Province of the
EASTERN CAPE
EDUCATION

NATIONAL SENIOR CERTIFICATE

GRADE 12

JUNE 2016

GEOGRAPHY P1

MARKS: **225**

TIME: **3 hours**

GEOGE1

This question paper consists of 10 pages.

INSTRUCTIONS AND INFORMATION

1. This question paper consists of THREE questions.

2. Answer all THREE questions of 75 marks each.

3. All diagrams are included in the ANNEXURE.

4. Number the questions correctly according to the numbering system used in this question paper.

5. Leave a line between subsections of questions answered.

6. Start EACH question on a NEW page.

7. Do NOT write in the margins of the ANSWER BOOK.

8. Illustrate your answers with labelled diagrams, where possible.

9. Mark allocation is as follows:
   2 x 1 = 2 means that TWO facts are required for ONE mark each
   2 x 2 = 4 means that TWO facts are required for TWO marks each

10. If words/action verbs like **Name**, **Identify**, **Provide**, **Classify**, are used in a question, ONE word answers are acceptable.
    If words/action verbs like **Discuss**, **Define**, **Explain**, **Comment**, **Evaluate**, **Justify**, **Suggest** and **Substantiate** are used in a question, FULL sentences or phrases are required.
    All paragraph questions must be answered in FULL sentences.

11. Write neatly and legibly.

SECTION A: PHYSICAL GEOGRAPHY – CLIMATE, WEATHER AND GEOMORPHOLOGY

QUESTION 1

1.1 Use the synoptic weather map, FIGURE 1.1 to answer the questions that follow.

1.1.1 Name the lines on the synoptic weather map that depict pressure.

1.1.2 Determine the atmospheric pressure at **A**.

1.1.3 Provide the name of the high pressure system at **B**.

1.1.4 Give the general wind direction at **C**.

1.1.5 Name of the low pressure system at **D**.

1.1.6 What type of winds are experienced ahead of the low pressure (**D**) at **E**?

1.1.7 Name the season being depicted by the synoptic weather map.

1.1.8 Name the wind belt that determines the direction of movement of the system at **F.** (8 x 1) (8)

1.2 Refer to FIGURE 1.2, showing a drainage basin. Provide the term/word the statements below refer to. Write ONLY the correct term/word next to question number (1.2.1–1.2.7).

1.2.1 The high lying area at **A**, which separates tributaries from each other

1.2.2 **B**, is the starting point of the river

1.2.3 The area at **C**, where the river flows into the sea

1.2.4 The term at **D** used to describe the area that a river system drains

1.2.5 The term for **E**, that separates one catchment area from another

1.2.6 The area at **F**, where two or more streams join each other

1.2.7 The course of the river at **G** (7 x 1) (7)

1.3 Study the cross section of a mid-latitude cyclone (FIGURE 1.3) and answer the questions that follow.

1.3.1 Identify the cloud type at **A** and **B**. (2 x 1) (2)

1.3.2 Wave formation in mid-latitude cyclones develop along the polar front. Name TWO types of disturbances that causes the wave formation stage in the mid-latitude cyclone. (2 x 1) (2)

1.3.3 Explain why freezing point (0°)is higher in the region of **X** than at **Y**. (1 x 2) (2)

1.3.4 Differentiate between the formation of the *cumulonimbus* and *nimbostratus clouds* during cold and warm front development. (2 x 2) (4)

1.3.5 Explain how the direction of storm movement will influence dew point temperatures around the cold and warm fronts. (2 x 2) (4)

1.4 FIGURE 1.4 shows the development of the moisture front. Answer the questions that follow.

1.4.1 The high pressure systems on the map form part of a global pressure belt. Name this global pressure belt. (1 x 1) (1)

1.4.2 Explain how the air movements at **A** and **B** causes the development of the moisture front. (1 x 2) (2)

1.4.3 Use both the map and the photo to answer the questions that follow:

(a) Identify the cloud type that developed at **E** during the formation of the moisture front. (1 x 1) (1)

(b) Name the type of rainfall that will occur in the area on the photo. (1 x 1) (1)

(c) Will the settlement in the photo be found at **C** or **D** on the map? Explain your answer. (1 + 2) (3)

(d) In a paragraph of approximately EIGHT lines, discuss the impact that this type of rainfall (answer to QUESTION 1.4.3(b)) will have on the agricultural activities in the area surrounding the settlement. (4 x 2) (8)

1.5 Refer to FIGURE 1.5 which shows how river capture has taken place and answer the questions that follow.

1.5.1 Identify the features of river capture at **A** and **B** respectively. (1 + 1) (2)

1.5.2 Name ONE characteristic of feature **A**. (1 x 1) (1)

1.5.3 How will river capture affect the meander loop at **Z**? (1 x 2) (2)

1.5.4 Suggest TWO reasons which made it possible for river **X** to capture the water of river **Y**. (2 x 2) (4)

1.5.5 Discuss the economic effect that river capture will have on the area around river **Y**. (3 x 2) (6)

1.6 Study FIGURE 1.6 that illustrate the stages in the development of a river. Answer the following questions.

1.6.1 Name the river profiles at **P** and **Q** respectively. (2 x 1) (2)

1.6.2 Determine the stream order of the river at point **Z**. (1 x 1) (1)

1.6.3 Differentiate between stages **R** and **T** by referring to the following:

(a) The dominant geomorphological process (2 x 1) (2)

(b) The dominant type of stream flow (2 x 1) (2)

1.6.4 The river is not in equilibrium, therefore not graded. Explain in a paragraph of EIGHT lines, the processes that the river will have to undergo to eventually become graded. (4 x 2) (8)

[75]

QUESTION 2

2.1 Refer to FIGURE 2.1, which shows urban climates, and answer the questions that follow.

2.1.1 Identify the specific urban climate illustrated in FIGURE 2.1.

2.1.2 Calculate the difference in temperature between the farmland and the city centre.

2.1.3 Name ONE factor, from the sketch, that contributes to higher city temperatures.

2.1.4 Which of the areas (**X** or **Y**), will experience more rainfall?

2.1.5 Will **X** or **Y**, receive more insolation?

2.1.6 Name ONE strategy evident in the figure that will reduce the effect of the urban climate (answer to QUESTION 2.1.1).

2.1.7 Name the term used to describe 'heat energy that radiates from urban areas'. (7 x 1) (7)

2.2 Refer to FIGURE 2.2, on different drainage patterns and answer the questions that follow. Write ONLY the letter of the drainage pattern next to the question number (2.2.1–2.2.8).

