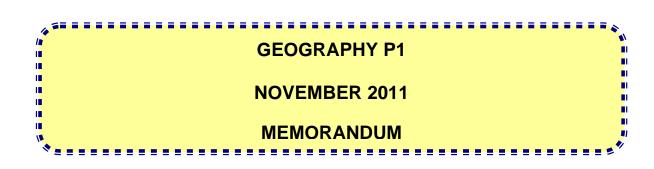


basic education

Department: Basic Education **REPUBLIC OF SOUTH AFRICA**

NATIONAL SENIOR CERTIFICATE

GRADE 12



MARKS: 300

This memorandum consists of 17 pages.

Marking of Paragraph Questions

Note that candidates do not have to write/indicate SIX different points in order to get the maximum of 12 marks. TWO or more ideas can be used with an expanded/indepth explanation.

Candidates should not be penalised if they do not write in paragraph format.

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SECTION A

1.1	1.1.1 1.1.2 1.1.3 1.1.4 1.1.5	Polar front Ferrel cell Hadley cell Subtropical high Equatorial low (5 x 2)	(10)
1.2	1.2.1	Plan view (1 x 2)	(2)
	1.2.2	Cross profile (1 x 2)	(2)
	1.2.3	(a) Y(1 x 2)(b) X(1 x 2)(c) Z(1 x 2)	(2) (2) (2)
1.3	1.3.1	2 February (2) (1 x 2)	(2)
	1.3.2	Sea surface temperatures of 27°C and above/ extremely high temperatures (2) Unstable atmospheric conditions/rising warm moist air (2) Developed between 5° and 20° south of the equator (2) Coriolis force is required for spiraling action of air (2) Upper-air divergence (2) High rate of evaporation/sufficient moisture content (2) Release of latent heat (2) Winds that are light and variable (2) Calm conditions (2) Little friction over the ocean (2) Rapid convection (2) [Any TWO of the above] (2 x 2)	(4)
	1.3.3	The name Yasi starts with the letter Y which suggests many cyclones prior to this (2) 25th cyclone (2) Strong buildings to withstand tropical cyclones (2) Path of the cyclone not obstructed by land masses, thus making Australia more vulnerable (2) [Any ONE of the above] (1 x 2)	(2)
	1.3.4	Category five is the most [candidates must emphasise most/worst/strongest] destructive storm (2) Extensive damage to property (2) Extensive damage to infrastructure (2) Loss of lives (2) Damage to environment (2) Farms destroyed (2) Destructive winds/wind speed of over 200 km (2) High wave swells (2) Torrential rain (2) [Any TWO of the above. Give 2 marks for severity and 2 marks for example] (2 x 2)	(4)

1.4

1.3.5	 (a) There was a raging storm and suddenly [candidates must emphasise the quick/abrupt/sudden change] when the eye passes over (2) It is calm (2) Clear weather /no clouds (2) No wind (2) No rain (2) [Any TWO of the above] (2 x 2) (4)
	 (b) Subsiding/descending/sinking air causes stable conditions (2) (1 x 2) (2)
1.3.6	Willy-Willies (2) (1 x 2) (2)
1.3.7	It is developed/an advanced country/MEDC (2) Have a strong economy (2) Occurs commonly there (2) [Any ONE of the above] (1 x 2) (2)
1.4.1	Climate change refers to long term changes in global climate (2) [Concept] (1 x 2) (2)
1.4.2	Cars give off a lot of carbon dioxide which lead to high temperatures (2) More carbon dioxide provides more condensation nuclei (2) High temperatures increase the evaporation rate (2) More condensation results in higher rainfall (2) [Any TWO of the above - Accept other reasonable answers - Also influence of flooding on petrol use] (2 x 2) (4)
1.4.3	 Building of dams (2) Plant more trees (2) Straightening of meanders (2) Channeling of rivers (2) Building levees or artificial embankments to prevent overflow of water (2) Widening of river channels (2) Settlements should not be built below the flood line / building regulations (2) Plant vegetation in the catchment areas to encourage infiltration (2) Practice contour ploughing to control surface run-off (2) Early flood warning systems (2) Evacuation procedures (2) Protection of wetlands (2) Building of spill ways (2) Better storm drainage pipes (2) Maintenance of storm water drainage (2) Awareness campaigns (2) [Any SIX of the above. Accept other reasonable answers] (6 x 2) (12

