# Education

KwaZulu-Natal Department of Education
REPUBLIC OF SOUTH AFRICA

## NATIONAL SENIOR CERTIFICATE

## GRADE 12

## GEOGRAPHY P1

## PREPARATORY EXAMINATION

## SEPTEMBER 2017

**MARKS: 225**

**TIME: 3 hours**

**This question paper consists of 17 pages and a 13 page Annexure.**

## INSTRUCTIONS AND INFORMATION

1. This question paper consists of FOUR questions.
2. Answer ANY THREE questions of 75 marks each.
3. ALL diagrams are included in the ANNEXURE.
4. Leave a line open between subsections of questions answered.
5. Start EACH question at the top of a NEW page.
6. Number your answers correctly according to the numbering system used in this question paper.
7. Do NOT write in the margins of your ANSWER BOOK.
8. Where possible, illustrate your answers with labelled diagrams.
9. Write clearly and legibly.

## SECTION A: CLIMATE, WEATHER AND GEOMORPHOLOGY

Answer at least ONE question from SECTION A. If you answer ONE question from SECTION A you must answer both questions from SECTION B.

### QUESTION 1

1.1 Refer **FIGURE 1.1** showing climate in a valley. Choose the correct word from within the brackets. Write only the question number and your choice of word e.g. 1.1.8 climatology.

1.1.1 The climatic phenomenon illustrated in FIGURE 1.1 is classified as (micro-climates/macro-climates).

1.1.2 The wind illustrated in FIGURE 1.1 is called a/an (anabatic/katabatic) wind.

1.1.3 The illustrated wind blows during the (day/night) in the valley.

1.1.4 The illustrated wind originates from the (cooling/warming) of the valley slopes.

1.1.5 The illustrated wind (decreases/increases) the density of air at the bottom of the valley.

1.1.6 (Frost/Clouds) can result from the illustrated air movement.

1.1.7 The illustrated wind will (reduce/increase) the effect of the pollution in the bottom of the valley. (7 x 1) (7)

1.2 Refer to **FIGURE 1.2** which illustrates common drainage patterns in South Africa. Select the letter from the sketch that best suits the descriptions below. Write down only the question number and corresponding letter in your answer.

1.2.1 This pattern usually develops in areas of simple folded sedimentary rocks, or gently sloping alternating layers of hard and soft rock.

1.2.2 Branching tree like pattern where tributaries join at acute angles.

1.2.3 Rivers that flow parallel, or next to each other, with few tributaries.

1.2.4 There is no distinctive pattern to the rivers and lakes.

1.2.5 The drainage pattern develops on a dome.

1.2.6 The drainage pattern develops where igneous rock has jointed and cracked.

1.2.7 Streams flow into a lowland, lake or pan.

1.2.8 Streams in this pattern flow over uniformly resistant underlying bedrock. (8 x 1) (8)

1.3 Refer to **FIGURE 1.3** showing the path of tropical cyclone Dineo.

1.3.1 How many tropical cyclones, including Dineo, have already occurred east of Mozambique for the 2017 tropical cyclone season? (1 x 1) (1)

1.3.2 Explain why the intensity of tropical cyclone Dineo picked up (increased) as it continued to move over the Mozambique channel. (1 x 2) (2)

1.3.3 Refer to the path and satellite image of cyclone Dineo.

(a) What is the general direction of movement of cyclone Dineo? (1 x 1) (1)

(b) State the stage of development of the cyclone just before it made landfall. (1 x 1) (1)

(c) Give a reason for your answer in QUESTION 1.3.3 (b). (1 x 2) (2)

1.3.4 In a paragraph of approximately 8 lines, explain how and why tropical cyclone Dineo, became a tropical storm and was finally downgraded to a tropical depression. (4 x 2) (8)



1.4 Study **FIGURE 1.4** which shows the development of a line thunderstorm in South Africa.

1.4.1 Define the term *moisture front*. (1 x 1) (1)

1.4.2 Name the winds labelled **A** and **B** that converge at the moisture front. (2 x 1) (2)

1.4.3 Give the extent of the moisture front (trough) located in the interior of South Africa. (1 x 1) (1)

1.4.4 Indicate which ONE of the two winds, **A** or **B** mentioned in QUESTION 1.4.2 is cold and dry. (1 x 1) (1)

1.4.5 Give ONE reason for your answer to QUESTION 1.4.4. (1 x 2) (2)

1.4.6 Briefly explain why line thunderstorms develop east of the moisture front. (2 x 2) (4)

1.4.7 Mention TWO ways in which line thunderstorms can impact negatively on the South African farming community. (2 x 2) (4)

1.5 Refer to **FIGURE 1.5** which represents the two types of river flow.

1.5.1 Define the term *river flow*. (1 x 1) (1)

1.5.2 Identify the types of river flow represented in diagram **A** and **B** respectively. (2 x 1) (2)

1.5.3 Mention TWO factors that could influence the velocity of the river flow represented in diagrams **A** and **B**. (2 x 1) (2)

1.5.4 Compare the types of river flow represented in diagrams **A** and **B** in terms of the following: Tabulate your answer.

(a) paths of water particles (2 x 1) (2)

(b) type of river bed (2 x 1) (2)

1.5.5 (a) Which diagram, **A** or **B**, represents river flow in the upper course of a river? (1 x 2) (2)

(b) Explain your answer to QUESTION 1.5.5 (a). (2 x 2) (4)

1.6 Study **FIGURE 1.6** that shows river rejuvenation.

1.6.1 Define the term *river rejuvenation*. (1 x 1) (1)

1.6.2 Provide ONE piece of evidence from FIGURE 1.6 which indicates that river rejuvenation has occurred in this river valley. (1 x 1) (1)

1.6.3 Give ONE possible reason for river rejuvenation taking place in this river valley. (1 x 2) (2)

1.6.4 Draw a long profile of this river. Include the following features in your diagram, a knickpoint, the old river valley and the new river valley. (3 x 1) (3)

1.6.5 In a paragraph of approximately EIGHT lines, describe what will happen to the knickpoint over time, and how it will change the river profile. (4 x 2) (8)

**[75]**

## QUESTION 2

2.1 Refer to **FIGURE 2.1 A** and 2.1 **B** showing the different positions of the upper air inversion layer over South Africa.

2.1.1 FIGURE (2.1 **A** / 2.1 **B**) illustrates summer conditions.

2.1.2 The letter **P** in the illustrated sketch represents the (inversion/ thermal) layer.

2.1.3 The (Kalahari/Indian) high pressure labelled **Q** is responsible for the seasonal change in the position of layer **P**.

2.1.4 The wind **R** is (cold and dry/warm and moist).

2.1.5 The letter **S** represents the (escarpment/plateau).

2.1.6 The air movement in FIGURE 2.1 **B** can result in (floods/drought) in the Gauteng province.

2.1.7 During summer the high pressure cell labelled **Q** may be replaced by a (thermal low/coastal low)

2.1.8 The wind labelled **R** can result in (orographic/convectional) rainfall along the windward side of the mountain. (8 x 1) (8)

2.2 Refer to **FIGURE 2.2** showing fluvial features. Match the statements below with the appropriate label indicating specific fluvial features. Write down only the question number and fluvial feature label.

2.2.1 The wide flat land on either side of a river.

2.2.2 A bend in a river.

2.2.3 The feature formed from deposition of the river load in the river channel.

2.2.4 The end point of a river.

2.2.5 The feature formed by the deposition of silt on the river bank.

2.2.6 Stagnant water found along the river course.

2.2.7 The ultimate base level of a river. (7 x 1) (7)

2.3 Refer to **FIGURE 2.3** showing a Berg wind.

2.3.1 Define the term *berg wind.* (1 x 1) (1)

2.3.2 Name the high pressure and low pressure cells labelled **A** and **B** respectively. (2 x 1) (2)

2.3.3 Explain why the temperature characteristics of the Berg wind changed from warm and dry to hot and dry (1 x 2) (2)

2.3.4 Berg winds are often associated with veld fires. Explain the the relationship between berg wind and veld fires. (2 x 2) (4)

2.3.5 Suggest THREE preventative measures that can be introduced to reduce the spreading of veld fires. (3 x 2) (6)

2.4 Refer to **FIGURE 2.4** showing the development of smog over a city.

2.4.1 Define the term *smog.* (1 x 1) (1)

2.4.2 Give the smog readings for places **A** and **B** in FIGURE 2.4. (2 x 1) (2)

2.4.3 Account for the findings in QUESTION 2.4.2. (2 x 2) (4)

2.4.4 In a paragraph of approximately EIGHT lines discuss urban planning strategies that will help to reduce heat and air pollution levels over this city. (4 x 2) (8)

2.5 Refer to **FIGURE 2.5** showing river capture.

2.5.1 Define the term *river capture*. (1 x 1) (1)

2.5.2 Identify the features of river capture labelled **1** and **2**. (2 x 1) (2)

2.5.3 A tributary of river **A** captured river **B**. Give TWO reasons why this happened. (2 x 2) (4)

2.5.4 How did river capture influence the size of the drainage basin of the river labelled **B**? (1 x 2) (2)

2.5.5 Discuss THREE consequences of river capture on agriculture along the stream labelled **3**. (3 x 2) (6)

2.6 Refer to the article in **FIGURE 2.6** on integrated catchment management.

2.6.1 Define the term *catchment area*. (1 x 1) (1)

2.6.2 State, from the text, the main aim of integrated catchment management. (1 x 1) (1)

2.6.3 Explain the type of balance that an integrated approach in managing catchment areas seek to achieve. (1 x 1) (1)

2.6.4 Discuss TWO issues that may influence and pose challenges to the adopting of an Integrated Trans-boundary Catchment Management strategy in South Africa. (2 x 2) (4)

2.6.5 As an environmental officer at the Department of Water Affairs, briefly outline in approximately EIGHT lines, how you will develop strategies to manage the shared water resources in a sustainable way. (4 x 2) (8)

**[75]**

## SECTION B: RURAL AND URBAN SETTLEMENT, ECONOMIC GEOGRAPHY OF SOUTH AFRICA

Answer at least ONE question from this section. If you answer ONE question from SECTION B you must answer both questions from SECTION A.

### QUESTION 3

3.1 Give ONE word/term for each of the following descriptions by choosing a word/term from the list below. Write only the word/term next to the question number (3.1.1–3.1.8) in the ANSWER BOOK.

| |
|---|
| Site; Urban renewal; Land use zones; Rural urban fringe; Urban sprawl; Situation; Rural development; Sphere of influence; Urban expansion; Central Business District |

3.1.1 An area surrounding a town or city where mixed land-use activities are found.

3.1.2 The uncontrolled growth of urban areas in different directions.

3.1.3 The improvement of parts of urban areas that are run down.

3.1.4 The area from which a central place draws its customers.

3.1.5 The commercial heart of an urban area.

3.1.6 Specific areas set aside in urban areas to fulfil particular functions.

3.1.7 The actual piece of land on which a settlement is located

3.1.8 The increase in the physical extent of a city. (8 x 1) (8)



3.2 Choose a description from COLUMN A that matches the word(s)/items(s) in COLUMN B. Write only the letter (A-H) next to the question number (3.2.1 – 3.2.7) in the ANSWER BOOK.

| COLUMN A | | COLUMN B | |
|---|---|---|---|
| 3.2.1 | Type of employment where people find work for themselves and are not contracted by a business or company. | A. | Raw material oriented |
| 3.2.2 | Post-apartheid strategy for economic development. | B. | Footloose industries |
| 3.2.3 | Type of employment where people are contracted to work for a business or company. | C. | Good Hope Plan |
| 3.2.4 | Industries located where one means of transport is replaced by another. | D. | Informal employment |
| 3.2.5 | An apartheid strategy for economic development. | E. | Bridge industries |
| 3.2.6 | Industries located over a geographical area without concentration in one particular region. | F. | Formal employment |
| 3.2.7 | The type of industry that is found close to the source of raw material. | G. | Ubiquitous industries |
| | | H. | Spatial Development Initiative (SDI) |

(7 x 1) (7)