2.2.1 This pattern develops when there is well jointed igneous rocks.

2.2.2 The pattern occurs when streams flow from a central high laying area outwards.

2.2.3 This pattern can be found in regions that has experienced glaciation.

2.2.4 When rocks are uniformly resistant to erosion, this pattern develops.

2.2.5 The underlying rock structure of this pattern experienced folding.

2.2.6 The tributaries of this pattern join at acute angles.

2.2.7 The river makes right angles as it flows through cracks and joints of the rock.

2.2.8 The river of this pattern, cuts gaps and poorts through ridges. (8 x 1) (8)

2.3 Study the path of TROPICAL STORM ERIKA in FIGURE 2.3, and answer the questions that follow.

2.3.1 How many tropical cyclones preceded TROPICAL STORM ERIKA? (1 x 1) (1)

2.3.2 Provide a suitable month for the occurrence of the tropical cyclone in 2015. (1 x 1) (1)

2.3.3 Identify the general direction in which TROPICAL STORM ERIKA is moving. Provide a reason for the direction. (1 + 2) (3)

2.3.4 Explain why the tropical cyclone did not originate at **A** on the map. (1 x 2) (2)

2.3.5 In a paragraph of EIGHT lines, discuss the contrasting (different) effects that TROPICAL STORM ERIKA will have on *San Juan* and *Miami* respectively. (4 x 2) (8)

2.4 Refer to FIGURE 2.4, which shows how the microclimate in a valley influences human activities and answer the questions that follow.

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

2.4.2 In which hemisphere is this valley located? Explain your answer. (1 + 2) (3)

2.4.3 Name the winds that blow during the night in the valley. (1 x 1) (1)

2.4.4 Explain why the different fruit trees are planted at places **A** and **B** respectively. (1 x 2) (2)

2.4.5 Draw a labelled diagram to illustrate the development of an inversion during the night in the valley. (4 x 1) (4)

2.4.6 Describe why the pollutants from the factory at **D**, is less harmful to the inhabitants during the day. (2 x 2) (4)

2.5 Refer to FIGURE 2.5, showing a different fluvial landforms and answer the questions that follow.

2.5.1 Identify fluvial landforms **A** and **B** respectively. (1 + 1) (2)

2.5.2 Explain how feature **A** developed. (2 x 2) (4)

2.5.3 Comment on the reason for the natural levee maintaining its height in the flood plain. (1 x 2) (2)

2.5.4 Discuss in a paragraph of approximately EIGHT lines, the suitability of the floodplain for agricultural activities. (4 x 2) (8)

2.6 Study FIGURE 2.6, which depicts human activities along a drainage basin. Use the information on the sketch to answer the questions that follow.

2.6.1 Define the term *runoff*. (1 x 1) (1)

2.6.2 Name the process shown by the arrows at **A**. (1 x 1) (1)

2.6.3 Provide an alternative geomorphological term for the label: "*Ground-Water Discharge to Stream".* (1 x 2) (2)

2.6.4 The rate of the process at **A** is higher in the region of **B** than at **C**. Explain TWO factors evident on the sketch that influenced the difference in the rates. (2 x 2) (4)

2.6.5 Evaluate the impact that the farming activities on the sketch will have on the water quality of the stream. (3 x 2) (6)

[75]

SECTION B: RURAL AND URBAN SETTLEMENTS

QUESTION 3

3.1 The terms/words below refers to the phrases that follows. Write the correct term/word next to question number (3.1.1–3.1.8).

Site / Rural / Dispersed settlement / Rural hamlet / Push factors / Subsistence farming / Basic need philosophy / Land restitution / Land redistribution

3.1.1 A loose grouping of farmsteads.

3.1.2 The government buys land and sells it to potential farmers

3.1.3 The strategy that sees human dignity as a prerequisite for economic development.

3.1.4 Settlements that are uni-functional.

3.1.5 The issues that forces people to move from rural areas to urban areas

3.1.6 The precise terrain that is being covered by a settlement

3.1.7 The settlement pattern, where the buildings are far apart from each other

3.1.8 When primitive farming methods are used during farming activities

(8 x 1) (8)

3.2 Choose a term from COLUMN B that matches the description in COLUMN A. Write only the letter (A–G) next to the question number (3.2.1–3.2.7), for example 3.2.8 H.

COLUMN A		COLUMN B	
3.2.1	Forces that attract people and businesses to the CBD	A	Sphere of influence
3.2.2	The system that shows the ranking of cities according to their amount of functions	B	Rate of urbanisation
3.2.3	The area from which a business attracts its customers	C	Urban sprawl
3.2.4	The maximum distance a customers is prepared to travel to make use of a service	D	Centripetal forces
3.2.5	The percentage of a country's total population living in urban areas	E	Urban decay
3.2.6	Refers to the uncontrolled expansion of urban areas	F	Range
3.2.7	This refers to the ageing and deterioration of buildings	G	Hierarchy
		H	Level of urbanisation

(7 x 1) (7)

3.3 Refer to FIGURE 3.3, and answer the questions that follow.

3.3.1 Identify TWO factors that influenced the site of settlement **B**. (2 x 1) (2)

3.3.2 Differentiate between the rural settlement patterns at **A** and **B**. (2 x 1) (2)

3.3.3 **C** is a suitable location for commercial agricultural farming. Substantiate this statement by providing evidence from the sketch. (2 x 2) (4)

3.3.4 Write a paragraph of approximately EIGHT lines in which you evaluate the socio-economic advantages and disadvantages of settlement pattern at **B**. (4 x 2) (8)

3.4 Refer to FIGURE 3.4, about a rural settlement issue, and answer the questions that follow.

3.4.1 Name the process being illustrated by the arrows at **A**. (1 x 1) (1)

3.4.2 List ONE physical push factor that encouraged the process mentioned in QUESTION 3.4.1. (1 x 1) (1)

3.4.3 One of the consequences of the process mentioned in QUESTION 3.4.1 is rural depopulation. Discuss the negative impact rural depopulation will have on rural areas. (2 x 2) (4)

3.4.4 The city border is indicated by **B** on the sketch. Explain why this border line differs during the PRESENT and FUTURE COUTRYSIDE. (2 x 2) (4)

3.4.5 Discuss TWO strategies that the local municipalities of the COUNTRYSIDE may have implemented to attract urban households to the rural areas. (2 x 2) (4)

3.5 FIGURE 3.5, is an illustration of urbanisation. Study the illustration and answer the questions that follow.

3.5.1 What is *urbanisation*? (1 x 1) (1)

3.5.2 Explain how the sketch illustrates urbanisation. (1 x 2) (2)

3.5.3 Discuss how the natural environment is being affected by urbanisation as shown in the illustration. (2 x 2) (4)

3.5.4 The person in the sketch represents the local municipalities of urban areas and seems to be very concerned about how the process of urbanisation is unfolding. In a paragraph of approximately EIGHT lines, describe how the development of greenbelts can be used as a strategy to make cities more sustainable. (4 x 2) (8)

