basic education

Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

# NATIONAL SENIOR CERTIFICATE

## GRADE 12

## GEOGRAPHY P1

## EXEMPLAR 2014

## MEMORANDUM

**MARKS: 225**

**This memorandum consists of 13 pages.**

## SECTION A

## QUESTION 1

| | | | | |
|---|---|---|---|---|
| 1.1 | 1.1.1 | 24 °C (1) | | |
| | 1.1.2 | East North-East (1) | | |
| | 1.1.3 | 10 knots (1) | | |
| | 1.1.4 | Overcast skies (1) | | |
| | 1.1.5 | Rain (1) | | |
| | 1.1.6 | 21° C (1) | | |
| | 1.1.7 | High (1) | (7 x 1) | (7) |
| 1.2 | 1.2.1 | Dendritic (1) | | |
| | 1.2.2 | Rectangular (1) | | |
| | 1.2.3 | Rectangular (1) | | |
| | 1.2.4 | Dendritic (1) | | |
| | 1.2.5 | Radial (1) | | |
| | 1.2.6 | Dendritic (1) | | |
| | 1.2.7 | Radial (1) | | |
| | 1.2.8 | Rectangular (1) | (8 x 1) | (8) |
| 1.3 | 1.3.1 | The eye (of the storm) (1) | (1 x 1) | (1) |
| | 1.3.2 | Clockwise (1) | (1 x 1) | (1) |
| | 1.3.3 | 7 days (18 to 24 February 2013) (1) | (1 x 1) | (1) |
| | 1.3.4 | Eight (2) | (1 x 2) | (2) |
| | 1.3.5 | Increased friction from moving over land caused it to lose momentum (2)<br>Cut off from water which is its source of energy (2)<br>Condensation and the release of latent heat is reduced (2)<br>[Any ONE] | (1 x 2) | (2) |
| | 1.3.6 | Mozambique is a poorer (less developed) country and has fewer resources to effectively deal with a tropical cyclone (2)<br>Their early warning systems are not as effective as in developed countries (2)<br>Lack of media coverage to warn people, e.g. TV, radio and the Internet (2)<br>Many people are not aware of dangers associated with a tropical cyclone (2)<br>Mozambique's disaster management policies and techniques are not as sophisticated as those of developed countries (2)<br>Mozambicans often build their houses from less weather resistant materials (2)<br>Collapsing of poorly built houses cause more damage and loss of lives (2)<br>Many people don't know what to do when a tropical cyclone hits (2)<br>Many do not evacuate or leave their villages and homes in time (2) | | |

People are too poor to stock up on necessities for an emergency (2)
Lack of emergency evacuation services (2)
Poorly developed infrastructure makes it difficult for emergency services to reach people (2)
Poorly equipped health services cannot provide medication to prevent outbreak of diseases (2)
[Any FOUR. Accept other reasonable answers] (4 x 2) (8)

1.4 1.4.1 Highest – CBD (1)
Lowest – Rural-urban fringe (1) (2 x 1) (2)

1.4.2 An urban area with higher temperatures surrounded by lower temperatures of the rural areas (1)
[Concept] (1 x 1) (1)

1.4.3 As a result of convection, the urban heat island extends vertically during day time dispersing pollution particles to the upper troposphere (2)
At night time, the cooler atmosphere subside pushing pollution particles downward, resulting in a concentration closer to the Earth's surface (2)
The heat island during the day has a greater vertical dimension while the pollution dome at night is compressed over the city (2)
The heat island is well-developed during the day and the pollution dome is well developed at night time (2)
[CONCEPT – Any ONE] (1 x 2) (2)

1.4.4 Pollution domes are caused when a temperature inversion forms, which traps air pollutants (dust and soot) over the urban area (2)
(1 x 2) (2)

1.4.5 More artificial surfaces (like glass and dark paving) absorb more heat (2)
Buildings increase surface area which can absorb heat (2)
High density of buildings traps heat in city (2)
Fewer plants to assist with cooling processes (evapotranspiration) in city (2)
The presence of industries emitting greenhouse gases will contribute to higher temperatures in the cities (2)
[Any TWO. Accept other reasons visible in diagram] (2 x 2) (4)