1.5	1.5.1	Flood peak/peak flow - the highest level of water reached in channel after it rains (2)	a river	
		[Concept]	(1 x 2)	(2)
	1.5.2	10 000 cumecs/cubic metres per second (2)	(1 x 2)	(2)
	1.5.3	Peak flow is higher (2) Peak flow reached quicker/shorter lag time (2)	(2 x 2)	(4)
	1.5.4	Trees have an extensive root system and can absorb more water (2) Trees create an obstacle on the surface and forces water down, thus encouraging it to infiltrate (2) Removal of trees leads to more run-off (2) Trees reduces run-off (2) [Any ONE of the above – Accept other reasonable answers]		(2)
	1.5.5	Causes soil erosion/desertification (2) Leads to high temperature (2) Alters the ecosystem/loss of biodiversity (2) Some animals will lose their habitats (2) More carbon dioxide (2) Reduction in oxygen production (2) Impact negatively on micro climate (2) Increases mass movement (2) [Any TWO of the above – Accept other reasonable answers]	(2 x 2)	(4)
	1.5.6	Implement waste management policy – no waste dump rivers (2) Wetland conservation (2) River-health programmes (2) Create a buffer zone to prevent development too close to riv Encourage the growth of vegetation (2) Frequent testing of water quality (2) Regulations on urban development (2) Reduce the amount of settlements built along rivers (2) Community programmes to educate people on the use of riv Employ people to clean rivers regularly (2) [Any SIX of the above. Accept other reasonable answers]	vers (2)	(12)
1.6	1.6.1	Dip slope (2)	(1 x 2)	(2)
	1.6.2	It is a gentle slope/10° to 25° angle (2) It is dipping in the same direction as the underlying structure [Any ONE of the above]	e (2) (1 x 2)	(2)
	1.6.3	Ridges make it difficult to construct transport networks (2) Scarp slopes cannot be used for farming as it is too ste rocky (2) Forestry is practised on the dip slope since they do not	·	
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fertile soil (2)

Dip slopes are gentle therefore used for settlements/farming (2) Basin cuestas have artesian wells that form oil traps (2)

	ed in a variety of sports/recreational activities/examples (ny TWO of the above]	2) (2 x 2)	(4)
1.6.4 (a)	Talus/Debris/Constant/Scree slope (2)	(1 x 2)	(2)
(b)	It is parallel to the original slope (2) It is a uniform slope/20° to 35° (2) Debris from the crest and cliff accumulates (2) Depostion is the main activity (2) Remains at a constant angle (2) Subject to erosion/gully formation (2) Concave (2) [Any TWO of the above]	(2 x 2)	(4) [100]