3.6 Study the photo of an urban land use zone in FIGURE 3.6, and answer the questions that follow.

3.6.1 Does the photo depict a heavy or light industry? (1 x 1) (1)

3.6.2 Name any TWO characteristics of this type of industry (answer to QUESTION 3.6.1). (2 x 1) (2)

3.6.3 Describe the negative effect that the urban problem at **A** might have on the building structures of the area. (2 x 2) (4)

3.6.4 Discuss how the problem at **A** on the photo can be minimised. (2 x 2) (4)

3.6.5 Explain why this type industry and the CBD cannot be located close to each other. (2 x 2) (4)

[75]

TOTAL: 225

Province of the
EASTERN CAPE
EDUCATION

NATIONAL SENIOR CERTIFICATE

GRADE 12

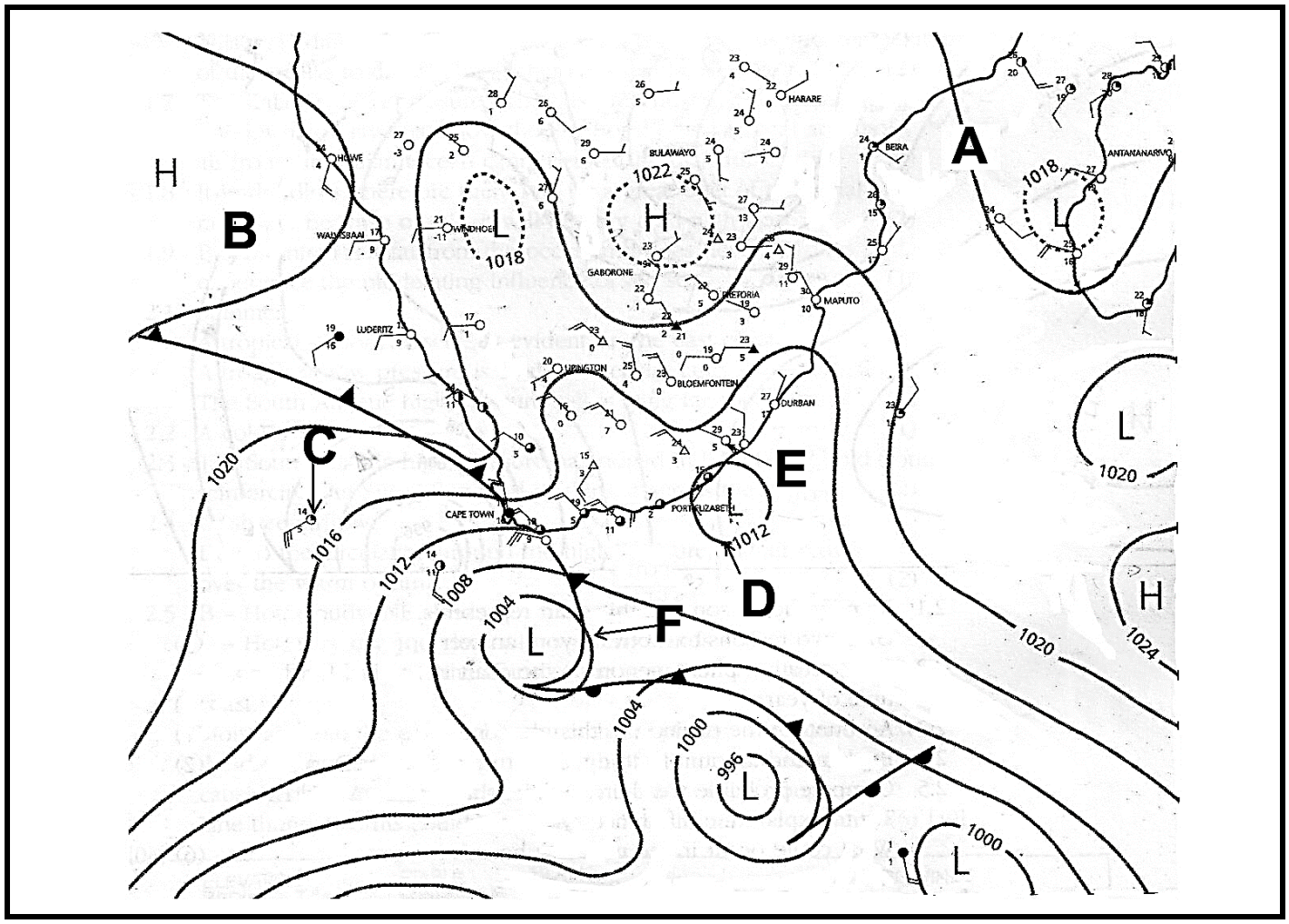
JUNE 2016

GEOGRAPHY P1 ANNEXURE

GEOGE3

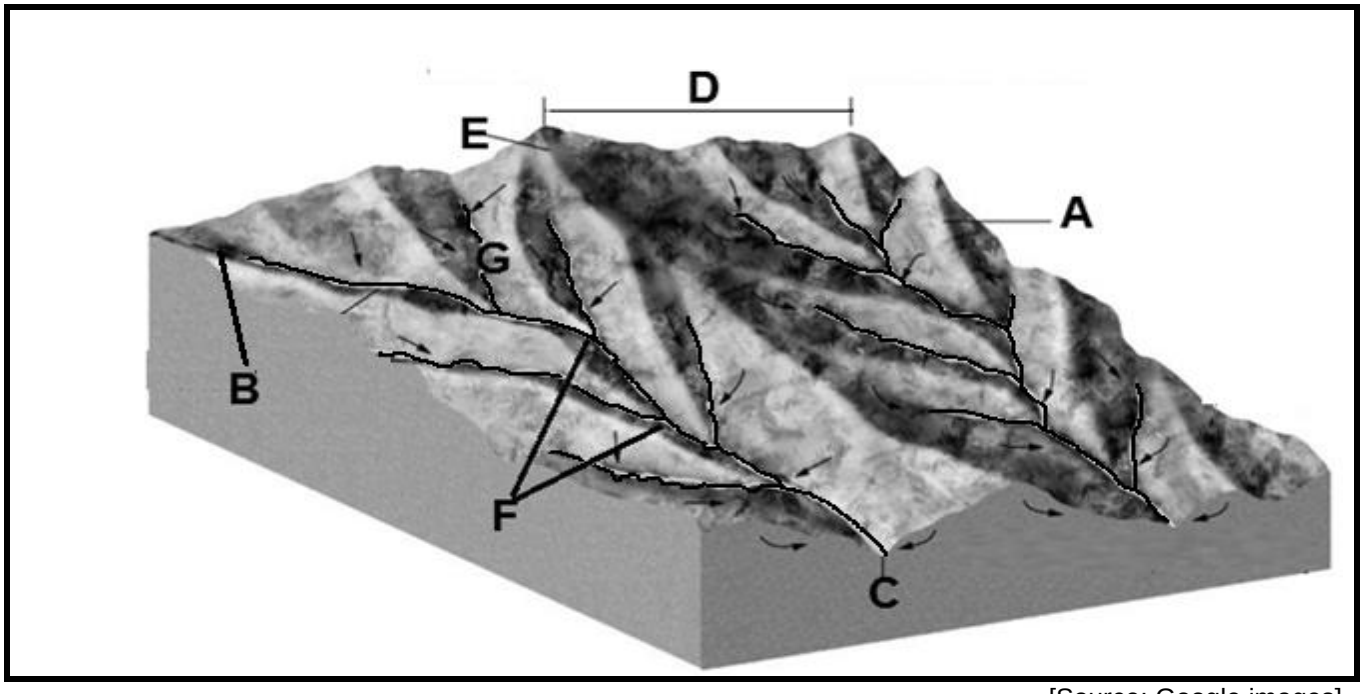
This annexure consists of 9 pages.

