



NATIONAL SENIOR CERTIFICATE EXAMINATION
NOVEMBER 2011

GEOGRAPHY: PAPER I

MARKING GUIDELINES

Time: 3 hours

300 marks

These marking guidelines were used as the basis for the official IEB marking session. They were prepared for use by examiners and sub-examiners, all of whom were required to attend a rigorous standardisation meeting to ensure that the guidelines were consistently and fairly interpreted and applied in the marking of candidates' scripts.

At standardisation meetings, decisions are taken regarding the allocation of marks in the interests of fairness to all candidates in the context of an entirely summative assessment.

The IEB will not enter into any discussions or correspondence about any marking guidelines. It is acknowledged that there may be different views about some matters of emphasis or detail in the guidelines, and different interpretations of the application thereof. Hence, the specific mark allocations have been omitted.

SECTION A GEOGRAPHICAL ISSUES – COMPULSORY QUESTION**CASE STUDY DURBAN****1.1 Durban's Location and Land-use**

- 1.1.1 Natural lagoon – forming its harbour /Durban Bay
 Fishing = 1 mark
 Indian Ocean = 1 mark Water – Mngeni River
 Suitable climate – warm subtropical climate
 [any 2 suitable factors]
 Fertile soil – good agriculture; physiography – hills/ sand dunes (4)
- 1.1.2 Estimated area of CBD region:
 Length = 3 cm – 3 km
 Breadth = 1 cm – 1 km
 Range 3,5 km² – 4,5 km²
 (no units given = 1 mark only)
 (1 mark can be awarded for correct calculation, in the case of an incorrect answer)
 Marking the concept of scale (2)
- 1.1.3
- Area between the CBD and the harbour./ Durban Bay (2)
 - Likely to be light industry and mixed land-use around the harbour region, due to port activities and necessary services required.
 - Circling around the CBD area. [Reference must be made to the map]
 No marks awarded if explanation is given for transition zone. (2)
- 1.1.4
- Crime
 - Decay and degeneration of buildings /vandalism, graffiti
 - Increase in slum areas; arrival of large numbers of immigrants
 - Decentralisation of commercial and retail activities towards the north and south and Umhlanga area.
 Points must be distinct
 [any 3 relevant suggestions]
- Other: Traffic congestion, poor governance, over crowding, pollution, high rentals, lack of schools/ facilities.
 NB. Reason must be given. (6)
- 1.1.5 Regeneration = renewal/gentrification/chelseafication
 Refurbishment/façadism/rejuvenation/upgrading/renovation (1) (2)
- 1.1.6 Construction of new apartments and accommodation for tourists
 Creating walkways
 Improving and creating green spaces/recreational areas – eg. uShaka Marine
 Conversion of old warehouses/buildings into shops, restaurants, local craft centres, etc. Visible policing/ tourism police
 Clean up projects

1 Mark = suggestion

1 Mark = reason

[any 3 appropriate examples stated]

Other: Event-led development eg. COP 17, Soccer World Cup /fixing up market areas. Art work/mosaic work. Upgrading public transport.

(6)

[24]

