basic education

Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

NATIONAL SENIOR CERTIFICATE

GRADE 12

GEOGRAPHY P1

NOVEMBER 2010

MEMORANDUM

MARKS: 300

This memorandum consists of 17 pages.

SECTION A

QUESTION 1

1.1.1 A/B (2)
1.1.2 C (2)
1.1.3 D (2)
1.1.4 B (2)
1.1.5 A (2) (5 x 2) (10)

1.2.1 source/catchment (2)
1.2.2 confluence (2)
1.2.3 interfluve (2)
1.2.4 watershed (2)
1.2.5 dendritic (2) (5 x 2) (10)

1.3.1 Sea surface temperatures of $26^{1}/_{2}$°C and above (2)
Date middle January/late summer
Unstable atmospheric conditions (2)
Developed between 5° and 20° south of the equator (2)
Coriolis force (2)
Calm conditions (2)
Upper air divergence (2)
High rate of evaporation (2)
Winds that are light and variable (2)
Little friction over the ocean (2)
[Any ONE] (1 x 2) (2)

1.3.2 Presence of the eye (2)
Cumulonimbus clouds around the eye (2)
Air circulation is well established (2)
Extent of tropical cyclone/large area covered (2)
[Any ONE] (1 x 2) (2)

1.3.3 Is steered by the easterly winds/trade winds in the easterly/trade wind belt (2) (1 x 2) (2)

1.3.4 Lack of moisture (2)
Evaporation and condensation decreases (2)
Less latent heat released into the system/looses energy (2)
Surface wind slows down (2)
Friction with the land (2)
[Any TWO] (2 x 2) (4)

1.3.5 6 days/18 t0 23 January (2) (1 x 2) (2)

1.3.6 People live below the flood line (2)
Developed areas have the technology to monitor and track the movement of the storm (2)
Developed areas can issue warnings and plan evacuations to prevent large losses (2)
Difficult to coordinate rescue plans because of poor infrastructure (2)
Inadequate health facilities (2)
Inadequate funding to improve infrastructure/health facilities/technology (2)
Intended aid does not reach the victims due to corruption (2)
People live in remote areas (2)
The government does not give assistance when it comes to rebuilding (2)
[Any TWO. Accept any other reasonable answers] (2 x 2) (4)

1.4.1 carbon (2)
carbon dioxide (2)
carbon monoxide (2)
[Any ONE] (1 x 2) (2)

1.4.2 Artificial material used to construct the city,e.g. concrete, steel and tar which absorb and retain heat (2)
Tall buildings increase the surface area that absorbs heat (2)
Multiple reflection of heat by buildings made from glass and mirrors (2)
City activities generate heat, e.g. air conditioners, streetlights, body heat (2)
Lack of surfaces from which evaporation takes place (2)
Pollution in the city increases and traps heat (2)
Heat trapped inside buildings (2)
[Any TWO. Accept any other reasonable answers] (2 x 2) (4)

1.4.3 methane gas (2) (1 x 2) (2)

1.4.4 Loss of valuable topsoil due to erosion (2)
Crops are swept away/damaged and destroyed (2)
Prices of products go up (2)
Less food production (2)
Livestock die (2)
Food has to be imported (2)
Damage to infrastructure makes it difficult to transport farm products (2)
Equipment and agricultural land can be buried in silt (2)
Impact on subsistence farmers is greater and they may not be able to recover (2)
Loss of income (2)
[Any TWO. Accept any other reasonable answers] (2 x 2) (4)