FIGURE 1.1: SYNOPTIC WEATHER MAPS



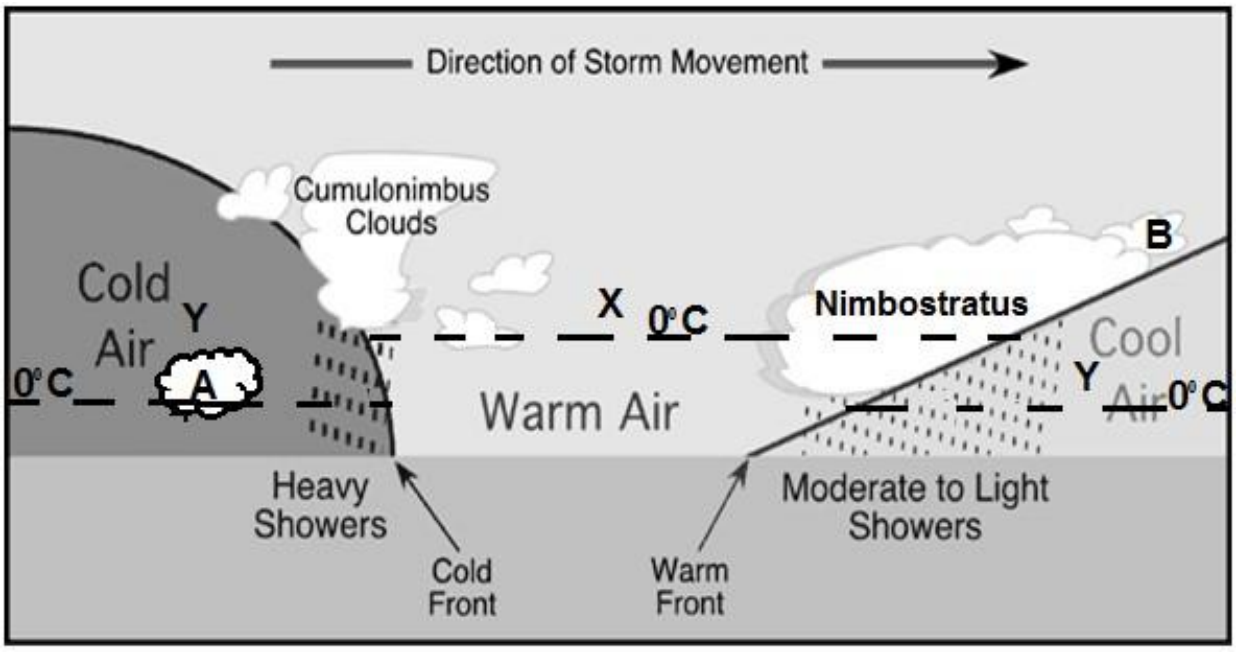
[Source: Adapted from *X-kit gr 12*]

FIGURE 1.2: DRAINAGE BASINS



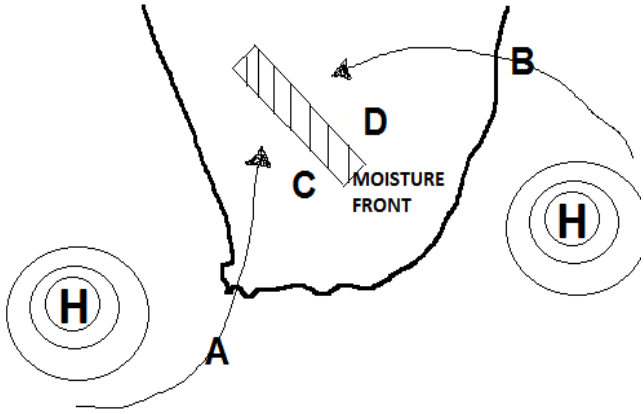
[Source: Google images]

FIGURE 1.3: CROSS SECTION OF A MID-LATITUDE CYCLONE



[Source: *Google images*]

