



basic education

Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

NATIONAL SENIOR CERTIFICATE

GRADE 12

GEOGRAPHY P1

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MEMORANDUM

MARKS: 300

This memorandum consists of 14 pages.

QUESTION 1

- 1.1.1 Equatorial low pressure belt/doldrums (2)
1.1.2 Mid-latitude cyclone (2)
1.1.3 Coriolis (2)
1.1.4 High pressure (2)
1.1.5 Convergence (2) (5 x 2) (10)
- 1.2.1 Evaporation (2)
1.2.2 Confluence (2)
1.2.3 Source (2)
1.2.4 Infiltration (2)
1.2.5 Interfluve (2) (5 x 2) (10)
- 1.3.1 X - High pressure (2)
Y - Low pressure (2) (2 x 2) (4)
- 1.3.2 Tropical cyclone (Funso) (2)
High temperatures (2)
South Atlantic High and the South Indian High lie south/further away from the land (2)
Thermal/heat low inland (2)
[Any ONE] (1 x 2) (2)
- 1.3.3 Tropical cyclone Funso (2) (1 x 2) (2)
- 1.3.4 Five (5) (2)
Named alphabetically (2) (2 x 2) (4)
- 1.3.5 Indian Ocean (2) (1 x 2) (2)
- 1.3.6 **ECONOMIC EFFECTS OF FLOODING ON MPUMALANGA/LIMPOPO**
Damage to property (2)
Loss of stock (2)
Destruction of agricultural land and crops (2)
Food shortages (2)
Food to be imported (2)
Destruction of infrastructure (transport and communication networks) (2)
Siltting of dams which makes dredging necessary – dredging is costly (2)
Insurance companies suffer heavy losses due to large amounts of money paid out (2)
[Any SIX. Accept other reasonable answers] (6 x 2) (12)

- 1.4.1 Climate over a small area/local climate (2) (1 x 2) (2)
[Concept]
- 1.4.2 Industries (2)
Pollution (2)
Urban development (2)
[Any ONE] (1 x 2) (2)
- 1.4.3 Will receive the direct rays of the sun (2)
It will be warmer in winter (2)
There will be more light in the house which will reduce electricity consumption (2)
[Any ONE] (1 x 2) (2)
- 1.4.4 Anabatic winds/upslope winds (2)
They originate in valleys during the day when valley slopes are warm, the warm air in contact with the slope rises (2) (2 x 2) (4)
- 1.4.5 Air pollutants released by industries in the valley will be trapped by a thermal belt/inversion layer (2)
Temperature inversion (2)
Cold air rolls down the valley slope at night, whilst warm air is forced to rise and traps the pollutants (2)
[Any TWO] (2 x 2) (4)
- 1.5.1 An area drained by the river and its tributaries (2) (1 x 2) (2)
[Concept]
- 1.5.2 Rain (2)
Snow (2)
Base flow (2)
[Any ONE] (1 x 2) (2)
- 1.5.3 The east coast of South Africa experiences higher rainfall (2)
Therefore rivers that flow in this area down steep slopes has a higher stream density (2) (2 x 2) (4)
- 1.5.4 Provide water domestic use (2)
Provide water for agricultural use/irrigation (2)
Rivers can be used for recreational use e.g. fishing/boating (2)
Water transport (2)
Generation of hydroelectric power (2)
Source of food when commercial fishing takes place (2)
Make industrial activities possible (2)
[Any THREE] (3 x 2) (6)

- 1.5.5 Monitor and manage rivers and their catchment areas (2)
- Industry:
 Legislation necessary to control what is discharged into the rivers (2)
 Fines to be imposed for dumping into rivers (2)
 Create buffer zone to prevent industrial development close to the river (2)
- Cultivation:
 Farmers to be educated on environmental sustainable farming practices (2)
 Control floods through enlarging the river channels (2)
- Deforestation:
 Planting trees to trap surface run-off and decrease erosion (2)
 [Any SIX. Accept other reasonable answers] (6 x 2) (12)
- 1.6.1 Longitudinal profile (2) (1 x 2) (2)
- 1.6.2 Has a smooth concave profile (2)
 [Concept] (1 x 2) (2)
- 1.6.3 Sea (2) (1 x 2) (2)
- 1.6.4 B - V-shaped (2)
 C - Wide and open (2) (2 x 2) (4)
- 1.6.5 B - Vertical erosion (down cutting) dominates (2)
 C - Lateral erosion and deposition occurs (2) (2 x 2) (4)
- [100]**