2.1	2.1.1 2.1.2 2.1.3 2.1.4 2.1.5	Katabatic (2) Night (2) Down slope (2) Thermal belt (2) Frost (2)	(5 x 2)	(10)
2.2	2.2.1 2.2.2 2.2.3 2.2.4 2.2.5	Oxbow lake (2) Levee (2) Floodplain (2) Perrenial (2) Meander (2)	(5 x 2)	(10)
2.3	2.3.1	South Indian High Pressure/Mauritius High (2)	(0 x 2) (1 x 2)	(10)
	2.3.2	They are HP systems/they are systems with the highest readings in the centre (2) They originate in a high-pressure belt (2) Consist of subsiding air (2) Anticlockwise direction in the southern hemisphere/mov opposite direction to a cyclone (2) [Any ONE of the above]	pressure	2)
	2.3.3	21 °C (2)	(1 x 2)	(2)
	2.3.4	Warm air from the subtropics (2) meets cold air from the pe [Concept of warm and cold air meeting]	oles (2) (2 x 2)	(4)
	2.3.5	Mid-latitude cyclone/extra tropical cyclone/temperate frontal depression (2)	cyclone/ (1 x 2)	(2)
	2.3.6	West to east/easterly (2)	(1 x 2)	(2)
	2.3.7	No (2) It will be blocked by the South Indian HP (occupies a position)/high pressure ridging in (2) It is also moving well south of the country (2) Already situated east of Cape Town (2) [Any ONE reason of the above]	blocking (2 x 2)	(4)
	2.3.8	They bring winter rainfall to Cape Town (2) Encourages farming in winter (2) Fruit such as apples/pears need cold conditions (2) Vineyards require winter rainfall (2) Dams are filled (2) Prepare for flooding (2) Crop destruction preventative measures (2) Livestock preventative measures (2) [Any ONE of the above - Accept others]	(1 x 2)	(2)

2.4	2.4.1	Tornado/twister (2) A violent, rotating column of air extending from a thunderster Vortex of air that extends downwards from the bottom of a cloud to the ground (2) It is an extreme whirl wind (2) [Any ONE description of the above]	()	(4)
	2.4.2	The piling up of water along a coast caused by heavy wind and storms (2)	d speeds	
		[Concept]	(1 x 2)	(2)
	2.4.3	Higher temperature (2) Global warming (2) [Any ONE of the above]	(1 x 2)	(2)
	2.4.4	Coastlines will be submerged (2) Major damage to buildings (2) Large costs to protect buildings agains submergence (2) Infrastructure destroyed (2) Large costs to move infrastructure further inland (2) Financial losses to businesses on the beach front (2) Fewer tourists to coastal cities (2) Loss of income for hotels, lodges, guest houses, etc. (2) Local businesses will lose trade from foreigners (2) Employment opportunites are reduced (2) Impact on the activities in the rural-urban fringe/examples (Social consequences (2) [Any SIX of the above. Accept other reasonable answers]	2) (6 x 2)	(12)
2.5	2.5.1	A drainage basin is an area that is drained by a river tributaries (2) [Concept]	and its (1 x 2)	(2)
	2.5.2	Dendritic (2)	(1 x 2)	(2)
	2.5.3	Rocks of uniform [concept of uniformity important] resist erosion (2)	tance to (1 x 2)	(2)
	2.5.4	Water must infiltrate (2) Flow through the soil (2) Also a correct description from the diagram (2) [Any ONE of the above]	(1 x 2)	(2)
	2.5.5	Surface run-off (2) Because it flows directly to the river (2) OR With base flow (groundwater), water has to infiltrate and rewater table before it flows into the river (2) [Any ONE reason of the above]	each the (2 x 2)	(4)