1.4.6 Plant more trees and have more vegetated areas/green belts (2)
Rooftop gardens (2)
Develop water bodies (like fountains/ponds) in urban areas to decrease the air temperatures through higher levels of evaporation and transpiration (2)
Use light building material to reflect more heat rather than absorb heat (2)
Control number of vehicles entering the city (2)

Restrict industrial activities to daytime when less pollutants/heat will be trapped (2)
Build chimneys/stacks that release pollutants above inversion layer (2)
Filters in chimneys to trap pollutants (2)
Decentralisation of industries (2)
[Any TWO. Accept other sustainable measures] (2 x 2) (4)

1.5 1.5.1 An interfluve (1) (1 x 1) (1)

1.5.2 Separates water between two streams in the same drainage basin (2) (1 x 2) (2)

1.5.3 High rainfall leads to a higher stream discharge/Low rainfall leads to a lower stream discharge (2)
Saturated soil leads to a higher stream discharge/Unsaturated soil leads to a lower stream discharge (2)
Low permeability leads to a higher stream discharge/High permeability leads to a lower stream discharge (2)
Sparse vegetation leads to a higher stream discharge/Dense vegetation leads to a lower stream discharge (2)
Steep slope leads to a higher stream discharge/Gradual slope leads to a lower stream discharge (2)
[Any TWO] (2 x 2) (4)

1.5.4 River flows over level ground close to coastline (2)
River loses energy and slows down (2)
Heavier material of the bed load is dumped, causing sediments to build up on the sea floor (2)
Main stream splits into small distributaries as it flows through deposited material (2)
[Any TWO] (2 x 2) (4)

1.5.5 The soils are rich in nutrients/fertile (2)
A water source is close by/river provides water (2)
Land is flat/gentle gradient (2)
[Any TWO] (2 x 2) (4)

1.6 1.6.1 Inadequate municipal sewage treatment (1) (1 x 1) (1)

1.6.2 Studies show the presence of harmful viruses in river (2) (1 x 2) (2)

1.6.3 An outbreak of diarrhoea in Durban (2)
Two children died (2)
People are hospitalised (2)
It could cause an outbreak in cholera (2)
People cannot go to work (2)
Loss of income (2)
People cannot afford high cost of health care (2)
[Any TWO] (2 x 2) (4)

1.6.4 Stricter control and enforcement of legislation which monitors effluents from factories (2)
More hefty fines to punish polluters (2)
Improved waste treatment facilities (2)
Have a buffer so that people cannot live close to rivers (2)
Provide running water in or close to homes (2)
Regular testing of water quality (2)
Increased awareness of and education on the problems which people cause by living so close to rivers (2)
[Any FOUR. Accept other reasonable solutions] (4 x 2) (8)
**[75]**

## QUESTION 2

2.1 2.1.1 B (1)
2.1.2 A (1)
2.1.3 B (1)
2.1.4 B (1)
2.1.5 B (1)
2.1.6 A (1)
2.1.7 A (1)
2.1.8 A (1) (8 x 1) (8)

2.2 2.2.1 Cutback/Undercut bluff (1)
2.2.2 Deposition (1)
2.2.3 Meander (1)
2.2.4 Meander scar (1)
2.2.5 Braided stream (1)
2.2.6 Deposition (1)
2.2.7 Lower course (1) (7 x 1) (7)

2.3 2.3.1 **A** Kalahari/Continental High-pressure Cell (1)
**B** South Atlantic/St Helena High-pressure Cell (1)
**C** Mid-latitude cyclone (1) (3 x 1) (3)

2.3.2 Consists of cold descending air that forms an inversion layer lower than the Escarpment (2)
Prevents moist air from moving into the interior from the ocean (2)
Stable weather conditions, therefore no cloud formation (2)
[Any TWO] (2 x 2) (4)