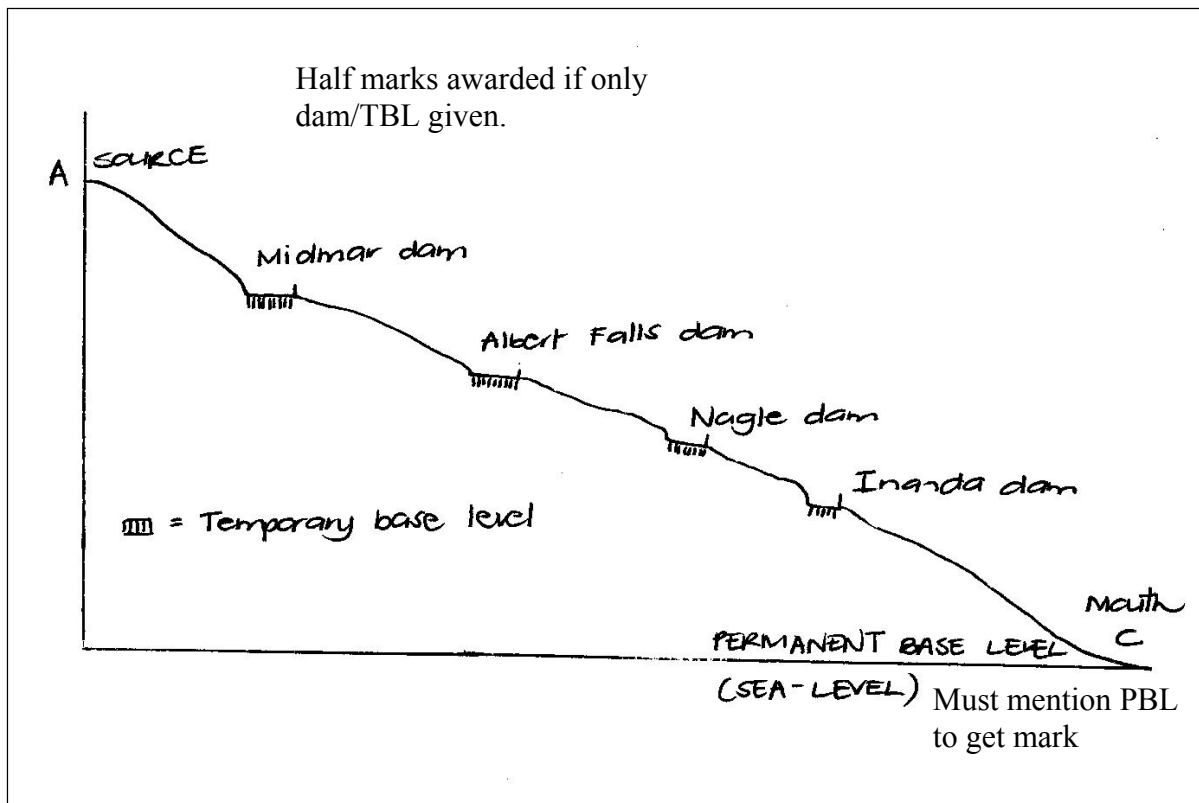
1.2 Durban's Climate

- 1.2.1 [Located on the east coast] – [warm Mozambique Ocean current.]
Warm moist air moves off ocean towards the interior – hence the humid sub-tropical climate. Warm Indian Ocean, sub-tropical latitude 29° within the sub-tropics (2)
- 1.2.2 (a) Evidence from synoptic map:
Warm temperatures
Presence of low pressure over the interior and chance of rain
Mid-latitude cyclones are not visible, moved southwards – summer trend
Thunderstorms; visible/line thunderstorms
Low pressure through; cloud cover over interior
High humidity in Durban (4)
[2 points given]
- (b) Cloud cover, unstable conditions, rain / thunderstorms
[any 1 suitable point, must relate to synoptic map] (2)
- 1.2.3 Overcast conditions (1), with a temperature of 24 °C and a dew point of 17 °C (1). Easterly wind (1) blowing at 10 knots (1).
Air pressure = 1021, high humidity, high chance of rain. (4)
- 1.2.4 (a) Low pressure trough
Low pressure (); moisture front/line; squall line; (2)
- (b) Unstable conditions, cloudy overcast conditions, high chances of rain – due to moisture front/squall line which has developed
Line thunderstorms; rain (2)
- 1.2.5 Line on a map representative of air temperature in (°C). /Line connecting points of equal temperature on a map. (2)
- 1.2.6 (a) X – less than 23 °C (1 mark) – correct answer = 22° C
[If no given = 1 mark]
- (b) Y – 29 °C
- (c) Z – 23 °C (6)
- 1.2.7 X and Z – are towards the outskirts within the residential suburbs of Berea and Morningside, hence there are fewer people, less heat producing activities and a greater amount of vegetation to assist in the heat and carbon dioxide absorption. Z is also along the beach front and close to sporting precincts/ greenbelt areas and may be subjected to cooler air coming off the ocean.
Y is located within the CBD area of Durban. This area is known to be a few degrees warmer due to greater levels of congestion and heat producing activities. Glass, tarmac and metal building materials also assist in retaining the heat in this region.
[2 points explained] (4)

- 1.2.8 Emission control policies/legislation for industries
 Planting more trees/creation of greenbelts/ roof top gardens
 Use of alternative energy resources: solar/wind
 [any 2 relevant and distinct points] NB
 Point = 1 mark
 Explain = 1 mark
 Other: Transport e.g. park + ride; BRT; congestion charge green/ sustainable architecture; bodies of water e.g. fountain (4)

1.3 **Mngeni River Catchment Area**

- 1.3.1 Longitudinal Profile of the Mngeni River from point A – C.
- Sketch from A – C = (1 mark) – shape of profile
 - Indication of temporary base levels: Midmar Dam, Albert Falls Dam, Nagle Dam, Inanda Dam (1 mark each) = (4)
 - Indication of permanent base level: Indian Ocean (1 mark) (6)



- 1.3.2 Lions
 Karkloof
 iMpolweni
 uMsunduze
 uMgeku
 [any 1] (2)

- 1.3.3 A – B = 4 (2)

- 1.3.4 (a) NB must link to river characteristics.
- Impact of the dams upstream (Inanda, Albert Falls, Midmar)
 - Removal of riparian vegetation – river likely to receive more runoff
 - Possible canalisation along its course (4)
[any 2 relevant points described and explained]
- Other: flooding – widen/deeper channel
Farming/ built up areas
Flat gradient – meandering channel
- (b)
- Large urban area – Durban
 - Industrial effluent likely to enter water
 - Settlements along river
 - Pollution from storm water drains
[any 2 relevant points described and explained]
- Other: fertilizers/pesticides
over development
sewage coming from settlement areas (4)
[50]

1.4 Economic activities, transport and trade

1.4.1 Match the column

- 1 – G
- 2 – F
- 3 – A
- 4 – H
- 5 – B (10)

1.4.2 Essay – impact of the Dube TradePort

(16)

	EXCELLENT	GOOD	SATISFACTORY	POOR
Criteria	4 Well explained, accurate and insightful response.	3 Has explained, but response lacks sufficient insight and depth.	2 Attempts to answer the question. Points very superficial.	1 Poorly explained; little attempt to answer the question.
Structure and use of sub-headings: <i>(max of 2 marks can be awarded for structure)</i> <ul style="list-style-type: none"> • Use of sub-headings • Use of paragraphs • 2 if bullets used 	4 Introduction shows understanding of Dube TradePort and sub-headings are effectively used.	3 A few flaws, but generally a structure and use of most sub-headings	2 Some attempt to structure report. Sub-headings not clearly used.	1 No introduction or use of sub-headings.
Contents:				
Economy of the Area: <ul style="list-style-type: none"> • Investment will lead to further investment opportunities – lead to further development of area. • Job creation. • Due to opportunity and services, people will move to the area making way for further economic opportunities – retail and commercial. <i>[2 points relating to the economy must be discussed]</i>	4 TWO or more suitable and relevant economic impacts discussed and explained.	3 TWO possible economic impacts mentioned, but with little explanation.	2 Only ONE impact discussed.	1 Shows little understanding of the local economy of the area.
Local Environment: <ul style="list-style-type: none"> • Increased noise pollution – likely to affect local residential areas. • Increased air pollution from aviation and industrial activities in area. • Destruction of land – trees, natural vegetation removed – impact on local ecosystems. • Impact on colony of Barn Swallows – impact on safety of planes. <i>[2 points relating to the local environment must be discussed]</i>	4 TWO or more environmental impacts are explained and linked to the TradePort in the Durban area.	3 TWO environmental impacts described – but little reference made to the new TradePort.	2 Only ONE environmental impact given.	1 Shows little understanding of local environmental impact.
Transport and infrastructure: <ul style="list-style-type: none"> • N2 from Durban harbour up the north coast is likely to become a lot busier – investigate proper road maintenance/widening of road to cope with an increase in traffic. • N3 – main freight corridor between Durban and Jhb – this road is also likely to become busier. <i>[2 points relating to the transport infrastructure must be discussed]</i>	4 TWO or more impacts on the transport infrastructure are explained and linked to the TradePort in the Durban area.	3 TWO impacts mentioned, but little explanation provided.	2 Only ONE impact given.	1 Shows little understanding of impact and consequences on the transport network.