2.5.6	(a) Infiltration rate will be reduced as vegetation acts obstacle (2)	as an (1 x 2)	(2)
2.6.1	 (b) Stream discharge will increase as more water will run surface (2) Massive igneous rock (2) Granite (2) 	off the (1 x 2)	(2)
	[Any ONE of the above]	(1 x 2)	(2)
2.6.2	another (2)		
	[Concept]	(1 x 2)	(2)
2.6.3	through the rock - chemical weathering (2) The rocks break down and become more rounded (2)		(6)
2.7.1	Slope became unstable as a result of construction (2) The weight of the hotel overloaded the slope and caused it to slide (2) Removal of vegetation during construction (2) [Any ONE of the above]	o (1 x 2)	(2)
2.7.2	cuttings (2) Plant vegetation to prevent erosion (2) Re-grade the slopes by unloading the top (2)		(12)
	2.6.1 2.6.2 2.6.3 2.7.1	 (b) Stream discharge will increase as more water will run surface (2) (c) Massive igneous rock (2) Granite (2) [Any ONE of the above] 2.6.1 Massive igneous rock (2) Granite (2) [Any ONE of the above] 2.6.2 A mound of core stones that appears to be stacked on top another (2) [Concept] 2.6.3 Vertical and horizontal joints form because of water s through the rock - chemical weathering (2) The rocks break down and become more rounded (2) The core stones appear as a loose pile after the eroded m has been removed (2) 2.7.1 Slope became unstable as a result of construction (2) The weight of the hotel overloaded the slope and caused it to slide (2) Removal of vegetation during construction (2) [Any ONE of the above] 2.7.2 Constructing concrete walls, cables, buttresses, etc. at stee cuttings (2) Plant vegetation to prevent erosion (2) Re-grade the slopes by unloading the top (2) Provide adequate drainage so that parts of the slope do washed away by water (2) Remove loose rock particles that could fall down slope (2) Place concrete layers over the slope (2) Mesh wiring to contain slope movements (2) Drill metal staves into rock to stabilise (2) Proper engineering when constructing on slopes (2) Terracing of the slope (2) Avoid developing settlements on steep slopes (2) Proper environmental impact studies (2) 	 (b) Stream discharge will increase as more water will run off the surface (2) (1 x 2) (b) Stream discharge will increase as more water will run off the surface (2) (1 x 2) 2.6.1 Massive igneous rock (2) Granite (2) [Any ONE of the above] (1 x 2) 2.6.2 A mound of core stones that appears to be stacked on top of one another (2) [Concept] (1 x 2) 2.6.3 Vertical and horizontal joints form because of water seeping through the rock - chemical weathering (2) The rocks break down and become more rounded (2) The core stones appear as a loose pile after the eroded material has been removed (2) 2.7.1 Slope became unstable as a result of construction (2) The weight of the hotel overloaded the slope and caused it to slide (2) Removal of vegetation during construction (2) [Any ONE of the above] (1 x 2) 2.7.2 Constructing concrete walls, cables, buttresses, etc. at steep road cuttings (2) Plant vegetation to prevent erosion (2) Re-grade the slopes by unloading the top (2) Provide adequate drainage so that parts of the slope do not get washed away by water (2) Remove loose rock particles that could fall down slope (2) Place concrete layers over the slope (2) Mesh wiring to contain slope movements (2) Drill metal staves into rock to stabilise (2) Proper engineering when constructing on slopes (2) Terracing of the slope (2) Avoid developing settlements on steep slopes (2) Proper environmental impact studies (2)

[100]

3.1	3.1.1 3.1.2 3.1.3 3.1.4 3.1.5	D (2) A (2) E (2) C (2) B (2) (1)	5 x 2)	(10)
3.2	3.2.1 3.2.2 3.2.3 3.2.4 3.2.5	D (2) F (2) A (2) C (2) B (2) (1)	5 x 2)	(10)
3.3	3.3.1	Transport routes converge here/high level of accessibility (2) (1 x 2)	(2)
	3.3.2	High land value (2) High-rise buildings (2) High rentals (2) Traffic congestion (2) Commercial heart of the city (2) High building density (2) Accessibility (2) High concentration of high order functions (2) High concentration of people (2) [Any TWO of the above]	2 x 2)	4)
	3.3.3	Residential (2)	1 x 2)	(2)
	3.3.4	Mixed land use (2) Overcrowding (2) Buildings are not renovated, because it is the future expandence area of the city (2) Associated with twilight activities such as drugs and prostitution Attracts low income immigrants (2) Crime/social problems/examples of social problems (2) Ethnic tension (2) [Any TWO of the above]		(4)
	3.3.5	(a) The presence of the park (2)Greening projects (2)[Any ONE of the above]	(1 x 2)	(2)
		 (b) Reduces pollution (2) Lowers temperature (global warming) (2) Creates a scenic environment/aesthetic value(2) It also provides a place of peace and quiet in the city (2) Controls greenhouse gases (2) Absorbs carbon dioxide (2) Reduces soil erosion and run-off (2) Can prevent urban sprawl (2) Provides recreational areas in the cities (2) Protects wildlife (2) 		