2.3.3 Isobars elongate away from the high-pressure cell (2) (1 x 2) (2)

2.3.4 Damage to property which has to be repaired (2)
Higher food prices because crops are damaged/destroyed (2)
Damage to infrastructure makes it difficult to transport farm produce (2)
Food has to be imported at a higher rate (2)
Water pipes and electricity poles have to be replaced (2)

(8)

Impact on subsistence farmers is greater and they may not be able to recover (2)
Snow associated with the cold front causes the death of livestock (2)
Poor weather conditions increase accident risk (2)
Costly to provide emergency food/water/shelter supplies (2)
[Any FOUR. Accept any other reasonable answers] (4 x 2)

2.4 2.4.1 Katabatic/downslope/mountain wind (1) (1 x 1) (1)

2.4.2 Upper slopes cool down rapidly (2)
Air cools down rapidly and becomes heavy and dense (2)
Air moves down the slope (2)
[Any TWO. Accept any other reasonable answer] (2 x 2) (4)

2.4.3 Polluted air trapped below the inversion (2)
Causes respiratory diseases such as asthma (2)
Poisonous gases that pollute the air cause skin irritations (2)
Eye irritation which affects the comfort of people (2)
[Any TWO. Accept any other reasonable answer] (2 x 2) (4)

2.4.4 Night temperatures are very low and falls below freezing point (2)
Frost develops (frost pocket) and not all crops are frost resistant (2)
(2 x 2) (4)

2.5 2.5.1 The total area drained by a river and its tributaries (1)
[CONCEPT] (1 x 1) (1)

2.5.2 Total length of all the streams in relation to the size of the drainage basin it drains (1)
[CONCEPT] (1 x 1) (1)

2.5.3 **X** (2) (1 x 2) (2)

2.5.4 Many streams to cover the greater part of the drainage basin (2)
[CONCEPT] (1 x 2) (2)

2.5.5 An increase in precipitation will increase the number of streams (2)
Saturated soil increases run-off, forming more streams (2)
Low permeability results in run-off and the development of streams (2)
Sparse vegetation increases run-off and more streams form (2)
Steep gradients increase run-off and more streams develop (2)
[Any TWO] (2 x 2) (4)

2.5.6 Drainage density will increase (2)
More artificial surfaces and storm water drainage increase run-off outside urban developments (2)
More small streams develop (2)
[Any TWO] (2 x 2) (4)

| | | | | |
|---|---|---|---|---|
| 2.6 | 2.6.1 | **T** (1) | (1 x 1) | (1) |
| | 2.6.2 | **A** elbow of capture (1)<br>**B** dry gap/wind gap/river gravels (1)<br>**C** misfit stream (1) | (3 x 1) | (3) |
| | 2.6.3 | Stream flows down steeper gradient (2)<br>Higher precipitation promoting greater run-off and more erosive power (2)<br>Soft bedrock through which it is flowing (2)<br>The presence of faults and joints (2)<br>[Any TWO] | (2 x 2) | (4) |
| | 2.6.4 | Increased volume of water in the captor stream (2)<br>Downward erosion increases (2)<br>Increase in stream load changes ecosystem of river (2)<br>Volume of water decreases in the misfit stream (2)<br>The carrying capacity of the misfit stream is reduced, affecting plant and animal life (2)<br>Ecosystems are disrupted and change (2)<br>Sustainability of captor stream is maintained (2)<br>Sustainability of misfit stream is reduced (2)<br>[Any FOUR. Accept other reasonable answers] | (4 x 2) | (8) |
| | | | | **[75]** |