QUESTION 2

- 2.1.1 Cumulonimbus (2)
- 2.1.2 Warm front (2)
- 2.1.3 A (2)
- 2.1.4 X (2)
- 2.1.5 Cold front (2) (5 x 2) (10)
-
- 2.2.1 C (2)
- 2.2.2 E (2)
- 2.2.3 A (2)
- 2.2.4 B (2)
- 2.2.5 D (2) (5 x 2) (10)
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- 2.3.1 Area of higher temperatures over a city surrounded by lower rural temperatures (2)
[Concept] (1 x 2) (2)
- 2.3.2 High building density (2)
Urban activities e.g. industrial activities (2)
Artificial surfaces (2)
Geometric shape of surfaces (2)
Artificial heating (2)
Lack of vegetation (2)
Higher population (2)
Effective drainage system (2)
[Any TWO] (2 x 2) (4)
- 2.3.3 Day - extends high above city (2)
Night - concentrated close over city (2) (2 x 2) (4)
- 2.3.4 High level of pollution from cars, factories, etc (2)
Produce more condensation nuclei (2) (2 x 2) (4)
- 2.3.5 **IMPACT OF HEAT ISLANDS ON PEOPLE**
Smog and fog reduces visibility (2)
Increase in the incidence of accidents among motorists (2)
Heat stress may result in heart ailments(2)
More deaths amongst people living in cities (2)
The irritation of eyes (2)
Skin disorders (2)
The quality of life is lowered (2)
People suffer from respiratory diseases such as asthma (2)
High medical costs due to stress/diseases (2)
[Any SIX. Accept other reasonable answers] (6 x 2) (12)

- 2.4.1 Inter Tropical Convergence Zone (2) (1 x 2) (2)
- 2.4.2 An area of low pressure that forms where warm tropical easterlies from the north and south meet (2)
[Concept] (1 x 2) (2)
- 2.4.3 North of equator (2)
Winter(2)
Migration of the sun (2)
[Any TWO] (2 x 2) (4)
- 2.4.4 High temperatures (2) - Sun directly overhead (2)
Low pressure (2) - Warm air rises(2)/Converging air rises (2)
High rainfall (2) - As the winds converge, moist air is forced upwards (2)
[Any ONE] (1 x 2) (2)
- 2.4.5 Difference in heating of land and water (2)
Follows continent outline as land is warmer (2)
Along west coast ocean is cold (2)
[Any TWO] (2 x 2) (4)
- 2.5.1 A graph that shows river discharge over a period of time (2)
[Concept] (1 x 2) (2)
- 2.5.2 Time period that passes between peak rainfall and peak flow (2)
[Concept] (1 x 2) (2)
- 2.5.3 Hydrograph of urban drainage basin has a shorter lag time (2)
Hydrograph of urban drainage basin has a higher flood peak (2)
Hydrograph of natural drainage basin has a longer lag time (2)
Hydrograph of natural drainage basin has a lower flood peak (2)
[Any TWO] (2 x 2) (4)
- 2.5.4 Useful in planning for drought conditions (2)
Dams can be constructed at the appropriate point of river discharge for maximum water conservation (2)
Makes it possible to predict peak flow during floods (2)
Makes it possible to predict whether the river will burst its banks (2)
Future planning to reduce the impacts of floods (2)
[Any TWO] (2 x 2) (4)

2.5.5 REASONS FOR DIFFERENCE IN PEAK FLOW EXPERIENCED BETWEEN DIFFERENT DRAINAGE BASINS

Size - the fewer the tributaries the less time it takes for water to drain into the main river (2)

Shape - it takes longer for peak flow to occur in a circular drainage basin than in a longitudinal drainage basin (2)