Max 6 marks/ sub-topic.

[26]

100 marks

SECTION B**QUESTION 2 General circulation, synoptic weather map analysis, fluvial processes and mass wasting****2.1 General circulation**

- 2.1.1 D (2)
- 2.1.2 C (2)
- 2.1.3 B (2)
- 2.1.4 B (2)
- 2.1.5 A (2)
- 2.1.6 D (2)
- 2.1.7 (a) Tropical storm (could accept cyclone)/tropical cyclone, Low Pressure Cell (2)
- (b) This system could move: towards South Africa/Mozambique/
Across Madagascar/ Westwards/ SW/ South
Move down the east coast of Madagascar
Any 1 movement (2)
- (c) Could bring torrential rain to the east coast
Accompanied by very strong winds between gale force and hurricane force
Thunderstorms and associated violent weather/ lightning/ flooding (4)
- [20]**

2.2 South African synoptic weather map

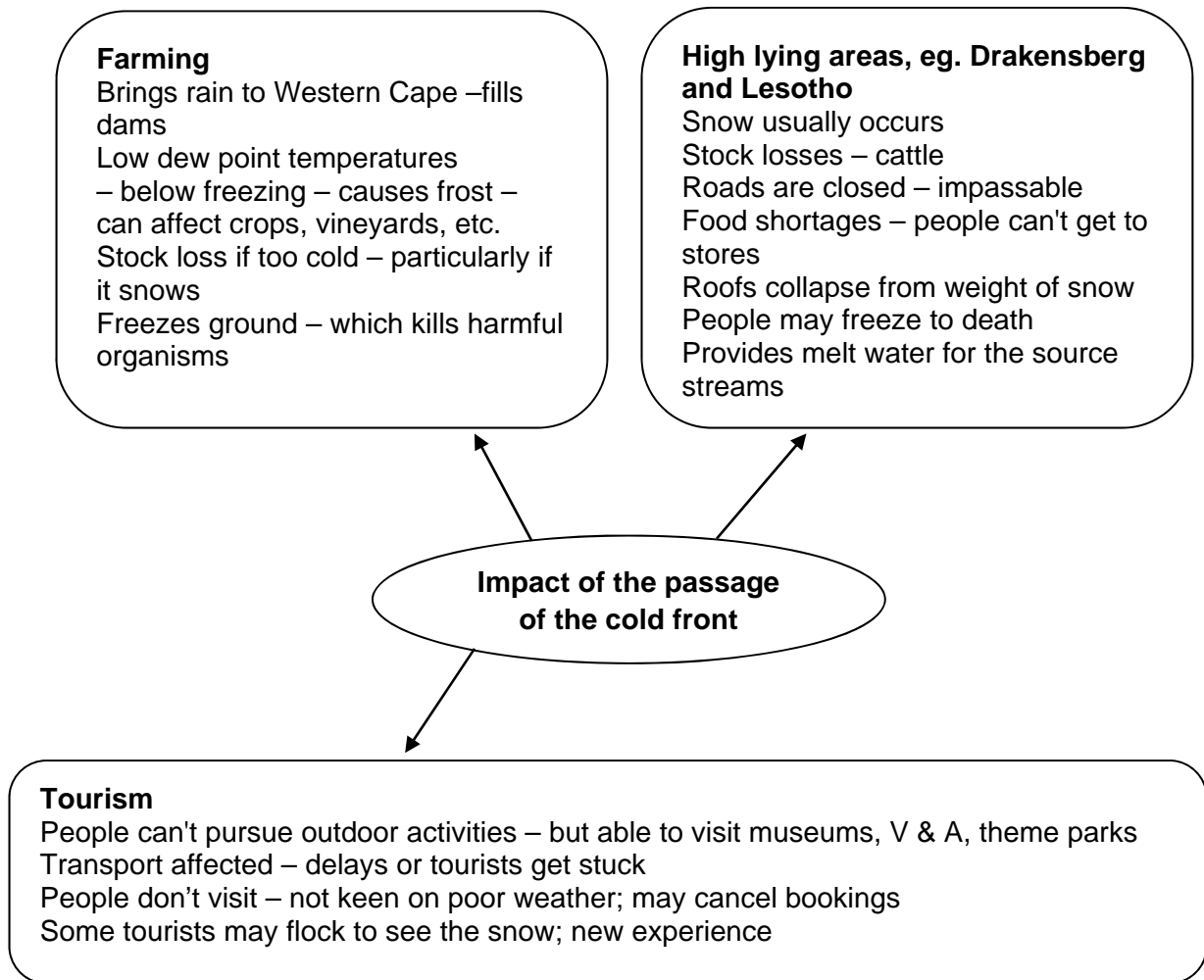
- 2.2.1 Winter synoptic situation
- Position of the mid-latitude cyclone close to the SA coastline
 - Passage of the cold front across the interior of the country/ Berg winds
 - Raining in the Western Cape/ Clear skies in interior
 - Very low, sub-zero dew point temperatures – frost
- Any 2 pieces of evidence. Position of South Indian High – far North (4)
- 2.2.2 (a) Mid-latitude cyclone (frontal depression, extra-tropical cyclone), temperate cyclones, temperate depressions. (2)
- (b) Cold front (2)
- (c) South Atlantic High pressure cell/South Atlantic anticyclone. (2)
- 2.2.3 Winds are strong along this line as it shows a steep pressure gradient towards the mid-latitude cyclone (A). The pressure difference is 38 hPa. Pressure is high in the South Atlantic HP cell (1036 hPa) and very low at the centre of the mid-latitude cyclone (998). Off-shore of Cape Town wind speed of 35 knots are indicated. (4)
- 2.2.4 The high pressure cell is beginning to ridge in behind the cyclone. This will force the weather to clear from the West. In doing so the pressure gradient is steepened and winds will become gale force strength. At present the Cape is overcast and the cold front is moving across the continent. The ridging high

will cause clear sky conditions and very low dew point conditions. On shore SE winds. Could bring rain (4)