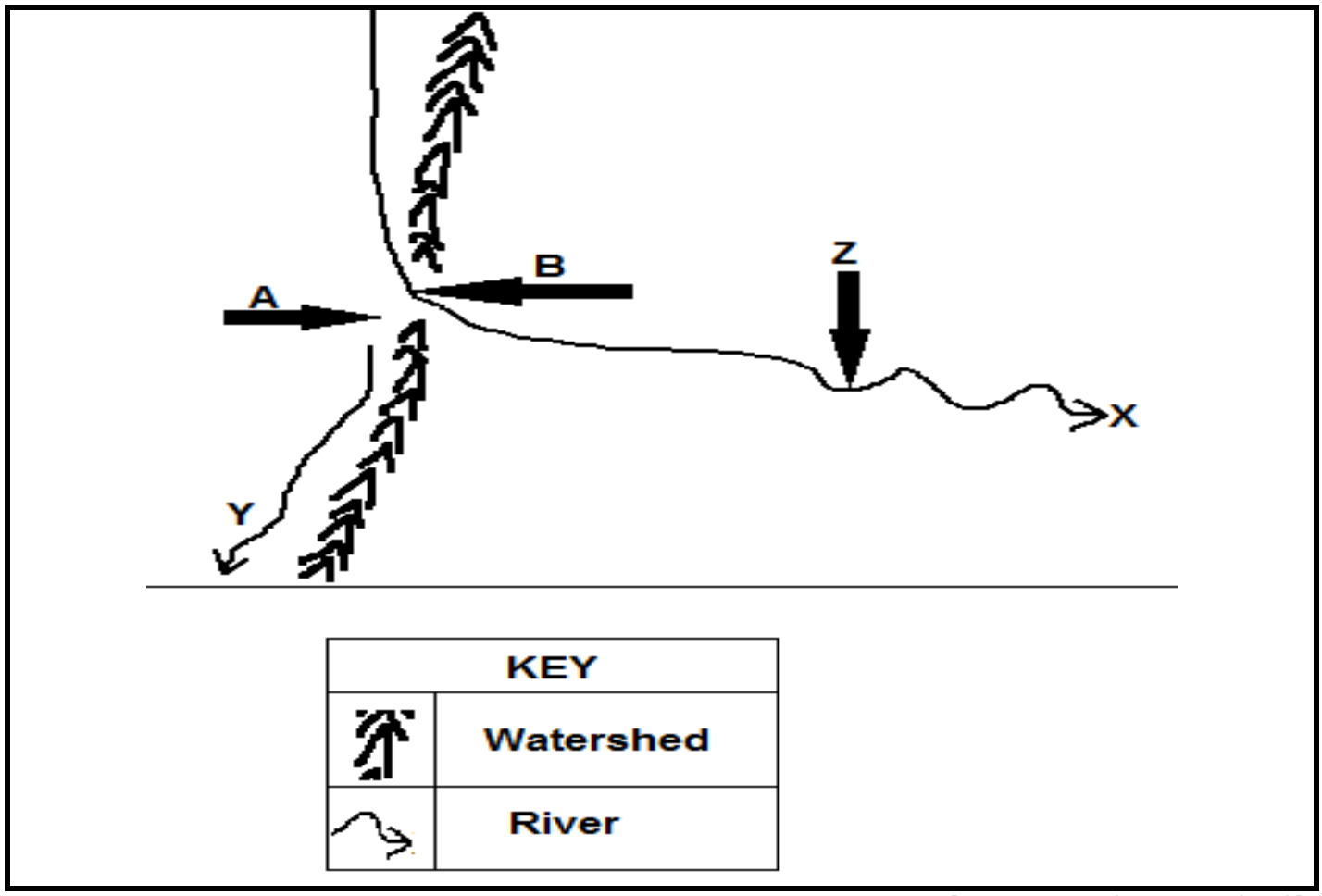
FIGURE 1.4: MOISTURE FRONT



[Bron: *Examiners own sketch*]

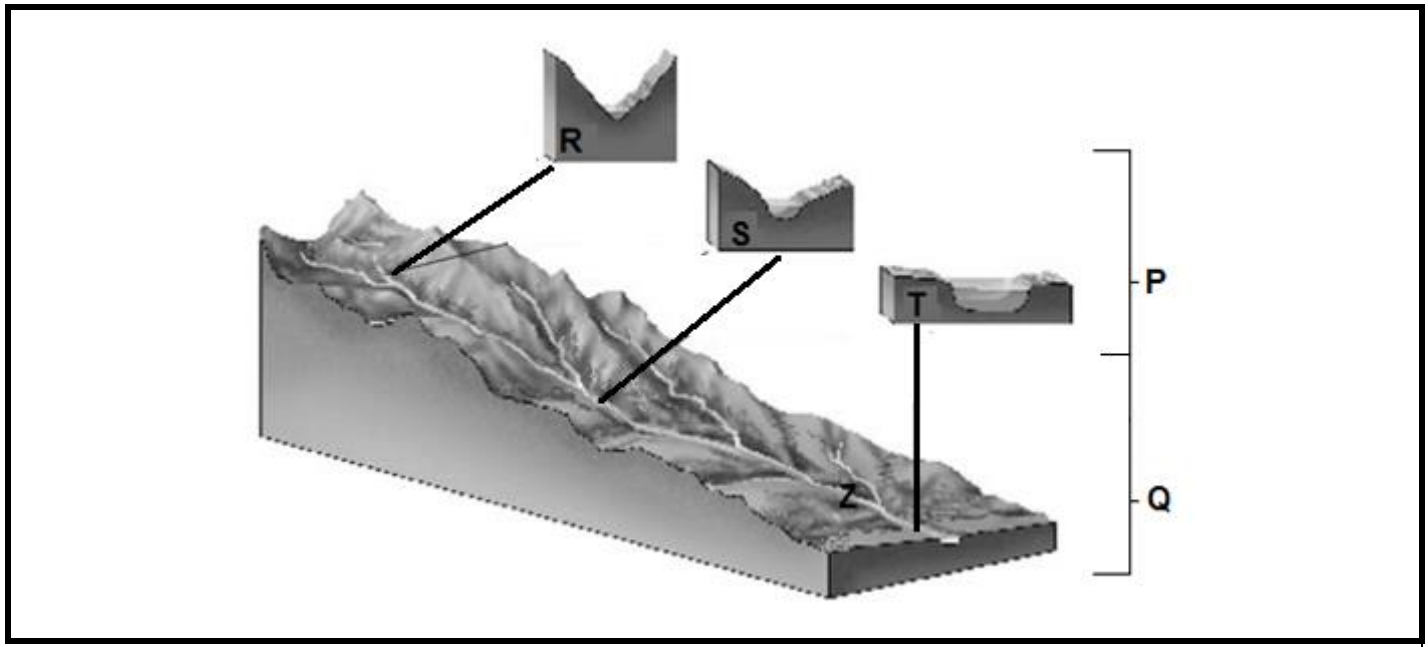
[Source: *www.google.co.za/images/*]