## SECTION B

## QUESTION 3

| | | | | |
|---|---|---|---|---|
| 3.1 | 3.1.1 | C (1) | | |
| | 3.1.2 | A/E (1) | | |
| | 3.1.3 | B (1) | | |
| | 3.1.4 | C (1) | | |
| | 3.1.5 | E (1) | | |
| | 3.1.6 | A (1) | | |
| | 3.1.7 | B (1) | (7 x 1) | (7) |
| 3.2 | 3.2.1 | H (1) | | |
| | 3.2.2 | E (1) | | |
| | 3.2.3 | I (1) | | |
| | 3.2.4 | A (1) | | |
| | 3.2.5 | F (1) | | |
| | 3.2.6 | C (1) | | |
| | 3.2.7 | D (1) | | |
| | 3.2.8 | G (1) | (8 x 1) | (8) |
| 3.1 | 3.3.1 | Burgess/Concentric Zone Model (1) | (1 x 1) | (1) |
| | 3.3.2 | CBD (1) | (1 x 1) | (1) |
| | 3.3.3 | Land-use zone A is the most accessible part of the city (2)<br>Functional prestige attracts services (2)<br>Functional convenience attracts services (2)<br>Large sphere of influence of land-use zone A (2)<br>[Any TWO. Accept other reasonable answers] | (2 x 2) | (4) |
| | 3.3.4 | Located on the outskirts of the city/urban area (2) | (1 x 2) | (2) |
| | 3.3.5 | This is the zone into which the CBD will expand (2)<br>This land-use zone is therefore in demand (2)<br>Competition to purchase the land is high (2)<br>This zone is where urban renewal projects will take place (2)<br>New owners will demolish the buildings (2)<br>No need for current owners to renovate/fix buildings (2)<br>[Any FOUR. Accept other reasonable answers] | (4 x 2) | (8) |
| 3.4 | 3.4.1 | The process whereby the percentage of people living in an urban area increases (1)<br>[CONCEPT] | (1 x 1) | (1) |
| | 3.4.2 | 62% (1) | (1 x 1) | (1) |

3.4.3 In post-apartheid South Africa people are allowed to move freely in all urban areas (2)
Higher economic growth in urban areas creates opportunities for employment (2)
Immigrants from outside the country (2)
[Any TWO] (2 x 2) (4)

3.4.4 Rural depopulation (2) (1 x 2) (2)

3.4.5 Higher rates of urban growth means pressure on existing services (2)
Higher rates of land pollution due to increase in waste disposal (2)
Increase in the number of informal settlements and population growth in informal settlements (2)
More unemployed people are forced to become economically active in the informal economic sector (2)
Crime rates increase (2)
Infrastructure e.g. roads can no longer cope with demands (2)
Increasing pollution (air, water, noise)
Litter increases (2)
[Any THREE. Accept other reasonable answers] (3 x 2) (6)

3.5 3.5.1 Finance (1) (1 x 1) (1)

3.5.2 19% (1) (1 x 1) (1)

3.5.3 **Climate:** Most of South Africa is drought prone and rainfall is unreliable (2)
**Soil:** There is limited arable land available for agriculture (2)
Due to climatic conditions there is a higher rate of soil erosion (2)
**Climate change:** As weather conditions become hotter and drier there is a higher rate of crop loss (2)
**Climate hazards:** Hailstorms can destroy crops (2)
Lightning sets crops/grazing fields alight (2)
Floods cause destruction of plants and animals (2
**Diseases:** Foot and mouth disease causes the loss of livestock (2)
Avian flu has impacted on the poultry industry (2)
[Any TWO. Accept other natural/physical causes] (2 x 2) (4)

3.5.4 An important source of employment in the primary economic sector (2)
Promotes development of secondary activities (2)
Food exports provide foreign capital (2)
Promotes development of towns/markets (2)
Promotes development of infrastructure (2)
[Any TWO. Accept other reasonable answers] (2 x 2) (4)