2.2.5 a. Winds blowing off the escarpment towards the coast. NW winds Very high temperatures; low dewpoint temperatures (4)

b. Berg winds are hot, dry and gusty winds, usually blowing at 45 knots or more. They cause fires to start as the air is very dry. Because winds are strong and gusty they cause the fires to spread very rapidly and uncontrollably. Dry winter vegetation. (4)

2.2.6 Mind map to show impact of the passage of a cold front



Marks:

- Farming (4)
- Weather conditions in high lying areas such as the Drakensberg and Lesotho (4)
- Tourism (4)

Structure:

An evaluation does include some positive and negative aspects. For each aspect one positive and one negative impact should be given. A mind map (spider diagram) should be used. (16)

12 for content

4 for structure (2 for heading) (2 for mind map format)

[42]

2.4.2 2 marks awarded for opinion. (2)

- Road is directly below sandstone cliffs – making it vulnerable to regular rockfalls.
- Perhaps the road should have been built slightly lower down into the granite base. Granite is a harder rock, therefore more stable, rockfalls may be less frequent.
- Yes – Granite hard base – sandstone softer easier to excavate (4)

Marks awarded for 2 well justified points which relate to the photo and position of Chapman's Peak Drive.

2.4.3 (a) Overhead tunnel, catch nets, stone gabions, cementing the slopes (2 relevant measures which must relate to photograph) (4)

(b) Tunnel effective – although expensive and difficult to build – only in sections – not protecting the whole road.

Catch nets – effective to a point – although not sure how sturdy and resistant they are to very large boulders? Also catch nets only positioned in certain regions. (4)

Stone gabions, effective retaining walls and providing stability in steep areas.

[One strategy evaluated, 2 points well explained]

[22]

100 marks

SECTION B NATURAL ENVIRONMENTS**QUESTION 3 Climate and Weather, Fluvial Processes and Landforms****3.1 Global Circulation**

3.1.1 A = 40 – 60°N/S
 B = 20 – 30°N/S
 C = Equator/0° (6)

3.1.2 A = LP – due to uplift of air up the polar front
 B = HP – subsiding air
 C – LP – rising of air due to convergence and warm temperatures (6)

3.1.3 Warm, moist air from the tropical easterly winds converges at the equator (ITCZ). This convergence of air causes air to rise and condense forming large clouds and a strong likelihood of rain. (4)

3.1.4 X = polar easterlies easterlies only
 Y = Westerlies
 Z = tropical easterlies/trade winds
 SE/NE or easterlies only (6)

3.1.5 Fronts develop at regions where two different air masses of different temperatures meet, ie. cold and warm air parcels.
 This polar front has developed at the point where the cold polar air has met with the warmer sub-tropical air. (4)

3.1.6

- Change in sea-surface temperatures – may interfere with surface pressure and rates of evaporation and hence affect global wind patterns.
- Shifts in ocean currents linked to temperature changes will also alter surface pressure and affect wind patterns and air circulation.
- Albedo effect – increasing melting of polar ice, will increase temperatures of polar areas as there will be less reflection – this will alter pressure and hence winds.
 Must have at least one fact relating directly to global circulation
 [Any 3 relevant points explained]
 Other: Increased incidence of tropical cyclones/severity of tropical cyclones
 Greater incidence of extreme weather such as droughts and floods
 Flooding as a result of more intense rainfall. (6)

3.2 Regional Climatic Hazards

3.2.1 South-easterly wind/South easter/ Cape Doctor/ geostrophic wind (2)

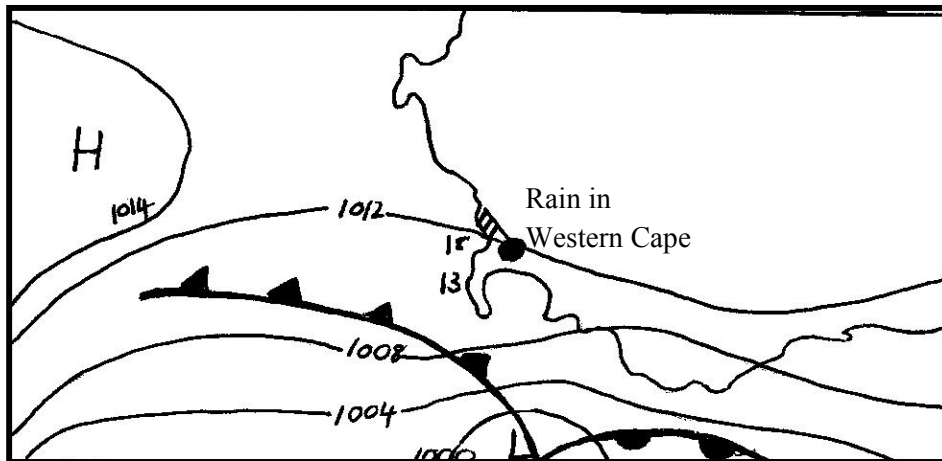
3.2.2 Blowing in an anti-clockwise direction – associated with the south-Atlantic HP system – hence blowing from a SE direction. Or / clockwise into the LP over the interior (2)

3.2.3 This wind blows over the Cape Town region and interior, clearing the air of pollutants and dust and blowing these particles towards the coast. Effectively this wind cleans the air over the city. Cools temperatures/ Brings rain (2)

3.2.4 Sketch synoptic map of the Cape Peninsula area during the winter months: (6)

Marks allocated for:

- (2) sketch
- (2) presence of Mid-latitude cyclone/cold front – this weather system has moved northwards.
- (2) shifting of pressure cells/weather station information



HP although too close to CT, realising a HP develops over interior

3.2.5 ITCZ has shifted northwards during SA's winter months, resulting in the northward shift of the mid-latitude cyclones – hence the frontal systems now affect the SW Cape. (4)

3.3 Tropical Cyclone Yasi

3.3.1 Mind map (16)
[64]

When to expect Hurricanes in Australia?
Hurricanes occur towards the end of summer, early autumn, when oceans have had sufficient time to heat up. Expect them from February – April along the Queensland Coastline.
2 points = 4 marks

Why Queensland, Australia is prone to cyclones along their coastline?
The Queensland coastline is located between 15 – 20 degrees south tropics of the equator (coriolis force present) and the coastline is along the eastern shoreline (warmer ocean currents – Coral Sea).
Move from E to W
No protective barrier
2 points = 4 marks

What to do in the event of a tropical cyclone?