3.3 Refer to **FIGURE 3.3** which is based on rural-urban migration.

3.3.1 Differentiate between *rural depopulation* and *rural-urban migration*. (2 x 1) (2)

3.3.2 Give ONE reason that caused the people in the cartoon to leave the rural area. (1 x 1) (1)

3.3.3 Provide TWO expectations of the people, in the cartoon in FIGURE 3.3, of a new life in the city? (2 x 2) (4)

3.3.4 In a paragraph of approximately EIGHT lines, suggest strategies that can be implemented by the government to address challenges faced by people living in rural areas in order to stop them from leaving. (4 x 2) (8)

3.4 Refer to **FIGURE 3.4** which depicts an urban problem.

3.4.1 State the urban problem depicted in the cartoon. (1 x 1) (1)

3.4.2 Mention any TWO causes of the problem depicted in the cartoon. (2 x 1) (2)

3.4.3 Suggest TWO effects of the problem on motorists. (2 x 2) (4)

3.4.4 Give ONE environmental effect that can be caused by the problem highlighted in the cartoon in FIGURE 3.4. (1 x 2) (2)

3.4.5 Provide suggestions to the local authority on how they can help solve the problem highlighted in the cartoon in FIGURE 3.4. (3 x 2) (6)

3.5 Refer to **FIGURE 3.5** showing different types of farming practise in South Africa.

3.5.1 Differentiate between *small-scale and large-scale farming*. (2 x 1) (2)

3.5.2 Identify which FIGURE 3.4 **A** or **B** represents small-scale farming (1 x 1) (1)

3.5.3 Mention ONE economic factor that poses a challenge to the farmer in FIGURE 3.5 **A**. (1 x 2) (2)

3.5.4 Give ONE physical challenge currently facing the farmer in FIGURE 3.5 **B** in South Africa. (1 x 2) (2)

3.5.5 Both small and large scale farming practises need to contribute more effectively in order to improve food security in the future. In a paragraph of approximately EIGHT lines evaluate the statement. (4 x 2) (8)

3.6 Refer to **FIGURE 3.6** showing informal trading.

3.6.1 Provide ONE piece of evidence from the photograph that shows that informal trading is occurring. (1 x 1) (1)

3.6.2 Discuss TWO challenges that informal traders experience as seen in FIGURE 3.6. (2 x 2) (4)

3.6.3 Suggest TWO ways in which informal traders could be assisted by the local municipality. (2 x 2) (4)

3.6.4 Evaluate the importance of the informal trading for the growth of the South Africa's economy. (3 x 2) (6)
**[75]**

## QUESTION 4

4.1 Give the appropriate geographical word/term for each of the following descriptions by choosing a word/term from the list below. Write only the word/term next to the question number (4.1.1 – 4.1.7) in the ANSWER BOOK.

| | | | |
|---|---|---|---|
| metropolis | urban hierarchy | range | low order centres |
| threshold population | central place | high order functions | |
| urban profile | urban growth | | |

4.1.1 A town providing services to the surrounding rural area.

4.1.2 The minimum number of customers required to support a particular business/service.

4.1.3 The maximum distance a customer will travel to obtain a service.

4.1.4 Services like banks, insurance that are provided to customers.

4.1.5 The grading and classification of urban settlements.

4.1.6 A large city surrounded by several towns which are dependent on it.

4.1.7 Centres that provide goods and services required on a daily basis. (7 x 1) (7)

4.2 **FIGURE 4.2** shows the contribution by the different economic sectors to Gross Domestic Product (GDP) of South Africa.

4.2.1 Give another name for the tertiary sector.

4.2.2 What percentage did the primary sector contribute?

4.2.3 Which economic activity contributed the least to South Africa's GDP?

4.2.4 Did the secondary or tertiary sector contribute a greater percentage to the economy?

4.2.5 Name the economic activity that falls into the secondary sector.

4.2.6 Which economic sector should contribute the most to the GDP to indicate that a country is developed?

4.2.7 Name the greatest contributing economic activity in the tertiary sector.

4.2.8 According to the statistics in FIGURE 4.2, is South Africa a developed or developing country? (8 x 1) (8)

4.3 Refer to **FIGURE 4.3** which illustrates an example of urban decay.

4.3.1 Define the term *urban decay*. (1 x 1) (1)

4.3.2 (a) In which land-use zone would one find buildings in this state? (1 x 1) (1)

(b) Give TWO reasons why urban decay occurs in the land-use zone mentioned in QUESTION 4.3.2 (a) (2 x 2) (4)

4.3.3 Describe ONE negative impact of urban decay in the land use zone identified in QUESTION 4.3.2 (a). (1 x 2) (2)

4.3.4 In a paragraph of approximately EIGHT lines, discuss possible sustainable measures that may be implemented to eradicate (get rid off) urban decay. (4 x 2) (8)

4.4 Refer to **FIGURE 4.4** a newspaper article titled 'Shack Dwellers Demand Houses'.

4.4.1 Define the term *informal settlement*. (1 x 1) (1)

4.4.2 State the main grievance of the shack dwellers towards the municipality. (1 x 1) (1)

4.4.3 Discuss TWO problems that shack dwellers generally experience in these settlements. (2 x 2) (4)

4.4.4 Mention TWO reasons why the 'Red Ants' demolishers have been instructed to bulldoze the illegal shacks highlighted in FIGURE 4.4. (2 x 2) (4)

4.4.5 Suggest TWO solutions to the housing land-use conflict mentioned in the article in FIGURE 4.4. (2 x 2) (4)

4.5 Refer to **FIGURE 4.5** an extract on Retrenchments in the Mining Sector.

4.5.1 Define the term *primary economic activity*. (1 x 1) (1)

4.5.2 Name a trade union, mentioned in the article in FIGURE 4.5, responsible for representing miners' rights in South Africa. (1 x 1) (1)

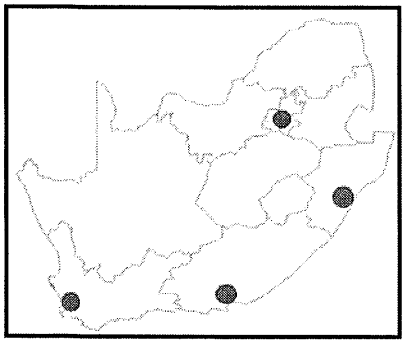
4.5.3 Provide TWO possible reasons for the increase in retrenchments in the mining sector of South Africa. (2 x 2) (4)

4.5.4 Give ONE physical factor that could endanger a miner's life resulting in a demand for a higher minimum wage. (1 x 1) (1)

4.5.5 Explain the impact of a decline in the mining sector on the economy of South Africa. (2 x 2) (4)

4.5.6 Discuss the efforts made by the labour unions in order to revitalise (renew) the mining sector? (2 x 2) (4)

4.6 Refer to the map showing the four core industrial regions of South Africa and the extract below.



**Industries make a great contribution to South Africa's GDP. South Africa's industries are centralised in four core industrial areas as indicated on the map.**

4.6.1 Name South Africa's core industrial region found in KwaZulu-Natal. (1 x 1) (1)

4.6.2 Mention ONE factor that promoted the industrial development in this region you mentioned in QUESTION 4.6.1. (1 x 2) (2)

4.6.3 Briefly discuss any TWO factors that are currently restricting industrial development in this core region. (2 x 2) (4)

4.6.4 Various incentives can be used to encourage an industrialist to move their industry out of a centralised location. In a paragraph of approximately EIGHT lines, discuss strategies that can be introduced to encourage decentralised industrial development in KwaZulu-Natal. (4 x 2) (8)

