



J E N N

Training and Consultancy
The path to enlightened education

GEOGRAPHY

GRADE 12: REVISION STUDY GUIDE

WINTER CLASSES

Topic 1

CLIMATOLOGY

Topic 2

GEOMORPHOLOGY

Topic 3

SETTLEMENT GEOGRAPHY

Climate and Weather

	HIGH PRESSURE	LOW PRESSURE
Names	Anticyclone	Cyclones
Characteristics	High pressure with sinking air. Rotates clockwise in Northern Hemisphere, and Anticlockwise in Southern Hemisphere	Low pressure with rising/ ascending air. Rotates clockwise in S.H and anticlockwise in Hemisphere
Weather conditions	Dry warmer weather. Temperature increase with 1 ^o c for every 100m	Wetter cooler weather. Moist air decrease its temperature 1 ^o c for every 100m

General characteristics of Midlatitude cyclone

- Other names: Frontal depression, temperate cyclone, extra tropical cyclone
- Midlatitude cyclone are found between 40^o-60^o N and S Hemisphere
- These cyclones occurs between 30^o-60^o N and S
- Midlatitude cyclones move from West to east (**driven/pushed** by Westerlies)
- Occurs all year round in both hemispheres; **affects** South Africa in **winter**
- Associated with warm front, warm sector, cold front, cold sector
- Weather conditions associated with a cold front : overcast, low temperatures, strong winds, heavy rain (Cumulonimbus clouds)
- Western side of continents are affected by mid-latitudes cyclones

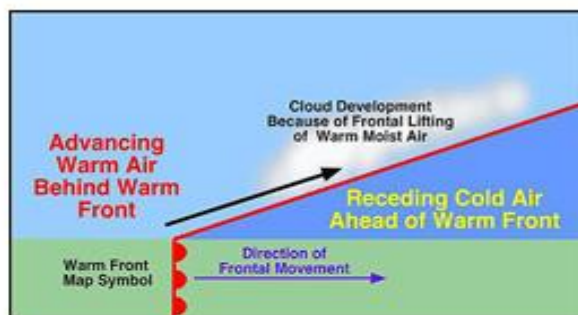
How Midlatitude cyclone forms

- There must be temperature contrast between westerlies and polar easterlies to form polar front.
- There must be disturbance in Jet stream which pushes cold air into warm air.
- A low pressure develops when warm air rises above cold air as driven by westerlies.

Conditions necessary for development of Midlatitude cyclone

- ❖ Difference between land and sea temperature
- ❖ Shape of coastline
- ❖ Acceleration of any of air masses
- ❖ Mountain ranges

MID LATTITUDE CYCLONES: CONCEPTS

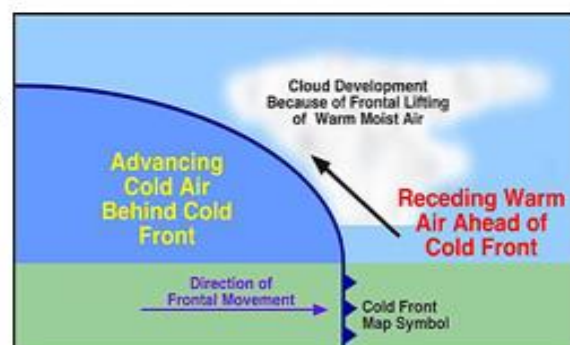


WARM FRONT OCCLUSION

- ❖ When the coldest air in the Midlatitude cyclone is ahead of warm front.
- ❖ Cold front will be lifted up along warm front
- ❖ Rising air is cooled. Condenses and forms clouds
- ❖ The results are rainfall and are associated with warm front

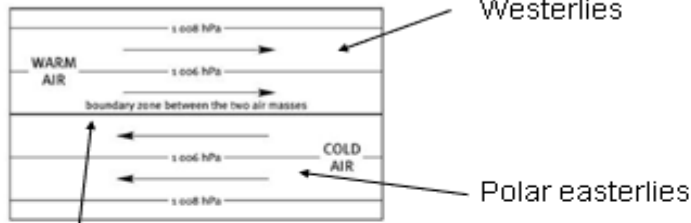
COLD FRONT OCCLUSION

- ❖ Occurs when coldest air is behind cold front
- ❖ The warm front will be lifted along the cold front
- ❖ Rising air is cooled. Condenses and forms clouds
- ❖ The results are rainfall and are associated with cold front



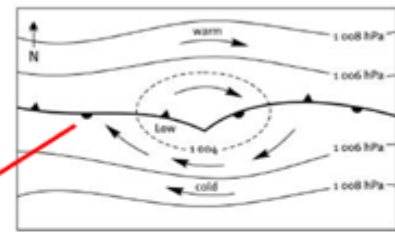
MIDLATTITUDE CYCLONE: STAGES

1 INITIAL STAGE

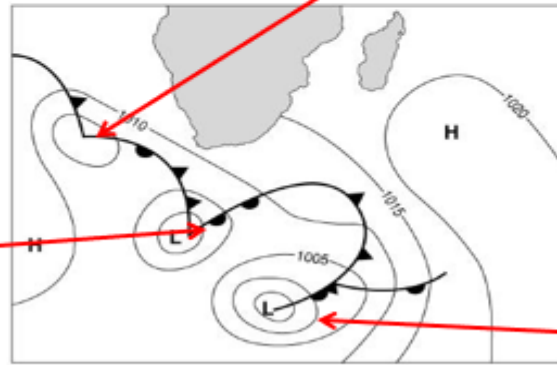
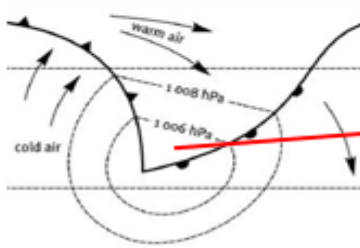


Polar front

2 DEVELOPMENT STAGE

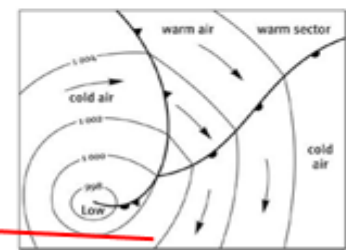


3 MATURE STAGE



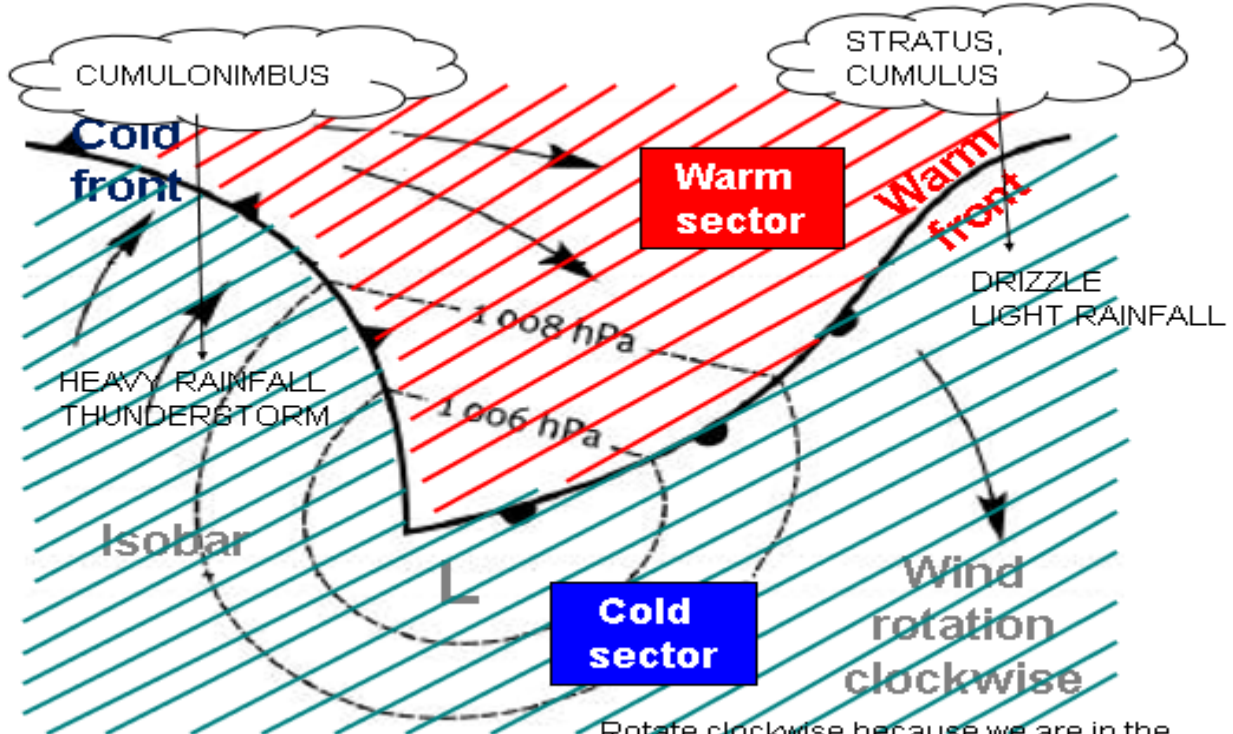
FAMILY OF CYCLONES

4 OCCLUSION



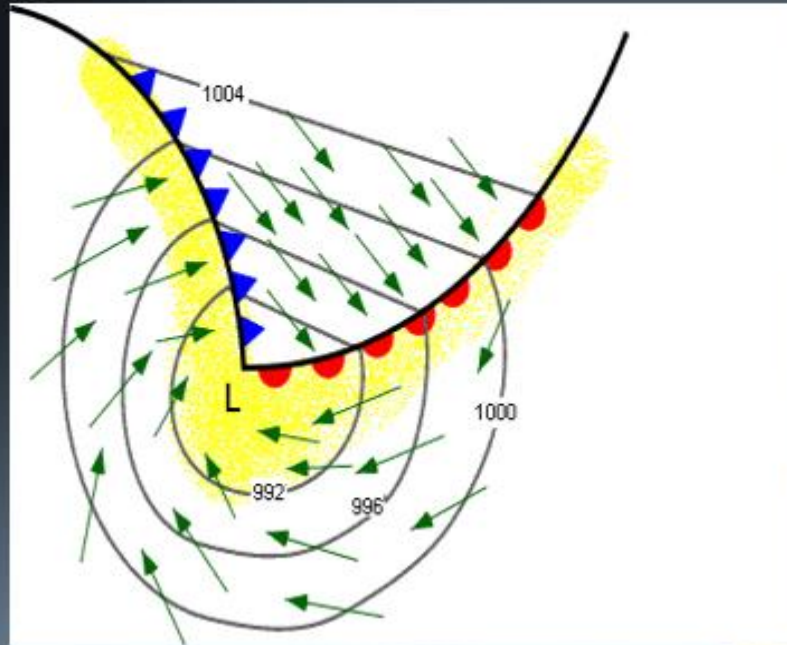
Midlatitude travels from **West** to **East**; with **oldest** on far **South east** and **youngest** on North **West**. They may follow each other as **3-5 members**

MID-LATTITUDE CYCLONE

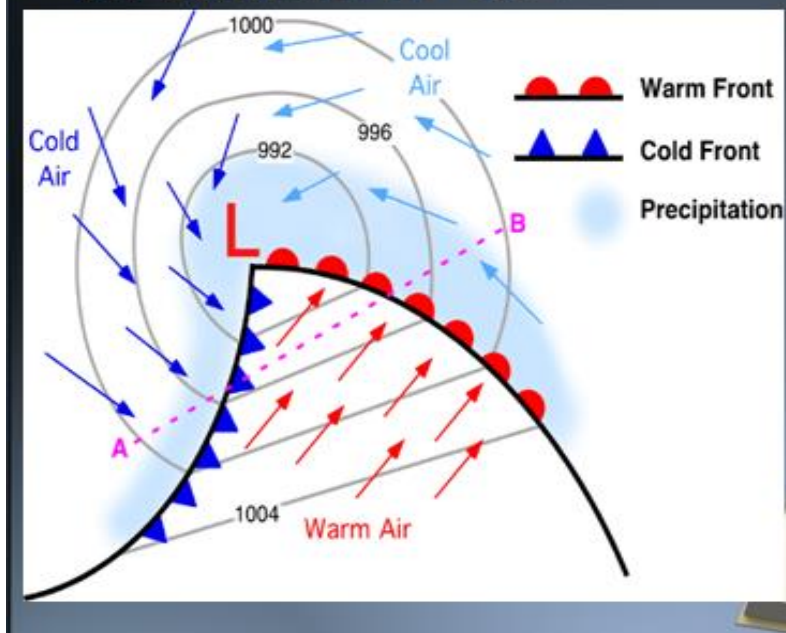


Rotate clockwise because we are in the **Southern Hemisphere**

MIDLATITUDE CYCLONE IN THE SOUTHERN HEMISPHERE



MIDLATITUDE CYCLONE IN THE NORTHERN HEMISPHERE



Weather pattern associated with fronts:

Cold front weather	Warm front weather	Warm sector weather
1. Wind backs(West to South West)	1. Wind changes from northwest to west	1. Pressure drops
2. Strong winds with low temperatures	2. More humidity with high temperatures	2. Has warm less dense air
3. Heavy rain with cumulonimbus clouds	3. Light rain with nimbostratus clouds	3. Associated with stratocumulus, altostratus clouds.
4. Pressure decreases as front approaches but rise as cold sector arrives	4. Decrease in air pressure	
IMPACT OF MIDLATITUDE ON HUMANS AND ENVIRONMENT		
<input type="checkbox"/> Strong winds from thunderstorms, hail, and some snow can destroy infrastructure and kill people(Negative Impact)		
<input type="checkbox"/> Communication is disrupted, shipping and aeroplanes cannot operate and out door activities(Positive Impact)		
<input type="checkbox"/> Heavy rain in the Western Cape leads to poor visibility and accidents(Negative Impact)		
<input type="checkbox"/> Very cold conditions leading to power cuts as people will be using more power to warm themselves		

MIDLATITUDE CYCLONE QUESTIONS

• FEBRUARY/ MARCH 2015

- 2.3 Study the plan view of and the cross-section through a mid-latitude cyclone in FIGURE 2.3.
- 2.3.1 In which general direction does this cyclone move in the Southern Hemisphere? (1 x 1) (1)
- 2.3.2 Give TWO pieces of evidence to support the statement that the cyclone is in its mature stage. (2 x 2) (4)
- 2.3.3 Why does the warm front (C) have very little influence on the weather of South Africa? (1 x 2) (2)
- 2.3.4 In a paragraph of approximately EIGHT lines, explain the process of occlusion and associated weather conditions of a mid-latitude cyclone. (4 x 2) (8)

FIGURE 2.3: MID-LATITUDE CYCLONE



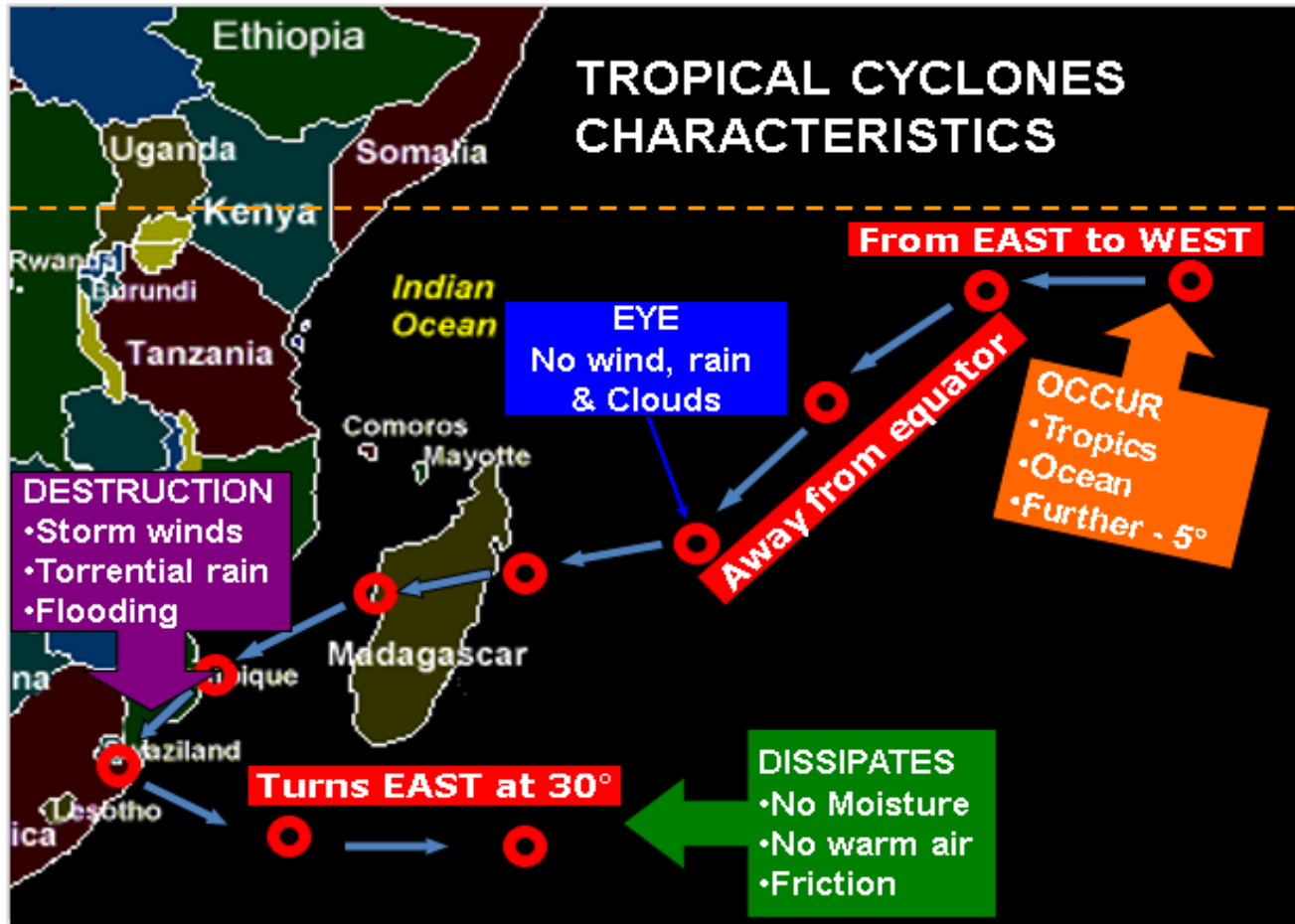
[Source: <http://ftp.bhs.co.za/Subjects/>]

TROPICAL CYCLONES

Characteristics of Tropical cyclone	
Other names	Typhoon – China/Japan Willy willies – Australia Cyclone – Indian ocean Hurricane - USA
Formation	Formed around 5° N and 30°S Hemisphere, and does not occur at equator (0°) because there is no coriolis force.
Occurance	Occurs over tropics between 5° to 30° N and S hemisphere
Movement/ Direction	They travel from East to West driven by Easterly winds
Season	They occur late summer early autumn
Areas affected	Eastern side of continents in tropical latitudes
Weather	Intense thunderstorm, stormy vortex and the eye (centre of tropical cyclone with calm conditions)
Rotation	Rotate clockwise in Southern Hemisphere and anti-clockwise in Northern hemisphere
Life Span	They lasts a week. (4-7 days) and diameter of 200-750km

PLAN VIEW AND SATELLITE IMAGE OF A TROPICAL CYCLONE





Factors necessary for **FORMATION** of tropical cyclone

- ❖ Occurs in a low pressure area, **between 5° – 30°** N and S equator
- ❖ Associated with **heat** required for **uplift of air**
- ❖ Occur over oceans with **temp above 27°C**
- ❖ **Do not occur at equator due to lack of coriolis force**

Characteristics

- Occur over warm oceans with 27°C temp
- Do not occur at 0° to 4°C
- Move from east to west
- They die when they move inland

Reason

- For constant supply of moisture
- No coriolis force
- They are driven by trade winds called tropical easterlies
- The heat is removed, friction and moisture is cut off.