- Stay tuned to radio/TV for updates and warnings.
- Ensure you are familiar with the evacuation plan/route.
- Evacuate the area in advance to avoid massive traffic delays and jams.
- Ensure you have an emergency supply of food and water.
- Build flood barriers
- Board up windows

2 points = 4 marks

Expected weather conditions during a tropical cyclone

- Torrential rain
- Storm surges – rise in sea levels
- Gale force winds – destructive winds

2 points = 4 marks

4 marks if not done as a mind map
Must cover all 4 points
can't get more than 6 marks for a point – 3 facts

3.4 **Fluvial Geomorphology Terminology**

Multiple Choice

- 1 – B
- 2 – C
- 3 – A
- 4 – A
- 5 – B

(10)

3.5 **The Upper Senqu River, Lesotho**

- 3.5.1 A = Flood plain/local flood plain/river bank/terrace
 B = Stream braiding/sandbars in the river

(4)

3.5.2 • **Corrosion/attrition**

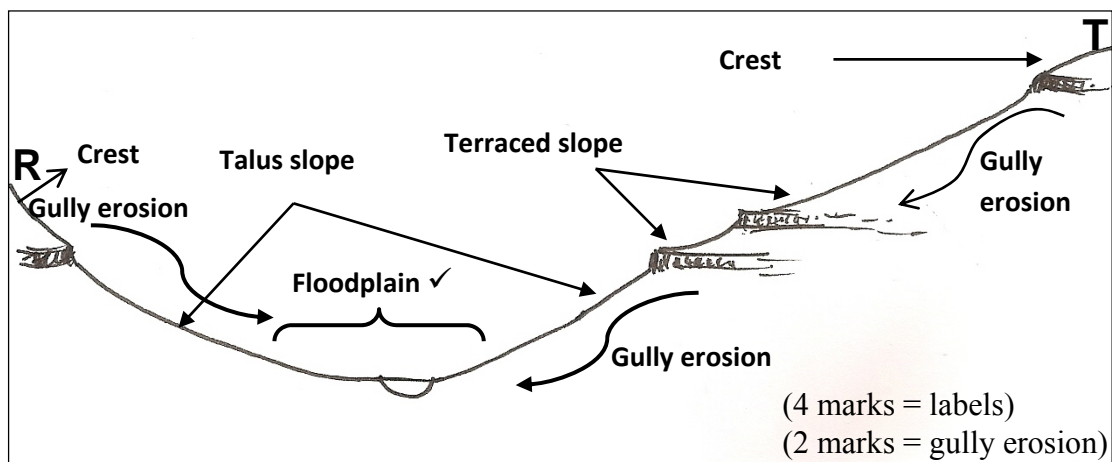
- **Abrasion** – wearing away of rock by the running water transporting its river load; fragments or boulders and pebbles are dragged along the river bed, slowly wearing away other material
- **Hydraulic action** because of the sheer power of water flow – causes eroding of the river channel –widening and deepening the channel
- **Vertical and/ lateral erosion** – the downward cutting and widening of a river channel over time

[Processes must be adequately described] process description of process
 Headward erosion

(6)

- 3.5.3 Cold air descends down the slope of the valley at night (Katabatic airflow) and collects at the bottom – making the region more vulnerable to frost. (4)

- 3.5.4 A cross-section of the Upper Senqu River, from R to T



(4 marks = labels)
 (2 marks = gully erosion)

(6)

- 3.5.5 • Frost in winter on the valley floor
 • Snow in winter – temperatures below freezing; crop and stock losses; areas impassable
 • Wind chill factor can be bitterly cold – also winds strong and can damage crops
 • Flash floods both in the valley and down slope – runoff in sheets
 • Rock falls, mudslides in spring with the melting of snow

- Relatively in accessible – no roads shown & hilly
 - Hilly – little flat land available for cultivation
 - Little infiltration due to rapid run – off (hilly)
- [any 3 appropriate hazards]

(6)
[36]

100 marks

SECTION C

QUESTION 4 **Urban settlement terminology, housing in settlements, agriculture and trade and water management**

4.1 **Terminology**

- | | | | |
|----|---|--|------|
| 1 | G | | |
| 2 | L | | |
| 3 | J | | |
| 4 | A | | |
| 5 | M | | |
| 6 | D | | |
| 7 | B | | |
| 8 | K | | |
| 9 | H | | |
| 10 | F | | (20) |

4.2 **Newly planned farm villages**

- 4.2.1 (a) Crossways – a lifestyle farm village, providing residents with a rural, agricultural environment. Residential; farming; recreation; dairy farming; counter urbanisation (2)
- (b) Mziki – a rural development providing housing and employment opportunities. Residential; farming; permaculture; sustainable dev. (1) (2)
- 4.2.2 (a) Crossways – commercial farming and a dairy farm. Can describe actual activities, e.g. milking (2)
- (b) Subsistence farming and permaculture. Can describe actual activities. (2)
- 4.2.3 Counterurbanisation is a popular trend worldwide because:
- It enables people to move away from the rat race and fast pace in cities.
 - People can live peacefully in a secure environment away from the stress of city life.
 - The air is clean and the rural environment offers space.
 - Traffic flow is less.
 - Increased personal mobility
 - Internet makes it possible.
- Any 3 reasons or other suitable explanations (6)

4.2.4 Strategies that make Mziki Agri-village sustainable

- Sustainable farming – larger plots of land; sustainable methods of farming, eg. Permaculture. Subsistence.
 - Skills training and support that is ongoing. Equipment is provided.
 - Small industry such as brick-making is supported as well as the local craft industry. Using the resources of the land wisely.
 - The village will also have facilities that are important for the social and cultural aspects of the inhabitants' lives such as clinics, churches and schools.
 - School – improve levels of education – skills.
- Any 3 strategies