**[75]**

**TOTAL MARKS: 225**

# Education

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REPUBLIC OF SOUTH AFRICA

## GEOGRAPHY P1

## ANNEXURE

## SEPTEMBER 2017

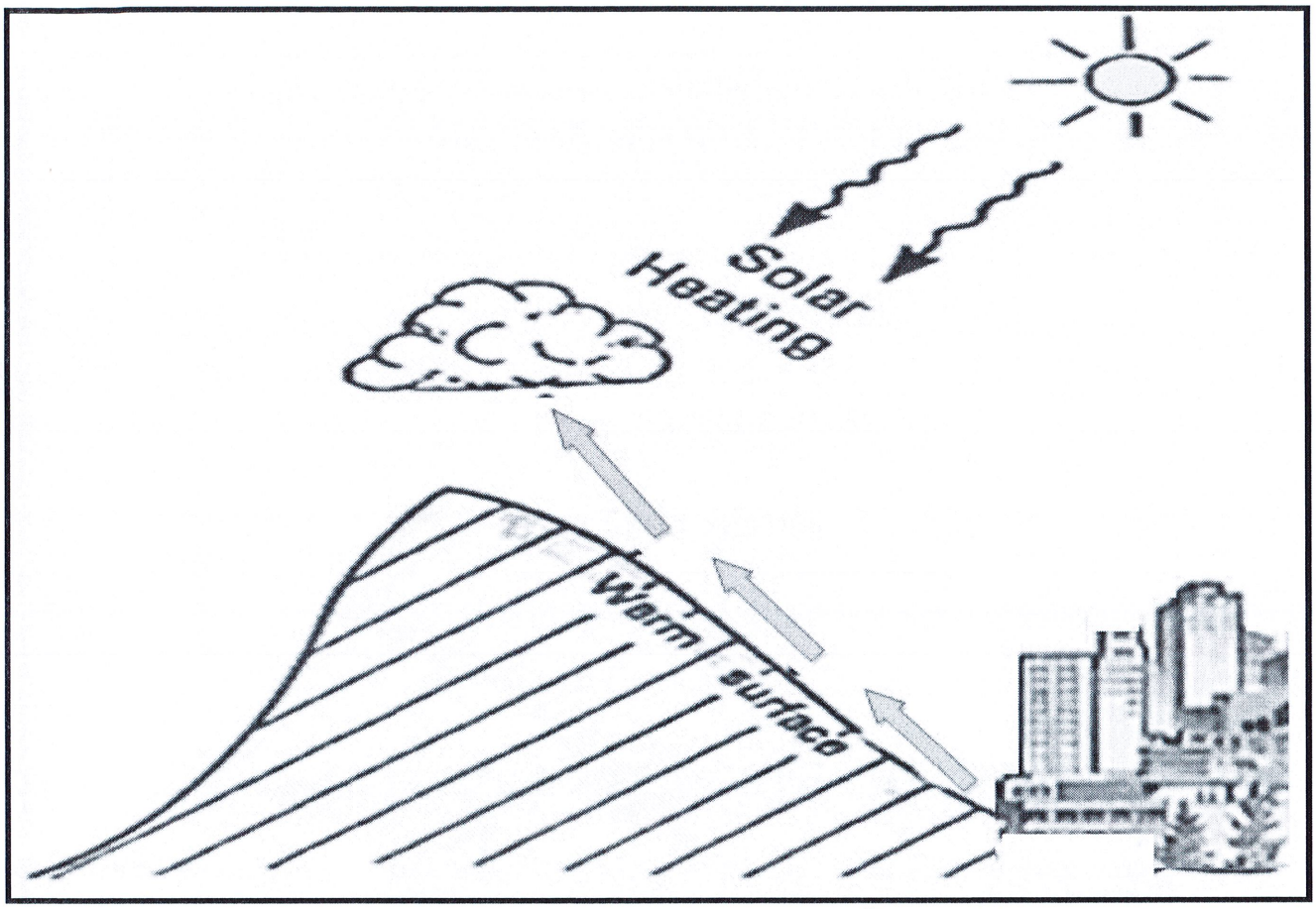
## PREPARATORY EXAMINATION

**NATIONAL SENIOR CERTIFICATE**

**GRADE 12**

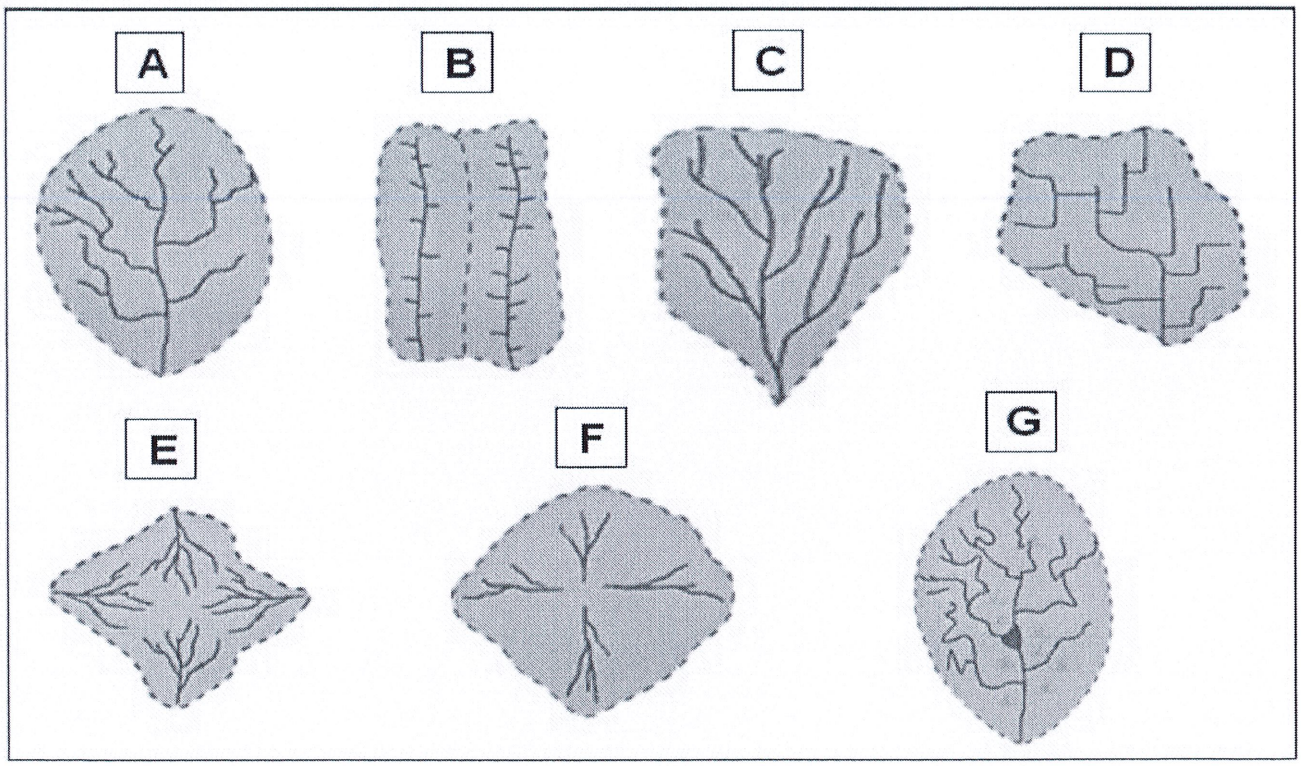
**This Annexure consists of 13 pages.**

## FIGURE 1.1: VALLEY CLIMATE



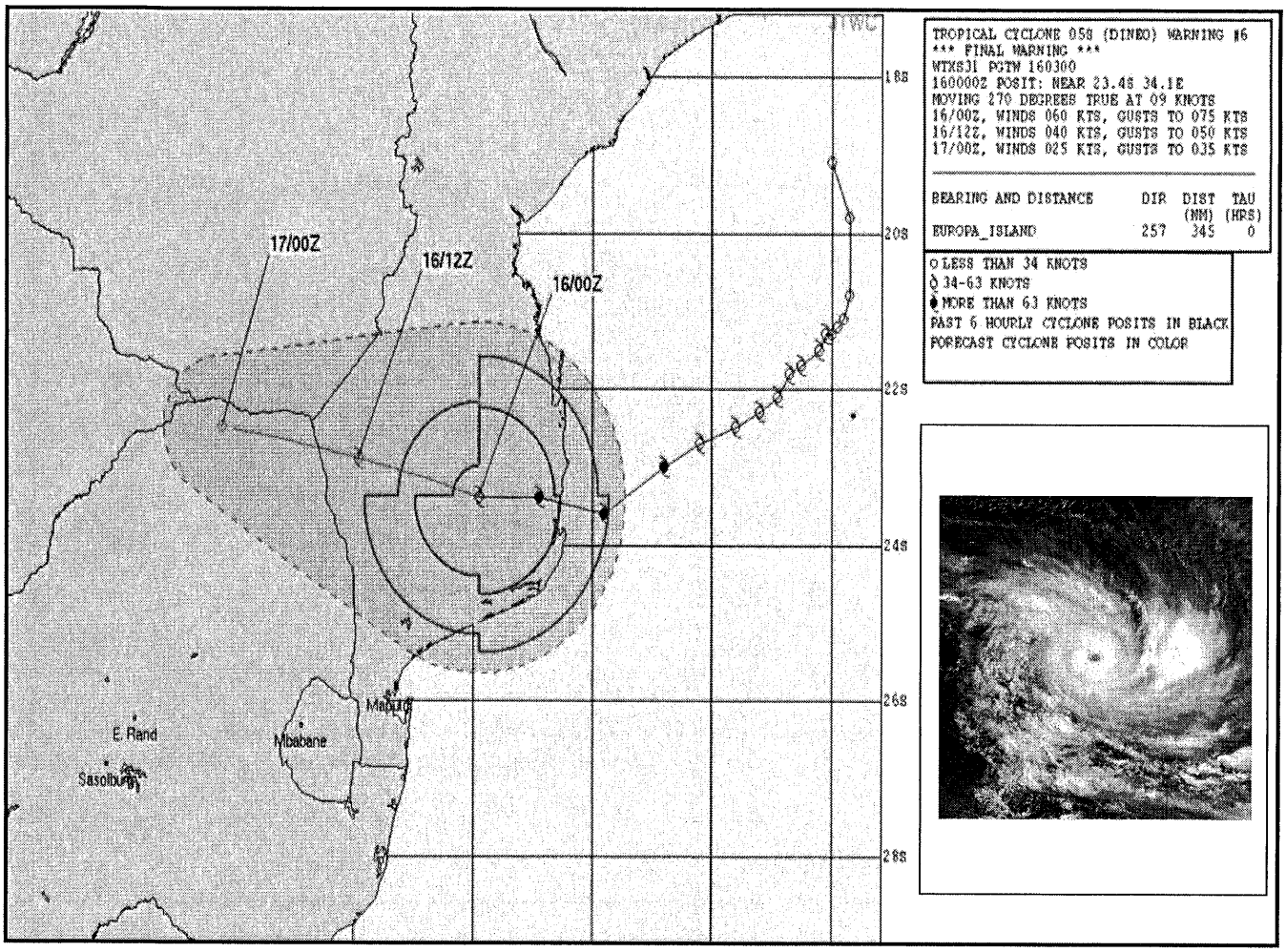

[Source: Adapted from Google Image]

## FIGURE 1.2: DRAINAGE PATTERNS




[Source: Adapted from Google – Drainage patterns]

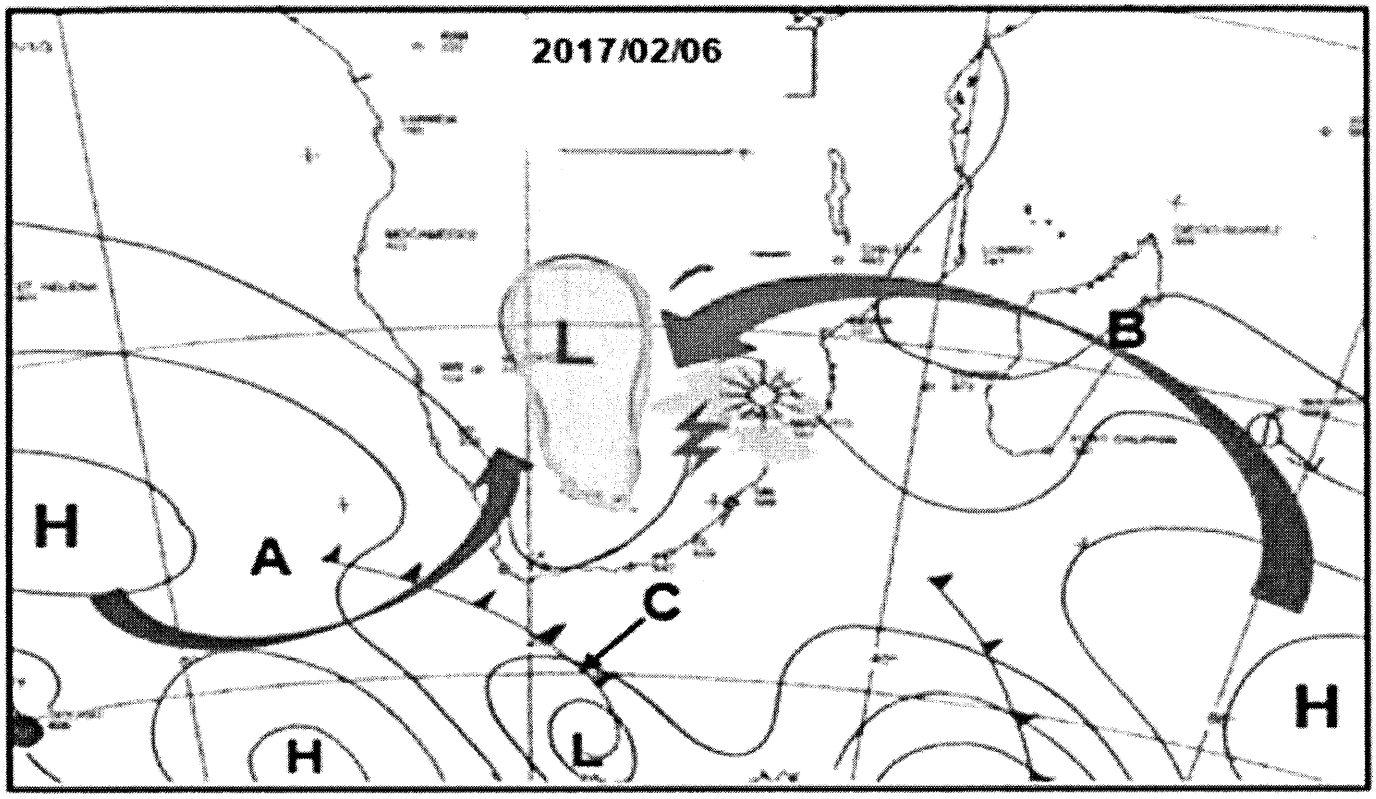
## FIGURE 1.3: PATH OF TROPICAL CYCLONE DINEO




On February 14, 2017, Tropical Cyclone Dineo was gaining strength as it moved southwestward over the waters of the Mozambique Channel. Tropical cyclone Dineo pummeled Mozambique's southern coastline near a resort town late on Wednesday, killing seven people, as it moved west towards SA and Zimbabwe. According to weather forecasters tropical storm Dineo has caused damage to infrastructure, roads, houses and more than 700 000 people were displaced due to high water levels and strong winds in excess of 170km per hour after it hit the Inhambane area in Mozambique late yesterday. Power lines, trees and sheets of corrugated iron were strewn across roads while lodges along the coastline have been flooded After moving onto land, Dineo weakened significantly because it was cut off from the ocean's heat that it needed to survive, said the South African Weather Service. It is now classified as a tropical depression.The government of Mozambique has indicated that once the storm has passed, they will do a damage assessment and offer aid to those affected by the storm.