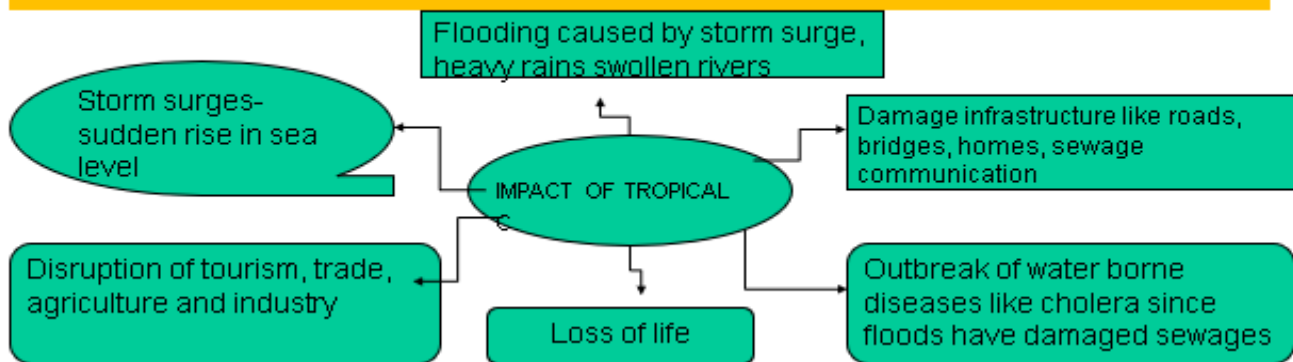
Areas where tropical cyclone forms:

- ☐ Over warm oceans, **between 5° – 30°**
- ☐ Where there is uplift of air with **temp above 27°C**

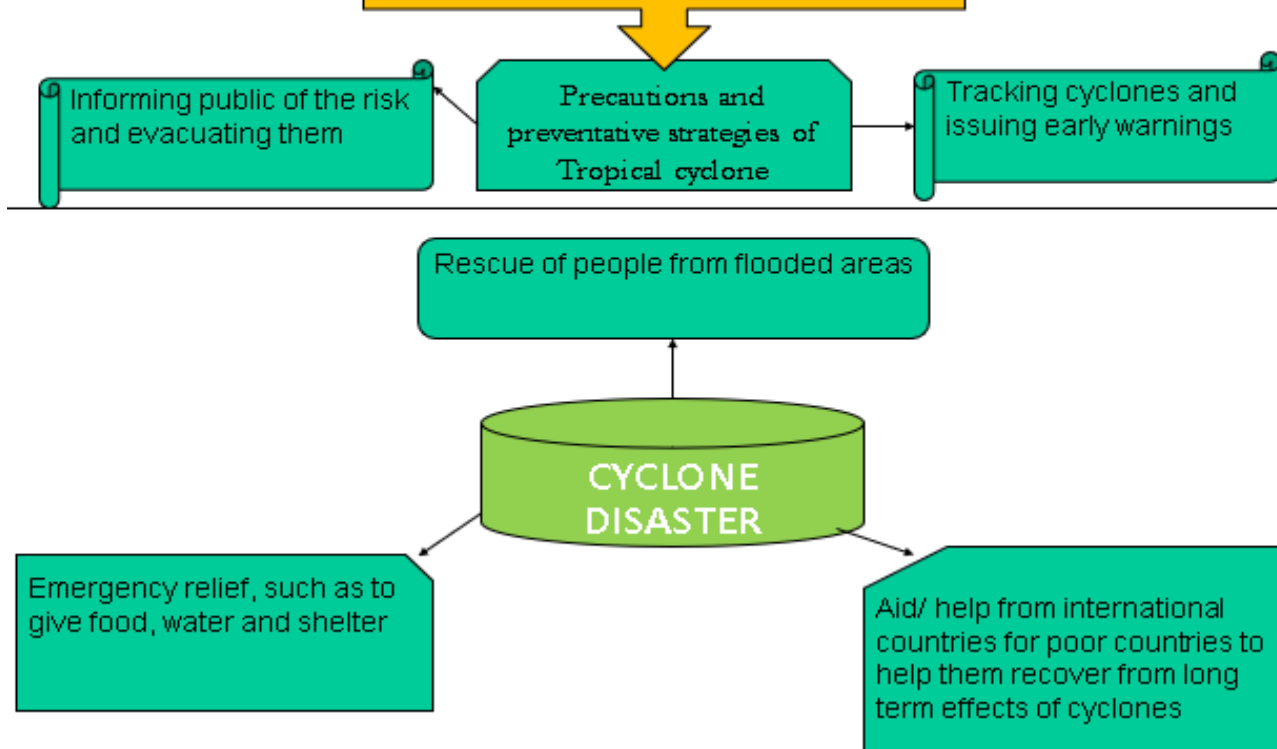
ASSOCIATED WEATHER PATTERNS OF TROPICAL CYCLONE

1. They are associated with dangerous weather conditions, with worse conditions on mature stage
2. They destroy property, environment and loss of life
3. Very high wind speed and cumulonimbus clouds around the eye. (Heavy rainfall/torrential rain)
4. Storm surges in coastal areas with **rise in sea level** by many meters

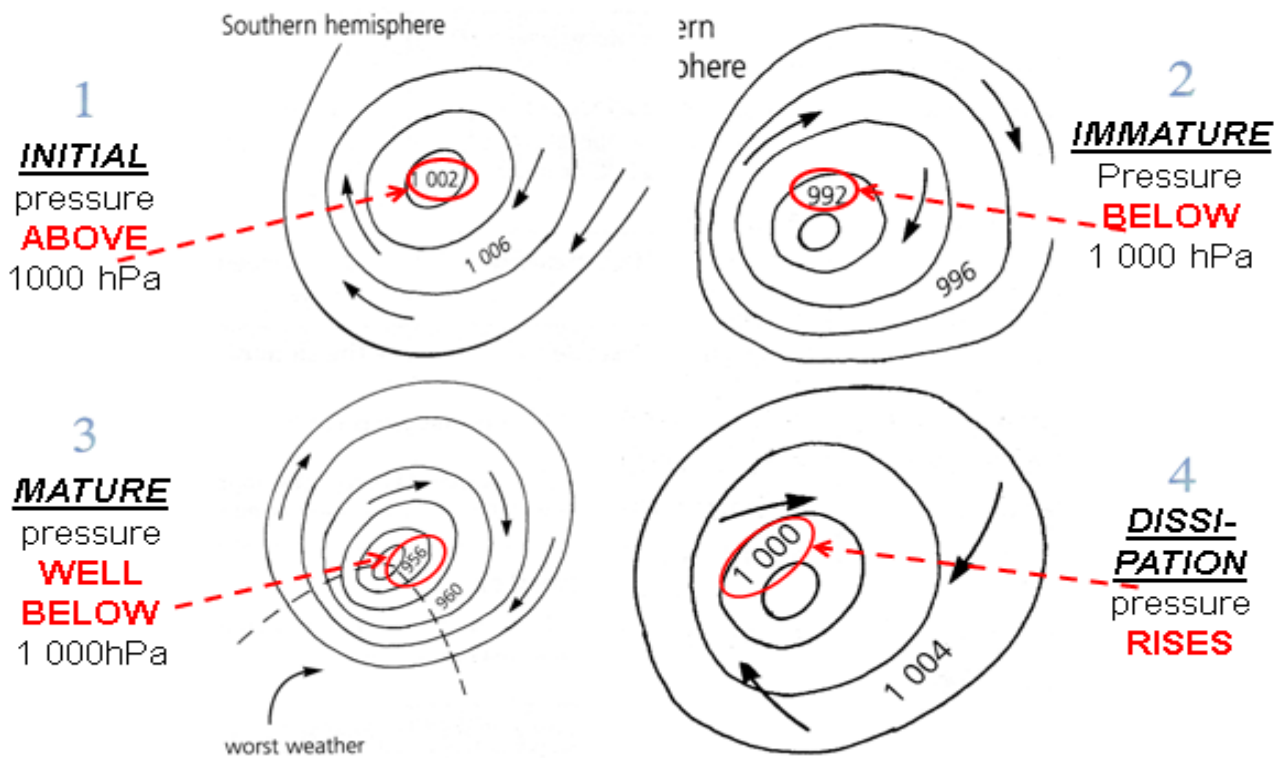
IMPACT OF TROPICAL CYCLONE ON HUMANS AND ENVIRONMENT



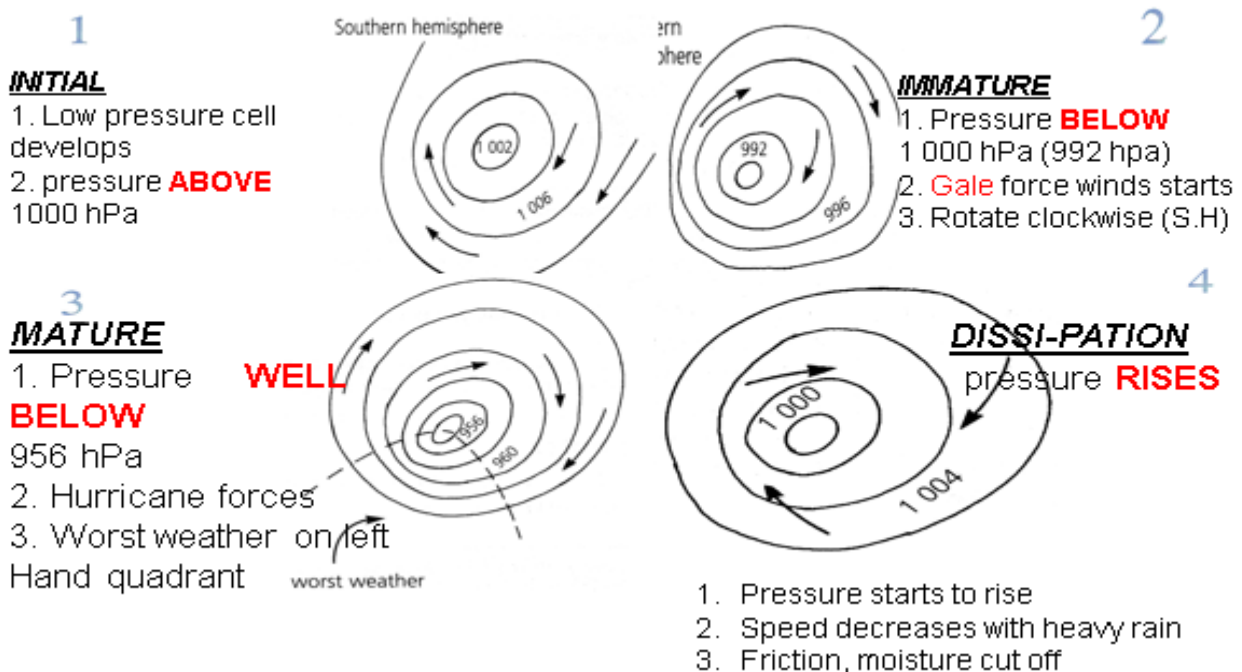
Putting evacuations in place, for getting people out of danger area

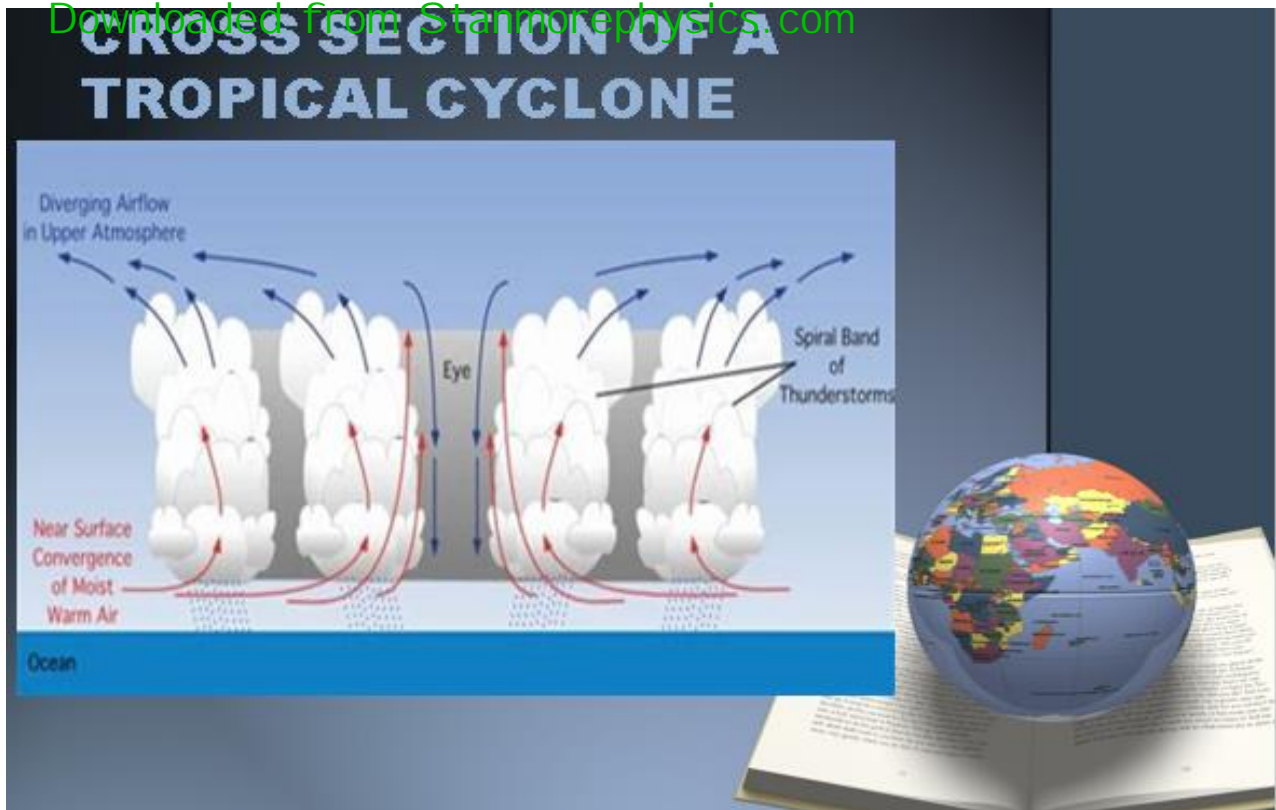


TROPICAL CYCLONE: STAGES



TROPICAL CYCLONE: STAGES





IMPACT OF TROPICAL CYCLONES ON HUMANS AND THE ENVIRONMENT

HUMANS	ENVIRONMENT
Loss of lives	Storm surges – sudden rise in sea levels
Outbreak of water borne diseases like cholera since floods have damaged sewages.	Flooding caused by storm surge, heavy rains swollen rivers.
Disruption of tourism, trade, agriculture and industry.	Damage infrastructure like roads, bridges, homes, and sewage communication.
Loss of profit to farmers.	Fertile soil and crops are eroded away
Power lines are uprooted.	Trees are uprooted.
Food insecurity (less availability of food).	Destruction to the marine biodiversity.
Unemployment increases and exports decrease (decrease in the GDP of the country).	Destruction to the eco-system of the affected area.

PRECAUTIONARY MEASURES TO BE TAKEN BEFORE THE TROPICAL CYCLONE

- PRECAUTIONARY MEASURES TO BE TAKEN BEFORE THE TROPICAL CYCLONE
- Putting early warning systems in place.
- Evacuation plans in place.
- Sand bags set on the beach line.
- Outreach programs/campaigns (educational).
- Extra health services available.
- Extra fire and rescue services available.
- Extra police and security services available.
- Tracking the system throughout the whole time.



CATEGORIES OF TROPICAL CYCLONE

Category 1	Category 2	Category 3	Category 4	Category 5
Minimal damage	Moderate damage	Extensive damage	Extreme damage	Catastrophic
				
Winds 119-153 kph	Winds 154-177 kph	Winds 178-208 kph	Winds 209-251 kph	Winds 252 kph and more

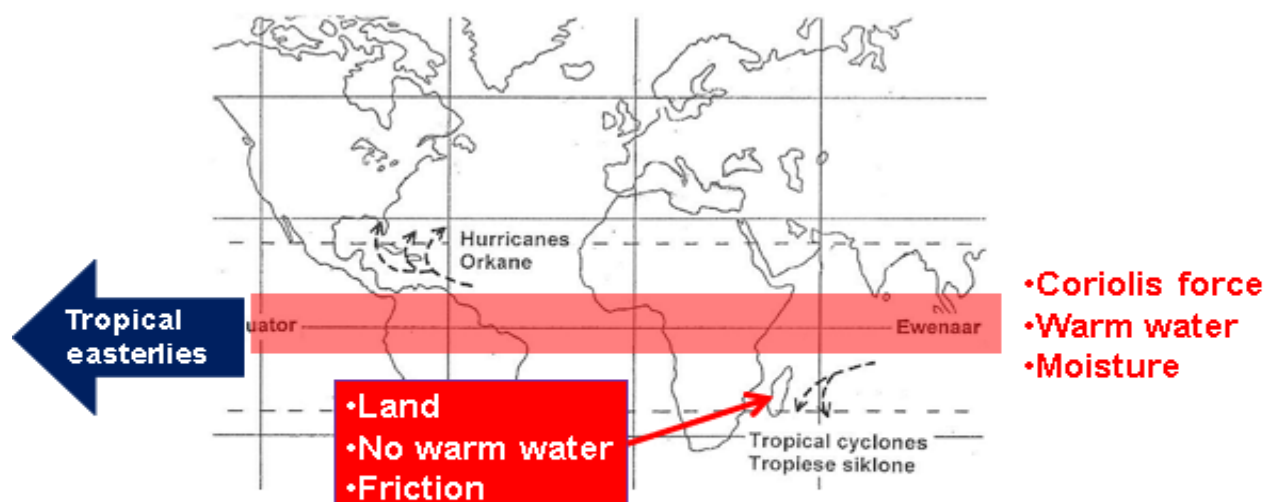
Cyclone Category	Wind Speed in Km/h	Damage Capacity	Type of Disturbances	Wind Speed in Km/h
01	120-150	Minimal	Low Pressure	Less than 31
02	150-180	Moderate	Depression	31-49
03	180-210	Extensive	Deep Depression	49-61
04	210-250	Extreme	Cyclonic Storm	61-88
05	250 +	Catastrophic	Severe Cyclonic Storm	88-117
			Very Severe Cyclone	118-221
			Super Cyclone	More than 221

MANAGEMENT STRATEGIES AFTER THE SYSTEM HAS TAKEN PLACE

- MANAGEMENT STRATEGIES AFTER THE SYSTEM HAS TAKEN PLACE
- NB:
- DEVELOPED COUNTRIES CAN DO THE FOLLOWING IN A VERY SHORT PERIOD OF TIME, DUE TO SUFFICIENT FUNDS.
- DEVELOPING COUNTRIES WILL TAKE MUCH LONGER TO PERFORM THE FOLLOWING STRATEGIES, DUE TO INSUFFICIENT FUNDS.
- Placement of people in the refugee camps/temporary shelters.
- Distribution of medication to casualties.
- Distribution of clean water.
- Distribution of sanitary towels.
- Availability of sanitation.
- Health officials (Doctors and nurses) visiting campsites.
- Distribution of food and clothes.



