (2)  
[CONCEPT] (1 x 2) (2)

- (b) The main river and all its tributaries (2)  
[CONCEPT] (2 x 1) (2)

- 2.4.2 A = round (2)  
B = elongated/long (2) (2 x 2) (4)

- 2.4.3 Nature of rainfall (2) – Soft rain less run-off; storms more run-off (2)  
Vegetation (2) – More vegetation less run-off; less vegetation more run-off(2)  
Relief of the land (2) – Where land is steep more run-off; where land is gentle less run-off(2)  
Rock type (2) – porous and permeable rock will have less run-off; impermeable rock will have more run-off (2)  
Soil type (2) – coarse sandy soil promotes infiltration; compact soils promote run-off (2)  
Soil moisture content (2) – Saturated soils promote run-off; dry soils promote infiltration (2)  
Evaporation (2) – high evaporation reduces run-off and infiltration; low evaporation increases run-off and infiltration (2)  
[Any TWO. Must give factor (2) and explain (2)] (4 x 2) (8)

- 2.4.4 A = E (2)  
B = F (2) (2 x 2) (4)
- 2.4.5 A Tributaries reach main stream at same time (2)  
Water reaches point of outflow at the same time (2)  
[Any ONE]
- B Points where tributaries meet main stream not same distance from  
point of outflow (2)  
Water reaches point of outflow at staggered intervals (2)  
[Any ONE] (2 x 2) (4)
- 2.4.6 Z (2) (1 x 2) (2)
- 2.4.7 Water flowing from all streams will flow past Z (2) (1 x 2) (2)
- 2.4.8 **Sustainable management of a drainage basin**  
Build artificial levees/embankments to contain water (2)  
Build large storage dams to control flow (2)  
Plant trees to reduce run-off (2)  
Straigten river channel/cut through the meander loops to increase  
gradient (2)  
Widen the river channel to contain a greater volume of water (2)  
Prevent building on flood plains (2)  
Conserve the wetlands (2)  
**Negative impact of flooding**  
Washes away the crops (2)  
Reduces the fertility of the soil (2)  
Increase the rate of soil erosion (2)  
Endanger animal and human life (2)  
Contaminates drinking water (2)  
Can cause hunger and starvation (2)  
Loss of capital income (2)  
Import food – negative balance of trade (2)  
Negatively influence price of food (2)  
Leave some people homeless (2)  
[Any SIX. Must refer to sustainable management and impact of  
flooding] (6 x 2) (12)

**[100]**

**SECTION B****QUESTION 3**

- 3.1.1 Central Business District (CBD) (2)
- 3.1.2 transition zone (zone of decay) (2)
- 3.1.3 low income residential (2)
- 3.1.4 middle income residential (2)
- 3.1.5 outlying industrial park (2) (5 x 2) (10)
- 
- 3.2.1 True (2)
- 3.2.2 False (2)
- 3.2.3 False (2)
- 3.2.4 True (2)
- 3.2.5 True (2) (5 x 2) (10)
- 
- 3.3.1 Rural (2) (1 x 2) (2)
- 3.3.2 Nucleated (2) (1 x 2) (2)
- 3.3.3 Buildings arranged close to one another (2) (1 x 2) (2)
- 3.3.4 Help is close and available in times of war / safety (2)
- Farmers can share equipment (2)
- There is a stronger support structure and network opportunities (2)
- Farmers can interact with one another and share ideas (2)
- They can participate in community activities (2)
- [Any ONE] (1 x 2) (2)
- 
- 3.3.5 Availability of water/river (2)
- Fertile soil (2)
- Flat land (2)
- Trees/building material (2)
- [Any TWO] (2 x 2) (4)
- 
- 3.3.6 Drought – livestock and crops die and many farmers and farm labourers leave the land (2)
- Climate change and poor farming methods – lead to soil erosion with less that can be grown on the land and farmers than forced of the land (2)
- Rapid growth in rural population – too many people for the land to support (2)
- HIV/Aids – health care services less accessible in rural areas (2)
- Poor service delivery e.g. sanitation and electricity (2)
- Lack of entertainment (2)
- [Any TWO. Accept other] (2 x 2) (4)