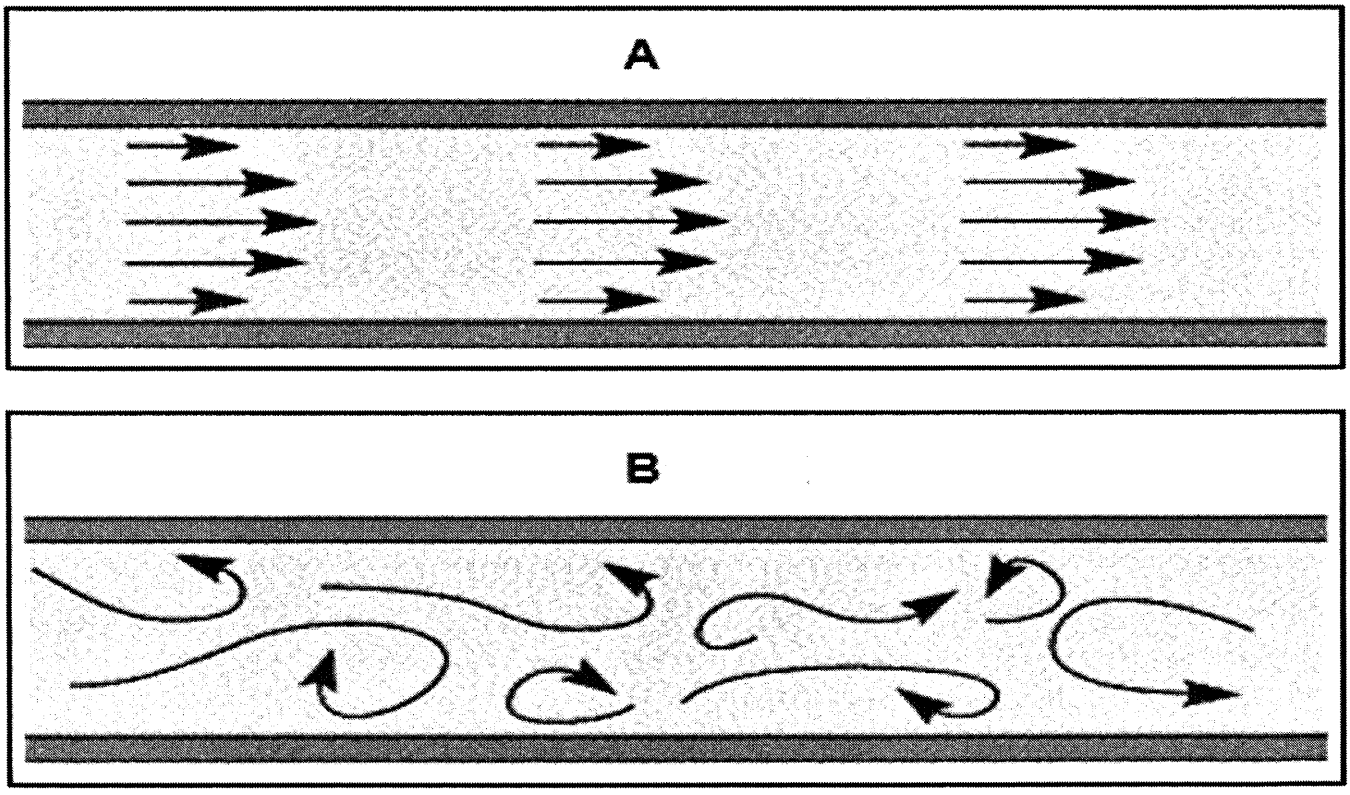
[Source: Adapted from Google – Path of tropical cyclone Dineo]

**FIGURE 1.4: LINE THUNDERSTORMS**



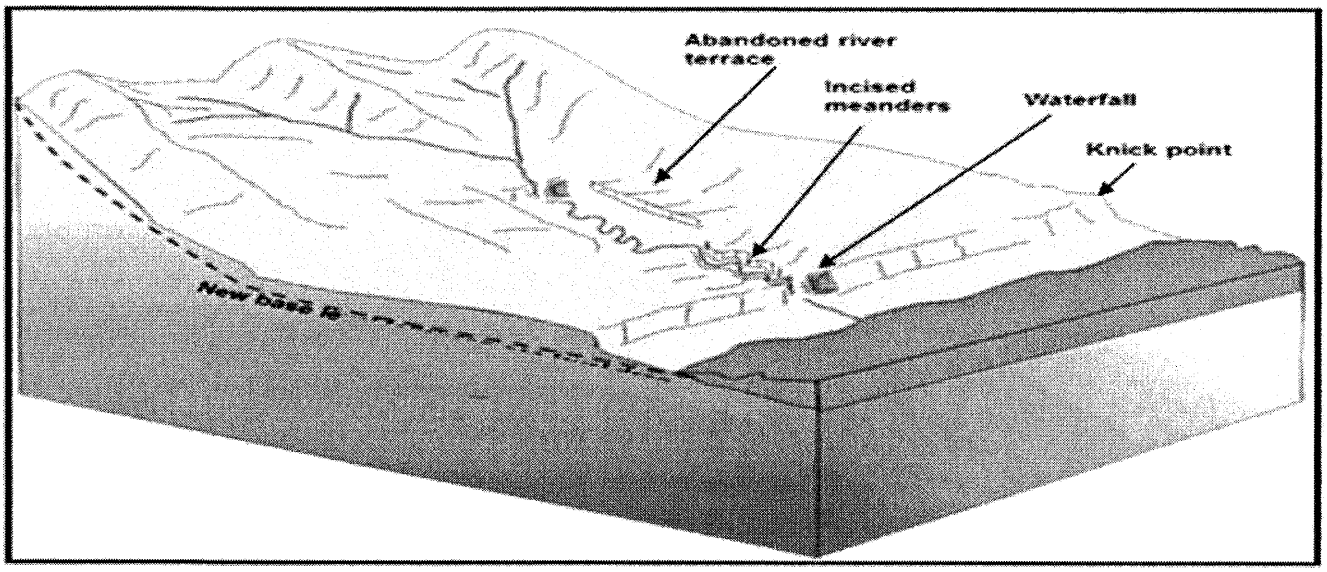

[Source: Adapted from South African Weather Services]

**FIGURE 1.5: TYPES OF RIVER FLOW**



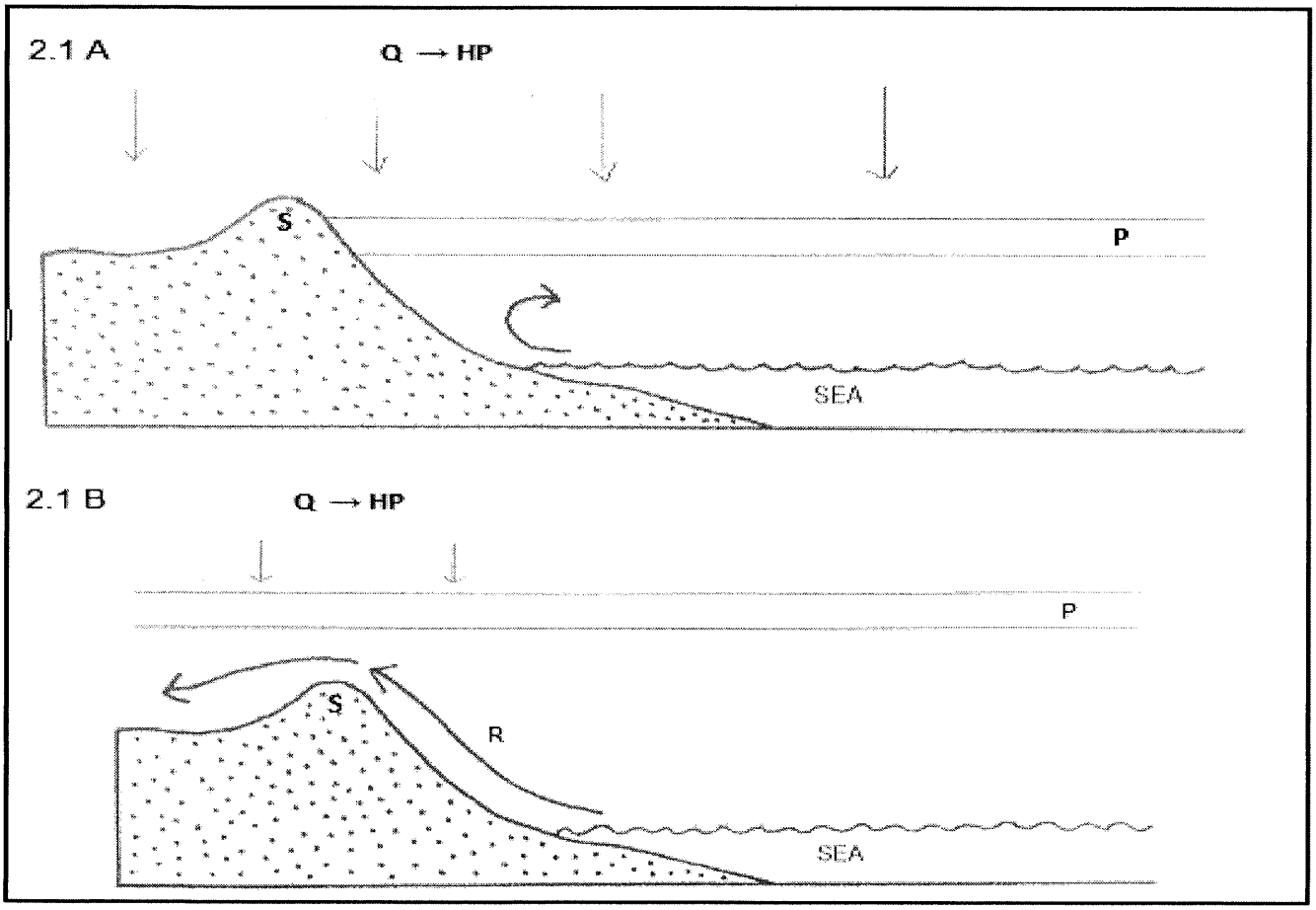

[Source: Adapted from Google image]

**FIGURE 1.6: RIVER REJUVENATION**



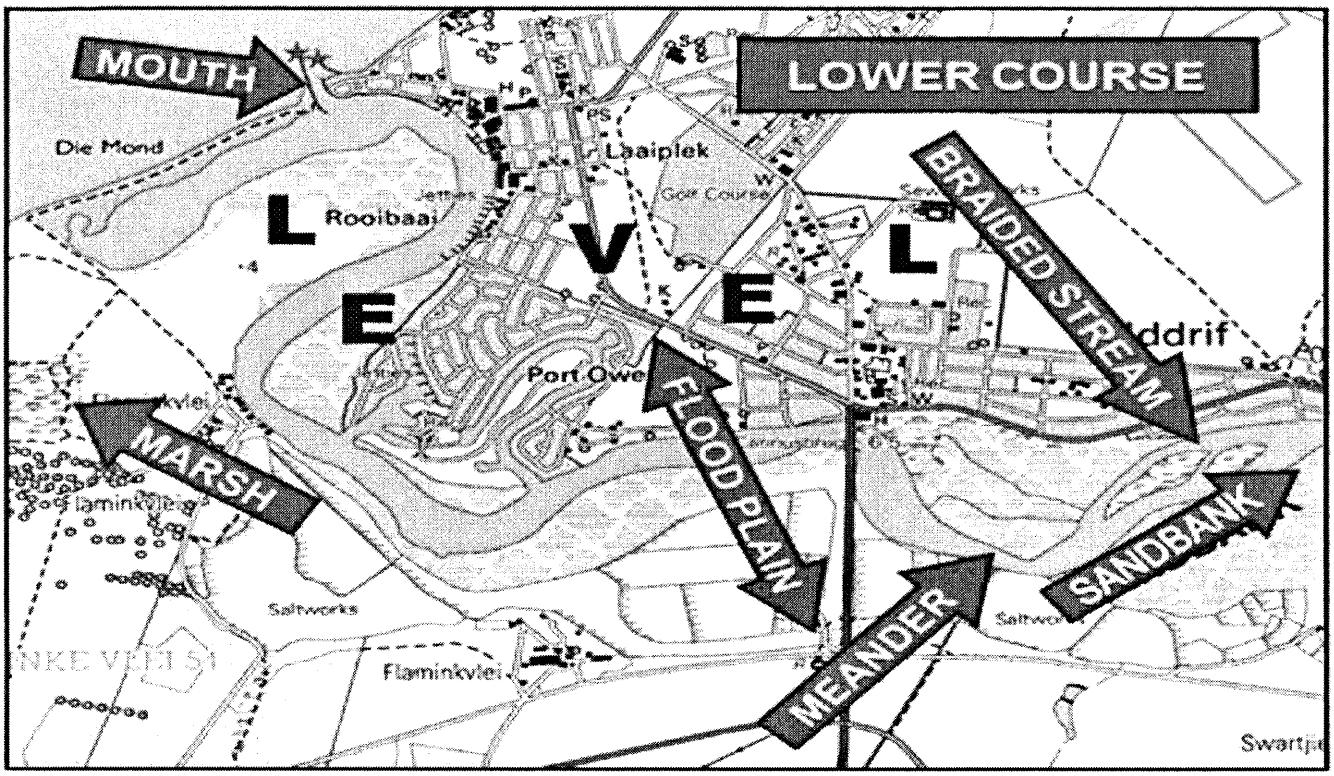

[Source: www.coolgeography.co. - /Rivers_Floods/Rejuvenation/Rejuvenation.ht]