| | | | | |
|---|---|---|---|---|
| | 3.5.5 | Incorrect farming results in soil erosion (2)<br>Soil becomes infertile (2)<br>Loss of water due to incorrect farming methods (2)<br>Irrigation decreases (2)<br>Yields decrease (2)<br>Not enough food to feed growing population (2)<br>[Any TWO. Accept other reasonable answers] | (2 x 2) | (4) |
| 3.6 | 3.6.1 | Spatial Development Initiative (1) | (1 x 1) | (1) |
| | 3.6.2 | N4 toll road (1)<br>Upgrading of railway line from Ressano Garcia to Maputo (1)<br>Upgrading of Maputo port (1)<br>Upgrading of telecommunication (1)<br>[Any ONE] | (1 x 1) | (1) |
| | 3.6.3 | Good transport network to transport raw material and/or finished goods (1)<br>Well-developed harbours to export goods (1)<br>Good transport network to transport workers to their places of work (2)<br>Generate employment opportunities (2)<br>Promotes international trade (2)<br>Promotes domestic trade (2)<br>Well-developed harbours to export and/or import goods (2)<br>[Any ONE] | (1 x 2) | (2) |
| | 3.6.4 | Industrial development promoted along the SDI (2)<br>Industries move out of PWV/Gauteng to peripheral areas along the corridor (2)<br>Establishment of more industries in PWV/Gauteng slowed down (2)<br>[Any TWO] | (2 x 2) | (4) |
| | 3.6.5 | Establishment of industrial growth nodes along the corridor (2)<br>Employment opportunities created (2)<br>Improved infrastructure attracts tourists (2)<br>Income provided by selling arts and crafts (2)<br>Improve standards of living (2)<br>Improved accessibility to services (2)<br>Greater accessibility to employment opportunities (2)<br>[Any FOUR points or TWO explained in detail. Accept any other reasonable answers] | (4 x 2) | (8)<br>**[75]** |

## QUESTION 4

| | | | | |
|---|---|---|---|---|
| 4.1 | 4.1.1 | single (1) | | |
| | 4.1.2 | decreases (1) | | |
| | 4.1.3 | decreases (1) | | |
| | 4.1.4 | metropolis (1) | | |
| | 4.1.5 | largest (1) | | |
| | 4.1.6 | PWV (1) | | |
| | 4.1.7 | indirectly (1) | | |
| | 4.1.8 | hamlet (1) | (8 x 1) | (8) |
| 4.2 | 4.2.1 | C (1) | | |
| | 4.2.2 | C (1) | | |
| | 4.2.3 | A (1) | | |
| | 4.2.4 | B (1) | | |
| | 4.2.5 | C (1) | | |
| | 4.2.6 | B (1) | | |
| | 4.2.7 | C (1) | (7 x 1) | (7) |
| 4.3 | 4.3.1 | Squatter camps/Bustees/Favelas (1)<br>[Any ONE. Accept other alternate names] | (1 x 1) | (1) |
| | 4.3.2 | Increasing trend (1) | (1 x 1) | (1) |
| | 4.3.3 | People migrate from rural areas to urban areas in search of employment (2)<br>Not enough housing and people build shacks to live in (2)<br>[Any ONE] | (1 x 2) | (2) |
| | 4.3.4 | Poor infrastructure/examples (2)<br>Poor service delivery/examples (2)<br>Inadequate housing (2)<br>Lack of medical/educational services (2)<br>Overcrowding (2)<br>Lack of open spaces (2)<br>High crime rate (2)<br>High levels of pollution (2)<br>Social problems (2)<br>[Any TWO. Accept other] | (2 x 2) | (4) |
| | 4.3.5 | More low-cost housing needs to be built to accommodate people without homes (2)<br>Improve facilities and services in rural areas to stem the movement of people to urban areas (2)<br>To provide more job opportunities in outlying areas (2)<br>To have stricter laws concerning the occupation of vacant land (2)<br>To relocate existing people living in informal settlements (2)<br>To subsidise people to build proper homes (2)<br>Use of the site and service scheme where people are given plots of land and encouraged to use their own skills to build homes (2)<br>[Any FOUR. Accept other reasonable answers] | (4 x 2) | (8) |