(6)
[20]

4.3 Urban land-use

4.3.1 Urban sprawl is the uncontrolled expansion and growth of urban areas into the rural-urban fringe (and beyond). Unplanned, uncontrolled spread of urban development into areas adjoining the edge of a city. (2)

4.3.2 Relocation of industry

- Lack of space in the inner city
 - Many freeways and ring roads are built on the outskirts of a city, so these areas are more accessible for industrial development.
 - The inner city areas and roads are highly built up and congested.
 - Land is also very expensive in the inner city, so it is cheaper to build on the outskirts where land is cheaper.
 - Can rebuild with latest technology.
 - Laws re air quality.
 - Encroachment by other land uses.
 - Closer to market
 - Access to labour.
- Any 2 reasons

(4)

4.3.3

Type of housing	Photograph 6	Photograph 7
Where this type of housing development occurs in an urban area	Low cost housing schemes are usually found on the outskirts of the urban area, in the rural-urban fringe; open land close to CBD. <p style="text-align: right;">(2)</p>	Loft apartment developments are usually found in the inner city; transition zone or areas of light industry – warehouses and factory areas. <p style="text-align: right;">(2)</p>
Reasons why these housing developments have been constructed	<ol style="list-style-type: none"> 1. Redress the lack of housing in cities 2. Many homeless in cities – rural-urban migration – need to provide accommodation. Accommodation for poor Redress for apartheid. Any suitable reason <p style="text-align: right;">(4)</p>	<ol style="list-style-type: none"> 1. People want to be closer to the city – where they work. 2. Changing land-use zones and invasion and succession takes place. 3. Urban renewal processes. Densification encourage people to return to city <p>Any suitable reason <p style="text-align: right;">(4)</p></p>

[18]

4.4 Agriculture and trade in South Africa

4.4.1 The area planted for maize has declined [from about 4 000 ha to 3 500 ha.] (2)

4.4.2 The maize production has increased [from about 9 000 tons to 1 400 tons.] (2)

4.4.3 Contributing factors (generally)
 Good rainfall (associated with the La Nina – cooler, wet weather)/no drought
 Use of genetically modified seeds (GM) which increases yield
 Mechanisation / better farming methods
 Increased demand
 Any 1 factor (2)

4.4.4 **Factors affecting maize production:**

- GM seeds have given South Africa's maize farmers their biggest harvest since 1982
- Favourable weather, with a La Nina, bringing cool, wet weather
- Increase in area planted in 2010/ 2011

Any 2 factors (4)

4.4.5 **TRADE AND TRANSPORT**

- Limited overseas market – SA uses white maize and GM seeds – therefore not really competitive
- Road hugely costly and rail not efficient and too costly. Repairs not effected to rail lines.
- Harbour costs great making it expensive to export

- The global market has a huge demand for maize due to drought and crop failure in Northern Hemisphere, eg. Russia. So if road, rail and harbor costs are high and the transport systems ineffective, SA losing out on a competitive market
 - Increase in petrol prices
 - Rand value – fluctuations over time; strong of moment
- (6)

4.4.6 Solutions

- Look at biofuels – produce biodiesel from excess maize produced
 - As maize is a staple food – allow more onto local market the cheaper prices
 - Use for feedstock – chicken producers can compete with imports because grain is at low prices
 - Low maize prices can benefit the dairy industry –another source of protein for cattle.
 - Look for markets especially in Africa. With food insecurity, the countries cannot afford to be fussy. They may not like GM foods, but prefer the white maize variety
 - Create a value-added industry and branding locally – could even sell as SAPap
 - Subsidise transport
 - Research and development, etc.
- Any 2 solutions
- (4)
[20]

4.5 Water management – Are flooding disasters human related or natural?

- 4.5.1 A flash flood is a sudden surge of water flow in a river over a very short period of time. The river subsides very quickly as well. These are sudden, short-lived floods often experiencing a large amount of rainfall over a short period of time. Time factor no for full marks.
- (2)
- 4.5.2 Main functions of dams.
Water storage for domestic and drought purposes
Regulate river flow – floods should not be severe
Act as a silt/sediment trap (indirect function)
Can be used to generate hydroelectric power
Irrigation/ recreation
Construction of diversion weirs or channels to help divert flood waters [water transfer schemes]
Any 2 functions
- (4)
- 4.5.3 Write an essay of 1 – 1 ½ pages to examine whether the recent flooding disasters are human related or natural.
- (a) **Examine** the 2011 flooding along the lower Orange River from the following perspectives:
- the farmers
 - the Department of Water and Environmental Affairs

Introduction (given in extract)

Farmers along the lower Orange River feel the recent floods in their region, which they see as human related, could have been prevented by better management of the release of water from the Vaal, Van der Kloof and Gariep dams.
 A spokesperson for the Department of Water and Environmental Affairs said dams were built to service communities and not to save certain areas from floods.

The viewpoint of the farmers

Farmers lower down did not experience heavy rainfall as was experienced in the catchment areas of the Vaal and Orange River respectively.

Water was released from the various dams as they reached capacity, i.e. 100% full.

Warnings were issued.

But, too much water was released at once.

All the users downstream have been affected, but most severely affected are the farmers below the confluence of the Orange and Vaal Rivers – combined impact of flood waters from the Vaal, Gariep and Van der Kloof Dams.

Farmers did not have time to put emergency dykes in place to hold back flood waters.

Flood waters have affected the farmlands – some are water logged so picking cannot happen; some have mud/silt deposits and have dried out.

The viewpoint of the Department of Water and Environmental Affairs

Water Affairs state:

Purpose of dams is to service communities and not to save certain areas from floods. They are planned for flow regulation, this allows time to issue warnings to local people downstream from the dam.

They blamed the current Nina weather pattern which has caused global widespread flooding across the Southern Hemisphere, eg. in Australia and Brazil (wetter monsoon season than usual). They also only release water when dams are 100% full.