- 3.3.7 Clean drinking water (tanks, taps) to improve health (2)  
 Sanitation – sewerage work network to improve health (2)  
 Educational facilities – creches, pre-schools, schools to improve education (2)  
 Housing to improve living conditions (2)  
 Health care facilities – clinics, hospitals to improve health (2)  
 Recreational facilities – to stimulate involvement in sport and recreation (2)  
 Infrastructure – roads, electricity to improve standard of living and service delivery (2)  
 Services – shops, etc. to provide in daily needs (2)  
 Parks and open spaces / greenbelts – provide recreation areas and beautifies the settlement (2)  
 Industrial sites – to provide employment and income (2)  
 [Any SIX. Accept other] (6 x 2) (12)
- 3.4.1 An area at the outskirts of the city where there is a mixture of rural and urban functions (2)  
 [CONCEPT] (1 x 2) (2)
- 3.4.2 Airport (2)  
 Sewerage works (2)  
 Golf course (2)  
 Rifle range (2)  
 Cemeteries (2)  
 Nurseries (2)  
 Race tracks (2)  
 Drive-in theatres (2)  
 [Any TWO] (2 x 2) (4)
- 3.4.3 Land is cheaper in this area (2)  
 Large piece of land available (2)  
 Far from residential areas because of pollution (2)  
 [Any TWO] (2 x 2) (4)
- 3.4.4 Land is cheap (2)  
 Live in rural atmosphere (2)  
 Less noise and pollution (2)  
 Less congestion (2)  
 Private transport allow access to the city (2)  
 Decline of the importance of the CBD (2)  
 Decentralisation of functions to this area (2)  
 [Any TWO] (2 x 2) (4)

- 3.5.1 Primary: extraction of natural resources (2)  
Secondary: manufacturing / processing of raw material (2)  
Tertiary: service provider (2) (3 x 2) (6)
- 3.5.2 Primary: grapes are grown and extracted (2)  
Secondary: grapes are processed into wine (2)  
Tertiary: wine is sold / wine farms attract tourists (2) (3 x 2) (6)
- 3.5.3 Grapes exported as raw material (2)  
Wines exported (2)  
Financial income for the region (2)  
Employment opportunities for many (2)  
Tourists attracted to the region (2)  
Tourism provides influx of money (2)  
[Any THREE. Accept other] (3 x 2) (6)
- 3.6.1 Export facilities at harbour increases income for the country (2) (1 x 2) (2)
- 3.6.2 Cape Town strategically placed on world shipping routes (2)  
Major shipping lanes between the West and the East pass along Cape Town (2)  
Key point in the trade between South Africa and rest of SADC countries (2)  
Landlocked neighbours export / import through Cape Town (20)  
As stopover point between West and East good for South Africa's economic development (2)  
[Any THREE] (3 x 2) (6)
- 3.6.3 There is more contact with different parts of the world on a commercial, social and economic level (2)  
[CONCEPT] (1 x 2) (2)
- 3.6.4 **Advantages**  
Large, powerful multinational companies will be based in Cape Town (2)  
Industrial development will benefit (2)  
Constant upgrading of technology to keep in touch with the world (2)  
Business will take place at high rate due to electronic communication (2)  
Banking and financial sectors will become highly competitive (2)  
Improvement of infrastructure (2)  
Creation of many employment opportunities (2)  
An increase in international trade (2)  
Attract foreign investment (2)  
Greater international travel and tourism (2)  
The erosion/disappearance of international boundaries (2)

**Disadvantages**

Trade conflict with other nations (2)

Local industries could close down due to lack of competitiveness (2)

Job losses could occur (2)

Labour disputes increase as unions become less effective (2)

High levels of inflation and price hikes (20

Developing countries become poorer as money flows to developed countries (2)

Reduction in cultural diversity (2)

Growing American influence on local cultures (2)

Increased illegal immigration (2)

Unfair labour practices e.g. cheap labour / child labour (2)

[Any SIX. Must refer to advantages and disadvantages. Accept other] (6 x 2) (12)