| | | | | |
|---|---|---|---|---|
| 4.4 | 4.4.1 | Ensuring that people are treated fairly and that all their socials needs are provided for (1)<br>[CONCEPT] | (1 x 1) | (1) |
| | 4.4.2 | Being denied access to a home (1) | (1 x 1) | (1) |
| | 4.4.3 | It shows that although we are living in a democratic country some things have not changed (2) | (1 x 2) | (2) |
| | 4.4.4 | Land tenure reform (2) | (1 x 2) | (2) |
| | 4.4.5 | No access to piped water (2)<br>No electricity (2)<br>No access to basic services such as clinics, schools, proper infrastructure (2)<br>Insufficient job opportunities, underpaid (2)<br>[Any TWO. Accept other reasonable answers] | (2 x 2) | (4) |
| | 4.4.6 | The willing buyer/seller principle takes time to settle (2)<br>It takes time to mediate disputes and resolve issues (2)<br>Huge costs are involved (2)<br>Political interference (2)<br>Distrust in government's reasoning (2)<br>Eviction of farm workers despite the new land tenure laws (2)<br>Lack of support from government (2)<br>Disagreement between government and traditional leaders about the extent of land to be restored (2)<br>People having no interest in farming or agricultural knowledge and therefore not utilising the redistributed land (2)<br>[Any TWO. Accept other reasonable answers] | (2 x 2) | (4) |
| 4.5 | 4.5.1 | When there is no formal structure governing the trade, e.g. no taxes are paid, traders are not registered etc. (1)<br>Trade that is relaxed, casual, flexible, without rules or regulations (1)<br>[CONCEPT] | (1 x 1) | (1) |
| | 4.5.2 | No formal structure from which the business is operated/selling goods on the pavement (1) | (1 x 1) | (1) |
| | 4.5.3 | No shelter (2)<br>No storage facilities (2)<br>No ablution facilities/toilets (2)<br>Exposed to weather elements (2)<br>Unhygienic working conditions (2)<br>Abuse by local authorities/police<br>[Any TWO. Accept other reasonable answers] | (2 x 2) | (4) |
| | 4.5.4 | Provide shelter (2)<br>Provide storage facilities (2)<br>Provide toilets (2)<br>Provide water (2)<br>[Any TWO. Must give answer from sketch] | (2 x 2) | (4) |

4.5.5 No taxes paid (2)
No income for country (2)
GDP cannot be correctly determined (2)
Costly to provide proper facilities for informal traders (2)
[Any ONE. Accept other reasonable answers] (1 x 2) (2)

4.5.6 The informal sector has absorbed a lot of unemployed people (2)
People learn entrepreneurial skills that are transferable to the formal business sector (2)
The informal sector boosts the local fruit and vegetable markets as they stock from these centres, e.g. Johannesburg and Tshwane Fresh Produce Markets (2)
The poor people involved in this sector use it as a means of survival rather than resorting to criminal activities (2)
[Any TWO. Accept other reasonable answers] (2 x 2) (4)

4.6 4.6.1 **G** (1) (1 x 1) (1)

4.6.2 Mining (1) (1 x 1) (1)

4.6.3 Higher rate of influx of population due to employment opportunities (2)
Contaminated ground water has led to AMD (acid mine drainage) (2)
More air/noise pollution (2)
The limited provision of water results in lower production rates (2)
Pressure on resources such as coal for energy (2)
Development of informal settlements (2)
Increase in crime and other social problems (2)
Strain on ageing infrastructure (2)
Gauteng becomes strategically vulnerable (2)
[Any TWO. Accept other reasonable answers] (2 x 2) (4)

4.6.4 Provide employment (2)
Finished products exported (2)
Provides government with income (2)
Improves South Africa's balance of trade (2)
Attracts foreign investments (2)
Build trade relationships (2)
Taxes paid by industries provide income to government (2)
Development of infrastructure which improves export ability (2)
Development of urban settlements/markets (2)
The upgrading of OR Tambo International Airport in this industrial hub has made the airport to be a gateway to Africa and the rest of the world, thereby facilitating economic growth (2)
[Any FOUR. Accept other reasonable answers] (4 x 2) (8)

**[75]**

**TOTAL: 225**