(b) Suggest measures which could be implemented to lessen the flood damage.

The measures should also address dam management – release water at the beginning of the rainy season; not when dams are 100% full as this defeats the original purpose of building dams. These are measures are put in place to reduce the frequency and degree of flooding. Some measures may include:

- construction of more weirs across rivers.
- construction of more dams.
- vegetation control on riparian banks which helps slow down the rate of runoff.
- construction of diversion weirs or channels to help divert flood waters.
- construction of higher artificial levees/dykes in urban areas to withstand the ressure and volume of the water.
- regulation of building within the 25 – 50 year flood level marks on flood lains.
- preventing settlement in the areas below the flood lines.

Marks:

- | | | |
|---|---|---|
| <ul style="list-style-type: none"> • Farmers' viewpoint • Water Affairs' viewpoint • Measures to reduce impact | } | Content = 12
Max 6 marks for any 1 sub-heading |
|---|---|---|

Structure:

An examination is a critical investigation which does include some positive and negative aspects. Adherence to Sub-headings/ Paragraph without sub-headings = 3 out of 4.

(4)

(16)

[22]

Question 4.5.3

Rubric for essay

	EXCELLENT	GOOD	SATISFACTORY	POOR
Criteria	4 <i>Well explained, accurate and insightful response.</i>	3 <i>Has explained, but response lacks sufficient insight and depth.</i>	2 <i>Attempts to answer the question. Points very superficial.</i>	1 <i>Poorly explained little attempt to answer the question.</i>
Structure and use of sub-headings: <i>(max of 4 marks can be awarded for structure – note question is only out of 16)</i>	4 Introduction shows understanding of recent flooding and sub-headings are effectively used.	3 A few flaws, but generally a structure and use of most Sub-headings	2 Some attempt to structure report. Sub-headings not clearly used.	1 No introduction or use of sub-headings
Contents:				
a. The viewpoint of the farmers Farmers lower down did not experience heavy rainfall as was experienced in the catchment areas of the Vaal and Orange River respectively. Water was released from the various dams as they reached capacity, i.e. 100% full. Warnings were issued. But, too much water was released as once. All the users downstream have been affected, but most severely affected are the farmers below the confluence of the Orange and Vaal Rivers – combined impact of flood waters from the Vaal, Gariiep and Vd Kloof Dams. Farmers did not have time to put emergency dykes in place to hold back flood waters. Flood waters have affected the farmlands – some are water logged so picking cannot happen; some have mud/silt deposits and have dried out. <i>(max of 4 marks – i.e. 2 points well explained)</i>	4 TWO or more ideas are discussed and examined. Careful reference to Figure 10 and the extract has been made.	3 TWO ideas mentioned but with little explanation and development of argument.	2 Only ONE idea is addressed. Little reference made to Figure 10 and the extract.	1 Shows little understanding of the viewpoint of the farmers.
a. The viewpoint of the Department of Water and Environmental Affairs Purpose of dams is to service communities and not to save certain areas from floods. They are planned for flow regulation, this allows time to issue warnings to local people downstream from the dam. They blamed the current la Nina weather pattern which has caused global widespread flooding across the SH, e.g. in Australia and Brazil (wetter monsoon season than usual). They also only release water when dams are 100% full. <i>(max of 4 marks – i.e. 2 points well explained)</i>	4 TWO or more ideas are discussed and examined. Careful reference to Figure 10 and the extract has been made.	3 TWO ideas mentioned but with little explanation and development of argument.	2 Only ONE idea is addressed. Little reference made to Figure 10 and the extract.	1 Shows little understanding of the viewpoint of the Department of Water Affairs
b. Suggest measures which could be implemented to lessen the flood damage in the future. The measures should also address dam management – release water at the beginning of the rainy season; not when dams are 100% full as this defeats the original purpose of building dams. These are measures put in place to reduce the frequency and degree of flooding. Some measures may include: <ul style="list-style-type: none"> • construction of more weirs across rivers. • construction of more dams • vegetation control on riparian banks which helps slow down the rate of runoff. • construction of diversion weirs or channels to help divert flood waters. • construction of higher artificial levees/ dykes in urban areas to withstand the pressure and volume of the water. • regulation of building within the 25 – 50 year flood level marks on flood plains. • preventing settlement in the areas below the flood lines. <i>(max of 4 marks – i.e. 2 points well explained)</i>	4 TWO or more measures are suggested and fully explained. Measures address the issue: were the floods human related or natural?	3 TWO measures suggested, but with little explanation why these would lessen flood damage.	2 Only ONE measure suggested and discussed.	1 Shows little understanding of the concept/process of sustainable measures to lessen flood damage. No mention of examples.

SECTION C HUMAN ENVIRONMENTS**QUESTION 5 People and places: rural and urban settlement; People and their needs****5.1 Rural Settlement Terminology**

Match the column

- 1 – J
- 2 – G
- 3 – I
- 4 – K
- 5 – H
- 6 – A/F
- 7 – B
- 8 – M
- 9 – D
- 10 – E

(20)

- 5.2 5.2.1 (a) Land reform: Involves the changes of laws and or customs regarding the ownership of land to make it fairer. In the case of South Africa – addressing the inequalities regarding land ownership as a result of apartheid laws. (2)
- (b) Land restitution: Relates the return of land to the rightful owners. I.e. people who lost their land under apartheid rule may reclaim their original property. (2)
- 5.2.2 Commercial – the article mentions (2)
- *'the sugar produced – national supply for milling'*
 - *SASA speaks of commercial sugarcane farms*
- One gets the impression from the article that large scale sugar farms contributing a large amount to the SA economy are being referred to. Mechanisation/ farm for profit. (2)
- 5.2.3 Sugar cane farms are largely located along the KwaZulu-Natal coastal plain or Mpumalanga (2)
- Due to warm moist climate suited to growing this crop. (if only high rainfall then (1)) (2)
- 5.2.4 Job opportunities in farming and sugar related industry
GDP contribution/ exporting sugar & income from that (4)
[any 2 relevant points discussed and linked to SA economy]
Other: secondary industries
- 5.2.5
- Landownership in SA is not equal due to previous apartheid laws where black citizens were unable to own land/land was taken away from these people unfairly.