1.4.5 An international agreement by countries to reduce their greenhouse emissions (2)
More efficient use of energy (2)
Use of renewable sources of energy (2)
Sustainable forms of agriculture (2)
Legislation to limit deforestation (2)
Planting of trees(afforestation)/helps to absorb carbon dioxide (2)
Reduce emission from waste and transport sector (2)
Reduce consumption of beef to control methane emissions (2)
Have a monitoring mechanism to ensure that countries abide by international agreements such as the Kyoto or Copenhagen Protocol (2)
Countries that exceed their carbon footprints be fined (2)
Roof gardens on high-rise buildings (2)
Educate people on the efficient use of electricity, e.g. use of energy-saving globes, solar heating (2)
Reduce the burning of fossil fuels, e.g. coal (2)
[Any SIX. Accept any other reasonable answers]
[If listed and only words/phrases used **ONE** mark. If full sentences used **TWO** marks] (6 x 2) (12)

1.5.1 Bending/falling over of trees (2)
The steep break in the upper slope (2)
Arrows show the movement of mud downslope (2)
[Any ONE] (1 x 2) (2)

1.5.2 Heavy (2 000 mm) rain/floods (2)
Soil became saturated (2)
[Any ONE] (1 x 2) (2)

1.5.3 Mud destroys agricultural land (2)
Less food production (2)
Loss of jobs (2)
Damage to infrastructure (2)
Much capital spent on restoration of infrastructure (2)
Houses destroyed (2)
Costly to rebuild (2)
Loss of lives (2)
[Any TWO. Accept other reasonable answers] (2 x 2) (4)

1.5.4 Deforestation/clearing of vegetation (2)
Building on steep slopes (2)
Poor drainage (2)
Down-slope ploughing (2)
Allowing too many tourists on steep slopes that dislodge rocks (2)
Overloading slopes with buildings (2)
Blasting (2)
Road construction and quarrying upset the balance of slopes (2)
Non-engineered construction of roads on slopes (2)
[Any TWO. Accept any other reasonable answers] (2 x 2) (4)

1.5.5 Plant trees to bind the soil (2)
Stabilise the slopes by erecting wire meshes (2)
Place stone walls, nuts and bolts, ground anchors, buttresses, drainage channels, gabians and drill bolts into the side of the hill slopes (2)
Cement barriers (2)
Spray slopes with concrete (2)
[Any TWO. Accept any other reasonable answers] (2 x 2) (4)

1.6.1 Main river and its tributaries collectively (2)
[Concept] (1 x 2) (2)

1.6.2 (a) Impermeable bedrock
More water flowing/higher run-off because of less infiltration (2)
(b) Dense vegetation
Less water/less run-off because of more infiltration (2) (2 x 2) (4)

1.6.3 3rd order (2) (1 x 2) (2)

1.6.4 The underlying rocks are inclined while the dendritic pattern is associated with horizontal strata (2)
Stream flow not determined by underlying rock structure (2)
Thinning/erosion of underlying rock structure (2)
River maintained its course (2)
Accept definition if evidince of superimposed stream is given (2)
[Any ONE] (1 x 2) (2)

1.6.5 About 2,5 to 3,5 hours (2) (1 x 2) (2)

1.6.6 Lag time reduced/shorter (2)
Flood peak higher (2)
The hydrograph will change to a sharply rising limb (2)
Flood peak will be reached in a shorter space of time (2)
Removal of vegetation increases run-off (2)
More water will reach the stream much quicker thus reducing lag time (2)
Less retention therefore water reaches the stream quicker (2)
An urban settlement increases surface run-off compared to the existing landscape where the infiltration is higher (2)
Urban development could increase rainfall (more hygroscopic nuclei) (2)
The urban settlement has an artificial surface (tar, concrete) which does not retain water (2)
More water reaches the stream (2)
The flood peak will last for a shorter space of time because of the quick run-off rate (2)
Artificial surfaces reduce friction so water flows faster (2)
[Any SIX]
[If listed and only words/phrases used **ONE** mark. If full sentences used **TWO** marks] (6 x 2) (12)

[100]

QUESTION 2

2.1.1 Hadley/Tropical (2)
2.1.2 Polar cell (2)
2.1.3 Ferrel/Mid-latitude (2)
2.1.4 Hadley/Tropical (2)
2.1.5 Polar (2) (5 x 2) (10)