EXAMINATION QUESTION



- 1 Give ONE similarity between Hurricanes and Tropical cyclones on the map.
- 2 Explain the point of origin of both hurricanes and tropical cyclones on the map.
- 3 Why do these cyclones move from east to west?
- 4 Why do tropical cyclones weaken as they move over Madagascar.
- 5 Why is the impact of tropical cyclones more severe in developing countries?

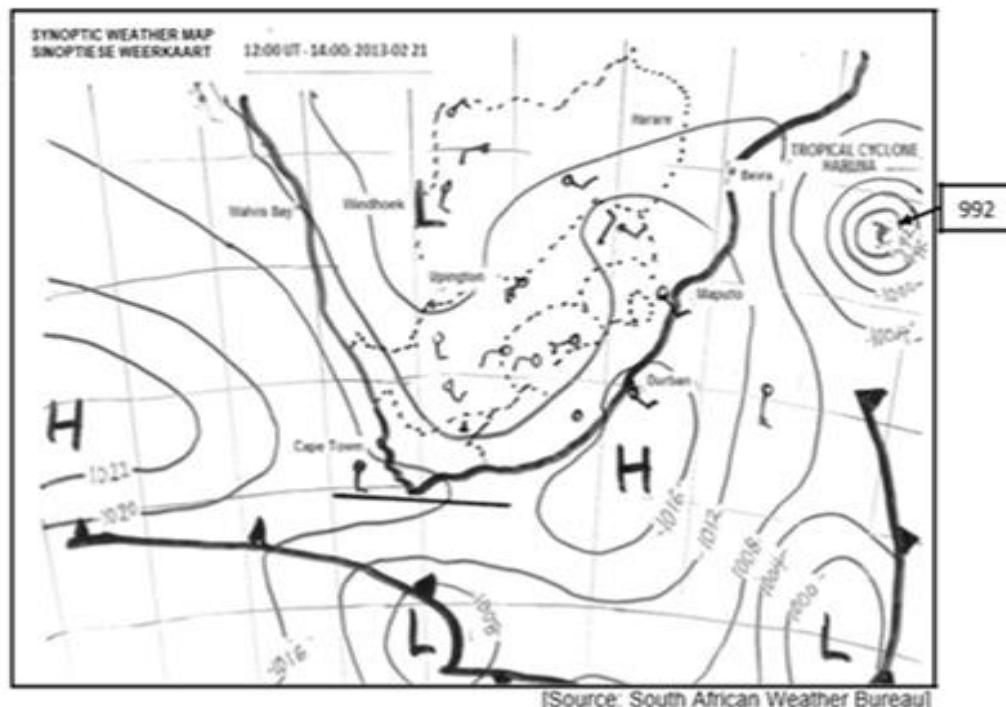
TROPICAL CYCLONE QUESTIONS

• FEBRUARY/MARCH 2015

- 1.4 Study FIGURE 1.4 which shows a synoptic weather map.
- 1.4.1 Does the map show a typical summer or winter condition? (1 x 1) (1)
- 1.4.2 Draw the symbol present on the synoptic weather map indicating the eye of Tropical Cyclone Haruna. (1 x 1) (1)
- 1.4.3 What evidence suggests that Tropical Cyclone Haruna is in its mature stage? (1 x 2) (2)
- 1.4.4 Describe the weather associated with the eye of the cyclone. (2 x 2) (4)
- 1.4.5 How do warm oceans contribute to the development of these cyclones? (1 x 2) (2)
- 1.4.6 Suggest TWO precautions the people of Maputo need to take within the next 24 hours. (2 x 2) (4)

SYNOPTIC MAP

FIGURE 1.4: SYNOPTIC WEATHER MAP

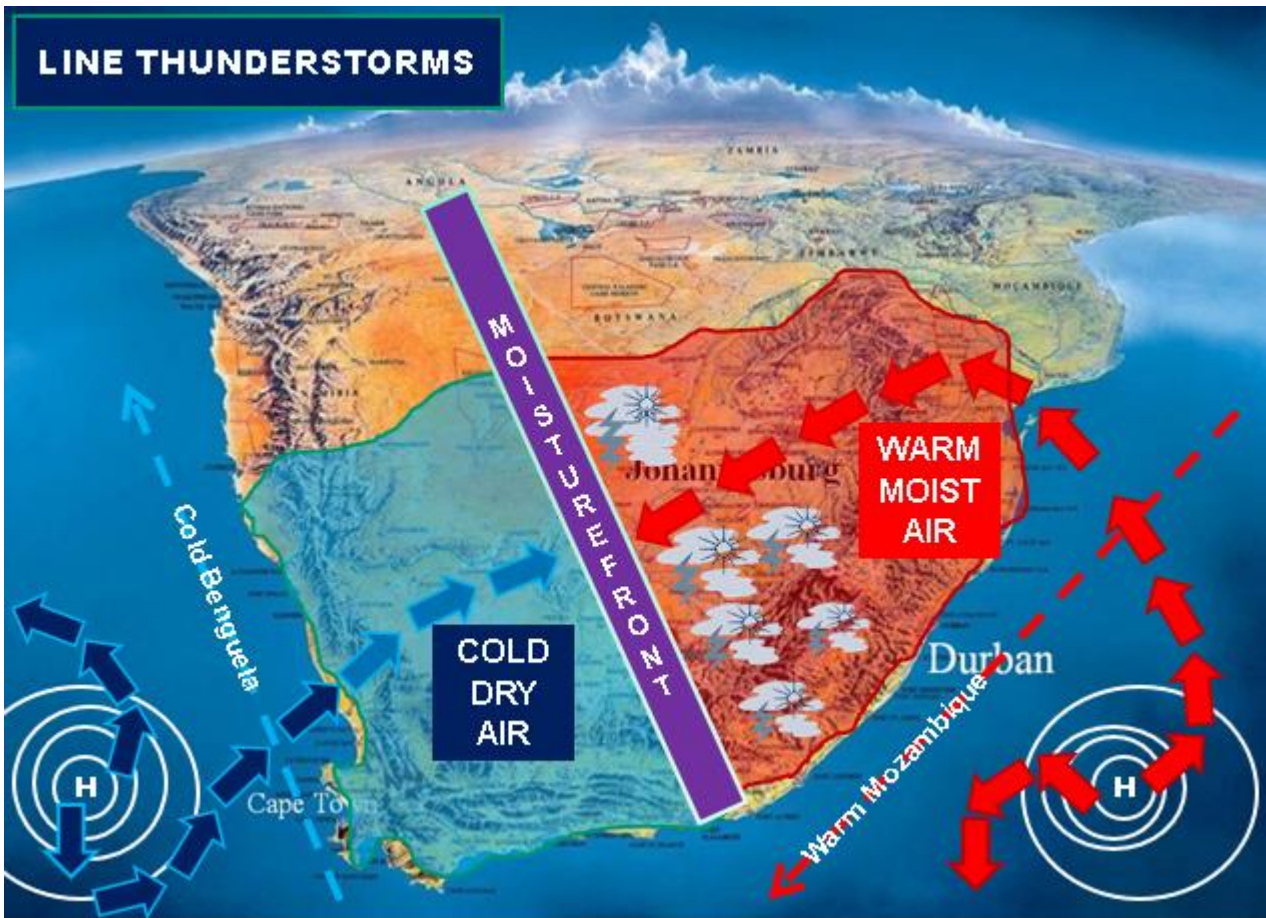




REGIONAL CLIMATE

- Line thunderstorms
- Berg winds

LINE THUNDERSTORMS



Moisture front / Line thunderstorm

Atlantic ocean

1. Cold air mass that blows from **S.W. direction**
2. This air mass comes from **Atlantic ocean**
3. It is influenced by **Cold Benguela current**
4. This air mass is pushed by **South Atlantic H.P. / anticyclone** towards the interior

Indian ocean

1. Warm moist air mass that blows from **N.E. direction**
2. This air mass comes from **Indian ocean**
3. It is influenced by **Mozambique ocean current**
4. This air mass is pushed by **South Indian H.P. / anticyclone** towards the interior

These two air masses meet at **trough axis**. Warm air is forced **to rise** and **cold air wedges underneath**. A line **thunderstorm** develops along **moisture front** with **heavy rainfall** associated with **cumulonimbus clouds**

Coastal low and Berg Winds

Coastal low pressure

- A. These are **low pressure** cells that often **travel ahead** of cold front
- B. They **form** off the **west coast** and travel **east** along the **coast** and change **coastal weather**.
- C. Rotate clockwise, with **onshore** winds on **west** that brings **rain and fog** and **offshore** winds on **east** with **warm dry conditions**

Berg winds

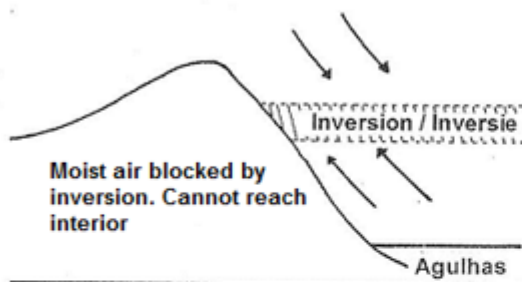
- A. Berg winds are **hot dry winds** that blows from the **interior** towards the **coast** and are warmed up **adiabatically** as they descend: **1°C/100m**
- B. **High pressure** develops in interior and **Low pressure** over the coast
- C. **Temperature drops** fast by the cold air behind the front, and **difference** in pressure btw **interior** and **coast ceases**.
- D. **Season**: They occur in winter
- E. **Results of berg winds**: Veld fires
- F. **Solutions**: Fire fighters

SOUTH AFRICAN BERGWIND



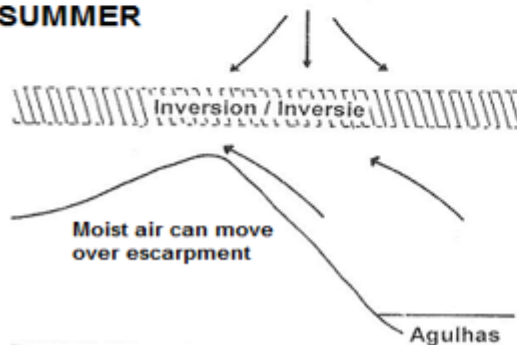
Role of inversion layer/ KALAHARI H.P

WINTER



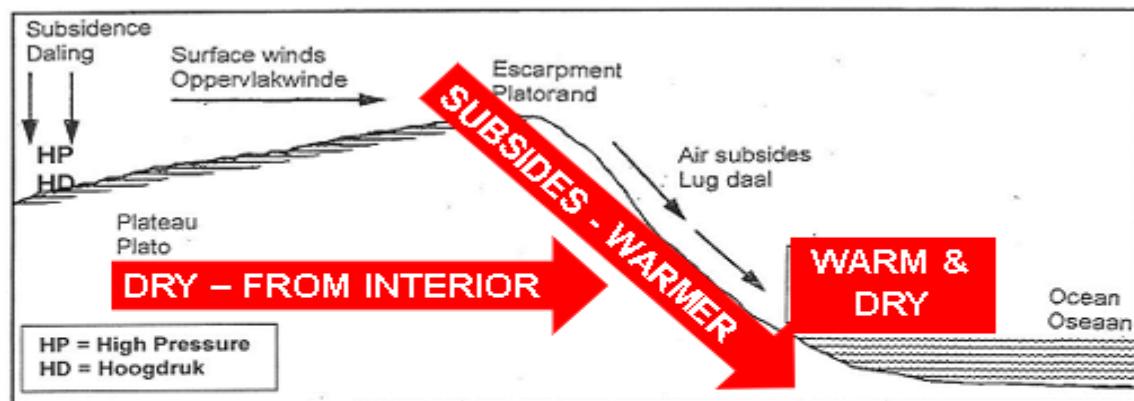
1. During winter the **KALAHARI H.P** is dominant in the interior (strong).
2. The inversion layer is **below** the escarpment
3. Moisture from Indian ocean driven by **Aghulas** and **Mozambique** cannot reach the interior.
4. The results are **DRY conditions** in the interior in **WINTER**

SUMMER



1. During summer the **KALAHARI** is **weak** and shifts to N.E. direction
2. The inversion layer is **above** the escarpment
3. Moisture from the Indian ocean driven by **Aghulas** and **Mozambique** current can **reach** the interior.
1. The results are **rainfall** in the interior in **Summer**

EXAMINATION QUESTION



- 1 Name the high pressure cell visible on the diagram. (1x1)
- 2 During what season do berg winds affect the weather of South Africa? (1x1)
- 3 How does the wind in the diagram affect the weather along the coast of SA? (2x1)
- 4 Explain why these weather conditions mentioned in question 3 occur. (1x1)
- 5 Name the environmental hazard associated with berg wind conditions. (1x1)
- 6 How are berg winds terminated (ended)? (2x2)



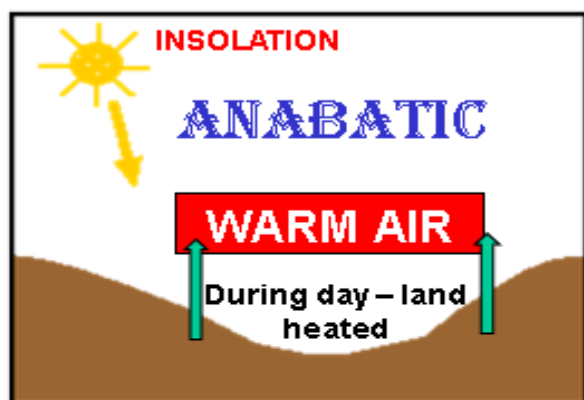
VALLEY CLIMATES

- **Aspect** : The direction in which the slope faces.
- In **Southern H.** people chose **North facing** slope.
- **Why**: They are **warmer** because the **sun is direct**.
- **Middle slopes** are preferred
In **Katabatic**: Bottom of valley has **frost/fog**

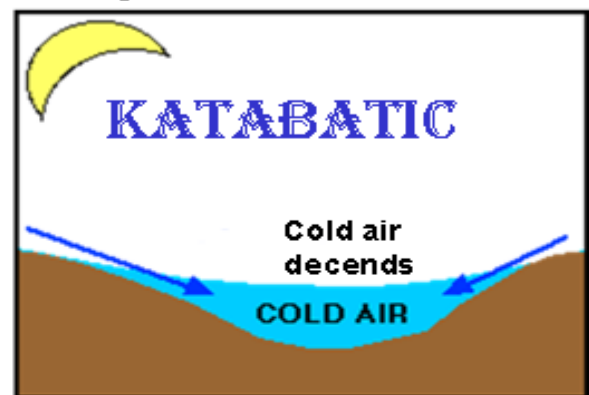
VALLEY CLIMATES ASPECT (SH)



Valley winds: are winds that blow along the length of the valley.



1. Anabatic winds occurs during the **DAY**
2. In the **morning** the sun heats earth surface
3. The surrounding air is warmed up and forced to **rise**
- 4) The wind blows **UPSLOPE** and is known as **Anabatic wind**

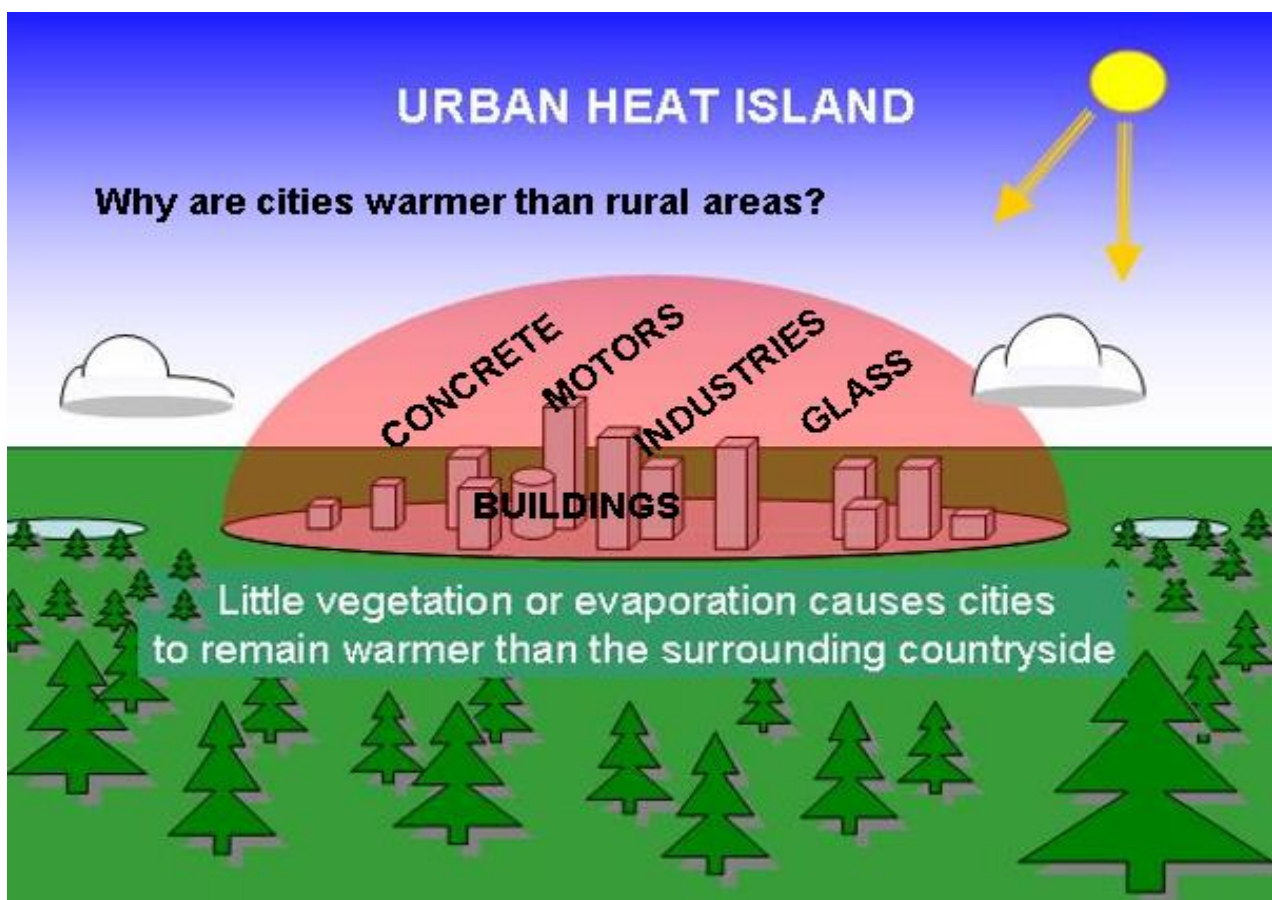


1. At **night** the air lose energy through **terrestrial radiation** and become **cold** and **dense** hence **SINKS**.
2. **Slopes** are cooled down and air in **contact** also cools and **SINKS**.
3. Katabatic **winds occurs** at **NIGHT**.
4. The wind blows **DOWNSLOPE** and are known as **Katabatic winds**.