Heavy storms - much surface flow result in rapid rise in river levels (2)

Lengthy rainfall - lead to ground water being saturated and surface flow increasing (2)

Snowfall - Lead to delayed discharge of the river (2)

Rapid melting of snow – leads to flooding (2)

Vegetation - reduces discharge (2)

Geology - permeable rocks reduces discharge (2)

- impermeable rocks increases discharge (2)

Soil - large pore spaces leads to reduced/less discharge (2)

Urbanisation - lead to higher surface run-off and quick peak flows (2)

Gradient- the steeper the river gradient, the more quickly the water run-off (2)

[Any SIX] (6 x 2) (12)

2.6.1 Waterfall (2) (1 x 2) (2)

2.6.2 Hard rock underlain by softer rock (2)
Softer rock found downstream of the hard rock. (2)
[Any ONE] (1 x 2) (2)

2.6.3 Tourist attraction (2)
Generate electricity (2)
Generates income (2)
[Any TWO] (2 x 2) (4)

2.6.4 River has a large load in the lower course (2)
Water is slow moving because of a gentler gradient (2)
River cannot carry its load and deposits it (2)
Blocks its own path and is forced to flow around the deposited material forming a braided stream (2)
[Any TWO] (2 x 2) (4)

2.6.5 A - Lower course (2)
B - Upper course (2) (2 x 2) (4)
[100]

QUESTION 3

- 3.1.1 C (2)
3.1.2 A (2)
3.1.3 B (2)
3.1.4 B (2)
3.1.5 C (2) (5 x 2) (10)
- 3.2.1 C (2)
3.2.2 E (2)
3.2.3 A (2)
3.2.4 B (2)
3.2.5 D (2) (5 x 2) (10)
- 3.3.1 Isolated farmstead (2) (1 x 2) (2)
- 3.3.2 The farmer is his own boss and is therefore free to innovate and experiment (2)
Can take own decisions (2)
Lots of privacy (2)
Labourers are more productive (2)
Isolated farmsteads make larger profit (2)
Machinery can be used on larger scale because the farm is a single continuous unit (2)
Travelling distance is minimised (2)
Farmer can practise soil erosion prevention (2)
[Any TWO] (2 x 2) (4)
- 3.3.3 Relief - flat land (2)
Soil fertility (2)
Land ownership (private) (2)
Fuel/trees (2)
[Any TWO] (2 x 2) (4)
- 3.3.4 Pests such as locusts and stalk borers destroy crops and fruits (2)
Leads to heavy use of pesticides (2)
Increase toxins in the soil (2)
Reduce crop production (2)
Loss of income (2)
[Any TWO] (2 x 2) (4)

3.3.5 IMPORTANCE OF PROMOTING AGRICULTURAL DEVELOPMENT IN SOUTH AFRICA AS OPPOSED TO IMPORTING AGRICULTURAL PRODUCTS

The role of South African government is to monitor the distribution and access to food (2)

Therefore they need to have strategies for food production and food security (2)

It can help to overcome food insecurity (2)

Sufficient food can be produced to meet the demand of our growing population (2)

Availability of food ensures peace of general stability (2)

The need to import food from other countries at high costs is reduced (2)

Export of agricultural products can help earn foreign income (2)

Improve our balance of trade (2)

Helps to create jobs (2)

Leads to development of infrastructure (2)

Raw materials are supplied to industries thus stimulating industrial development (2)

Hunger and starvation can thus be addressed (2)

Agricultural production can stimulate transport developments (2)

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

3.4.1 It is the percentage of population that lives in urban areas (2)
[Concept] (1 x 2) (2)

3.4.2 Gauteng (2) (1 x 2) (2)

3.4.3 Better employment opportunities (2)
Higher paid employment (2)
Improved standards of living (2)
Good transport networks (2)
Access to: educational facilities (2)
health facilities (2)
entertainment/recreation facilities (2)
Access to: electricity (2)
running water (2)
sanitation (2)
[Any TWO. Accept other] (2 x 2) (4)