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		Increase property values (2) [Any TWO of the above]	(2 x 2)	(4)
3.4	3.4.1	Sustainable city refers to a city that improves the qua inhabitants and also considers future generations (2) A city that is well run in terms of water, policies, ele pollution, etc. (2)) ectricity usage,	(2)
	3.4.2	[Concept] Air pollution/emmision of greenhouse gasses (2) Poor refuse removal (2) Uncontrolled population growth (2) Industries (2) Inorganic waste dumped as landfill (2) Pumping waste into rivers (2) [Any TWO – Accept other reasonable answers)	(1 x 2) (2 x 2)	(2)
	3.4.3	Encourage the use alternative renewable sources/ex Awareness campaigns on usage of water and electric Litter control (2) Control water usage (2) Legislation for the control of pollution (2) Recycling of waste and water (2) Urban waste management (2) Using environmental friendly building material (2) Urban food / roof garden (2) [Any TWO of the above – Accept other reasonable a	icity (2)	(4)
	3.4.4	EFFECTS ON HEALTH High stress levels (2) Air pollution causes problems such as asthma and c Water borne diseases/example (2)	ancer (2)	
		EFFECTS ON ENVIRONMENT Acid rain which affects the growth of plants (2) Destruction of the ecosystems (2) Increases global warming (2) Land pollution spread diseases, pests and rodents (2) Water pollution will results in growth of algae which ecosystems to be destroyed due to lack of oxygen (2) Pollution over the city increases temperature at night Acid rain destroys building structures (2)	causes aquatic 2)	
		EFFECTS ON ECONOMY Drop in productivity (2) Creates additional costs for economy (2) Negative effect on tourism (2) Increase pressure on health facilities (2) Medical aid contribution rise/increase medical costs [Any SIX. Candidates must refer to all parts of the qu other reasonable answers.]		(12)

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3.5	3.5.1	Commercial farming is based on the purpose of making a profit (2) [Concept] (1 x 2) ((2)
	3.5.2	High labour costs (2) Costs of fertilizers (2) Import of farm machinery at a high cost (2) Frequent droughts results in farmers running at a loss (2) Workers going on strike for higher wages (2) Increasing fuel costs (2) Increasing transport costs (2) Increasing operational cost (2) [Any ONE of the above– Accept other reasonanble answer] (1 x 2) ((2)
	3.5.3	Food will be more expensive (2) Poor will go hungry/food insecurity (2) Drop in economy/impacts on GDP and GNP (2) High unemployment (2) Higher rate of inflation (2) Negative or unfavourable balance of trade (2) [Any ONE of the above - Accept other reasonable answers] (1 x 2) ((2)
	3.5.4	Government must provide incentives and training to farmers to help increase their profits (2) Develop small-scale irrigation schemes and improve access to water (2) Encourage consolidation of subsistence farms to increase production (2) Practice crop rotation (2) Provide training to farmers to increase output (2) Plant genetically modified crops because they are more resistant to herbicides (2) Grant low-interest loans to emerging farmers (2) Secure and manage water supplies (2) Protect soil against erosion (2) Government should monitor the distibution and access to food (2) Storage of food from surplus seasons (2) [Any SIX of the above - Accept other reasonable answers] (6 x 2) ((12)
3.6	3.6.1	No (2) Developed countries demands that developing countries will get assistance from them only if they will buy the tractors from them (2) (2×2) ((4)
	3.6.2	Taxes placed on imported goods so that they become more expensive than locally produced ones/import duties and tarrifs (2) Restrictions placed on the quantity of goods to be imported/import quotas (2) Financial assistance given to local producers to cover the production costs/subsidies (2) Anti-dumping measures (2) Border control (2) Proudly South African campaign/buying locally manufactured productor (2)	
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	[Any TWO of the above – Accept other reasonable answers] (2 x 2)	(4)
3.6.3	Unfavourable balance of trade occurs when more goods are imported than exported (2)	
	[Concept] (1 x 2)	(2)
3.6.4	Foreign capital flows out of a country (2) Standard of living decrease (2) Workers are retrenched (2) Economic growth drops (2) Debt (2) Dependence on foreign investment (2) Local industries less competitive (2) [Any TWO of the above – Accept other reasonable answers] (2 x 2)	(4)
3.6.5	Provides job opportunities (2) More finished goods exported (2) Contributes to the GDP (2) Improves foreign exchange (2) Encourages foreign investments/inflow of foreign capital (2) Provides a market for raw materials (2) Leads to development of infrastructure (2) [Any FOUR of the above – accept other reasonable answers](4 x 2)	(8)
	[Any + Ook of the above - accept other reasonable answers](4 x 2)	(8) [100]