Urban Climates

Difference between Rural and Urban climates

Element	Urban versus Rural	Reason
Temperature	Cities are warmer	More artificial, concrete, tarred roads less water bodies, pollution and less vegetation
Wind speed	Less speed in cities	Building act as windbreakers
Humidity	Less in cities	Less plants thus less evapotranspiration Less water bodies due to drains More evaporation due to artificials
Clouds, fog and precipitation	More clouds, fog, smog in urban areas	More dust in cities act as hygroscopic nuclei and promotes <u>condensation</u>
Sunshine	Less in cities	High buildings block incoming sun rays and more shadow zone



Urban heat Island: High temperature in cities than the surrounding rural areas

Causes of Urban Heat Island

1. Tall building which traps heat
2. Less vegetation that releases oxygen that cools city.
3. Air pollution that traps heat, as carbon dioxide traps long wave radiation
4. Artificial materials like concrete, tarred roads, pavements
5. Traffic congestion

Solutions/strategies to reduce Urban Heat Island

1. Plant on roof tops
2. Plant more vegetation
3. Use synchronised robots
4. Flexi business times
5. Use public transport

Effects of urban heat Island:

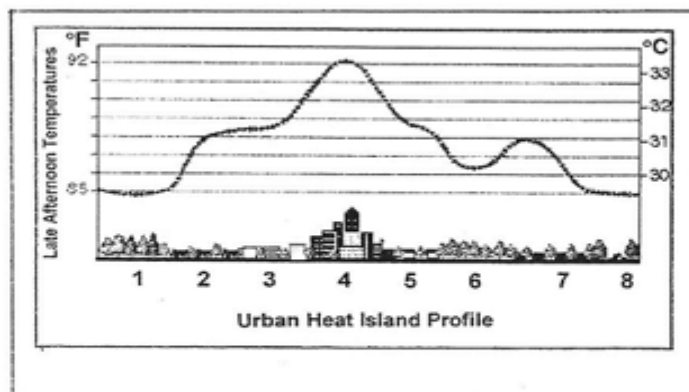
Positive effects:

1. Less heating is required in cold places
2. Snowfall is reduced and roads are safer
3. More rainfall and condensation

Negative effects:

- a) More air conditioners which uses more energy
- b) High temperature can lead to stroke, discomfort to people

EXAMINATION QUESTION

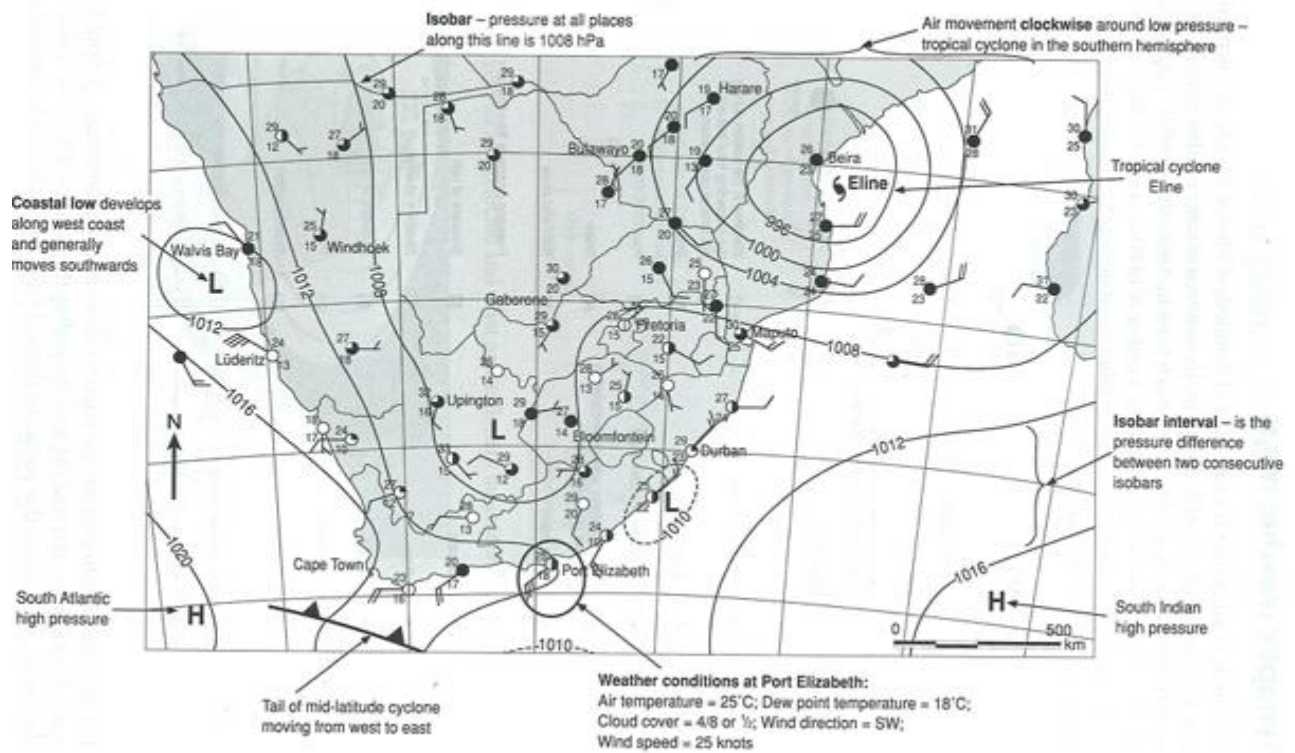


- 1 - Rural
- 2 - Suburban Residential
- 3 - Commercial
- 4 - Downtown
- 5 - Urban Residential
- 6 - Park
- 7 - Suburban Residential
- 8 - Rural Farmland



- 1 What is a heat island?
- 2 Which part of the city is experiencing the highest temperature?
- 3 How have peoples lives been changed by heat islands.
- 4 What can be done to reduce high temperatures in cities?

SYNOPTIC WEATHER MAPS



GEOMORPHOLOGY



Concepts : Very important

CONCEPT	DEFINITION / EXPLAIN
Drainage Basin	Total area drained by river system.
Catchment	The area that feeds water into the river
Watershed	High lying area / divide / boundary between two rivers.
Interfluve	High lying area / divide / boundary between two tributaries.
Confluence	Point where two rivers meet.
Source	Where a river starts.
River mouth	Where river ends.
Surface run off	Process where water runs on top of earth surface.
Ground water	Water found underground
Water table	Top part of saturated / underground water.

FACTORS INFLUENCING SURFACE RUN OFF AND INFILTRATION

- **Factors influencing surface run off and infiltration:**

- **Relief:** Steep slope - more surface run off and less infiltration.

- Gentle slope – more infiltration and less run off.

-

- **Soil type:** Thin soil – more surface run off and less infiltration.

- Thick soil – less surface run off and more infiltration.

-

- **Rock type:** Impermeable and non-porous – more surface run off and less infiltration.

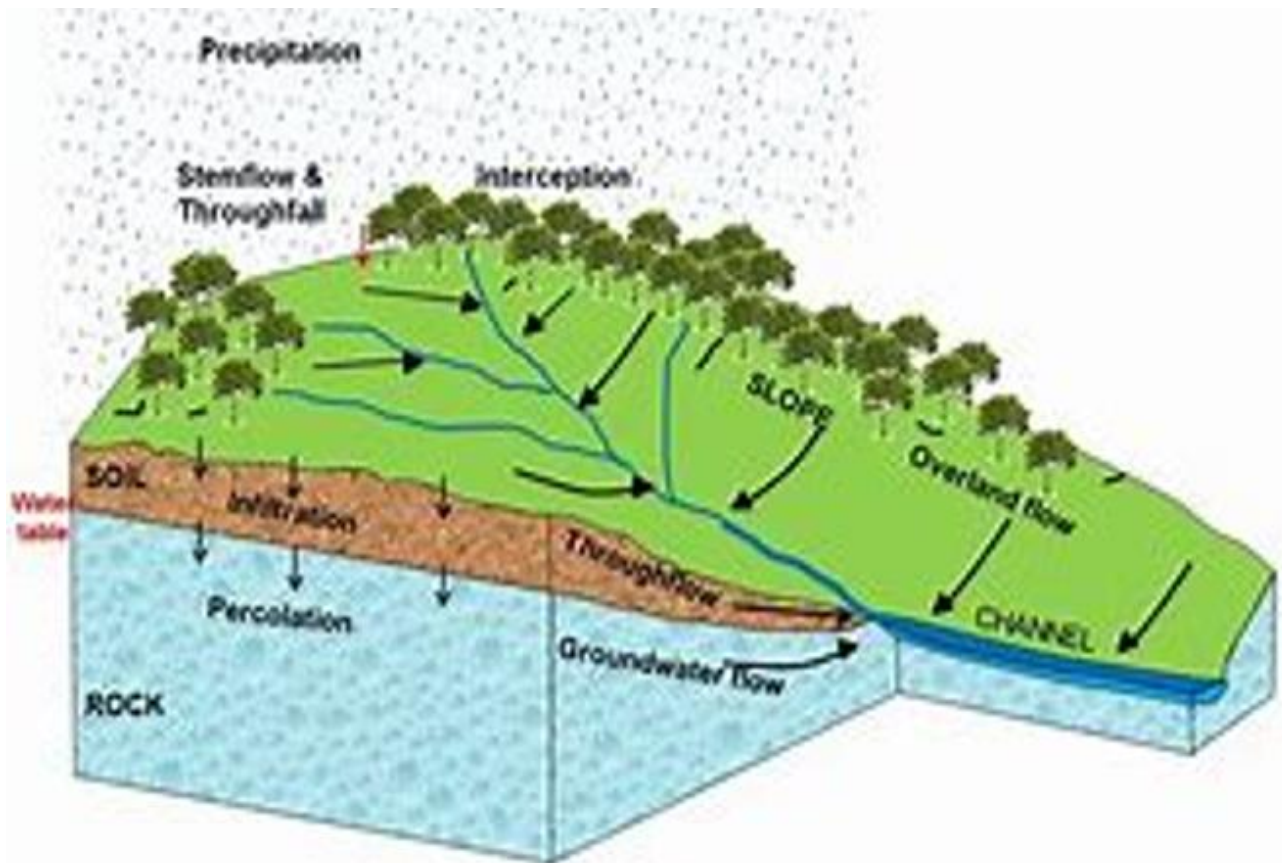
- Permeable and porous – more infiltration and less surface run off.

- **Soil moisture:** Saturated soil/wet soil – more surface run off and less infiltration.

- Unsaturated soil/dry soil – less surface run off and more infiltration.

- **Vegetation:** Little/no vegetation – more surface run off





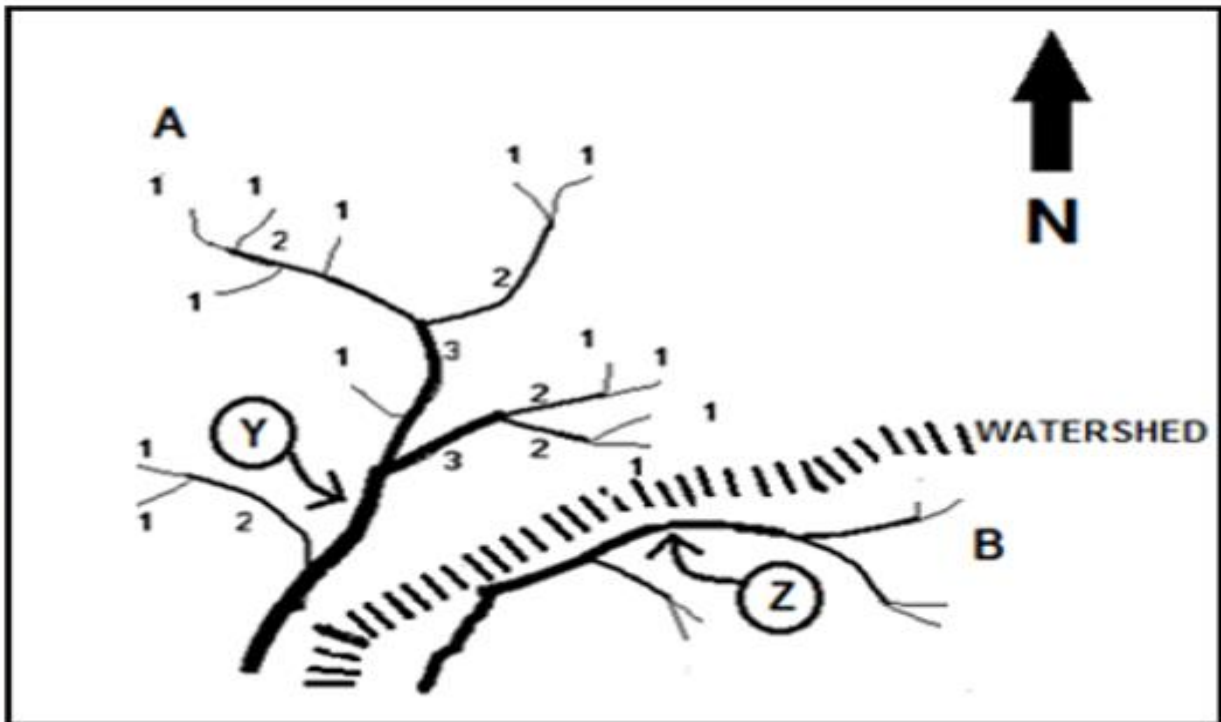
QUESTIONS

• NOVEMBER 2016

- 1.5 Study FIGURE 1.5, which is based on drainage basins.
- 1.5.1 Define the term *drainage basin*. (1 x 1) (1)
- 1.5.2 Does drainage basin **A** (north of the watershed) or drainage basin **B** (south of the watershed) have the higher drainage density? (1 x 1) (1)
- 1.5.3 State ONE factor that could have contributed to the high drainage density of the drainage basin identified in QUESTION 1.5.2. (1 x 2) (2)
- 1.5.4 Determine the stream order at **Z** in drainage basin **B**. (1 x 2) (2)
- 1.5.5 Refer to drainage basin **A** and state the relationship between stream order and the:
- (a) Length of streams (1 x 2) (2)
- (b) Number of streams (1 x 2) (2)
- 1.5.6 Evaluate the effect of a prolonged period of drought on the stream order at point **Y** in drainage basin **A**. (2 x 2) (4)

DRAINAGE BASIN

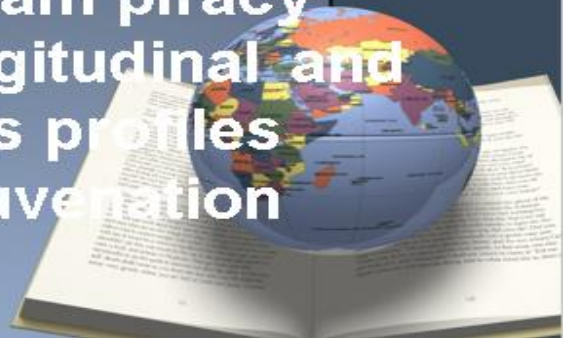
FIGURE 1.5: DRAINAGE BASINS



[Source: Examiner's own sketch]

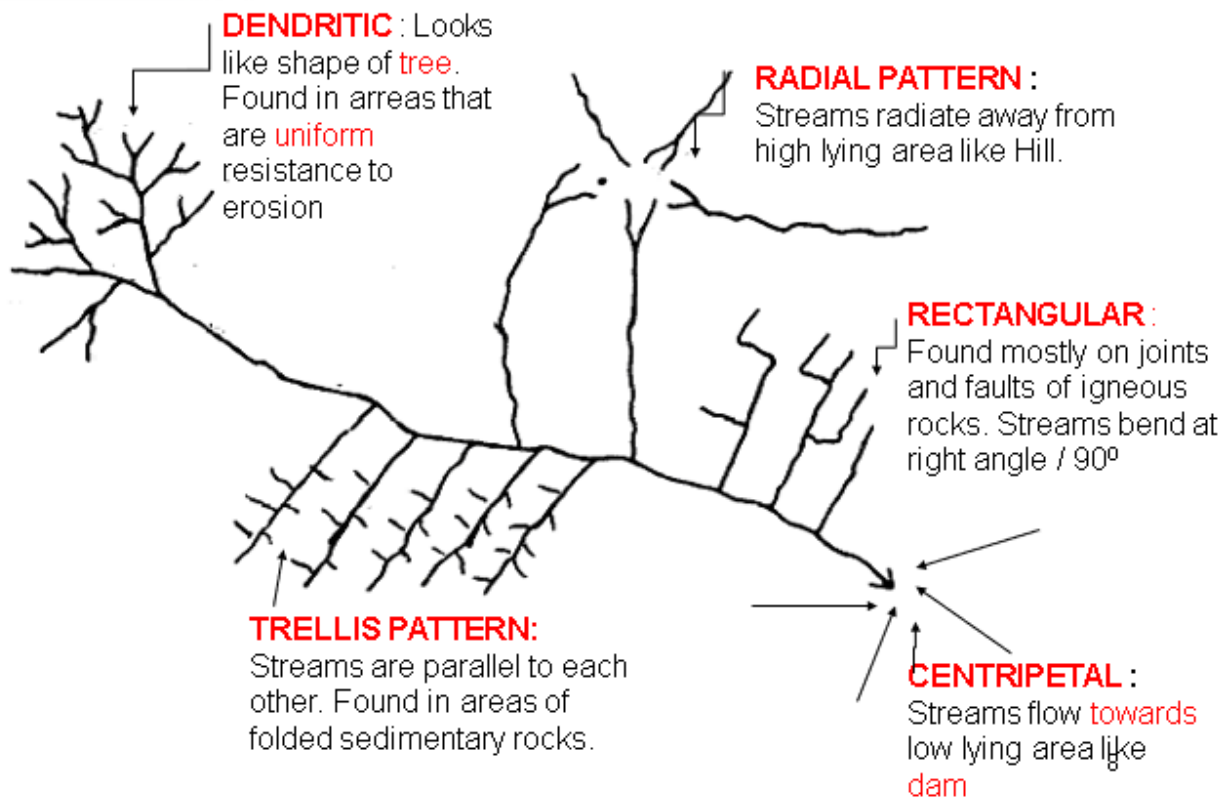
FLUVIAL PROCESSES

- Stream patterns
- Stream piracy
- Longitudinal and cross profiles
- Rejuvenation