FIGURE 1.5: RIVER CAPTURE



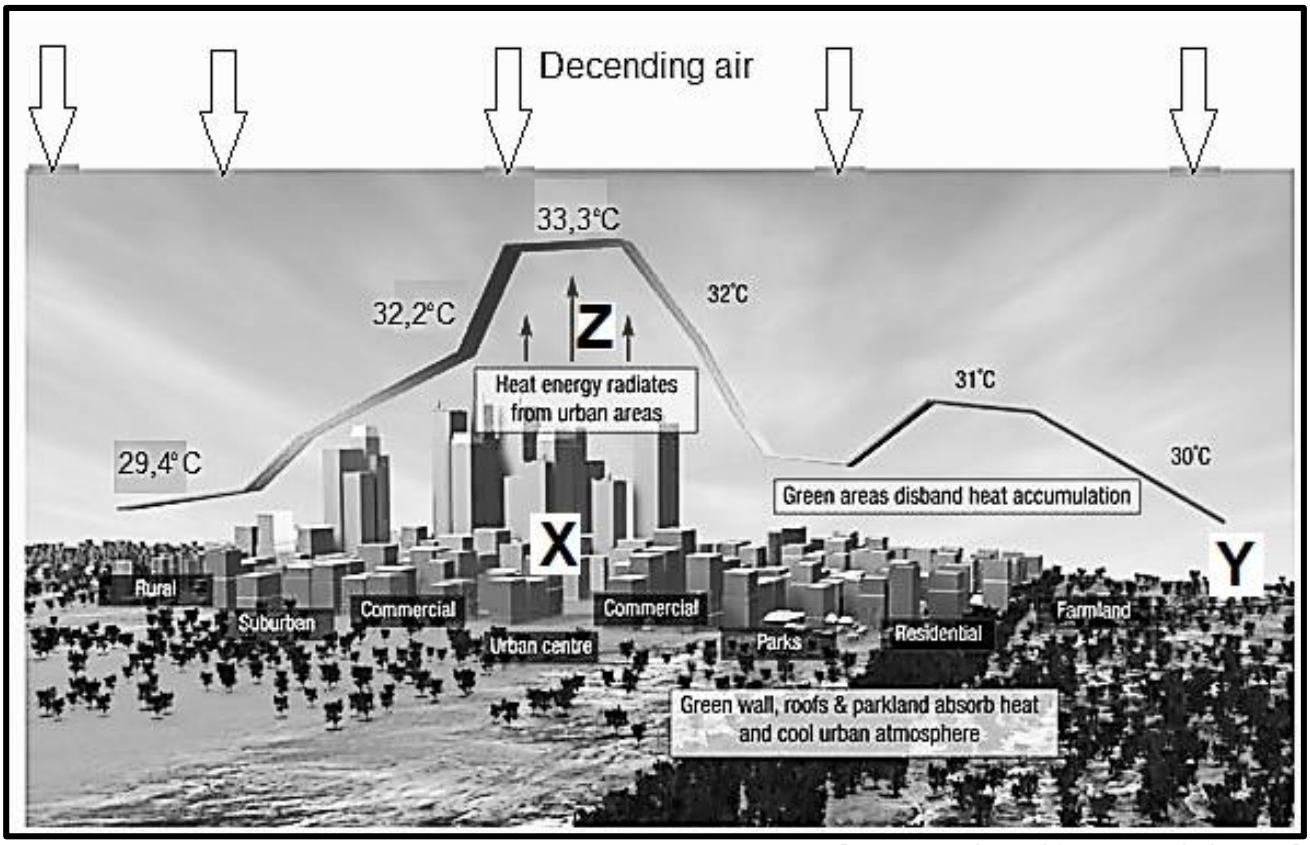
[Source: *Examiners own sketch*]

FIGURE 1.6: STAGES OF DEVELOPMENT OF A RIVER



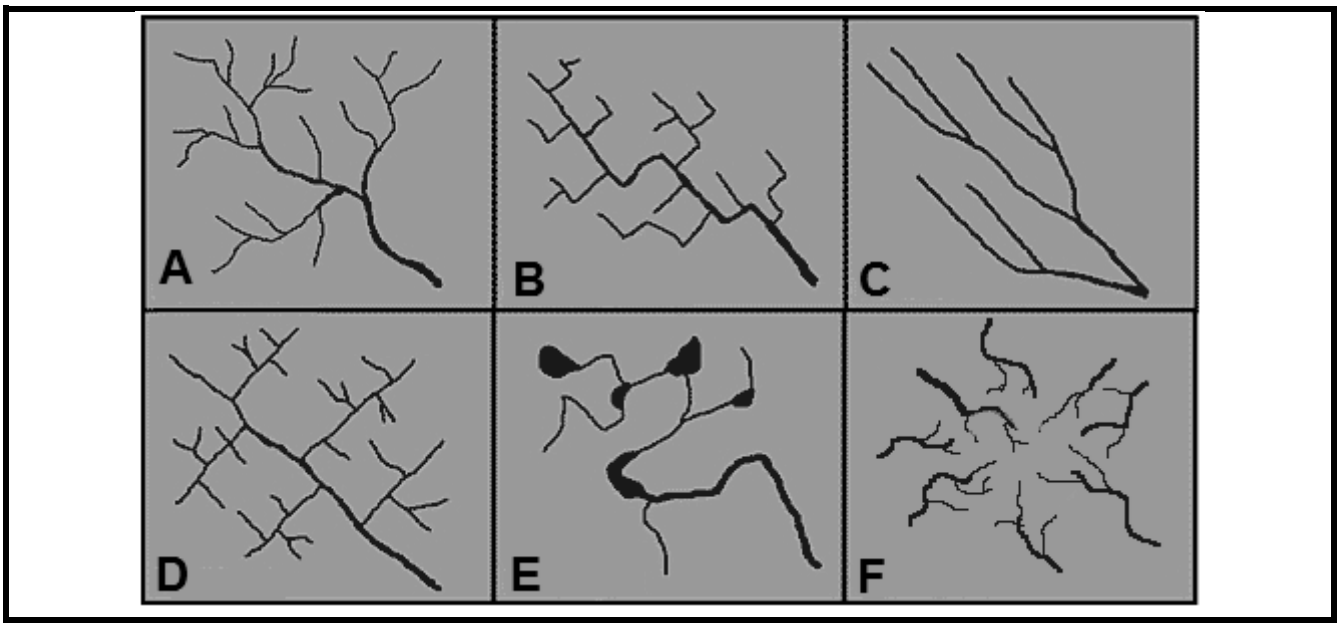
[Source: *New windows of the world*]

FIGURE 2.1: URBAN CLIMATE



[Source: *Adapted from Google images*]

FIGURE 2.2: DRAINAGE PATTERNS

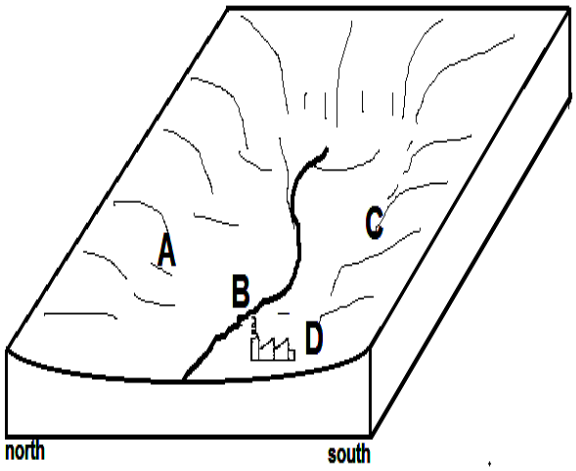


[Source: *Adapted from Google images*]

FIGURE 2.3: TROPICAL CYCLONES

[Source: *Google images*]