**FIGURE 2.1: CHANGING POSITIONS OF INVERSION LAYER**



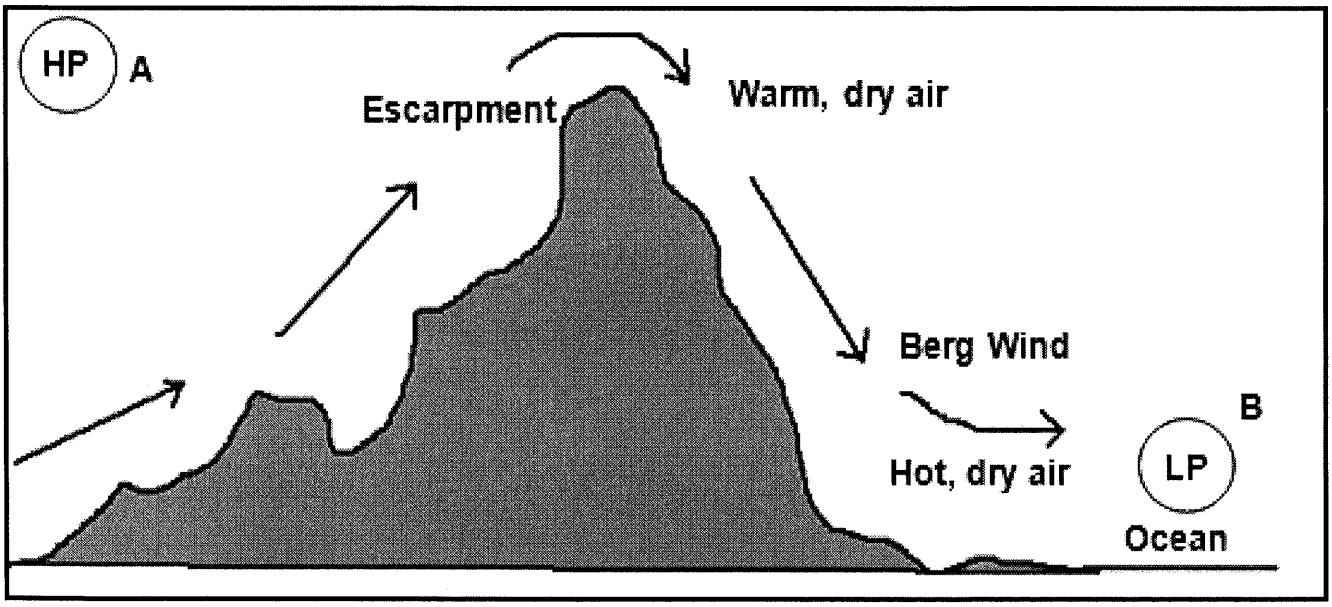

[Source: Adapted from A Handbook for learners]

**FIGURE 2.2: FLUVIAL FEATURES**



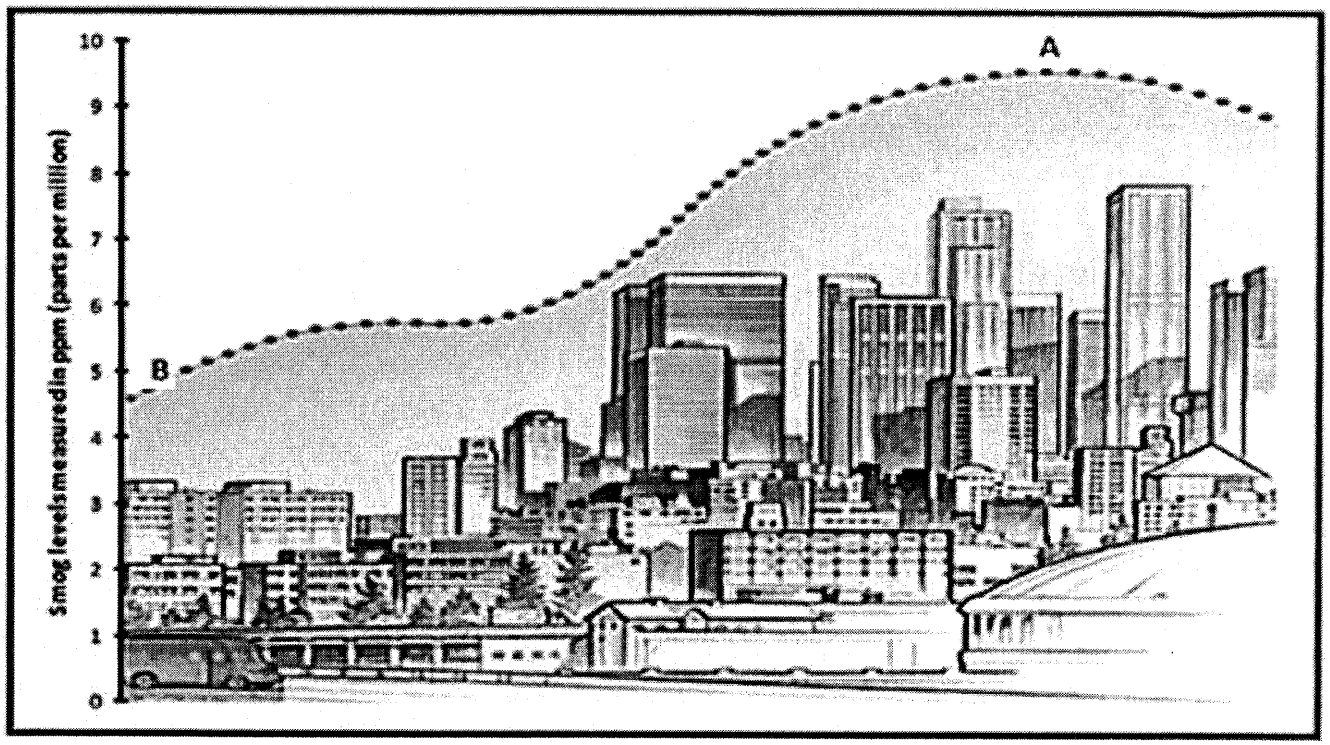

[Source: Adapted from Maps and Survey – Rural Development and Land Reform]

**FIGURE 2.3: BERG WINDS IN DURBAN**



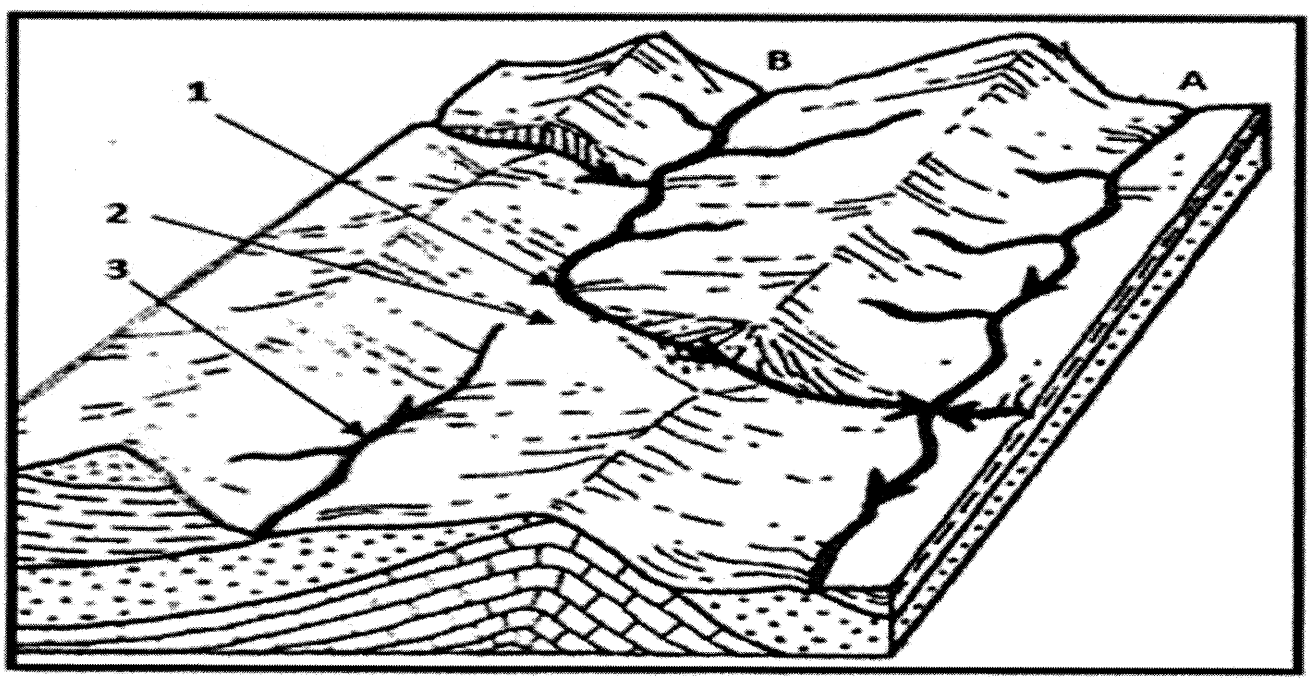

[Source: Adapted from Google]

**FIGURE 2.4: DEVEIOPMENT OF SMOG OVER A CITY**



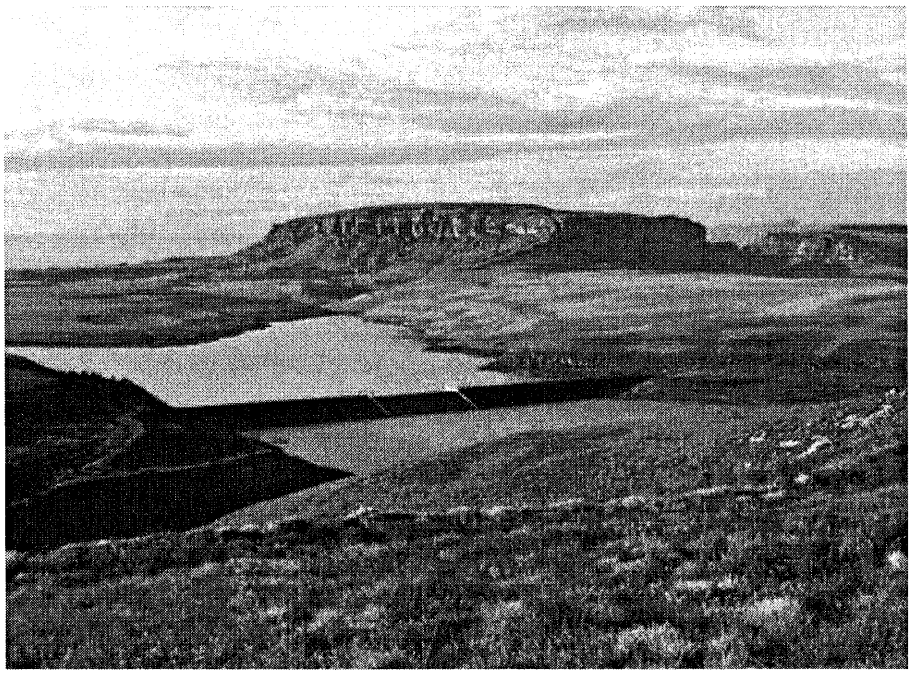

[Source: Adapted from http://www.cyberweather/west/coast/city]

**FIGURE 2.5: RIVER CAPTURE**




[Source: Adapted from X-Kit]