STREAM PATTERNS

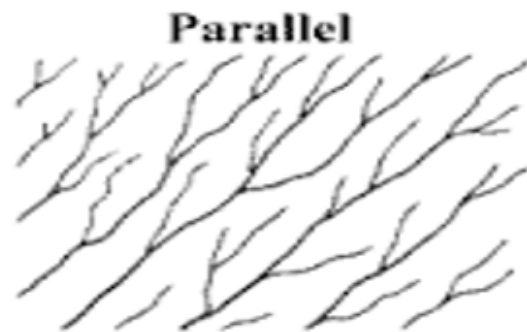


Deranged and Parallel stream pattern



DERANGED / IRREGULAR :

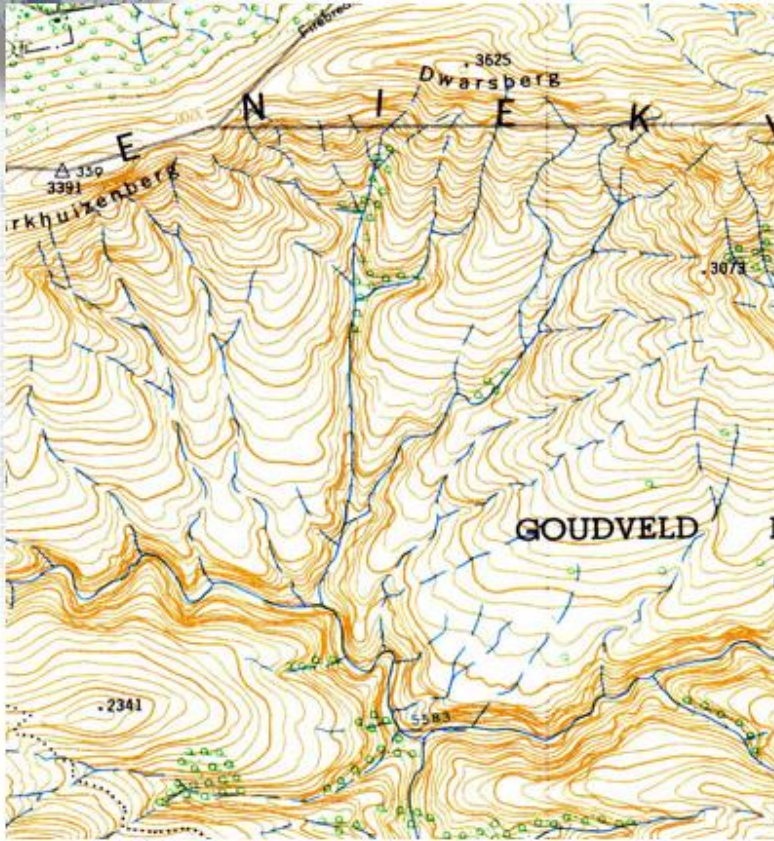
Found on flat or marshy areas and have **no definite direction**



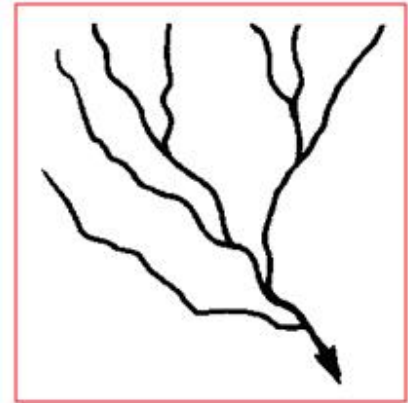
PARALLEL :

Develops on **steep slopes** where river flows fast. Tributaries are **long** and flow **next to each other**

DENDRITIC PATTERN ON MAP

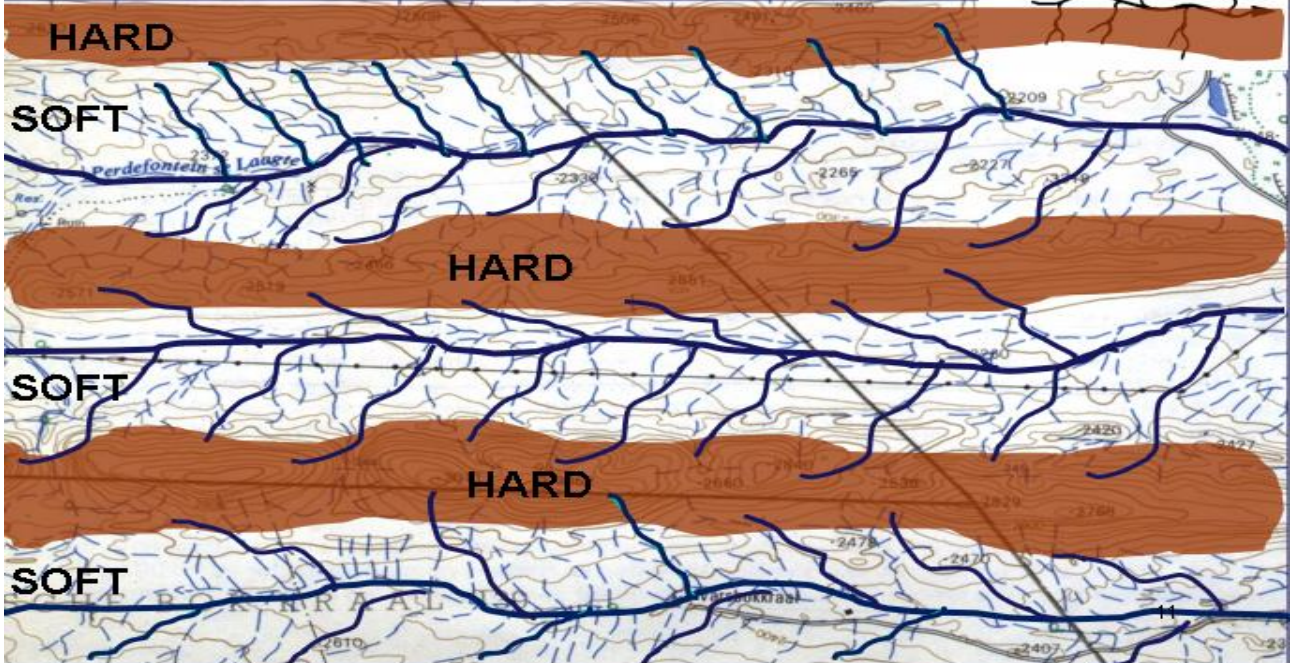


Looks like the branches of a tree



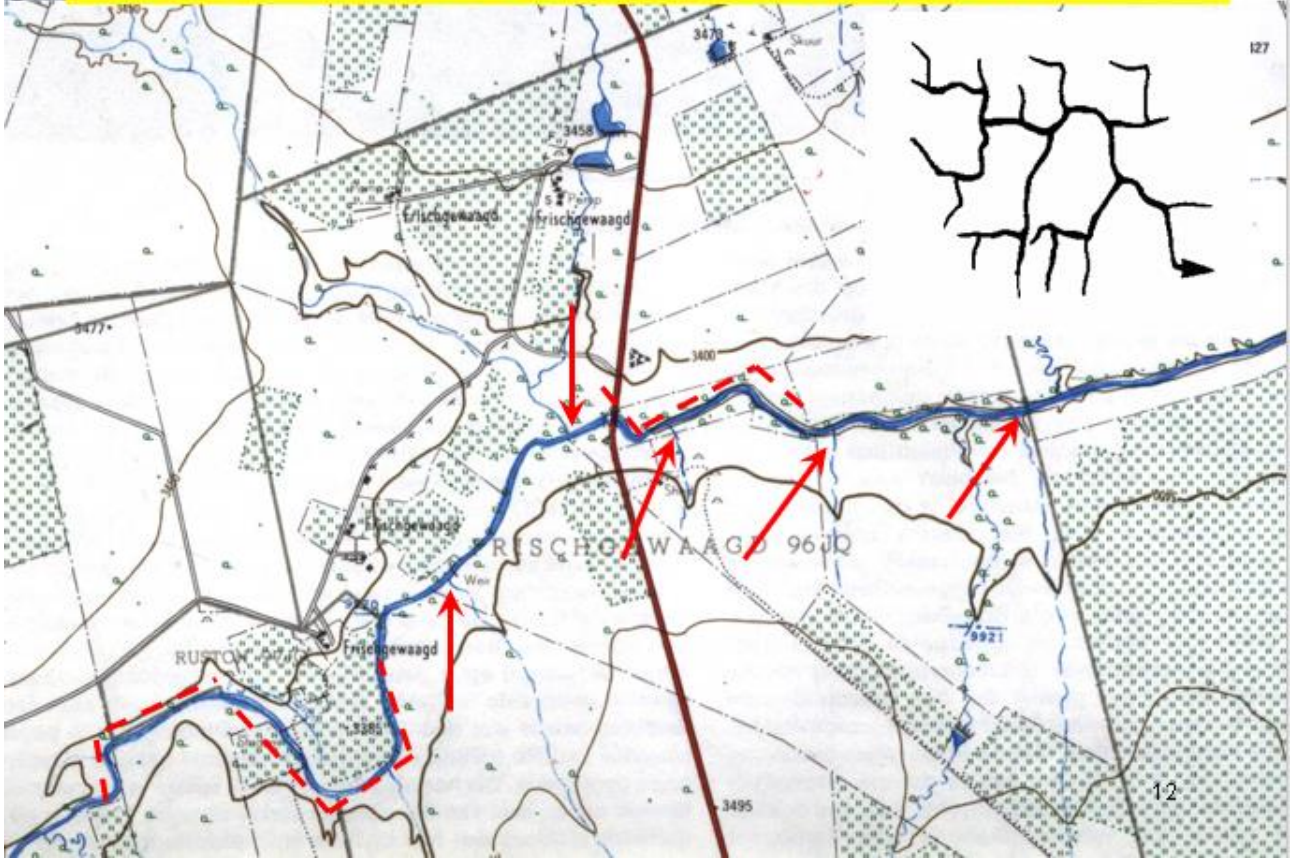
10

TRELLIS PATTERN

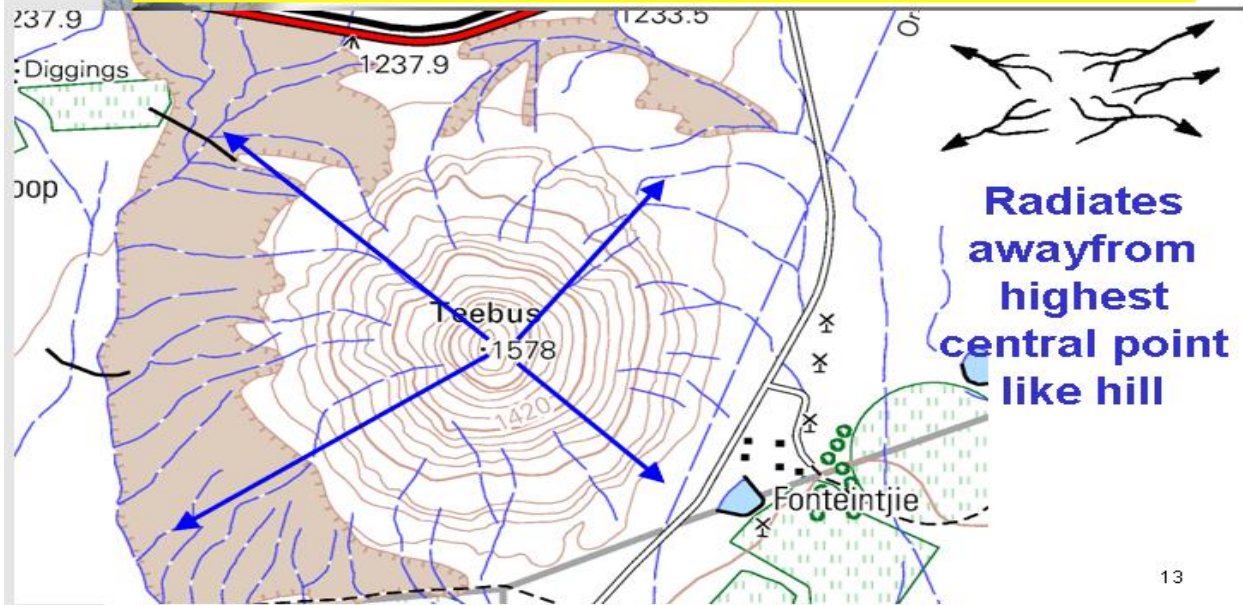


27

RECTANGULAR PATTERN ON MAP



RADIAL PATTERN



QUESTIONS

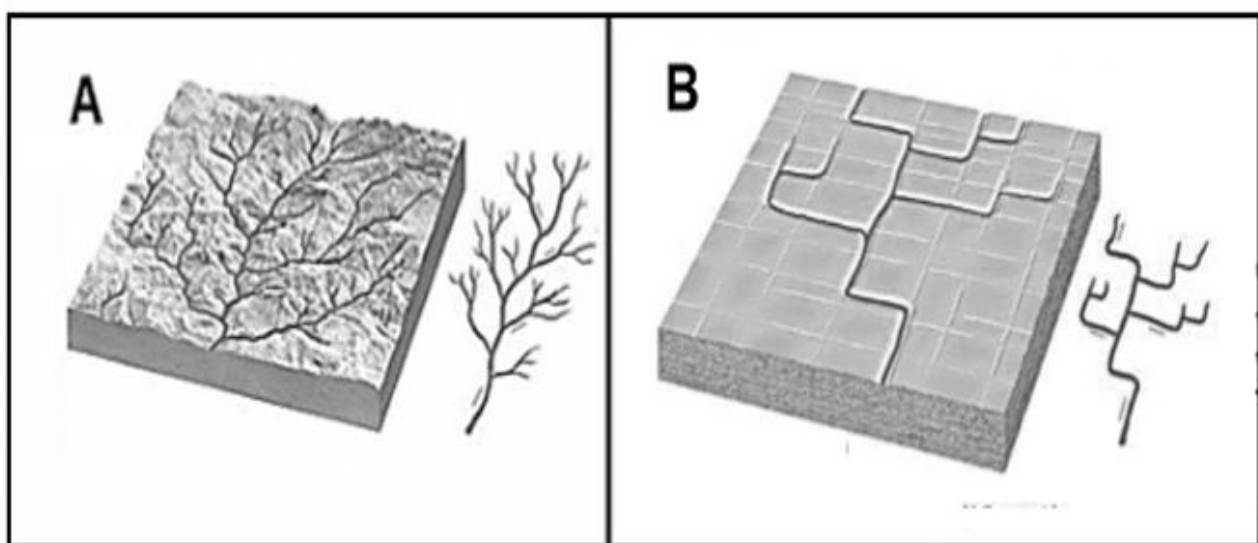
• **NOVEMBER 2016**

2.5 FIGURE 2.5 is a sketch showing two drainage patterns.

- | | | | |
|-------|---|---------|-----|
| 2.5.1 | What is a <i>drainage pattern</i> ? | (1 x 1) | (1) |
| 2.5.2 | Name drainage patterns A and B . | (2 x 1) | (2) |
| 2.5.3 | Give evidence from the diagrams to support your choices in QUESTION 2.5.2. | (2 x 2) | (4) |
| 2.5.4 | Compare the underlying rock structures of drainage patterns A and B in the sketch. | (2 x 2) | (4) |
| 2.5.5 | Draw a simple, labelled plan view sketch of a drainage pattern that will develop in a folded landscape. | (2 x 2) | (4) |

DRAINAGE PATTERN

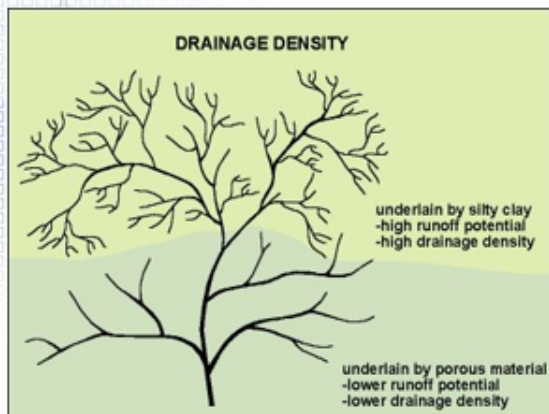
FIGURE 2.5: DRAINAGE PATTERNS





Factors influencing drainage density

Drainage density: the total length of all streams in the drainage basin divided by the basin area.



Rainfall: High rainfall has more water, thus high drainage density and more run off.

FACTORS INFLUENCING DRAINAGE DENSITY

Relief: Steep slopes have high drainage density and more run off.