[100]

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4.1	4.1.1 4.1.2 4.1.3 4.1.4 4.1.5	True (2) False (2) False (2) True (2) False (2) (5 x 2)	(10)
4.2	4.2.1 4.2.2 4.2.3 4.2.4 4.2.5	C (2) E (2) D (2) A (2) B (2) (5 x 2)	(10)
4.3	4.3.1	Rural-urban migration (1 x 2)	(2)
	4.3.2	Lack of job opportunities (2) Wars and cyclones (2) Natural disasters e.g. droughts/soil erosion (2) Poverty (2) Poor health services (2) Lack of clean water (2) Mechanisation on farms (2) Consolidation of farm units (2) Inequality of land ownership (2) Political instability (2) Recession in the economy, therefore less subsidy (2) Crime/farm murders (2) [Any TWO of the above – accept other reasonable answers] (2 x 2)	(4)
	4.3.3	Lack of housing leads to growth of informal settlements (2) Increase in levels of crime (2) Unskilled people cannot find jobs (2) Traffic congestion (2) Pollution increases (2) Insufficient services to cope with a large population/examples (2) Waste management becomes uncontrollable (2) Hygiene is a problem in squatter settlements (2) Values/traditions/customs break down as people get caught up in city life (2) Overcrowding (2) Rapid spread of diseases such as TB (2) Lead to informal trading (2) Street children (2) [Any TWO of the above – Accept other reasonable answers] (2 x 2)	(4)

4.4

4.3.4	Attract commuters (2) Attract retired people (2) Create employment opportunities in rural areas (2) Provide education and training to farmers (2) Develop transport infrastructure to attract industrial and commercial activities (2) Organise festivals and sporting events so as to promote rural towns (2) Provide basic needs for rural people (2) Provide incentives to attract industries to rural areas (2) Improve service delivery (2) Improve working conditions and salaries (2) Improve access to capital for farmers (2) Plant drought-resistant crops – people not unemployed during droughts (2) Use scientific methods to monitor environmental conditions (2) Communal owernship of land to be changed to individual owership to improve production (2) By providing low-interest loans to potential farmers (2) By providing entertainment for the youth in rural areas (2) Land reform policies/example (2)	
	GEAR and RDP (2) [Any SIX of the above - Accept other reasonable answers] (6 x 2)	(12)
4.4.1	Informal settlements are located on the edges/borders/fringes of the built-up area (2) Located close to the rivers (2) [Any ONE of the above] (1 x 2)	(2)
4.4.2	Unemployment (2) Overcrowding (2) Child headed families (2) Spread of diseases (2) Social ills such as crime, drugs and poverty (2) Vulnerable in times of floods (2) Cannot provide help in times of emergency such as fire (2) Lack of service delivery (2) Lack of water and sanitation (2) Xenophobia (2) [Any TWO of the above – Accept other reasonable answers] (2 x 2)	(4)
4.4.3	Providing basic services such as water (2) Providing basic services such as sewage (2) Providing basic services such as electricity (2) Build houses and relocate people to these areas (2) Improve infrastructure (2) People living in informal settlements can be encouraged to build their own houses under supervision (2) People living in informal settlements should be given new plots of land (2)	

land (2)