2.2.1 B (2)
2.2.2 C (2)
2.2.3 B (2)
2.2.4 B (2)
2.2.5 D (2) (5 x 2) (10)

2.3.1 coastal low (2) (1 x 2) (2)

2.3.2 Cold ocean (cold Benguela current) therefore lack of moisture and the air is cold (2)
Diverging air subsides and is dry (2)
[Any ONE] (1 x 2) (2)

2.3.3 C (2) (1 x 2) (2)

2.3.4 It is further east (2)
C in occluded stage (2)
[Any ONE] (1 x 2) (2)

2.3.5 Cyclone/depression family (2) (1 x 2) (2)

2.3.6 It brings much needed rain in winter (2)
Allows for the planting of winter crops (2)
Low temperatures advantage fruit farming/verticulture (2)
Snow could impact negatively on people and crops (2)
Flooding could cause destruction/death (2)
[Any TWO] (2 x 2) (4)

2.3.7 Move southeasterly (2)
Merge with mid-latitude cyclone (2)
Weakens/dissipate (2)
[Any ONE] (1 x 2) (2)

2.4.1 Kalahari/Continental high (2) (1 x 2) (2)

2.4.2 Temperatures will warm up (2)
Humidity level will be low/dry (2)
No/little cloud cover (2)
No rain (2)
[Any TWO] (2 x 2) (4)

2.4.3 Veldfires/Bushfires (2) (1 x 2) (2)

2.4.4 Educating people on the dangers associated with veldfires – accept example (2)
Look-out towers in bergwind season (2)
Firebreaks (2)
Warning over weather forecast (2)
[Any ONE] (1 x 2) (2)

2.4.5 Winter (2) (1 x 2) (2)

2.4.6 <u>Environment</u>
Rivers dry out (2)
Water-table is lowered (2)
Ecosystems affected/destroyed/imbalance (2)
Soil erosion by wind (2)
Loss of soil fertility (2)
Wide-scale flooding (2)
<u>Economic</u>
Farmers suffer heavy losses because crops dry out (2)
Carrying capacity of the veld decreases - livestock slaughtered (2)
The price of agricultural products rockets (2)
Livestock quality deteriorates (2)
No water for irrigation (2)
Crop farming fails (2)
Food shortages and food has to be imported (2)
Subsistence farmers abandon their land because they don't have the capital to survive the loss (2)
Lack of raw materials for industries that use farm produce (2)
Unemployment in primary/secondary industries (2)
Exports decrease (2)
GDP and balance of trade affected negatively (2)
Loss of income for country (2)
Generation of hydroelectricity no longer possible (2)
Negative impact on informal sector/trade (2)
[Must refer at least ONCE to environment or economy. Any SIX. Accept any other reasonable answers]
[If listed and only words/phrases used **ONE** mark. If full sentences used **TWO** marks] (6 x 2) (12)

2.5.1 P – mesa/table mountain (2)
Q – Butte (2) (2 x 2) (4)

2.5.2 They are joined at the base with shale rock (2)
They have same rock layers (2)
They have the same height and depth (2)
Both have same original height/cap rock (2)
[Any ONE] (1 x 2) (2)

2.5.3 dolerite/igneous (2) (1 x 2) (2)

2.5.4 Back-wasting is taking place not downward wasting/downward erosion (2)
It is a hard layer of rock that caps (protects) P and Q (2)
Original height maintained (2)
[Any ONE] (1 x 2) (2)

2.5.5 Caprock/igneous sill/dolorite reduced from the sides (2)
P reduces in size due to erosion by running water (2)
P reduces through rockfalls (2)
Back-wasting occurs (2)
Slope retains the height (2)
Parallel retreat of slopes (2)
Eventually height of feature is greater than diameter (2)
[Any THREE] (3 x 2) (6)