Porosity /Permeability: More porous soil has more infiltration therefore less drainage density

Vegetation cover: More vegetation has more infiltration and less drainage density

16

QUESTIONS

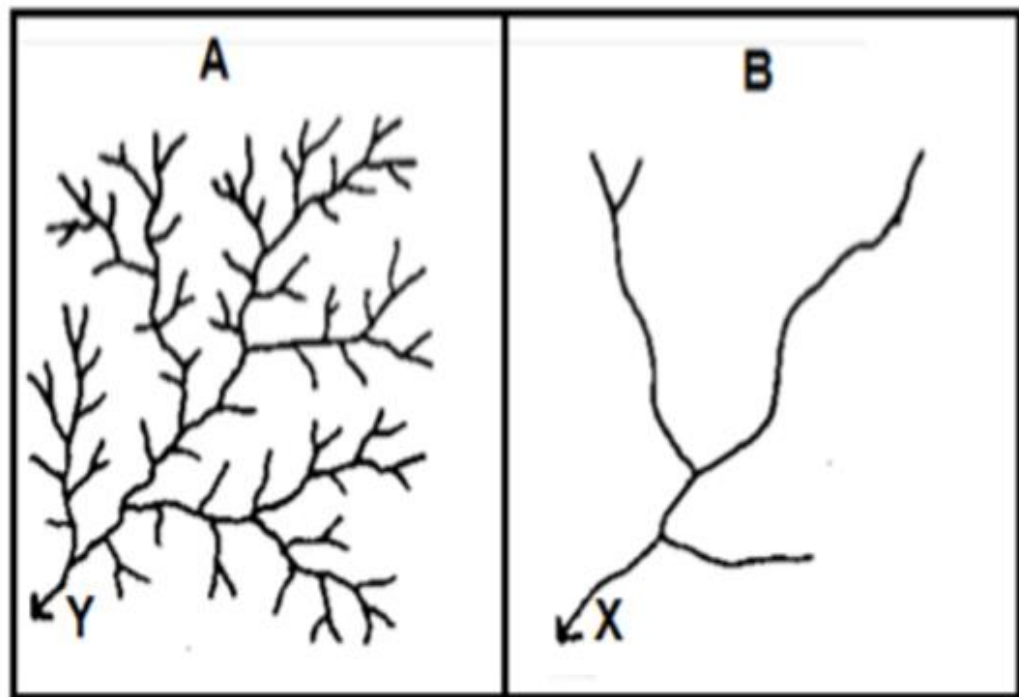
• FEBRUARY/MARCH 2018

- 2.5 Refer to FIGURE 2.5 on drainage density.
- 2.5.1 Define the term *drainage density*. (1 x 1) (1)
- 2.5.2 What evidence indicates that **A** has a higher drainage density than **B**? (1 x 1) (1)
- 2.5.3 Determine the stream order at point **X**. (1 x 2) (2)
- 2.5.4 Why will the stream order be higher at point **Y**? (1 x 2) (2)
- 2.5.5 Explain the influence of vegetation on drainage density. (2 x 2) (4)
- 2.5.6 As urban development takes place, the drainage density of the surrounding natural environment will increase. Explain why this is the case. (2 x 2) (4)

30

DRAINAGE DENSITY

FIGURE 2.5: DRAINAGE DENSITY



Factors influencing infiltration/ water table

1. **Gradient:** Gentle slope more infiltration less run off

2. **Vegetation:** more vegetation more infiltration less run off

3. **Amount of moisture in soil:** saturated soil has less infiltration more run off

4. **Amount and nature of precipitation:** Soft rain more infiltration less run off

5. **Rate of evaporation:** More evaporation leads to less infiltration.

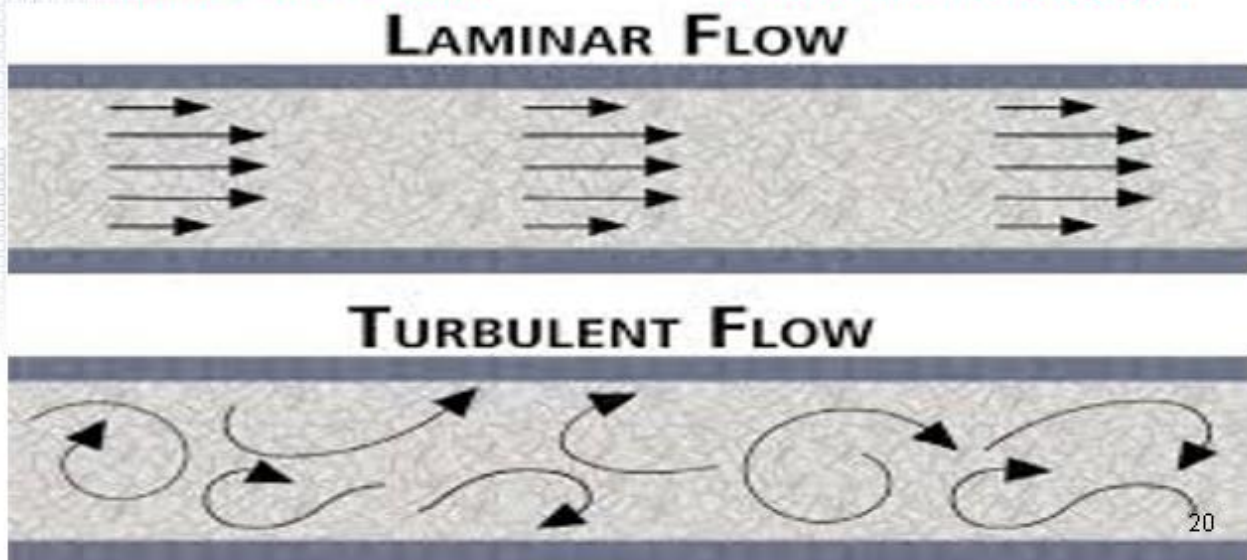
River discharge

Turbulent Flow

- Found in areas where the river bed is rough/ uneven and has more erosion

Laminar flow

- Found in areas where the river bed is even and smooth with less erosion



Permanent rivers: They flow all seasons / all throughout the year

Episodic rivers: They flow after heavy rainfall.

TYPES OF RIVERS

Periodic rivers: they flow only during rainy seasons

Exotic rivers: Flow through desert areas since they receive their water from high rainfall areas

21

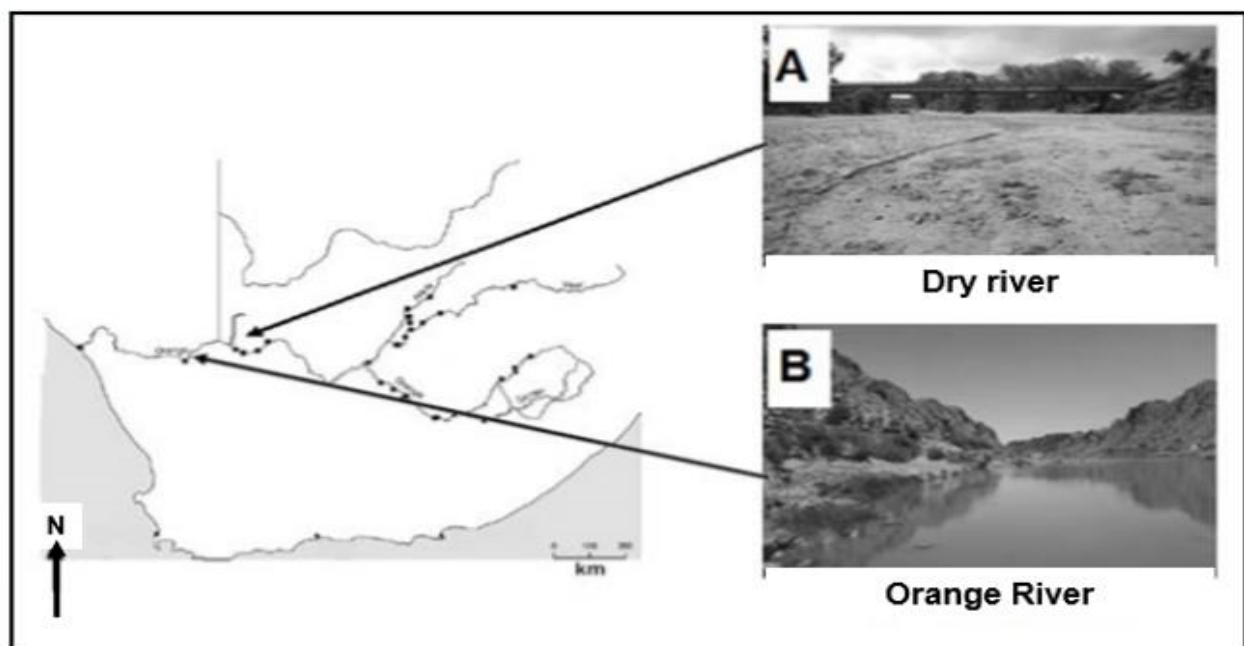
QUESTIONS

• **NOVEMBER 2015**

- 1.5 Refer to FIGURE 1.5 and answer the questions that follow. Photograph **A** shows an episodic river in the north-western part of South Africa. Photograph **B** shows a permanent river in the same area.
- 1.5.1 (a) What is an *episodic river*? (1 x 1) (1)
- (b) Give evidence from the photograph to support your answer to QUESTION 1.5.1(a). (1 x 1) (1)
- (c) State TWO physical factors that will influence the discharge (stream flow) of this river. (2 x 2) (4)
- 1.5.2 (a) What do you call a permanent river that flows through dry areas? (1 x 2) (2)
- (b) Explain why the river in QUESTION 1.5.2(a) flows throughout the year. (2 x 2) (4)
- (c) State ONE advantage of this river for farmers in the north-western part of South Africa. (1 x 2) (2)

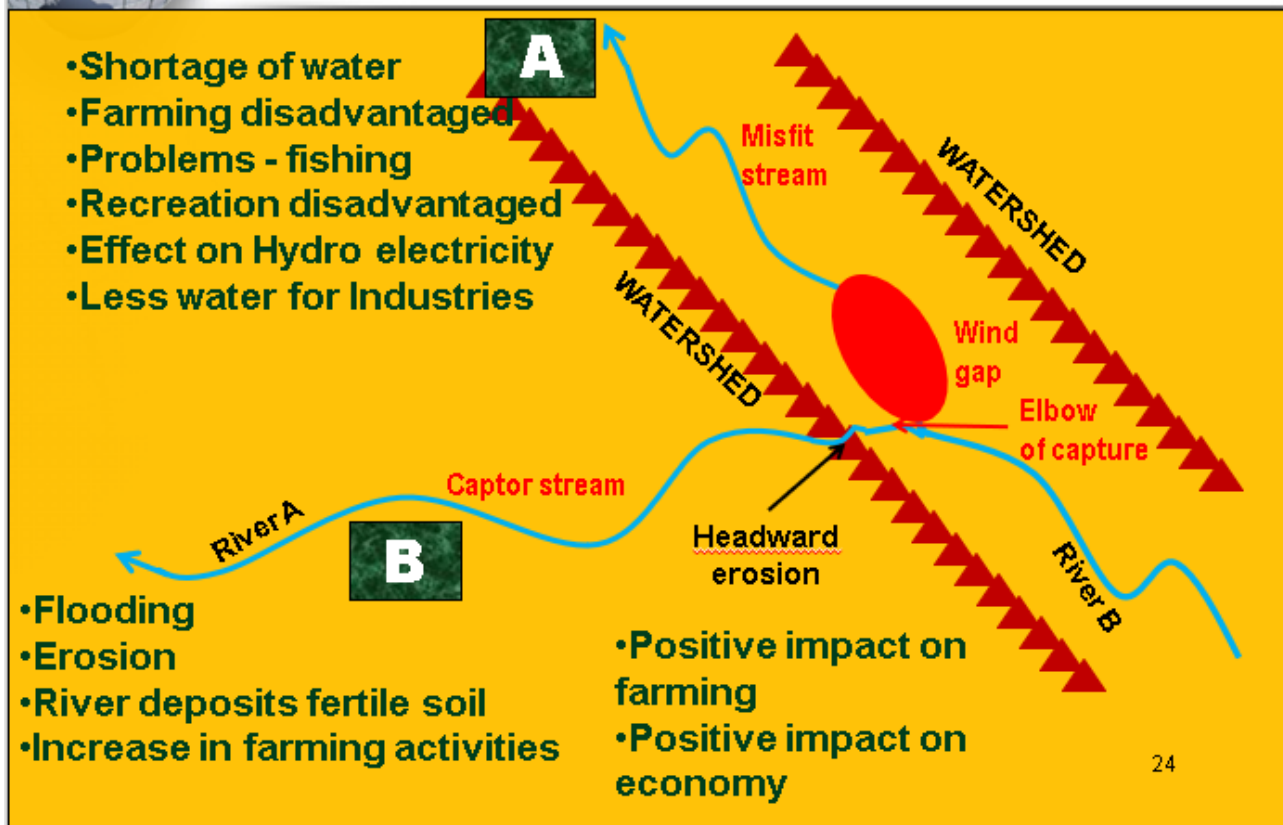
RIVER TYPES

FIGURE 1.5: RIVER TYPES





STREAM PIRACY/ RIVER CAPTURE



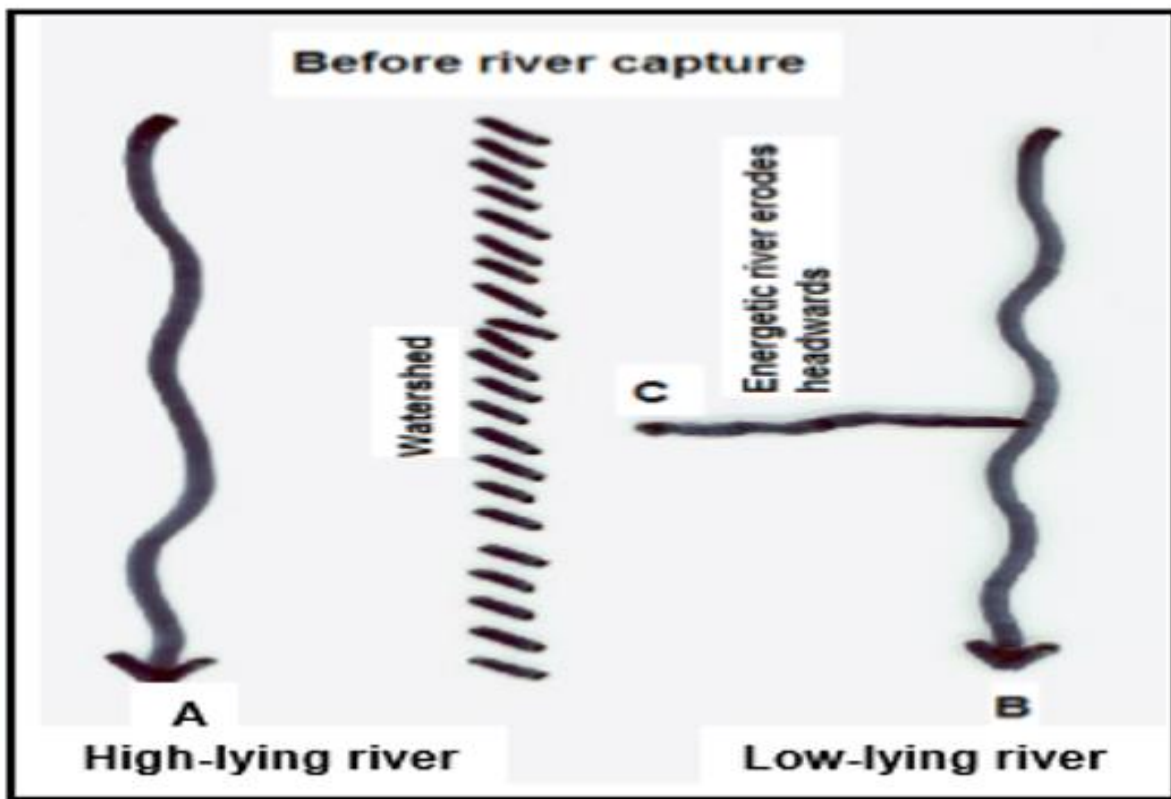
QUESTIONS

• FEBRUARY/MARCH 2015

- 1.5 FIGURE 1.5 is a sketch based on river capture.
- 1.5.1 What is a *watershed*? (1 x 1) (1)
- 1.5.2 Why is the watershed not a permanent feature? (1 x 2) (2)
- 1.5.3 What does it mean when a stream erodes *headwards*? (1 x 2) (2)
- 1.5.4 Give TWO reasons why tributary C is energetic. (2 x 2) (4)
- 1.5.5 Draw a plan view sketch (as seen from above) to show the landscape after river capture has taken place. Label at least TWO features of river capture. (2 x 2) (4)
- 1.5.6 Which of the streams will become rejuvenated after river capture has taken place? (1 x 2) (2)

RIVER CAPTURE

FIGURE 1.5: RIVER CAPTURE



[Source: Examiner's own sketch]

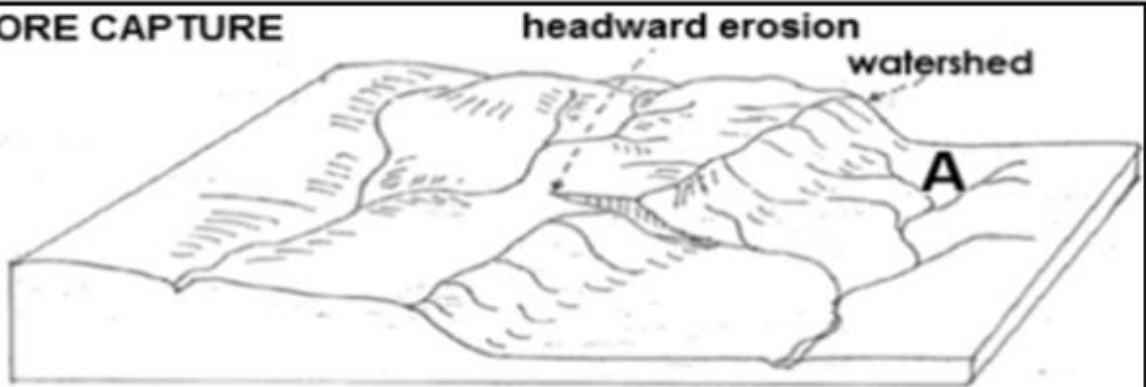
RIVER CAPTURE

• MAY/ JUNE 2017

- 1.6 Refer to FIGURE 1.6, which illustrates river capture.
- 1.6.1 Define the term *river capture*. (1 x 1) (1)
- 1.6.2 What evidence in sketch **A** indicates that river capture is likely to take place? (1 x 1) (1)
- 1.6.3 Name TWO physical changes that river **A** will undergo after river capture has occurred. (2 x 1) (2)
- 1.6.4 State TWO possible conditions that have led to river **A** being the captor stream. (2 x 2) (4)
- 1.6.5 Write a paragraph of approximately EIGHT lines to describe how the reduced volume of water will negatively impact on the farming community at **B**. (4 x 2) (8)

RIVER CAPTURE

BEFORE CAPTURE



AFTER CAPTURE



[Adapted from ecoursesonlineiasri.com]

Longitudinal profile : drawn from source to mouth

Transverse profile: Shape of river ,width and depth

Base level : the lowest level at which a river can erode

Examples - **Temporary base level**, dam, rapid, waterfall and canyons

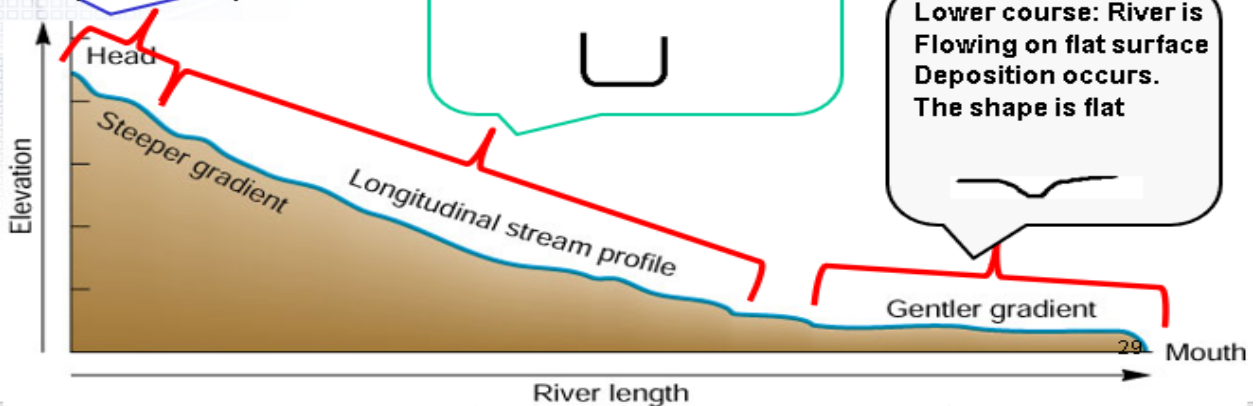
- **Permanent base level**, sea / ocean

Upper course : Slope is steep,
Erosion is vertical and the
shape is **V shape**

Middle course: Slope is gentle
River meanders and erosion
is lateral. The shape is