## FIGURE 2.6: INTEGRATED CATCHMENT MANAGEMENT

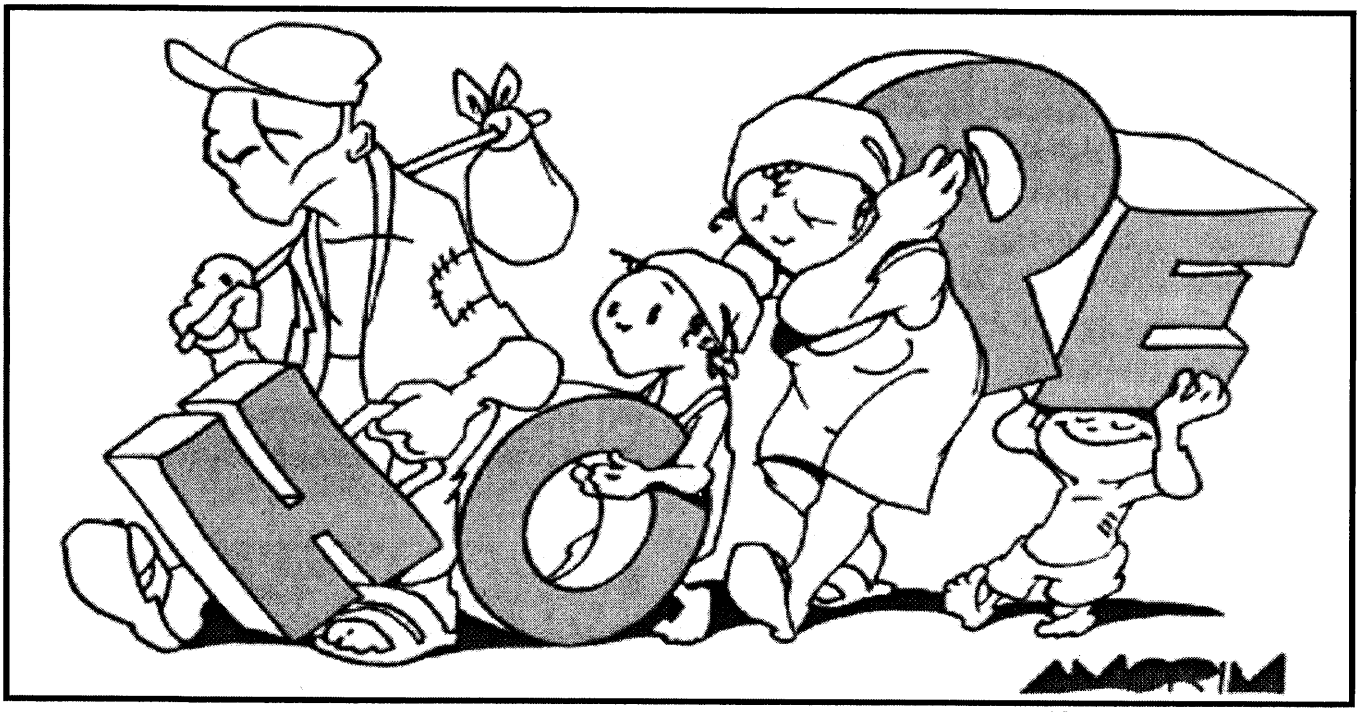


Integrated catchment management is the management of all components of the hydrological cycle that operate within a catchment. It includes human activities that impact on and are impacted on by the different components of the hydrological cycle. Catchment management seeks to achieve a balance between resource protection and resource utilization.

This process involves the management of catchments across a boundary (which could be an international border; a regional, provincial or municipal boundary; or a boundary between land-uses). These boundaries rarely reflect the environment's natural ecological boundaries, such as a catchment or river basin. Approximately 66% of all land in South Africa lies in international river basins or catchments. Trans-boundary catchment management is specifically relevant in South Africa, because we depend on our neighbouring countries and trans-boundary catchment areas for a large percentage of our water supply. The Lesotho Highlands Water Project is one such an example. Managing catchments across political or administrative boundaries adds an extra layer of complexity to the management process since it often requires high levels of cooperation between the different players.

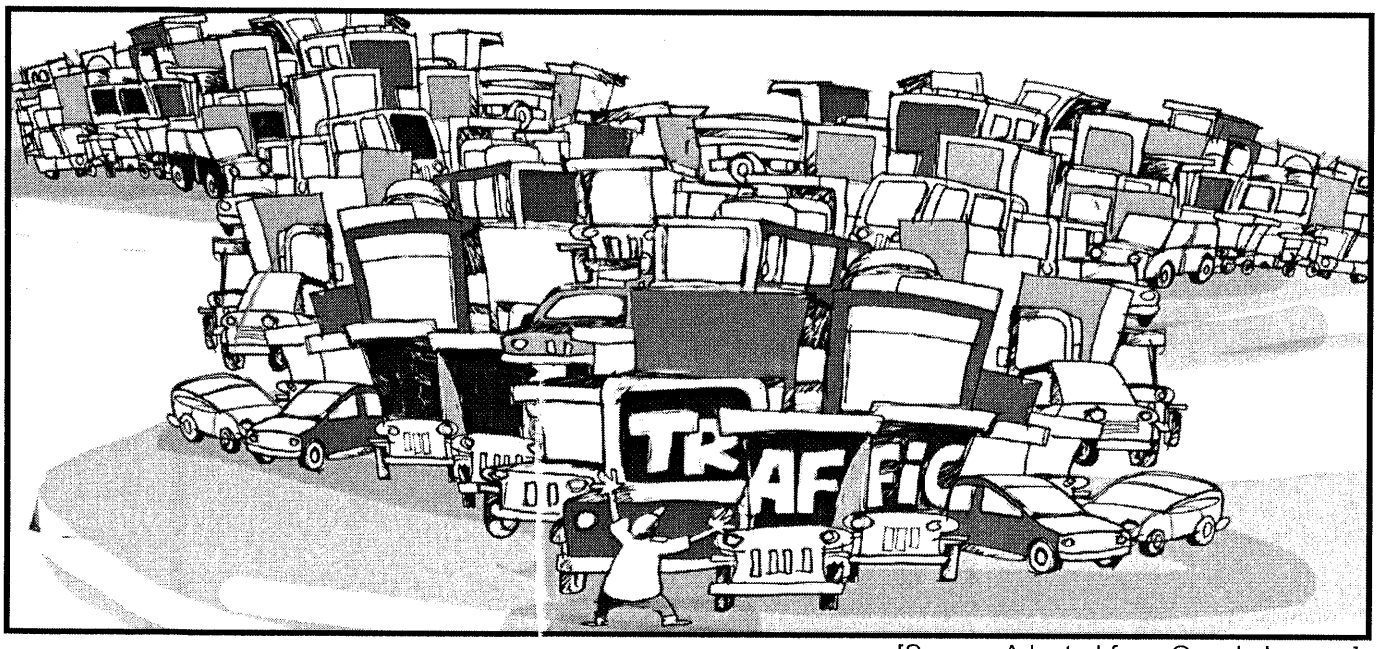
[Source: Adapted from Google]

**FIGURE 3.3: RURAL-URBAN MIGRATION**




[Source: Google Images]

**FIGURE 3.4: URBAN PROBLEM**




[Source: Adapted from Google Images]

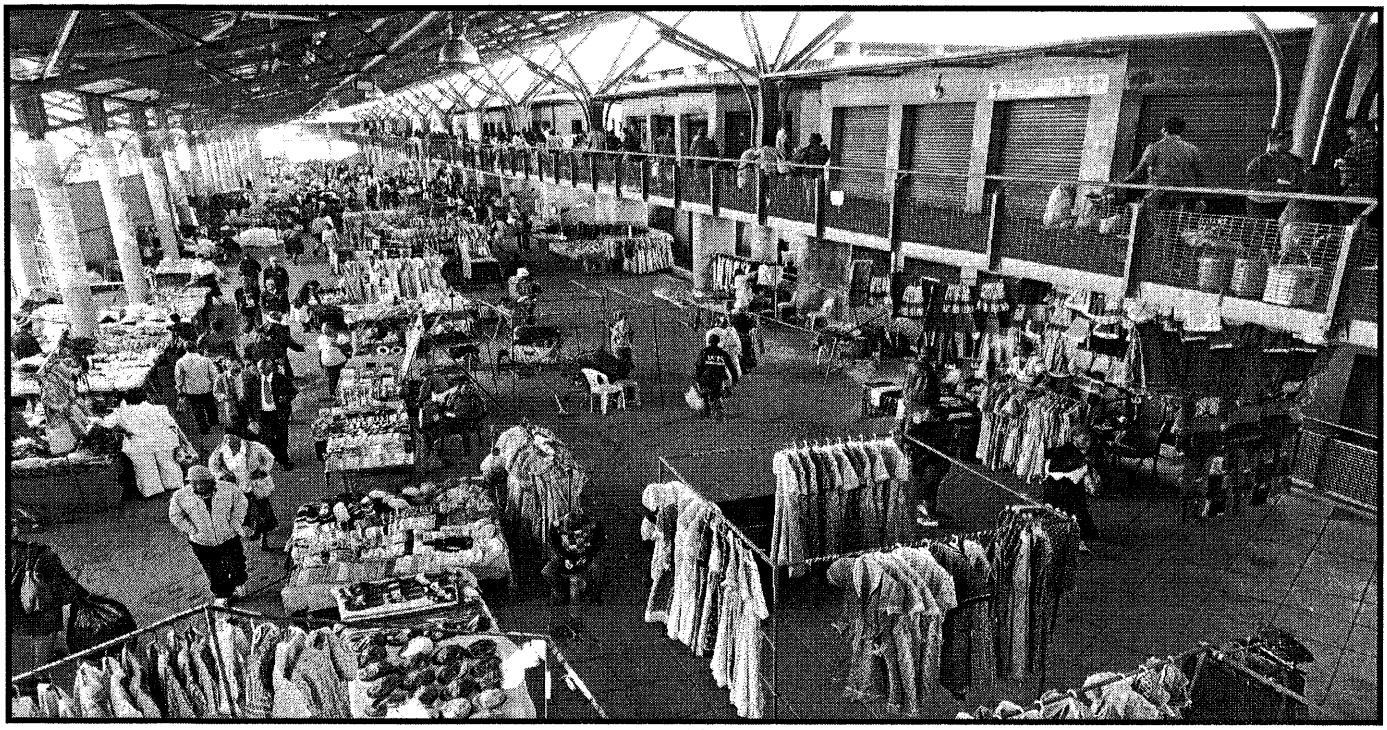
**FIGURE 3.5: TYPES OF FARMING**

3.5 **A**

3.5 **B**

[Source: Google Images]

## FIGURE 3.6: INFORMAL TRADING



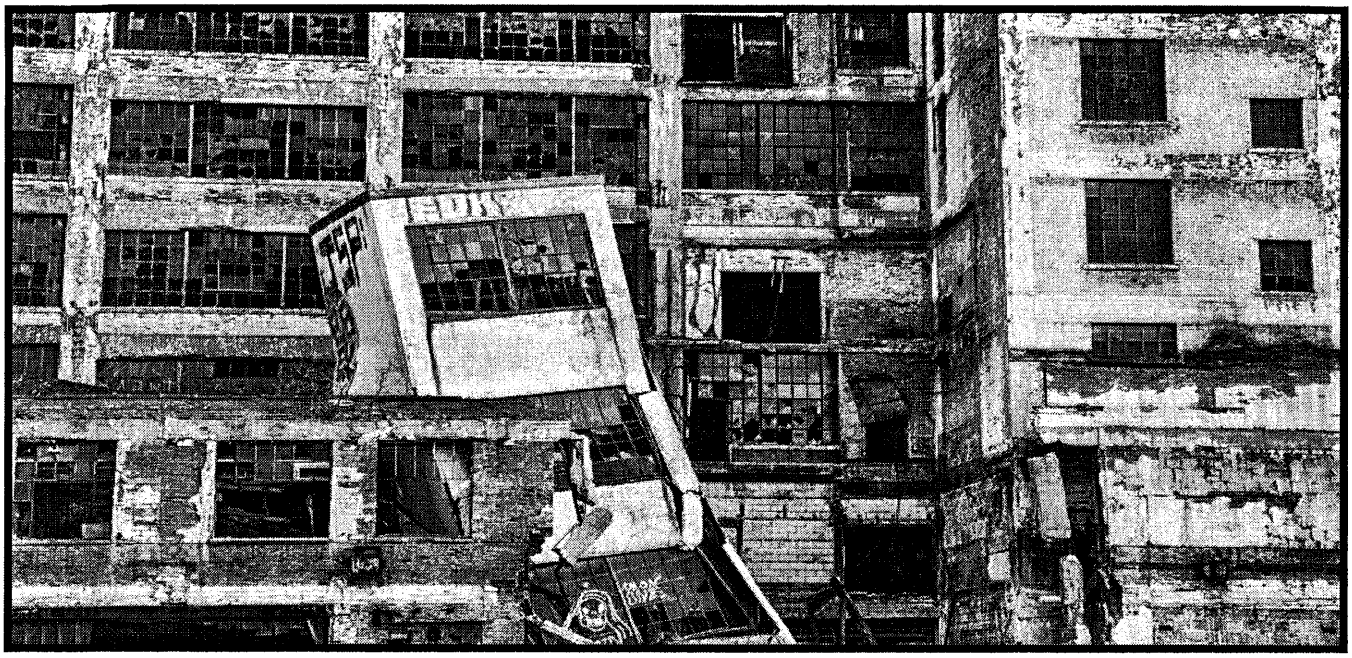
[Source: www.google.co.za/url?=sa=j&q=&esrc=s&source]

## FIGURE 4.2: GROSS DOMESTIC PRODUCT (GDP) BY DIFFERENT ECONOMIC ACTIVITIES IN SOUTH AFRICA

| ECONOMIC ACTVITIES | % CONTRIBUTION TO GDP |
|---|---|
| Electricity | 2,8% |
| Construction | 3,2% |
| Agriculture, forestry and fishing | 4% |
| Mining | 5% |
| Manufacturing | 14% |
| Transport, storage and communication | 16% |
| Government services | 16% |
| Wholesale and retail trade, hotel and restaurant | 17% |
| Finance, insurance, real estate and business services | 22% |

[Source: Adapted from Statistics SA]

**FIGURE 4.3: URBAN DECAY**



[Source: Google Images]

**Figure 4.4: SHACK DWELLERS DEMAND HOUSES**

Disgruntled shack dwellers and members of the South African Shack Dwellers Organisation have accused the eThekwini municipality of failing to build them proper houses.