2.6.1 Flowing through a steeper gradient (2)
River has a higher velocity therefore rate of erosion is high (2)
River could be flowing on softer rock (2)
Higher rainfall (2)
River could have had a lower flow level (2)
[Any ONE] (1 x 2) (2)

2.6.2 River gravels (2)
Windgap/dry gap (2)
Waterfall (2)
Knickpoint (2)
Elbow of capture (2)
[Any TWO] (2 x 2) (4)

2.6.3 Very little water in a large valley (2)
Stream seems too small for the valley it occupies (2)
River deprived of headwater (2)
[Any ONE. Concept] (1 x 2) (2)

2.6.4 It has an increased volume of water (2)
The drainage basin increases (2)
More erosive power/energy (2)
The river could be rejuvenated (2)
Downward erosion at a faster rate (2)
[Any TWO] (2 x 2) (4)

2.6.5 Shortage of water downstream in the captured river(Kort River) (2)
Could affect farming activities along captured river(Kort River) (2)
Could affect fishing activities along captured river(Kort River) (2)
Less water for the generation of electricity (2)
Affect recreational activities because of less water in captured river(Kort River) (2)
Possibility of flooding along the captor stream/Berg River (2)
Excess water will wash away settlements and make it unsafe (2)
Cultivated land washed away(Berg River) (2)
Negative economic impact on farming(Kort River) (2)
After flooding fertile sediments deposited on flood plain(Berg River) (2)
Farming activities increase along the Berg River (2)
Positive impact on farming economy (2)
[Any SIX – Accept other reasonable answers. Must refer at least ONCE to the Kort River ment or the Berg River]
[If listed and only words/phrases used **ONE** mark. If full sentences used **TWO** marks] (6 x 2) (12)

[100]

SECTION B

QUESTION 3

3.1.1 False (2)
3.1.2 True (2)
3.1.3 True (2)
3.1.4 False (2)
3.1.5 True (2) (5 x 2) (10)

3.2.1 D (2)
3.2.2 C (2)
3.2.3 F (2)
3.2.4 G (2)
3.2.5 B (2) (5 x 2) (10)

3.3.1 Urban expansion refers to physical growth of the urban area (2)
[Concept] (1 x 2) (2)

3.3.2 It highlights the speed at which urban expansion is taking place (2)
Cities are rapidly encroaching on vulnerable farmland (2)
Causes rural depopulation (2)
[Any ONE] (1 x 2) (2)

3.3.3 A gigantic urban settlement that develops when many conurbations/ cities combine or join together (2)
It is the largest of all settlment types (2)
[Concept] (1 x 2) (2)

3.3.4 Urban sprawl (2) (1 x 2) (2)

3.3.5 Service delivery becomes difficult (2)
Growth of informal settlements (2)
Traffic congestion (2)
Overcrowding (2)
Pollution (2)
Social ills, e.g. crime, prostitution, etc. (2)
Lack of space/shortage of land (2)
Waste mangement becomes difficult (2)
[Any TWO. Accept any other reasonable answers] (2 x 2) (4)

3.3.6 Greenbelt (2)
Satellite towns/New towns (2)
Industrial decentralisation (2)
Rural development (2)
Providing counter-urbanisation measures (2)
Development of new towns (2)
[Any TWO. Accept any other reasonable answers] (2 x 2) (4)

3.4.1 Rural-urban migration refers to the movement of people from rural (villages, farms) areas to cities/urban areas (2)
[Concept] (1 x 2) (2)

3.4.2 Lack of job opportunities (2)
Mechanisation on farms (2)
High production costs (2)
Natural disasters such as floods and droughts (2)
Low salaries and wages (2)
Lack of educational facilities (2)
Few or no social amenities (2)
Lack of health and medical facilities (2)
Cost of living is higher because goods and services are far away (2)
Have to travel long distances therefore transport is expensive (2)
Unrest and lack of security (2)
Soil erosion and low productivity which causes loss of income (2)
Poor quality of housing and accommodation (2)
Isolation (2)
[Any TWO. Accept any other reasonable answers] (2 x 2) (4)