**[100]**

**QUESTION 4**

- 4.1.1 E (2)  
 4.1.2 F (2)  
 4.1.3 B (2)  
 4.1.4 A (2)  
 4.1.5 H (2) (5 x 2) (10)
- 4.2.1 undermines (2)  
 4.2.2 reduced (2)  
 4.2.3 non-renewable (2)  
 4.2.4 fluctuate (2)  
 4.2.5 fill up (2) (5 x 2) (10)
- 4.3.1 (a) Residential (2)  
           Open space (2) (2 x 2) (4)  
       (b) Residential (2) (1 x 2) (2)  
       (c) Occupies a lot of space (2)  
           Land values very high (2) (2 x 2) (4)  
       (d) High rise residential buildings (flats) (2)  
           Close proximity to work (2)  
           Deteriorated buildings easy to occupy by local inhabitants (2 x 2) (4)
- 4.3.2 (a) 84 % (2) (1 x 2) (2)  
       (b) Less shops and less offices from the CBD to the edge of the city (2) (1 x 2) (2)  
       (c) Accessibility of CBD keep shops and offices in CBD (2)  
           CBD larger sphere of influence (2)  
           Centrifugal forces keep shops and offices in CBD (2)  
           Functional convenience in CBD (2)  
           Functional magnetism in CBD (2)  
           Functional prestige in CBD (2)  
           Urban renewal (2)  
           [Any TWO] (2 x 2) (4)  
       (d) Commercial decentralisation (2) (1 x 2) (2)  
       (e) High land values in CBD (2)  
           Pollution in CBD (2)  
           Congestion in CBD (2)  
           Crime in CBD (2)  
           Deterioration of buildings in CBD (2)  
           Buildings no longer suit commercial needs in CBD (2)  
           Less parking space in CBD (2)  
           Lack of open spaces in CBD (2)  
           [Could also refer to opposite in suburbs and edge of the city]  
           [Any TWO] (2 x 2) (4)

**4.3.3 Need for urban renewal**

Prevent commercial decentralisation / attract commercial functions back to the inner city (2)

Prevent capital flight / attract investors to return to the inner city (2)

Prevent urban blight / upgrading of facilities (2)

Prevent crime / create a safe environment (2)

Prevent littering / make inner city attractive (2)

Protect historical buildings and sites / attract tourists (2)

**Success rate**

Renewal projects successful (2)

Security improved (2)

Cleanliness improved (2)

Greater demand for city centre hotels (2)

[Any SIX. Must refer to need for urban renewal and success rate] (6 x 2) (12)

**4.4.1 Has a harbour location (2)**

Many agricultural products provide raw materials for industry (2)

Large labour pool (2)

Large market (2)

Good infrastructure network (2)

Provision of water from Berg River Project (2)

Rich fishing areas surrounding the Cape Peninsula (2)

Oil refinery provides fuel and other byproducts (2)

Pleasant Mediterranean climate provides ideal working conditions (2)

[Any TWO. Accept other] (2 x 2) (4)

**4.4.2 Clustering together of industries in a central location (2)**

[CONCEPT] (1 x 2) (2)

**4.4.3 Infrastructure cannot handle the increase in demand (2)**

Transport costs increase (2)

Provision of services become expensive (2)

Harbour suffers from overcongestion (2)

Running out of flat land for expansion (2)

Land values are increasing (2)

Increased pollution (2)

Influx of people into the region (2)

Available open space taken over by informal settlements (2)

Area is vulnerable in times of political crisis or war (2)

[Any TWO. Accept other] (3 x 2) (6)

**4.4.4 Finished products are exported (2)**

Income provided for Southwestern Cape (2)

Employment opportunities for inhabitants (2)

Improved standard of living (2)

Attract foreign investors (2)

[Any THREE. Accept other] (3 x 2) (6)

- 4.5.1 Domestic use (2)  
 Agriculture / irrigation (2)  
 Industrial use (2)  
 Recreation (2)  
 [Any TWO] (2 x 2) (4)
- 4.5.2 Natural  
 Dry summers / summer droughts (2)  
 Not many large rivers (2)  
 [Any ONE]  
Human induced  
 Deforestation (2)  
 Wasteful irrigation methods (2)  
 Pollution as result of industrial activities (2)  
 Wasteful household use (2)  
 Artificial surfaces increases run-off (2)  
 [Any ONE]  
 [ONE natural and ONE human induced] (2 x 2) (4)
- 4.5.3 Berg Water Project / Berg River Project (2) (1 x 2) (2)
- 4.5.4 Dam construction could reduce availability of water downstream (2) (1 x 2) (2)
- 4.5.5 People living downstream of the dam were included in planning (2)  
 Local communities were approached (2)  
 Possible relocation of people resulting from dam construction had to be considered (2)  
 Local inhabitants given preference to tender / procurement (2)  
 Local inhabitants given preference for employment opportunities (2)  
 Sustainable employment opportunities were created (2)  
 Project alleviated poverty issues (2)  
 Landscaping of man-made features to blend in with the natural environment (2)  
 Revegetated with indigenous vegetation (2)  
 Alien vegetation removed (2)  
 Protection of delicate ecosystem (2)  
 Protection of scarce water resources in the region (2)  
 [Any SIX. Accept other] (6 x 2) (12)

**[100]****GRAND TOTAL: 300**