About 500 angry protesters from Crossmoor, eKupholeni, uMlazi, Tongaat and KwaDukuza demonstrated on Friday. They protested their exclusion from the housing conference taking place inside. Though the conference had been organised by the provincial housing department, they felt that as a stakeholder, eThekwini municipality should have invited their leaders to participate.

The leader of the eKupholeni informal settlement which was bulldozed recently under the Slums Act, said it was clear that the municipality intended driving them out of the city by not providing them with alternative accomodation. The municipality has sent the controversial Red Ants – demolishers – to destroy illegal shacklands in the area.

The head of housing in the eThekwini municipality, said they were waiting for a court order so that they could evict and bulldoze any illegal shacks because they hinder them from providing proper houses.

Adapted from article by Canaan Mdletshe

**FIGURE 4.5: MORE RETRENCHMENTS LOOMS IN THE MINING SECTOR**

Negotiations between employers and employees will result in tensions that are likely to be most severe in 2017. Sparks could fly in the mining sector, which has already lost jobs – and there are more workers to be shed(retrenched).

The shock of large-scale retrenchments that followed in the wake of prolonged strikes, in the mining sector and the possibility of a credit rating downgrade that loomed large over the country had an effect on labour relations this year. For example, the major wage negotiations in the platinum sector by Amcu and Numsa, further contributed to loss of jobs. Also this year, much effort went into establishing a minimum wage, achieving a secret strike ballot and improving the working conditions of miners at Nedlac – all of which is aimed at appeasing credit rating agencies.

[Adapted from article by Alexander Joe, AFT)

RN.

# Education

KwaZulu-Natal Department of Education
REPUBLIC OF SOUTH AFRICA

## GEOGRAPHY P1

## MARKING GUIDELINE

## SEPTEMBER 2017

## PREPARATORY EXAMINATION

**NATIONAL SENIOR CERTIFICATE**

**GRADE 12**

**MARKS: 225**

**This marking guideline consists of 16 pages.**

## SECTION A: CLIMATE AND WEATHER AND GEOMORPHOLOGY

### QUESTION 1

1.1

1.1.1 micro climates ✓

1.1.2 anabatic ✓

1.1.3 day ✓

1.1.4 warming ✓

1.1.5 decreases ✓

1.1.6 Clouds ✓

1.1.7 reduce ✓ (7 x 1) (7)

1.2

1.2.1 B Trellis ✓

1.2.2 C/A Dendritic ✓

1.2.3 C Parallel ✓

1.2.4 G Deranged ✓

1.2.5 E Radial centrifugal ✓

1.2.6 D Rectangular ✓

1.2.7 F Radial centripetal ✓

1.2.8 A/C Dendritic ✓ (8 x 1) (8)

1.3

1.3.1 4 ✓ (1 x 1) (1)

1.3.2 warm ocean surface temperature ✓✓
increased evaporation of water by warm air mass. ✓✓ (1 x 2) (2)

1.3.3 (a) east to west/westerly/south westerly then westerly ✓ (1 x 1) (1)

(b) mature ✓ (1 x 1) (1)

(c) eye well developed ✓✓wind speed more than 63 knots ✓✓ (1 x 2) (2)

1.3.4 When it made land it was cut off from moisture source. ✓✓
Friction of air moving over land decreased windspeed. ✓✓
System slowed down, wind speed decreased to 34 – 63 knots. ✓✓
Now classified as a depression ✓✓ (4 x 2) (8)
**[Any FOUR]**

1.4

1.4.1 It is a zone between two air masses with different temperature, densities and moisture content ✓(Concept) (1 x 1) (1)

1.4.2 A - south westerly wind ✓
B - north easterly wind ✓ (2 x 1) (2)

1.4.3 Covers a large part of the country running from North West to South East ✓ (1 x 1) (1)

1.4.4 A – south westerly wind ✓ (1 x 1) (1)

1.4.5 Wind A originates from the Atlantic Ocean which is cold and experiences lower evaporation rates resulting in drier conditions. ✓✓
(1 x 2)(2)

1.4.6 The cold dry south westerly wind and the warm north easterly wind converge at the moisture front ✓✓
The cold, dry south westerly wind sinks whilst the warm, moist air rises along the front ✓✓
Rising air will therefore cool and condenses forming cumulonimbus✓✓ clouds which will result in line thunderstorms east of the moisture front ✓✓
**[Any TWO]** (2 x 2) (4)

1.4.7 Cause floods which will sweep away crops therefore less food available for export ✓✓
Accompanied by hail which may damage crops therefore less food for local market ✓✓
Lightning could start a fire which will destroy valuable plants and animals ✓✓
Farmers livelihood will be destroyed. ✓✓
**[Any TWO]** (2 x 2) (4)

1.5

1.5.1 The movement of water in a river channel.
**[Concept]** (1 x 1) (1)

1.5.2 A – laminar ✓
B – turbulent ✓ (2 x 1) (2)

1.5.3 River gradient ✓
Surface of river bed ✓
Volume of water ✓
Obstacles in the river bed ✓
**[Any TWO]** (2 x 1) (2)

1.5.4

| | A (laminar) | B (turbulent) |
|---|---|---|
| (a) paths of water particles | Layers/sheets ✓ | Whirling action/churning ✓ |
| (b) type of river bed | Level and even ✓ | Uneven ✓ |

(4 x 1) (4)

1.5.5 (a) B ✓ (2 x 1) (2)

(b) High friction ratio ✓✓
Most turbulence ✓✓
Roughness of channel bed ✓✓
More bedload ✓✓
**[Any TWO]** (2 x 2) (4)

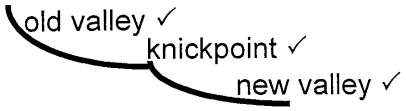
1.6

1.6.1 A river regains energy and starts cutting downward into the landscape ✓
[Concept] (1 x 1) (1)

1.6.2 Knickpoint ✓✓
Valley in a valley ✓✓
Abandoned river terraces ✓✓
Incised meanders ✓✓
Waterfall✓✓
**[Any ONE]** (1 x 1) (1)

1.6.3 Increased rainfall ✓
River capture ✓
Sea level drops ✓
Coast rises/sinking✓
**[Any ONE]** (1 x 2) (2)

1.6.4




(3 x 1) (3)

1.6.5 Headward erosion will occur where knickpoint develops ✓✓
Knickpoint will move upstream ✓✓
Stream energy will increase downstream of knickpoint ✓✓
Steeper gradient will develop directly downstream of knickpoint ✓✓
Waterfall may develop at knickpoint ✓✓
Waterfall/knickpoint will eventually disappear ✓✓
River profile becomes concave in shape ✓✓
**[Any FOUR]**

(4 x 2) (8)

**[75]**

## QUESTION 2

2.1

2.1.1 B ✓

2.1.2 inversion ✓

2.1.3 Kalahari ✓

2.1.4 warm and moist ✓

2.1.5 escarpment ✓

2.1.6 floods ✓

2.1.7 thermal low ✓

2.1.8 orographic ✓ (8 x 1) (8)

2.2

2.2.1 Flood plain ✓

2.2.2 meander ✓

2.2.3 Braided stream ✓

2.2.4 Mouth ✓

2.2.5 sand bank/levee ✓

2.2.6 marsh/wetland ✓

2.2.7 sea level/ocean ✓ (7 x 1) (7)

2.3

2.3.1 Hot dry winds that blow from the interior of the country to coastal areas. ✓
**(Concept)** (1 x 1) (1)

2.3.2 A – Continental/Kalaharl High ✓

B – Coastal low ✓ (2 x 1) (2)

2.3.3 As the air descends the plateau it is compressed, heats up through surface friction and dries out. ✓✓ (2 x 1) (2)

2.3.4 Berg winds are hot winds that often increase the effect of veld fires occuring in dry vegetation during the winter periods. ✓✓
The steep pressure gradient that exists between the contintinental high and coastal low causes veld fires to be intensified. ✓✓ (2 x 2) (4)

2.3.5 Install lookout towers✓✓
Construct firebreaks✓✓
Build farm dams to have water on standby to extinguish fires✓✓
Introduce a system of controlled burning✓✓ (3 x 2) (6)

2.4

2.4.1 Occurs when smoke and fog/mist combines✓
**[Concept]** (1 x 1 (1)

2.4.2 A – 9.5 (range 9.4 – 9.6 parts per million) ✓
B – 4.7 (range 4.5 – 5 parts per million)✓ (2 x 1) (2)

2.4.3 Pollution from exhaust fumes in the city combines with radiation fog resulting in the development of high levels of smog ✓✓
industries give off smoke combining with fog result in the development of smog✓✓
burning of coal in power stations - heating units in buildings✓✓
lower levels of pollution outside the city results in lower smog readings✓✓ (2 x 2) (4)
**[Any TWO]**

2.4.4 Build higher chimneys that will carry the pollution to higher levels so they can escape into the atmosphere✓✓
Vehicles to use unleaded petrol✓✓
Make greater use of solar energy✓✓
Plant more trees to increase oxygen✓✓
Decentralisation of industries✓✓
Establish green belts around the city✓✓

Introduce legislations to control air pollution/air quality act✓✓
Introduce roof gardens/greening of the city✓✓
Introduce more efficient public transport system✓✓
**[Any FOUR]** (4 x 2) (8)

2.5

2.5.1 When a more energetic river captures the waters of a less energetic river.
[Concept] (1 x 1) (1)

2.5.2 **1** Elbow of capture ✓
**2** Wind gap ✓ (2 x 1) (2)

2.5.3 More erosive energy that led to more headward erosion ✓✓
Has steeper gradient ✓✓
Flowing over softer rocks ✓✓
Receives higher rainfall ✓✓
**[Any TWO]** (2 x 2) (4)
river from a lower level captures $H_2O$ higher level.