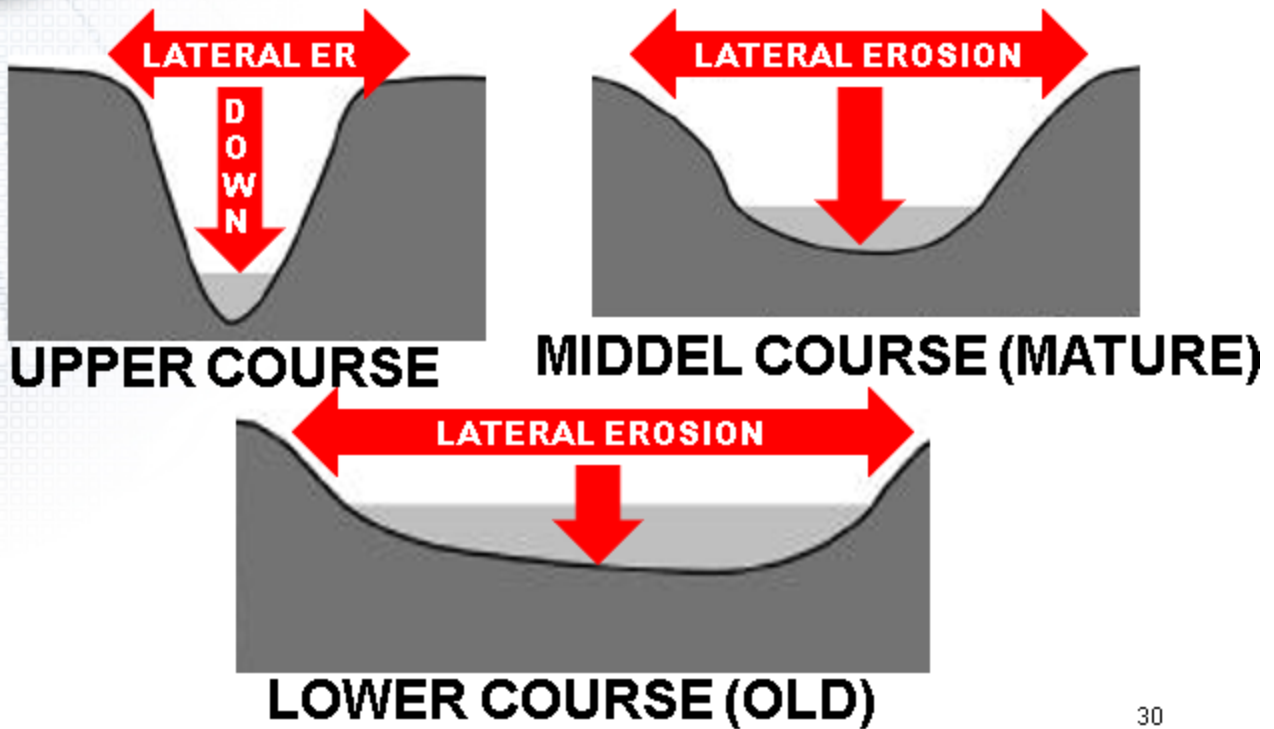


Lower course: River is
Flowing on flat surface
Deposition occurs.
The shape is flat



CROSS PROFILE

Drawn from one bank to the other



30

CROSS PROFILE ROUND A BEND



37



Meandering stream



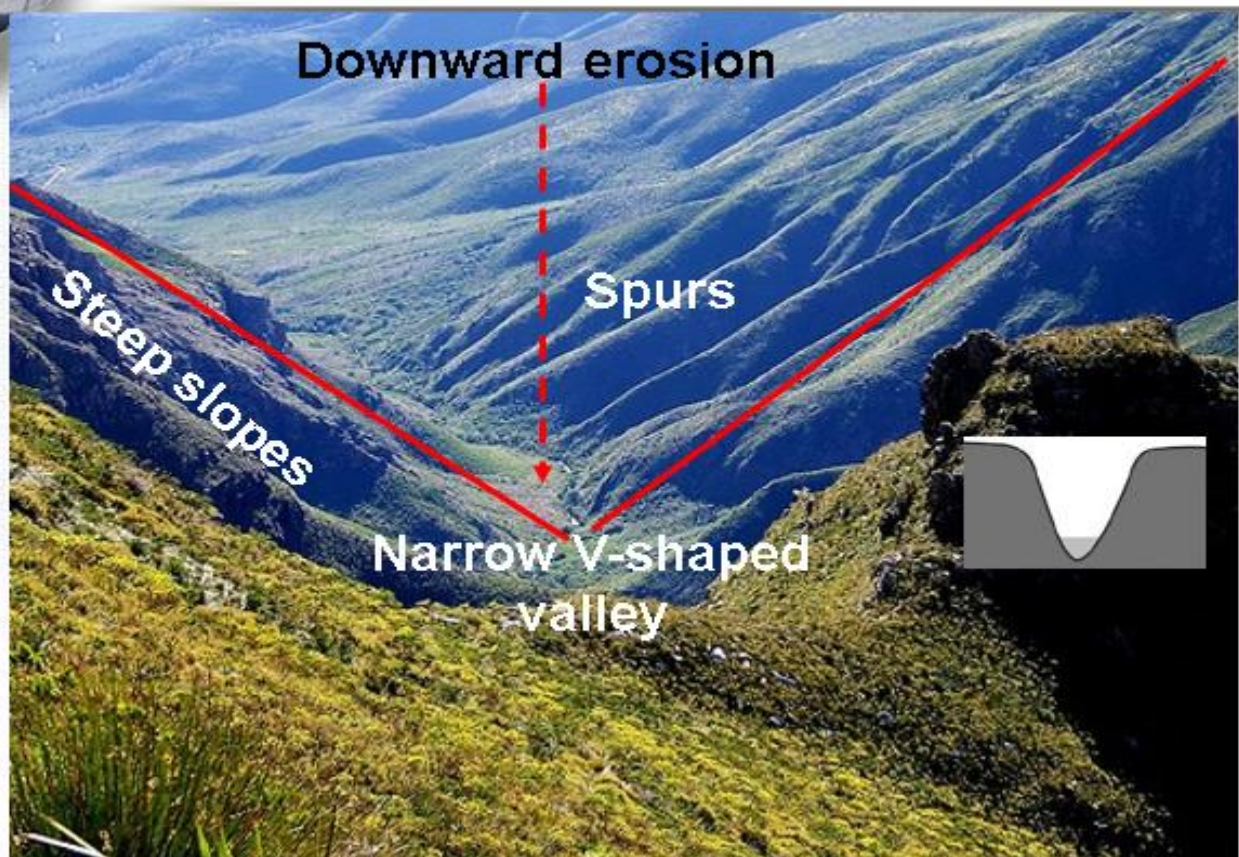
Oxbow lake

Slip off slope :
with more
deposition

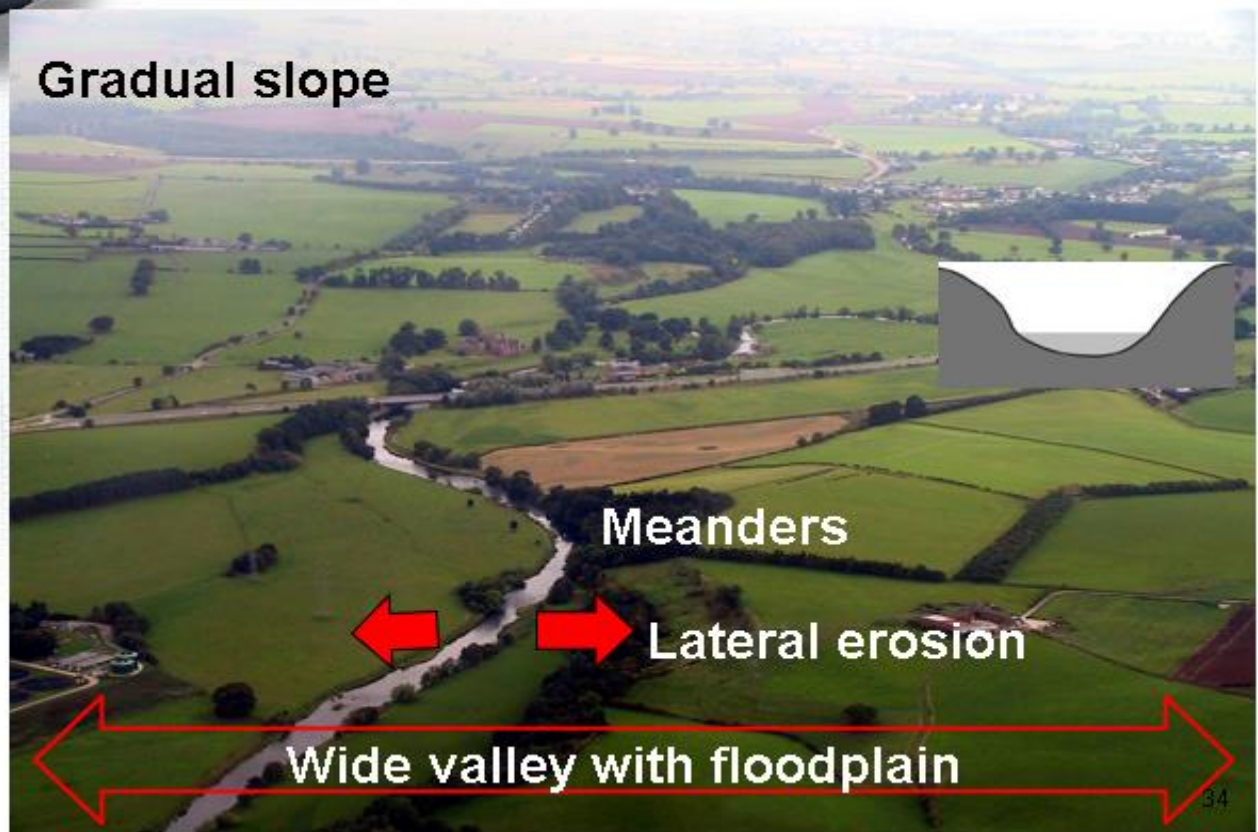
Undercut slope: area
with more erosion



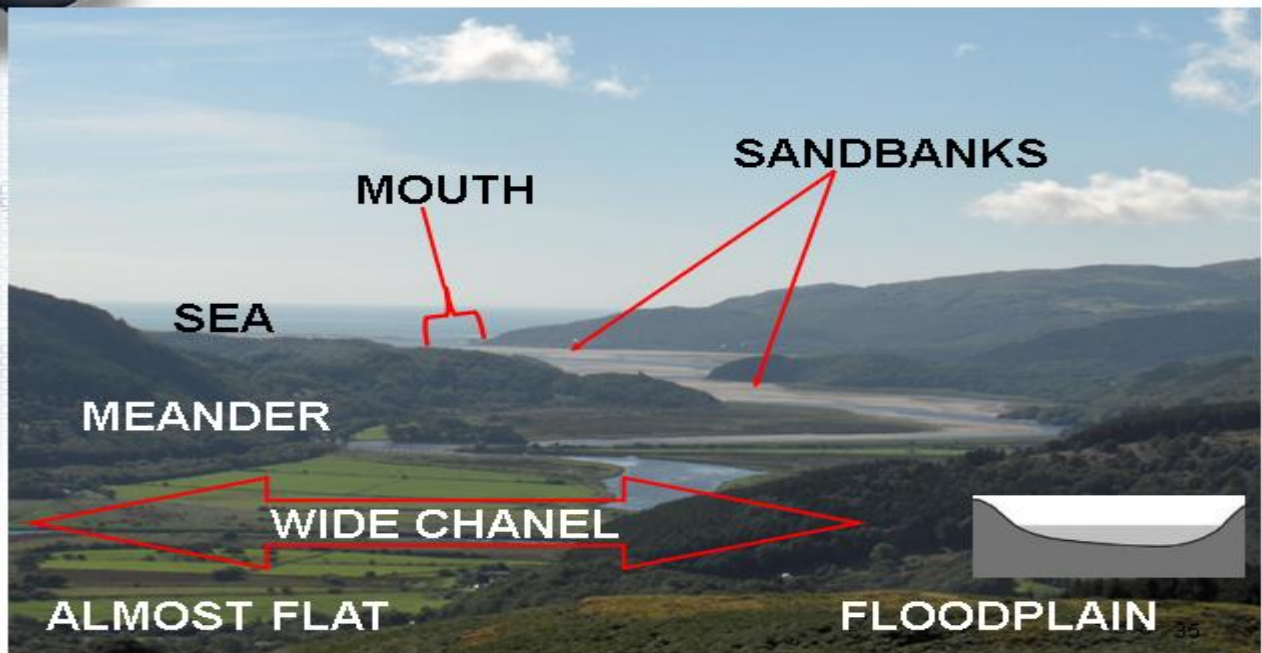
UPPER COURSE (YOUNG RIVER)

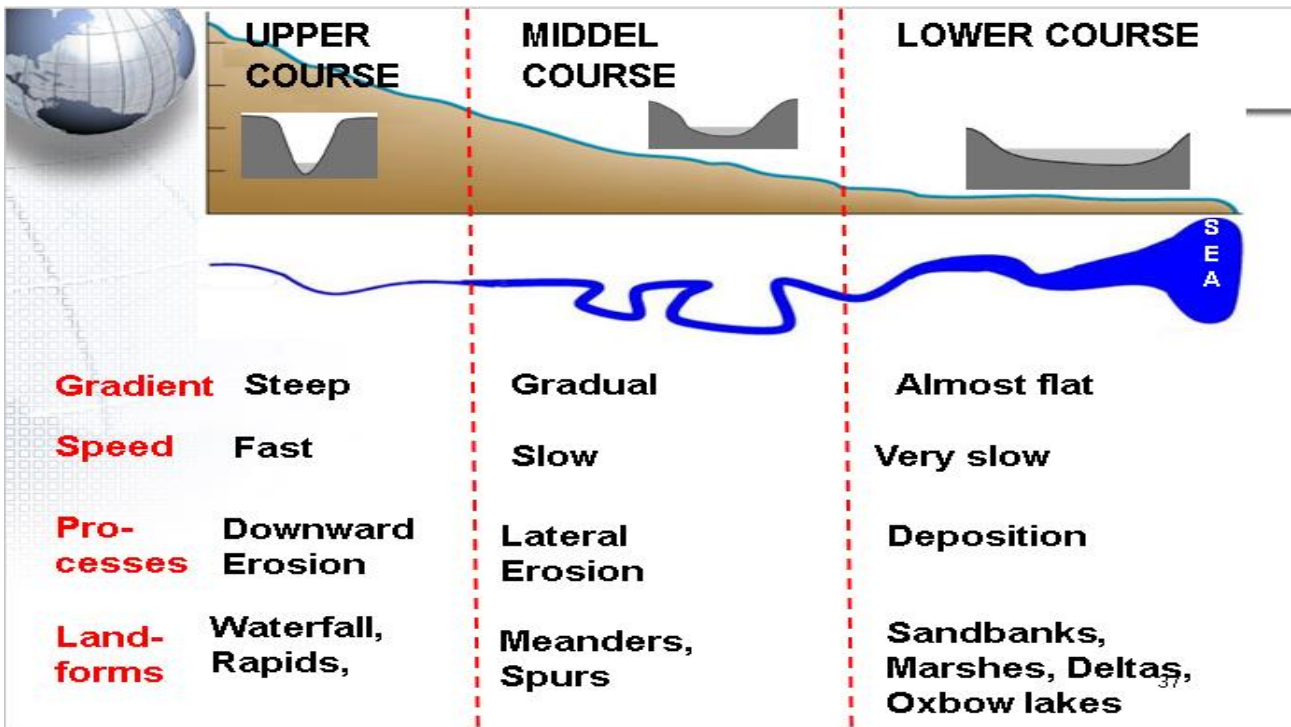
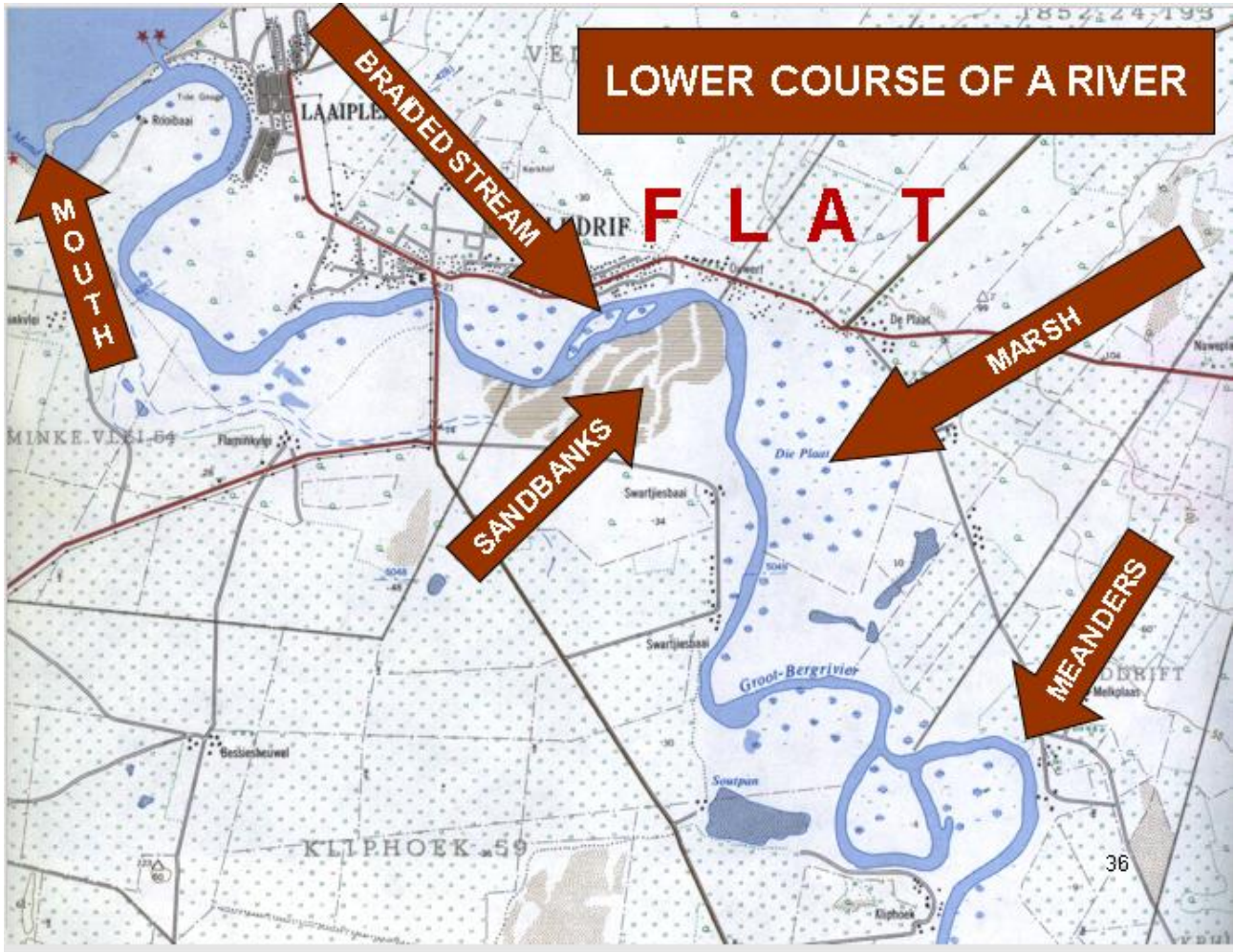