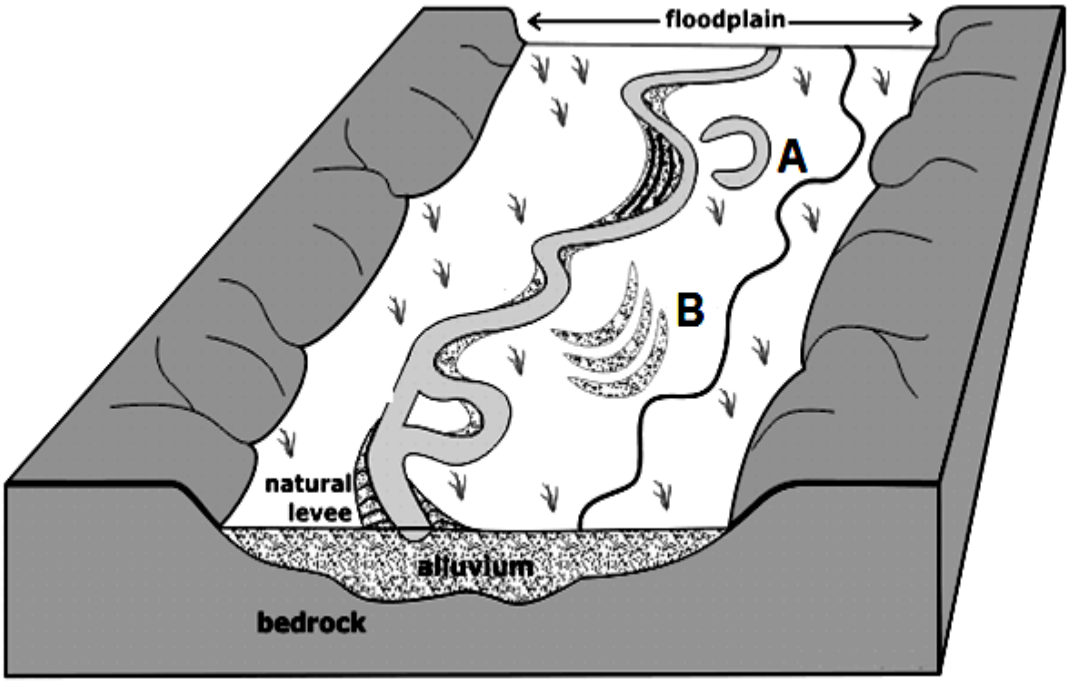
FIGURE 2.4: VALLEY CLIMATE



Place	Average Temperature		Vegetation
	Day	Night	
A	24 °C	14 °C	Peach trees
B	14 °C	-2 °C	Apple trees
C	18 °C	8 °C	Trees and bush

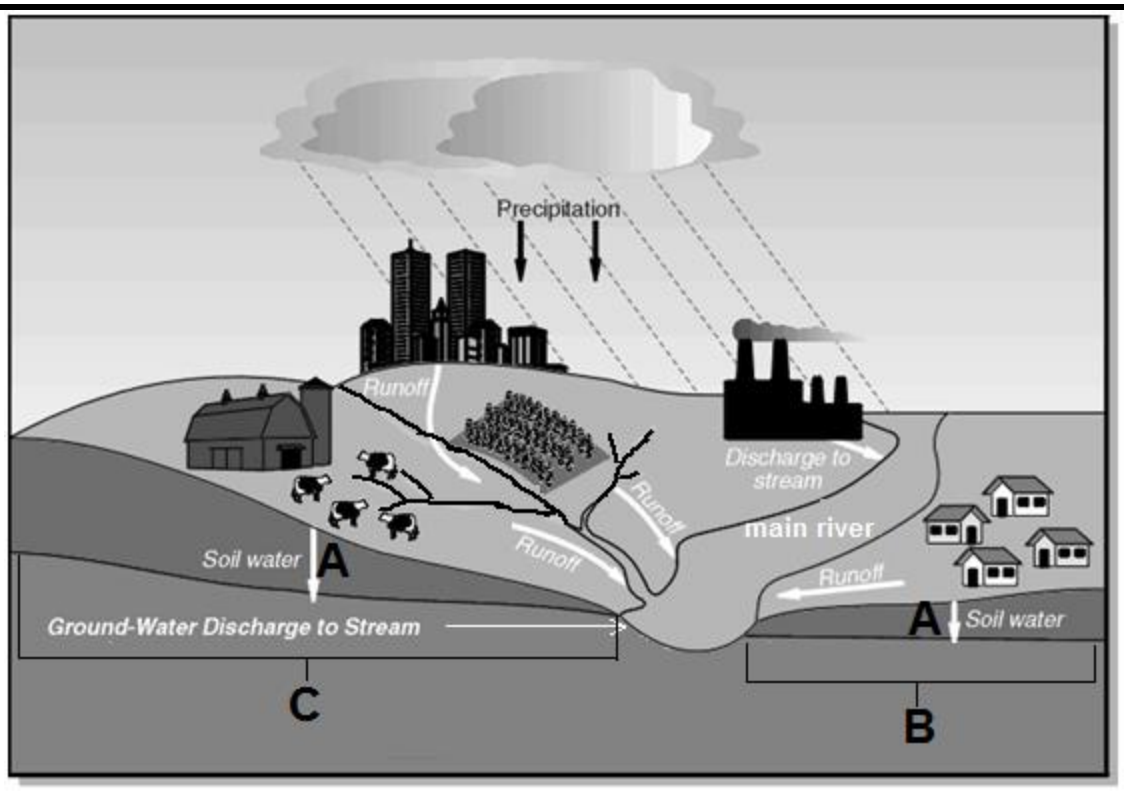
[Source: Examiner's own sketch]

FIGURE 2.5: FLUVIAL LANDFORMS



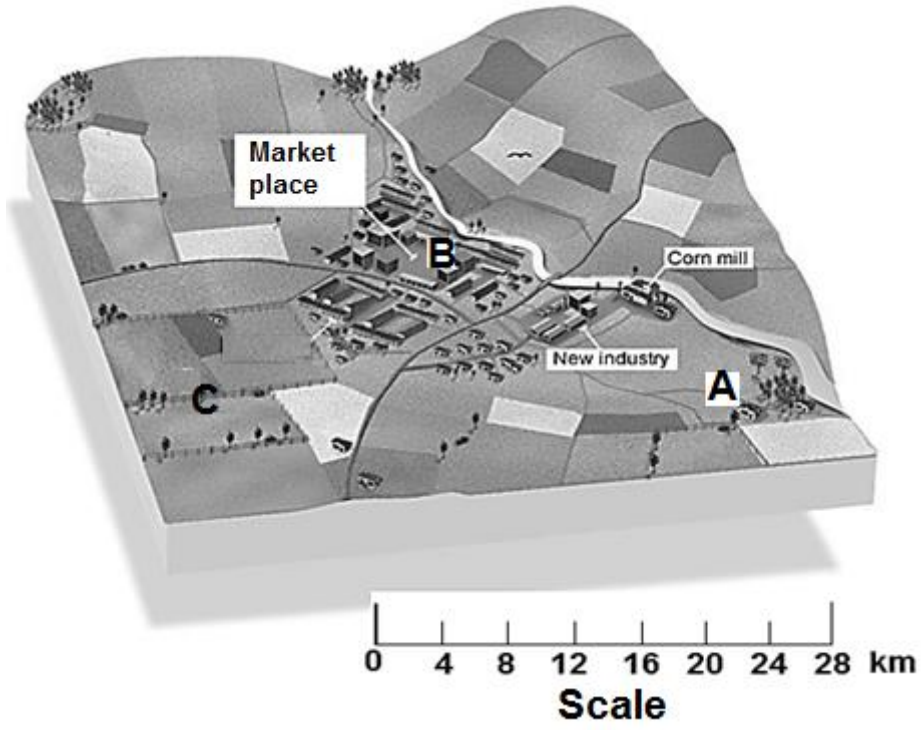
[Source: *Physical Geology – Earth revealed*]