3.4.3 Ageing of population (2)
Decreased production on farms (2)
Resources(soil) unutilised (2)
Basic services close down (2)
Ghost towns due to farms being abandoned (2)
Breaking down of family units because parents leave children behind to work in cities (2)
People that are least educated are generally left behind as those that are educated get jobs in cities (2)
Easier for people to cross borders (2)
[Any THREE. Accept any other reasonable answers] (3 x 2) (6)

3.4.4 Find alternative economic activities e.g tourism to sustain the economy (2)
Create game reserves/nature reserves in rural areas (2)
Municipalities to improve the provision of basic services (2)
Provision of facilities (recreation, education, etc.) to encourage the youth to stay (2)
To improve infrastructure (2)
Attract pensioners to move to rural towns (2)
Attract commuters to live in rural towns (2)
Industrial decentralisation (2)
Industries create employment (2)
Training for upcoming farmers (2)
Incentives for farmers to stay on farms (2)
Basic Needs approach (2)
Implementation of GEAR and/or RDP (2)
Spatial Development Initiative (SDI) programmes (2)
Introducing Local Agenda 21 programme for rural areas (2)
[Any SIX. Accept any other reasonable answers]
[If listed and only words/phrases used **ONE** mark. If full sentences used **TWO** marks] (6 x 2) (12)

3.5.1 PWV OR Gauteng (2) (1 x 2) (2)

3.5.2 Metal/iron processing (2)
Engineering (2)
Mining equipment (2)
Chemical industries (2)
[Any ONE. Accept example] (1 x 2) (2)

3.5.3 Large population that creates a ready market (2)
Large labour force (2)
Many mineral resources (2)
Large reserves of coal are found in the area/close to power source (2)
Water obtained from the Vaal dam and supplemented by the TUVA/Highlands scheme (2)
Dense transport network (2)
Well-developed infrastructure (2)
Relief is generally flat making construction easy (2)
[Any THREE. Accept any other reasonable answers] (3 x 2) (6)

3.5.4 Water shortages because it is not located in a high rainfall area (2)
Pollution (2)
Far away from harbours – increases cost of transport (2)
Labour strikes and unrest (2)
Eskom power cuts have led to reduced working hours (2)
Strategic vulnerability (2)
Destruction of ecosystem (2)
Overpopulation/congestion (2)
Overutilisation of resources (2)
[Any THREE. Accept any other reasonable answers] (3 x 2) (6)

3.6.1 Construction project between two countries (2)
[Concept of TWO countries involved] (1 x 2) (2)

3.6.2 Water is transported from an area of surplus to an area that has a shortage (2)
[Concept] (1 x 2) (2)

3.6.3 Permanent solution to water shortages (2)
Evaporation rates are high since we generally have high temperatures (2)
Many of the dams are shallow which promotes high evaporation (2)
Large number of non-perennial rivers (2)
Rainfall is low (2)
Rainfall is unreliable/variable (2)
High rate of water pollution by industries reduces availability of purified water (2)
Lack of natural lakes to supply water (2)
Silting of dams due to high erosion levels (2)
[Any TWO. Accept any other reasonable answers] (2 x 2) (4)

3.6.4 Farmers/villagers that lived along the river were evicted (2)
Loss of ancestoral land (2)
Relocation of residents (2)
Subsistence farmers negatively affected (2)
Loss of agricultural land (2)
Disruption of ecosystem (2)
Level of water in river drops (2)
Negative impact on fishing industries downstream (2)
Spread of HIV/Aids by the migrant labourers (2)
Significant increases in social ills, e.g. prostitution and alcoholism (2)
[Any TWO. Accept any other reasonable answers] (2 x 2) (4)