2.5.4 Decreased the size of the drainage basin ✓✓ (1 x 2) (2)

2.5.5 Less water available for agriculture ✓✓
Less deposition therefore drop in soil fertility ✓✓
Decrease in production ✓✓
Economic decline ✓✓
**[Any THREE]** (3 x 2) (6)

2.6

2.6.1 A catchment is defined as the area from which any rainfall will drain into a watercourse through surface flow to a common point✓
**[Concept]** (1 x 1) (1)

2.6.2 To manage all components of the hydrological cycle that operate within a catchment ✓ (1 x 1) (1)

2.6.3 A balance between resource protection and resource utilization ✓ (1 x 1) (1)

2.6.4 Requires high levels of cooperation between the different political or institutional players ✓✓
Differing legislation and policy requirements of neighbouring countries ✓✓
Upstream–downstream variability in the water resources
Issues of scale with reference to the size of the area involved. (geographical and institutional) ✓✓
Issues of capacity in terms of the number of people required to support the programme✓✓
Reliability of data and information acquired from the affected area ✓✓
Differing socio-economic conditions of people living in the catchment area✓✓
Differing language and communications infrastructure ✓✓
**[Any TWO]** (2 x 2) (4)

2.6.5 Seek co-operation and agreement on water-related matters from various stakeholders and interested people of different political or institutional backgrounds✓✓
Set principles for allocating water to existing and prospective users, taking into account all matters relevant to the protection, use, development, conservation, management and control of water resources✓✓
Encourage community awareness✓✓
Educate the local people on the importance of protecting scarce water supplies for the future✓✓
Make the community own the process/feel part of it✓✓
Employment of local community members✓✓
Use of indigenous knowledge to solve problems in the area✓✓
**[Any FOUR]** (4 x 2) (8)
**[75]**

**QUESTION 3**

3.1

3.1.1 Rural-urban fringe ✓

3.1.2 Urban sprawl ✓

3.1.3 Urban renewal ✓

3.1.4 Sphere of influence ✓

3.1.5 Central Business District ✓

3.1.6 Land use zones ✓

3.1.7 Site ✓

3.1.8 Urban expansion ✓ (8 x 1) (8)

3.2

3.2.1 D (informal employment) ✓

3.2.2 H (Spatial Development Initiative) ✓

3.2.3 F (Formal employment) ✓

3.2.4 E (Bridge Industries) ✓

C (Good Hope Plaza)
B (Footlosse)
A. [Raw Material Created]

3.2.5 C (Good Hope Plan) ✓

3.2.6 B (Footloose Industries) ✓

3.2.7 A (raw material oriented) ✓ (7 x 1) (7)

3.3

3.3.1 Rural depopulation is the decreasing number of people that live in rural areas. ✓
rural-urban migration is the movement of people from rural areas to urban areas. ✓ (2 x 1) (2)
**[Concept]**

3.3.2 Poor standard of living in rural areas ✓
Lack of basic services such as clean water ✓
Lack of job opportunities ✓
Tribal wars ✓
Lack of basic infrastructure such as roads and bridges ✓
Mechanisation of farms ✓
Changing climatic conditions susch as droughts/floods✓
**[Any ONE]** (1 x 1) (1)

3.3.3 Better standard of living✓✓
Access to better health facilities and education ✓✓
Job opportunities ✓✓
Clean water and sanitation ✓✓
**[Any TWO]** (2 x 2) (4)

3.3.4 There must be a provision of piped water and sanitation. ✓✓
Creation of job opportunities through industrial development and tourist centres in rural areas ✓✓
There must be a provision of state subsidy to support agricultural development. ✓✓
The subsistence farmers can be trained to be commercial farmers. ✓✓
The development of infrastructure such as bridges and good road condition can increase accessibility in rural areas. ✓✓
Decentralise main offices to rural areas, such as home affairs✓✓
The farm units can be consolidated to make them more commercialised ✓✓
Well-resourced schools and health service centres must be developed in rural areas. ✓✓
**[Any FOUR]** (4 x 2) (8)

3.4

3.4.1 Traffic congestion ✓ (1 x 1) (1)

3.4.2 Use of too many vehicles ✓
An inefficient transport system ✓
Outdated street patterns✓
Poor public transport system ✓
**[Any TWO]** (2 x 1) (2)

3.4.3 The motorists get delayed and will arrive late at work ✓✓
Traffic congestion causes anger and frustration to motorists✓✓
Some motorists may become impatient on the road which may lead to reckless driving and accidents ✓✓
**[Any TWO]** (2 x 2) (4)

3.4.4 Air pollution emissions from vehicles ✓✓
Increase of temperatures in the city ✓✓ (1 x 2) (2)

3.4.5 Decentralise commercial functions ✓✓
Synchronize robots to accelerate flow of traffic ✓✓
Make public transport more attractive ✓✓
Introduce staggered working hours ✓✓
Make one way streets to speed up traffic flow ✓✓
Introduce fees/levies for cars entering the CBD ✓✓
Park and ride facilities ✓✓
Organise and encourage lift clubs ✓✓
Create separate lanes for buses and taxis ✓✓
**[Any THREE]** (3 x 2) (6)

3.5

3.5.1 Small scale farming – farming of crop over a small area✓ subsistence

Large scale farming – farming over a large area✓ commercial (2 x 1) (2)

3.5.2 A✓ (1 x 1) (1)

3.5.3 Lack of financial support ✓✓
Lack of farming skills ✓✓
**[Any ONE]** (1 x 2) (2)

3.5.4 Drought ✓✓
Insects and pests ✓✓
Floods ✓✓
Lack of arable land ✓✓
**[Any ONE]** (1 x 2) (2)

3.5.5 **LARGE SCALE**

Provide large scale access to food to millions of people resulting in food security✓✓
Cultivated lands are large which results in high yields✓✓
Farming is specialized using modern farming methods✓✓
Farming is mechanized using up to date equipment✓✓
All of the produce is sold which increases wealth to buy new seeds✓✓
Large yields specialised seeds to guarantee high yield ✓✓
Drought resistant, insect resistant seeds ✓✓

**SMALL SCALE**

Intensive farming on a small scale using specialised equipment and seeds can also ensure a high yield✓✓
Introduce modern methods of farming such as the use of genetically modified seeds. ✓✓

Although genetic modification is used for food security more investigations must be conducted to ensure safety of these products. ✓✓
**[Any FOUR, but must include both small and large scale]**
(4 x 2) (8)

3.6

3.6.1 There is a large warehouse with small stall✓
Each stall has a variety of goods hanging up or displayed on a table✓
Stalls haphazardly set up✓
No demarcation seperately stalls✓
Metal stands – easily collapsible and movable ✓/ portable✓
Not permanent ✓
**Any ONE]** (1 x 1) (1)
**[Concept]**

3.6.2 Lack of storage ✓✓
Lack of facilities✓✓
Can be relocated in short notice. ✓✓
Vulnerable to crime ✓✓ (2 x 2) (4)
**[Any TWO]**

3.6.3 Informal traders can be provided with permits ✓✓
Create safe storage facilities ✓✓
Encourage interaction with private sector for assistance ✓✓
They must be provided with proper market area ✓✓
Create partnership with formal business ✓✓ (2 x 2) (4)
**[Any TWO]** security financial aid.

3.6.4 Even though there is no direct contribution by the way of taxes there is an indirect contribution✓✓
Informal trading creates employment takes pressure off job creation ✓✓
It contributes to the GDP of the country ✓✓
It also contributes to the purchasing power as a result of money being made informally. ✓✓
**[Any THREE]** (3 x 2) (6)

**[75]**

**QUESTION 4**

4.1

4.1.1 Central place ✓

4.1.2 Threshold population ✓

4.1.3 Range ✓

4.1.4 high order functions✓

4.1.5 Urban hierarchy ✓

4.1.6 Metropolis ✓

4.1.7 low order centres✓ (7 x 1) (7)

4.2

4.2.1 Service sector ✓

4.2.2 9% ✓

4.2.3 Electricity ✓

4.2.4 Tertiary ✓

4.2.5 Manufacturing ✓ Construction

4.2.6 Tertiary ✓

4.2.7 Finance, insurance, real estate and business services ✓

4.2.8 Developing ✓ (8 x 1) (8)

4.3

4.3.1 The process whereby buildings in a certain part of the urban area deteriorate to a state of dilapidation
**[Concept]** (1 x 1) (1)

4.3.2 (a) Inner city / zone of decay / transition zone✓ (1 x 1) (1)

(b) High land value but low building value✓✓
Land value decreases✓✓
No rental payments ✓✓
Land invasion ✓✓
Presence of immigrants ✓✓
Crime is rife/common ✓✓
Many social ills ✓✓
Area into which CBD will expand therefore landlord not prepared to fix buildings ✓✓
Many of the owners do not live in the area✓✓
**[Any TWO]** (2 x 2) (4)

4.3.3 Commercial functions move to suburbs/commercial decentralisation ✓✓
Becomes economically less viable ✓✓
Sphere of influence will decline ✓✓
Ghost cities ✓✓
Many empty buildings ✓✓
Illegal occupation of buildings ✓✓
**[Any ONE]** (1 x 2) (2)

4.3.4 Renovation and repairing (gentrification) of the buildings ✓✓
Urban renewal through demolishing and rebuilding ✓✓
Create open spaces by reducing building density ✓✓
Conserving facades(facadism) of older buildings and renovating the inside ✓✓
Create loft living spaces in renovated buildings ✓✓
Legislate and monitor the occupancy rate in buildings ✓✓
Resettlement of people living in the inner city ✓✓
Increased security/regular policing/CCTV cameras ✓✓
Regular cleaning/removal of litter ✓✓
Bylaws to protect the inner-city environment
to follow up occupational rental payments ✓✓
**[Accept Any FOUR]** (4 x 2) (8)

4.4

4.4.1 It is an illegally built settlement ✓
**[Concept]** (1 x 1) (1)

4.4.2 The municipality has failed to build them proper homes ✓ (1 x 1) (1)

4.4.3 Vulnerable in times of heavy rain and floods ✓✓
Open fires present a fire hazard ✓✓
Spread of diseases ✓✓
Crime, drugs and poverty ✓✓
Lack of running water in homes ✓✓
Outside toilets – communal ✓✓
**[Any TWO]** (2 x 2) (4)

4.4.4 Shacks are unsightly ✓✓
Illegal occupying of land ✓✓
Cause pollution of the environment/ environmental despoliation ✓✓
Attract criminals ✓✓
Land is set aside for formal housing✓✓
**[ANY TWO]** (2 x 2) (4)

4.4.5 Self-help schemes e.g. providing basic services ✓✓
Giving squatters legal ownership of the land they live on ✓✓
Provision of low cost houses ✓✓
Consultation with local communities ✓✓
**[Any TWO]** (2 x 2) (4)

4.5

4.5.1 These are activities whereby people obtain their needs from surface of the earth ✓
**[Concept]** (1 x 1) (1)

4.5.2 NUMSA ✓
AMCU✓
**[Any ONE]** (1 x 1) (1)

4.5.3 Strikes in mining ✓✓
Demand for higher wages ✓✓
Decline in the mineral reserves ✓✓
High cost of mining ✓✓
Down grade and credit rating in the mining sector ✓✓
**[Any TWO]** (2 x 2) (4)

4.5.4 Rock falls ✓
Natural gas leaks ✓
Floods in the mine ✓
**[Any ONE]** (1 x 1) (1)

4.5.5 Retrenchment in the mining sector ✓✓
Decrease in the foreign exchange ✓✓ - ↓ GDP (2 x 2) (4)

4.5.6 Setting the minimum wage/wage negotiations ✓✓
Improving working conditions for employers for a better standard of living✓✓
Secret strike ballot to ensure rights of miners are exercised✓✓
Effort to improve credit rating for higher credentials ✓✓
**[Any TWO]** (2 x 2) (4)

4.6

4.6.1 Durban-Pinetown (Ethekwini) ✓ (1 x 1) (1)

4.6.2 The presence of the harbour facilities ✓✓
Availability of raw materials (e.g. sugar cane and sub-tropical fruits) ✓✓
Availability of water since the region lies in the eastern half of the country ✓✓
Access to labour ✓✓
**[Any ONE]** (1 x 2) (2)

4.6.3 Labour costs and strikes slow down industrial development ✓✓
Distance to markets increases the cost of the product ✓✓
Power outages (load shedding)/unreliable provision of power/ energy ✓✓
Pollution puts more strain on the environment ✓✓
Less land available for expansion of industries ✓✓
HIV/AIDS aggravates labour shortages ✓✓
**[Any TWO]** (2 x 2) (4)

4.6.4 Provide land and buildings at an affordable rate ✓✓
Provide transport of goods at a reduced cost ✓✓
Government can carry cost of the move ✓✓
Provide electricity and water at an affordable rate ✓✓
Provide housing for labourers at a reduced rate ✓✓
Encourage partnership between private and public enterprises ✓✓
Offer free skills training/development ✓✓
Offer industrialists tax rebates ✓✓
**[Any FOUR]** (4 x 2) (8)

**[75]**