FIGURE 2.6: DRAINAGE MANAGEMENT



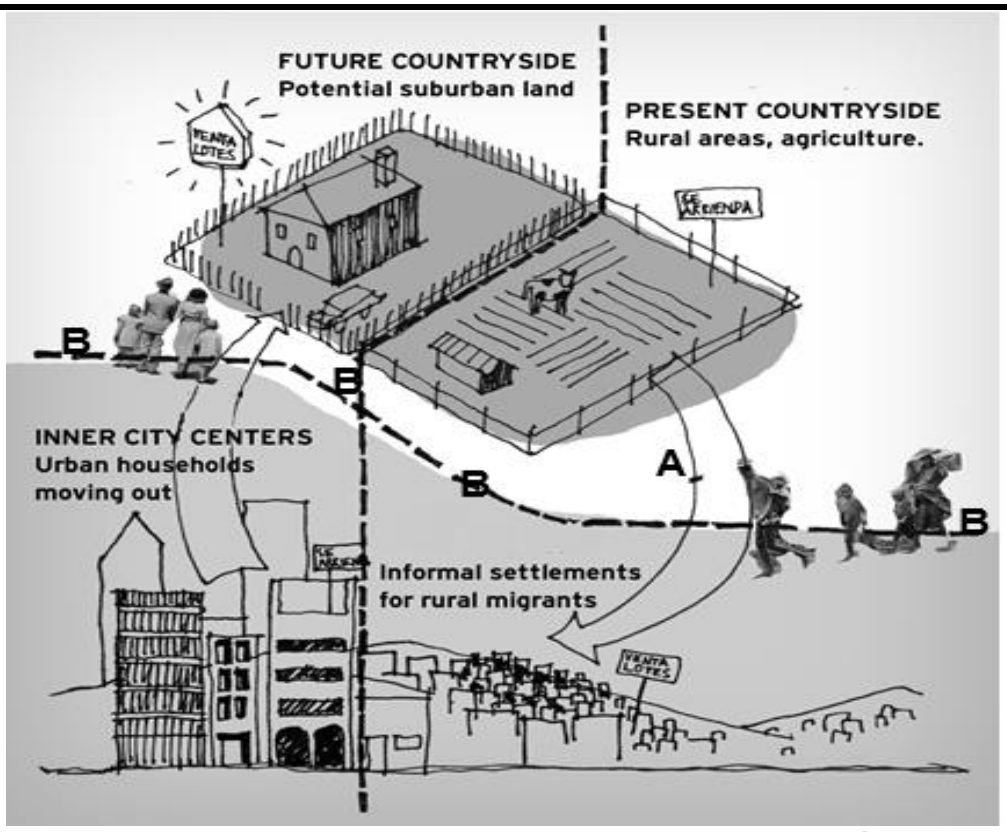
[Source: *Google images*]

FIGURE 3.3: SITE, LOCATION AND PATTERN OF RURAL SETTLEMENTS



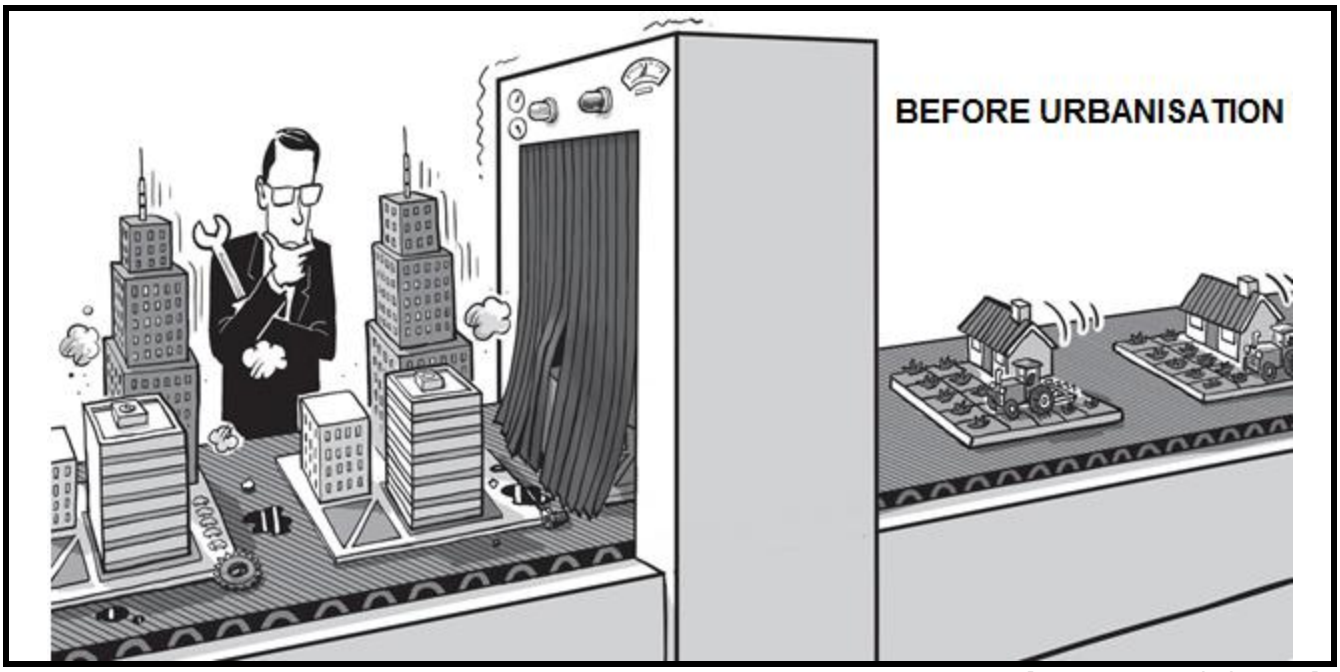
[Source: *www.google.co.za/images*]

FIGUUR 3.4- RURAL SETTLEMENT ISSUE



[Source: *Google images*]

FIGURE 3.5: URBANISATION



[Source: *Google images*]

FIGURE 3.6: LAND USE ZONES IN URBAN AREAS

[Source: www.google.co.za/ images