- This process needs to be redressed – according to the article 30% of commercial sugar cane farms need to be transferred to black owners by 2014.
 - This process will also hopefully allow for the transfer of skills and knowledge which is critical for the future of South Africa's agricultural sector. (6)
- [any 3 relevant points discussed]
- Other: reduce poverty/ more equal distribution of wealth. [42]

5.3 Contrasting landuse in Johannesburg

- 5.3.1 CBD – Business Centre = (1) (2)
tall buildings, very nucleated/ accessible (2)
- 5.3.2 (a) Decentralisation – this refers to the process where many commercial and retail activities left the former Johannesburg CBD due to various negative factors and moved into Sandton central area – now the Sandton CBD. (if: people and not businesses only) (1) (2)
- (b) Escalating crime rates, congestion and lack of parking, decay and deterioration of buildings and infrastructure. [any 2 points described] (4)
- Other:
- 5.3.3
- Close proximity to good transport links – M1 and N3.
 - Labour sources – nearby Alexandra and Sandton.
 - Close to other commercial and retail services in Sandton central. (4)
- [any 2 relevant points – must relate to the map]
- Other:
- 5.3.4
- Lack of formal and adequate sewage and sanitary infrastructure (evidence of porter loos)
 - Inadequate housing to meet community needs – presence of shacks/shanty houses
 - Lack of proper municipal services, i.e. refuse removal – evidence of dumping in photo
 - Inadequate road/formal pavement structure (4)
- [any 2 points suggested – pollution]
- 5.3.5 Essay question: comparison between Sandton and Alexandra (16)
[34]

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Structure and use of sub-headings: <i>(max of 4 marks can be awarded for structure – Question is only out of 16)</i>	4 Introduction shows understanding of urban areas and sub-headings are effectively used.	3 A few flaws, but generally a structure and use of most sub-headings	2 Some attempt to structure report. Sub-headings not clearly used.	1 No introduction or use of sub-headings
Contents:				
Landuse : <ul style="list-style-type: none"> Sandton – largely commercial, retail and high income residential Alex – largely low income residential – township region, some economic – mainly informal trade/sector <i>(max of 4 marks – i.e. 2 points well explained)</i>	4 TWO or more comparisons discussed and explained. Careful reference to photographs has been made.	3 TWO comparisons made, but with little explanation and reference to photos.	2 Only ONE comparison made. Little reference made to photographs.	1 Shows little understanding of the concepts of landuse.
Infrastructure: <ul style="list-style-type: none"> Sandton – good roads and pavement infrastructure, well-maintained green zones, street lights, modern office blocks, clean environment. Alex – poor infrastructure, limited formal roads and pavement network. Few green zones – evidence of trees being removed or chopped down – fuelwood. <i>(max of 4 marks – i.e. 2 points well explained)</i>	4 TWO or more comparisons discussed and explained. Careful reference to photographs has been made.	3 TWO comparisons made, but with little explanation and reference to photos.	2 Only ONE comparison made. Little reference made to photographs.	1 Shows little understanding of the concepts of infrastructure.
Economic opportunities: <ul style="list-style-type: none"> Sandton-CBD region, where the head offices of many local and international companies have their premises. Local and foreign investment apparent. Sandton – there are many job opportunities for highly skilled and educated people within the service and retail sectors. Alex – very little investment apparent – both locally and internationally. Economic opportunities are few – besides informal business and local entrepreneurs. Could be plenty of opportunities for people with initiative and a drive for change. Most residents of Alex work outside of Alex within the surrounding areas, e.g. Sandton and Wynberg – refer to map. <i>(max of 4 marks – i.e. 2 points well explained)</i>	4 TWO or more comparisons discussed and explained. Careful reference to photographs has been made.	3 TWO comparisons made, but with little explanation and reference to photos.	2 Only ONE comparison made. Little reference made to photographs.	1 Shows little understanding of investment economic activities.
Sustainable Strategies: <ul style="list-style-type: none"> Huge amounts of money have been spent and invested in the Sandton CBD linked to renewal and improvement: Gautrain Station Road infrastructure upgrade Greening and cleaning projects Upgrade of Sandton City Improvement of safety and security Solar powered traffic lights Alex requires many sustainable renewal strategies: refuse removal, formalised sewage system, housing projects, recreational areas/green spaces, opportunities for small business, entrepreneurs <i>(max of 4 marks – i.e. 2 points well explained)</i>	4 TWO or more comparisons discussed and explained. Careful reference to photographs has been made. Examples have also been included.	3 TWO comparisons made, but with little explanation and examples.	2 Only ONE comparison made. No reference to examples.	1 Shows little understanding of the concept/process of sustainable strategies. No mention of examples.

5.4 The impact of HIV/AIDS on settlements

5.4.1

- AIDS related deaths have largely increased from 1991 – 2006. A slight drop off is predicted in more recent years. (4)

5.4.2 (a) Likely to decrease according to the trend predicted in 2011. (2)

- (b) Better education and prevention strategies. (4)
- More ARV treatment available.
- A smaller population due to large numbers of previous deaths [any 2 relevant points]

Other:

5.4.3 Mindmap – impact of HIV/AIDS on rural settlements. (14)

[24]

- **Economy of region:**
- Fewer able workers/labour on farms
- Less productivity due to number of sick days taken/people attending and organising funerals
- Incomes reduced
- Rural services centres cannot continue to make a profit and therefore shut down, resulting in further job losses

- **Local environment:**
- May suffer – due to farms not been managed or cared for properly due to shortage of skilled labour
- Infrastructure may deteriorate
- May be more resources available due to a smaller population
- More land for cemeteries
- Unoccupied houses/ ghost towns
- Disposed pattern as people die out

- **Social and Family circumstances**
- Economically active population is the most affected by the HIV/HIDS virus (15 – 40)
- Many child orphans – grandparents and boarder family/ community will have to support and care for orphans putting additional strain on family resources.
- This may result in rural depopulation as families are forced to move seeking better opportunities.

100 marks

Total: 300 marks