3.6.5 <u>Advantages for Lesotho</u>
Provision of electricity (2)
Boost the economy (2)
Increase agriculture (2)
Increase forestry (2)
Provides employment (2)
Building of infrastructure (2)
Promotes tourism (2)
<u>Advantages for South Africa</u>
Availability of water when periodic rivers run dry (2)
Provision of water for Gauteng and Free State (2)
To promote and sustain industrial development in the Gauteng area (2)
Water for domestic use (2)
Water for agriculture and forestry (2)
Water for mining (2)
Generation of electricity (2)
[Any SIX. Accept other. Must have at least ONE advantage for either one of the countries]
[If listed and only words/phrases used **ONE** mark. If full sentences used **TWO** marks] (6 x 2) (12)

[100]

QUESTION 4

4.1.1 False (2)
4.1.2 True/False (2)
4.1.3 True (2)
4.1.4 False (2)
4.1.5 True (2) (5 x 2) (10)

4.2.1 A (2)
4.2.2 C (2)
4.2.3 B (2)
4.2.4 D (2)
4.2.5 C (2) (5 x 2) (10)

4.3.1 Land that is used for a specific purpose/activity/function (2)
[Concept] (1 x 2) (2)

4.3.2 Residential (2) (1 x 2) (2)

4.3.3 Degree to which functions attract each other/can co-exist (2)
[Concept] (1 x 2) (2)

4.3.4 Heavy industry (2) and Residentia/Offices/Shops/Light industry (2) (2 x 2) (4)

4.3.5 Heavy industries are associated with air pollution – encourage smog formation (2)
Reduced visibility in winter with subsiding air which traps the smog (2)
Will affect the micro-climate of the residential/office area (2)
Industries associated with smells/odours (2)
Associated with noise pollution (2)
Heavy trucks a safety hazard for children (2)
Pollution affects the peace and quiet of the area (2)
This affects the health of the residential/office areas (2)
Acid rain corrodes buildings (2)
Environmental despoliation/industries are an eye-sore (2)
Heavy industries need large tracts of land
[Any THREE. Accept any other reasonable answers] (3 x 2) (6)

4.4.1 **social injustice**
crime (2)
social problems (2)
alcohol abuse (2)
drug addiction (2)
bylaws (2)
[Any ONE]
environmental injustice
noise (2)
air pollution (2)
traffic congestion (2)
[Any ONE] (2 x 2) (4)

4.4.2 crime: unemployment (2) / poverty (2)
social problems: poverty (2) / unemployment (2) / peer pressure (2)
noise: high traffic volumes (2) / industrial activity (2) / loud music (2)
air pollution: industrial activity (2) / vehicle exhaust fumes (2)
[Any ONE cause for each problem mentioned in QUESTION 4.4.1] (2 x 2) (4)

4.4.3 Advantage
Gives boundaries in terms of what is acceptable (2)
Prevents people from encroaching on other persons' rights (2)
Creates order (2)
Separates land-uses and prevents problem of incompatability (2)
Incorporates safety measures for people (2)
[Any ONE]
Disadvantages
Can be restrictive (2)
All municipal bylaws not fairly applied (2)
Opens itself to bribery and corruption (2)
No inputs made by community (2)
[Any ONE]
[Accept other reasonable answers] (2 x 2) (4)

4.4.4 Traffic congestion
Staggered working hours/flexitime (2)
Introduce other forms of transport (2)
Lanes dedicated to public transport, e.g. buses and taxis (2)
Decentralisation of offices, industries and shops (2)
Park-and-ride facilities (2)
Outer ring roads and bypasses (2)
More efficient public transport system, e.g. Gautrain (2)
One-way streets (2)
Underground transport (2)
Subsidise the cost of public transport (2)
Encourage lift clubs (2)
Cars must pay to enter the CBD (2)
Construct more parking bays (2)
Increase parking meter fees (2)
Widen the streets (2)
Synchronise robots/traffic lights (2)
Pollution
Discourage the use of private transport to reduce vehicles on the roads (2)
Electrification to reduce carbon emissions (2)
Increase afforestation (2)
Impose fines to restrict pollution (2)
Industrial decentralisation (2)
Use leadfree petrol (2)
Create more green spaces (2)
Use of a filter to reduce exhaust fumes (2)
Sound proof buildings (2)
Silencer systems on vehicles (2)