- 3.4.4 (a) Traffic congestion (2) (1 x 2) (2)
- (b) Freeways upon freeways are built but they are not solving the problem of traffic congestion (2) (1 x 2) (2)
- (c) Reducing the population in the urban centres by decentralising industries (2)
 Developing efficient public transport system (2)
 More stringent regulations and monitoring of public transport (2)
 Staggered working hours (2)
 Develop park and ride facilities (2)
 Charging cars to enter the CBD (2)
 Cycle lanes encourage people to cycle rather than use cars over short distances (2)
 [Any ONE] (1 x 2) (2)
- 3.5.1 Exchanging of goods between TWO or more different countries (2)
 [Concept] (1 x 2) (2)
- 3.5.2 No (2)
 Economically developed countries have 80% of world trade (2)
 Economically less developed countries have 20% of world trade (2)
 (3 x 2) (6)
- 3.5.3 (a) The value of imports is greater than the value of exports (2)
 [Concept] (1 x 2) (2)
- (b) Foreign capital flows out of the country (2)
 Economic growth is slowed down (2)
 GDP decreases (2)
 Workers are retrenched (2)
 Standard of living decrease (2)
 [Any TWO] (2 x 2) (4)
- 3.6.1 Where water is transferred from river catchments in areas where there is a surplus to river catchments where there is a shortage (2)
 [Concept] (1 x 2) (2)
- 3.6.2 Population growth (2)
 Increased economic activity (2)
 Industrial growth (2)
 Agricultural growth (2)
 Growth in mining (2)
 [Any TWO] (2 x 2) (4)

- 3.6.3 Rainfall is low and unreliable (2)
 Rainfall is variable (2)
 There are few natural lakes (2)
 Most rivers are non-perennial (2)
 Dams that are built on non-perennial rivers dry up during dry seasons (2)
 Many rivers are silted from erosion thus making them shallow (2)
 Evaporation is high since the climate is hot and dry (2)
 There are few deep valleys and gorges, therefore the dams are shallow with larger surface areas that promote evaporation (2)
 [Any TWO] (2 x 2) (4)
- 3.6.4 Drip irrigation saves 30% more water compared to spray irrigation and the production per hectare is greater (2)
 The mixing of fertilisers with water fed to plants using drip irrigation (2)
 The slow release of the fertilisers also prevents pollution of ground water supplies (2)
 Maintain irrigation equipment e.g. valves and sprinklers to prevent wastage (2)
 Switch to crops with higher yields per unit of water consumed or to crop varieties which use less water (2)
 Use treated waste water from urban areas for irrigation on farms (2)
 Do not cultivate marginal land (2)
 Train subsistence farmers in water conservation (2)
 Explore underground water resources (2)
 [Any TWO] (2 x 2) (4)
- 3.6.5 **HOW LESOTHO HIGHLANDS PROJECT WILL IMPROVE THE ECONOMY OF BOTH SOUTH AFRICA AND LESOTHO**
South Africa
 Generate electricity (2)
 For irrigation in farms (2)
 Supply Gauteng and Free State with water needed in major industries (2)
 Cater for rapidly growing population in Gauteng (2)
 Rejuvenate the Vaal River (2)
 Cater for mining activities in Gauteng (2)
 Develop tourism in South Africa
Lesotho
 Generate income for the economy (2)
 Generate electricity (2)
 Provide employment for the people of Lesotho (2)
 Stops the movement of migrants from Lesotho (2)
 For irrigation in farms (2)
 Develop infrastructure and basic services for Lesotho (2)
 Develop tourism in Lesotho (2)
 Develop spin-off employment opportunities in tourism (2)
 [Any SIX. Accept other reasonable answers] (6 x 2) (12)
[100]