Job creation/Encouraging enterprenuership (2)

[Any TWO of the above – Accept other reasonable answers] (2×2) (4)

	4.4.4	Informal settlements will dump waste into the river (2) Raw sewage enters the river (2) Inhabitants will use water from rivers to wash their clothes (2) The removal of vegetation to clear space for buildings in informal settlements will result in soil erosion (2)				
		Industrial wastes (2) [Any TWO of the above] (2 x 2)	(4)			
	4.4.5	Land redistribution (2) Land restitution (2) Land tenure (2)				
		[Any TWO of the above] (2 x 2)	(4)			
4.5	4.5.1	Gross Domestic Product (2) (1 x 2)	(2)			
	4.5.2	Tertiary sector (2) (1 x 2)	(2)			
	4.5.3	They are not registered business (2) They do not pay tax/do not contribute to the GDP (2) No formal records of income (2) [Any ONE of the above] (1 x 2)	(2)			
	4.5.4	Job losses cause workers to enter the informal sector (2) Climate hazards cause unskilled workers to work in informal sector (2) Immigrants are not able to find legal employment, therefore they enter the informal sector to survive (2) Businesses give contracts to the informal sector because they are avoiding regulations related to job security (2) Tax evasion (2) Little capital to invest in business (2) No barriers to enter (2) Competition keeps prices low (2) Location convenient to customers (2) Lack of knowledge and skill required in the formal sector (2) No or low fixed costs (2) [Any TWO of the above – Accept other reasonable answers] (2 x 2)				
	4.5.5	Traders considered illegal - harassment by local authorities (2) Hawkers do not have access to funding (2) Hawkers do not have access to proper trading venues/facilities (2) They are vulnerable to the weather (2) No proper access to sanitation facilities (2) Traders lack skills/knowledge required to enter formal sector (2) Traders borrow money from money lenders who charge high interest rates and they are always in debt (2) Local markets are small and high costs of transport of goods to large markets is not affordable to informal traders (2) No proper financial background/training (2) Reliance on locally avilable resources (2) Erratic income (2)				

4.6

	Targeted by gangs and robbers (2) No job security and benefits for workers (2) Xenophobic attacks (2) [Any SIX of the above - Accept other reasonable answers]	(6 x 2)	(12)
4.6.1	Water demand outstripping supply (2) Poor water quality (2) Leaking pipes (2) Theft of water by farmers (2) [Any TWO of the above]	(2 x 2)	(4)
4.6.2	Lesotho Highland Water Scheme (2) Tugela-Vaal Water Project (TUVA) (2)	(2 x 2)	(4)
4.6.3	Destroy the ecosystems (2) Silting reduces the carrying capacity of dams (2) Dams are shallow with a large surface area promoting evaporation (2) Hot, dry climate increases evaporation from dams (2) Not located in source areas with cloud cover or low evaporation rates (2) Changes in river flow characteristics (2) Relocation of settlements (2) High construction costs (2) Loss of farming/agricultural land (2)		
	[Any TWO of the above – Accept other reasonable answers	5] (2 x 2)	(4)

Water management strategies to supplement water supplies (2) 4.6.4 Repair leaking pipes (2) Use indigenous plants and trees that uses little water (2) Increase the price of water (2) Impose fines for illegal water taps (2) Clear alien vegetation because they use a large amount of water (2) Reduce contamination of water from mining, landfill, industries and sewage (2) Public education on water usage (2) Recycle water (2) Protecting wetlands (2) River health programmes (2) Use rain water tanks (2) Building dams to store and regulate the flow of water (2) Developing innovative technologies (2) Cloud seeding (2) Prioritising service delivery to rural areas and informal settlements (2) Water transfer schemes e.g TUVA (2) [Any THREE of the above - accept other reasonable answers](3 x2) (6) [100]

GRAND TOTAL: 300