Crime
Provide jobs (2)
Stricter laws (2)
More effective system to arrest criminals (2)
Harsher sentences (2)
Eradicate corruption and bribery in police service (2)
More visible policing (2)
CCTV cameras in cities (2)
Social problems
Education on drug and alcohol abuse (2)
More social workers and NGOs (2)
Guidance counsellors in schools (2)
Harsher sentences for drug trafficking (2)
[Any SIX . Accept any other reasonable answers]
[May refer to ONE problem only or to a VARIETY of problems]
[If listed and only words/phrases used **ONE** mark. If full sentences used **TWO** marks] (6 x 2) (12)

4.5.1 Refers to the interconnection of social, economic, political and cultural activities across the world (2)
[Concept] (1 x 2) (2)

4.5.2 Cheap raw materials (2)
Cheap labour (2)
Lax laws for social and environmental injustices (2)
Unemployment (2)
Have necessary manual skills (2)
[Any TWO] (2 x 2) (4)

4.5.3 Influx of tourists from different parts of the world (2)
Boost for local business (2)
Attract foreign investment (2)
International relations established (2)
Foreign-trade partners established (2)
South Africa features more prominently in the global village (2)
Development of infrastructure promotes globalisation (2)
[Any THREE. Accept other] (3 x 2) (6)

4.5.4 Works long hours (2)
Earns a low salary (2)
Child labour (2)
No recognition for the important job (2)
[Any TWO] (2 x 2) (4)

4.6.1 When sufficient food is produced to meet the needs of people (2)
[Concept] (1 x 2) (2)

4.6.2 Reconstruction and Development Programme (2) (1 x 2) (2)

4.6.3 Shortage of fertile/arable land (2)
Natural disasters, e.g. droughts (2), floods (2), hailstorms (2)
Lack of mechanisation on farms (2)
Monoculture (2)
Land tenure and security (2)
Lack of capital by subsistence farmers to expand (2)
HIV/Aids lowers life expectancy of farmers and labourers (2)
Lack of subsidy from the government (2)
Inadequate support for agricultural research (2)
Poor infrastructure in deep rural areas (2)
Rural-urban migration leaves land unutilised (2)
[Any TWO. Accept any other reasonable answers] (2 x 2) (4)

4.6.4 Genetically modified crops are more resistant to diseases/pests/ viruses (2)
Produce more (2)
They have greater nutritional value (2)
They can grow under drought conditions/harsher climates (2)
Tolerance to salty soils (2)
More digestible crops for animals (2)
Longer storage life (2)
[Any TWO. Accept any other reasonable answers] (2 x 2) (4)

4.6.5 Conservation farming – use of organic compost, crop rotation, paddock grazing, drip irrigation(2)
Storing of food from seasons where there has been a surplus (2)
Diversify economic activities in rural areas to include cottage industries such as dairy products and dried fruit (2)
Use of genetically modified crops to increase output (2)
Government to provide incentives and subsidies to farmers (2)
Convert from subsistence farming to commercial farming to increase output (2)
To hasten land-reform policies so that more people have access to land for farming (2)
More research on how to improve food production for local conditions (2)
We need more dams to be built in the drier parts of the country so that it encourages cultivation (2)
Making farming research accessible to traditional farmers to improve production (2)
Use of hybrid seeds (2)
Growing mixture of crops/mixed farming (2)
Building terraces and stone lines to conserve soil and water (2)
Laws ensuring citizens' basic food needs are met (2)
Introduction of national food-security strategy (2)
[Any SIX. Accept any other reasonable answers]
[If listed and only words/phrases used **ONE** mark. If full sentences used **TWO** marks] (6 x 2) (12)

[100]