QUESTION 4

- 4.1.1 B (2)
4.1.2 E (2)
4.1.3 D (2)
4.1.4 A (2)
4.1.5 C (2) (5 x 2) (10)
- 4.2.1 Centralisation (2)
4.2.2 South Western Cape (2)
4.2.3 PWV/Gauteng (2)
4.2.4 PWV/Gauteng
4.2.5 Harbour (2)
High rainfall (2)
Dense population (2)
Industries that use imported raw materials (2)
Labour – skilled and unskilled (2)
Power in from the KZN coalfields (2)
[Any ONE] (5 x 2) (10)
- 4.3.1 CBD (2) (1 x 2) (2)
- 4.3.2 Tall buildings (2)
Overconcentration of buildings (2)
Intensive land usage (2)
Urban parks (2)
Roads (2)
[Any TWO] (2 x 2) (4)
- 4.3.3 CBD highly accessible (2)
Competition for land (2)
Land expensive in CBD (2)
Tall buildings to save space (2)
High building density to maximise land use (2)
[Any THREE] (3 x 2) (6)

- 4.3.4 (a) Commercial decentralisation (2) (1 x 2) (2)
- (b) **CENTRIFUGAL FORCES**
- Land is very expensive in the CBD (2)
 - High crime rates (2)
 - Development of slums (2)
 - Deterioration of buildings (2)
 - Overconcentration (2)
 - Influx of immigrants and the associated xenophobia (2)
 - Illegal and twilight activities (2)
 - Limited parking spaces (2)
 - Traffic congestion (2)
 - Large number of informal traders (2)
 - High rates and taxes (2)
 - Lack of parking facilities (2)
 - Noise pollution (2)
 - Lack of space (2)
 - [Any SIX. Accept other] (6 x 2) (12)
- 4.4.1 The exchange of goods and services between countries for monetary gain (2)
[Concept] (1 x 2) (2)
- 4.4.2 They pursued aggressive reforms (2) (1 x 2) (2)
- 4.4.3 Has a well developed transport system (2)
Has a skilled labour force (2)
Good infrastructure (2)
Variety of resources (2)
Established industries (2)
Stable international relations (2)
[Any THREE. Accept other reasonable answers] (3 x 2) (6)
- 4.4.4 Increased job opportunities (2)
Better standard of living (2)
Reduced crime because more people will be employed (2)
More money available for skills development (2)
[Any TWO. accept other reasonable answers] (2 x 2) (4)
- 4.5.1 Small business activities that are unregistered or provide services without
licences (2)
[Concept] (1 x 2) (2)
- 4.5.2 Flea markets (2)
Hawkers (2)
Street barbers (2)
Home-based day care (2)
Garage workshops/repairs (2)
Home-based hairdressers (2)
[Any ONE] (1 x 2) (2)

- 4.5.3 Zimbabwe (2) (1 x 2) (2)
- 4.5.4 Smallest percentage of informal sector (2) (1 x 2) (2)
Reason:
 Only emerged as a growing segment in 1994 (2)
 Regulation by local authorities (2)
 Issuing of permits (2)
 More employment opportunities in formal sector (2)
 The more developed the economy the smaller the informal sector (2)
 [Any ONE] (1 x 2) (2)
- 4.5.5 Free market economies (2)
 Slump in the economy (2)
 Large scale job losses in formal sector (2)
 Immigrants not being able to find employment (2)
 Seen as easy way to make money (2)
 No formal training needed (2)
 [Any TWO] (2 x 2) (4)
- 4.5.6 **IMPORTANCE OF INFORMAL SECTOR**
 Provides a source of income for those that cannot find jobs in the formal sector (2)
 Reduces crime by creating employment (2)
 It is an important component of the labour force (2)
 Goods can be purchased at a lower price (2)
 Easy access for pedestrians (2)
 Alleviate poverty (2)
 Promote entrepreneurship (2)
 [Any SIX. Accept other reasonable answers] (6 x 2) (12)
- 4.6.1 Tertiary (2) (1 x 2) (2)
- 4.6.2 Easily available at all times (2)
 Services many areas (2)
 Substitute for poor rail/bus transport (2)
 Available in remote areas (2)
 [Any THREE] (3 x 2) (6)
- 4.6.3 A modern, efficient and cost-effective transport system promotes trade between regions and countries (2)
 Transport is a source of employment (2)
 Contributes to the GDP in the form of wages and taxes (2)
 Improves accessibility of labour (2)
 Plays an important role in the location and expansion of industries (2)
 Influence production costs and profits (2)
 [Any THREE] (3 x 2) (6)
[100]

GRAND TOTAL: 300