MIDDLE COURSE (MATURE)



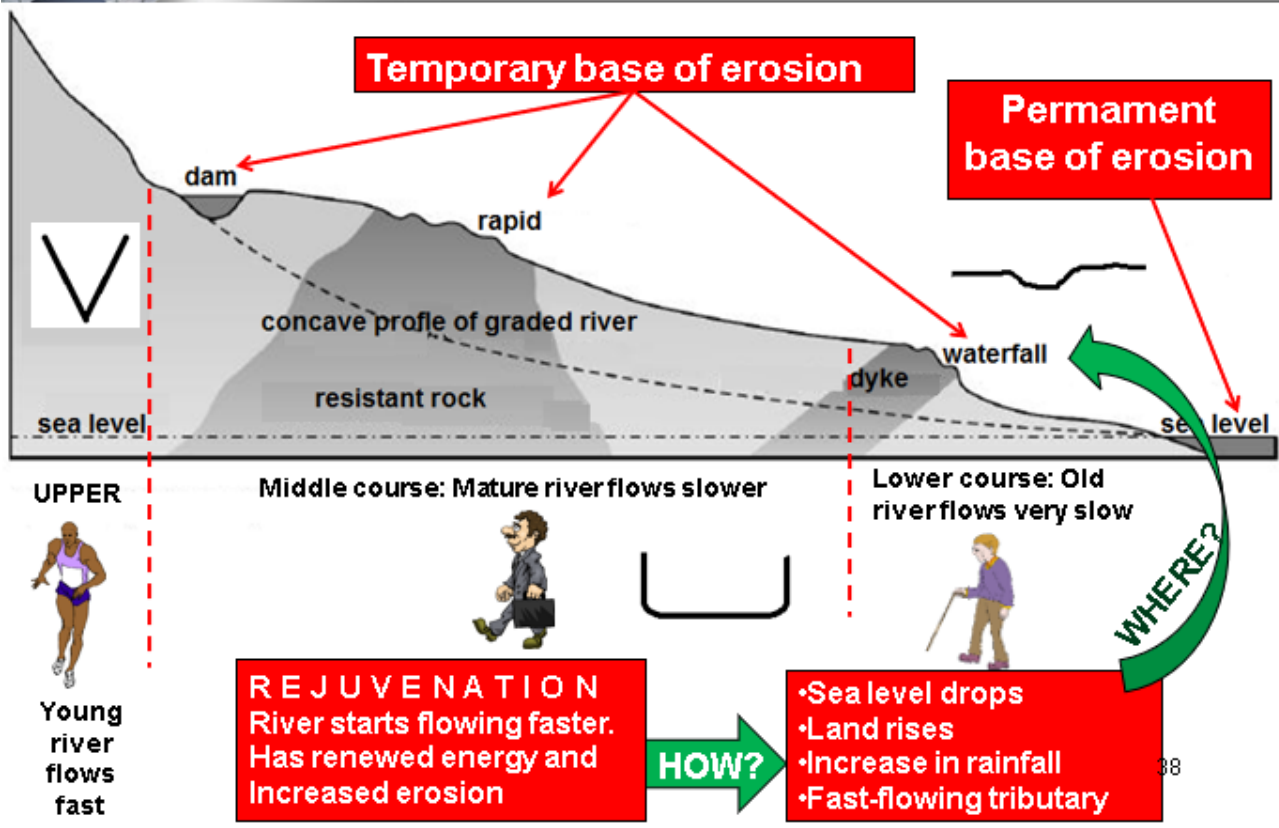
LOWER COURSE (OLD RIVER)





Longitudinal profile: from source to mouth

Base level: Lowest level at which a river can erode



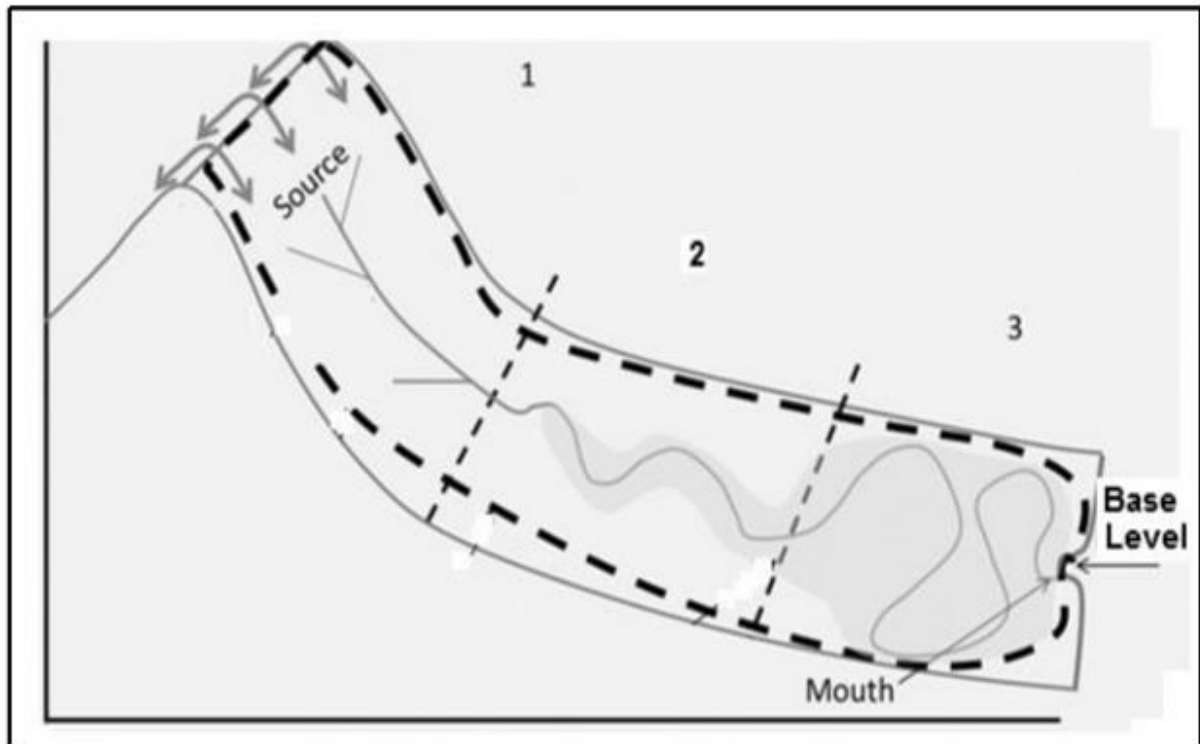
QUESTIONS

• FEBRUARY MARCH 2018

- 1.6 Study FIGURE 1.6 which shows the longitudinal profile of a graded river.
- 1.6.1 What is meant by the term *base level* of a river? (1 x 1) (1)
- 1.6.2 Why is the sea regarded as a permanent base level? (1 x 2) (2)
- 1.6.3 What evidence in FIGURE 1.6 indicates that this river is graded? (1 x 2) (2)
- 1.6.4 Why will a drop in sea level change the grading of the river? (2 x 2) (4)
- 1.6.5 Draw a simple longitudinal profile to show the impact of the drop in sea level, mentioned in QUESTION 1.6.4, on the shape of the longitudinal profile. (1 x 2) (2)
- 1.6.6 Explain how the interaction between erosion and deposition in the upper and lower courses of a river help to maintain a graded profile. (2 x 2) (4)

LONGITUDINAL PROFILE

FIGURE 1.6: LONGITUDINAL PROFILE OF A GRADED RIVER



[Adapted from Yorkshiredalesrivertrust.com]



River grading

- Graded profile
- 1. A profile where there is equilibrium, balance between erosion and deposition
- Ungraded profile
- 1. Is associated with erosion due to uneven / rough surface.

Fluvial landforms:

1. Oxbow lake
2. Sand Islands
3. Flood plain
4. River banks / Natural levee
5. Waterfalls
6. Rapid
7. Utilisation of fluvial landforms by humans

a) Flood plain for planting crops, settlement, increase levee for storing water

41

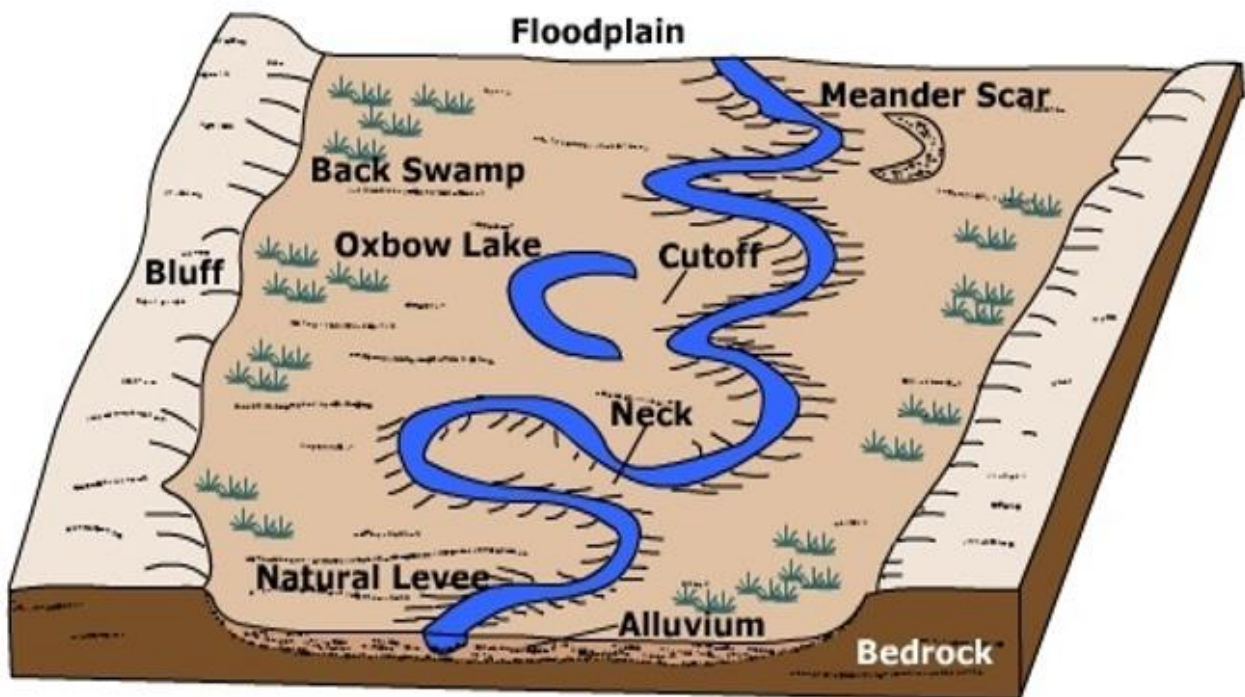
42

FLUVIAL LANDFORMS

- 1. **LEVEES** > these are raised banks of the river that form when the river floods.
- 2. **FLOOD PLAINS** > are flat valley floor (fertile soil known as alluvium).
- 3. **ALLUVIAL FANS** > deposition as the river flows off the mountains on to the flatter plains.
- 4. **BRAIDED STREAMS** > deposition of alluvium forms an island in the middle of the channel, splitting the river into separate channels.
- 5. **MEANDERS / MEANDERING CHANNEL** > bends in the river channel.
- 6. **OXBOW LAKES** > a meander that is cut off when the river takes a new course across the neck of a meander loop.
- 7. **MEANDER SCARS** > a dried up oxbow lake.
- 8. **DELTA** > formed when the deposited material builds up and extends into the lake.

PICTURE OF FLUVIAL LANDFORMS

- PICTURE OF FLUVIAL LANDFORMS



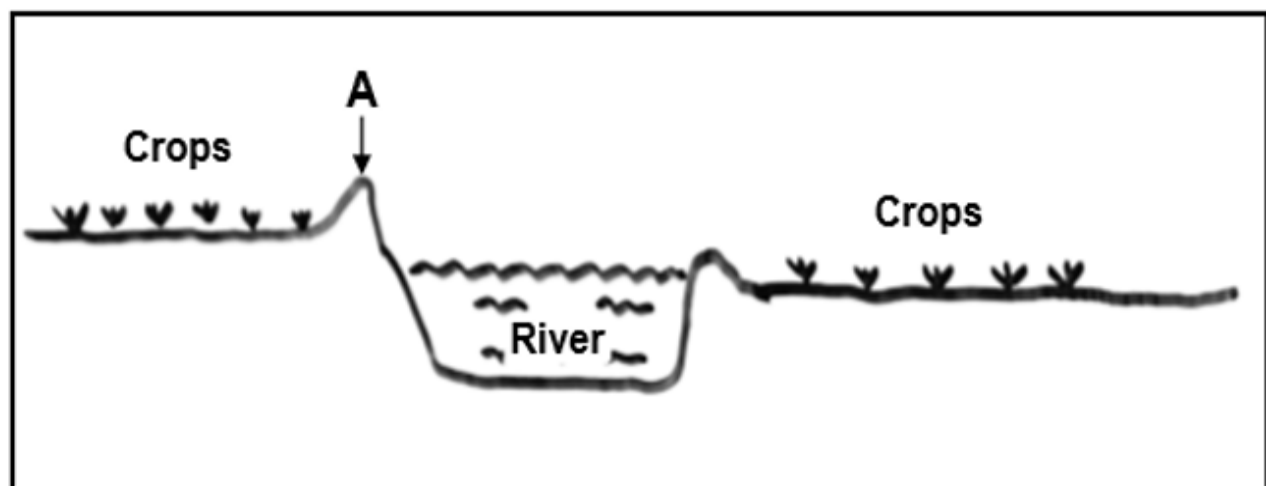
QUESTIONS

• NOVEMBER 2014

- 1.6 Refer to FIGURE 1.6 showing a levee.
- 1.6.1 Identify the fluvial landform on which crops are grown. (1 x 1) (1)
- 1.6.2 Why is the landform in QUESTION 1.6.1 more likely to flood in the lower course? (2 x 2) (4)
- 1.6.3 Identify the natural feature **A** that protects crops from flooding. (1 x 2) (2)
- 1.6.4 Briefly describe the formation of the natural feature in QUESTION 1.6.3. (2 x 2) (4)
- 1.6.5 Discuss the negative impacts on the farmer, should the river break through feature **A**. (2 x 2) (4)

LEVEE

FIGURE 1.6: LEVEE



[Source: Examiner's own sketch]


IMPORTANCE OF WATER

- FOR DOMESTIC USE
- FOR IRRIGATION
- FOR HYDRO – ELECTRICITY
- FOR USE IN BUSINESSES. E.g INDUSTRIES
- FOR ANIMALS

IMPACTS OF PEOPLE ON DRAINAGE BASINS AND CATCHMENT AREAS

- Pollution by human activities. E.g industries, mining and recreational activities.
- Excessive use of fertilizers by farmers.
- Water pollution by leakage of ships/ spilling of oil.
- Land pollution by industries and mines through the release of oil/ chemicals to the land that will end up to the sea.
- Killing of marine life.
- Disturbing ecosystem and bio diversity.

CATCHMENT AND DRAINAGE BASIN MANAGEMENT

- Fine be imposed to industries that pollute water.
 - Educate people about the importance of water.
 - Awareness campaign to be conducted.
 - Educate/ train farmers on better farming methods.
 - Buffering the catchment areas.
 - Conservation and restoration of wetlands.
 - Avoid construction and settlement on the floodplain.
 - The clearing of vegetation (deforestation) and planting of alien trees must be controlled.
- 

QUESTIONS

• NOVEMBER 2015

- 1.6 Read the newspaper article with the heading 'Vaal River Under Pressure' in FIGURE 1.6 and answer the questions that follow.
- 1.6.1 Name TWO provinces that are dependent on the Vaal River as a water source. (2 x 1) (2)
- 1.6.2 Give TWO possible reasons why the Vaal River is becoming increasingly toxic/poisoned. (2 x 1) (2)
- 1.6.3 According to the article, water is pumped into the Vaal River to dilute/reduce the pollution. Explain why this is not a sustainable solution. (2 x 2) (4)
- 1.6.4 Explain, in a paragraph of approximately EIGHT lines, why the cost of food and electricity could increase in future if pollution of the Vaal River is not controlled. (4 x 2) (8)

IMPACTS OF HUMANS ON DRAINAGE BASINS

FIGURE 1.6: IMPACT OF HUMANS ON DRAINAGE BASINS

VAAL RIVER UNDER PRESSURE

Sipho Masondo | The Times Live

The Vaal River and its catchment system are becoming increasingly toxic/poisoned – posing a threat to health, the economy and food production in four provinces.

Water scientists and other experts describe the Vaal River – which supplies water to Gauteng, the country's economic and industrial powerhouse, as well as to farmers in Gauteng, North West, the Free State and Northern Cape – as 'in crisis' and 'under siege' by polluters. Since the 1990s, the Department of Water Affairs has pumped water from the Lesotho Highlands into the river to supplement the water supply. This water is increasingly needed to dilute the pollution.

Said Krige: 'We are using expensive drinking water to sort out the problem of pollution. Dilution is not a solution to pollution.'

The water in the Vaal River system will eventually cost far more to treat, leaving companies such as Sasol and Eskom to pay more for the chemicals needed to treat the water before they use it. This will increase their costs.

[Adapted from www.timeslive.co.za]

QUESTIONS

• MAY/JUNE 2017

- 2.6 FIGURE 2.6 is a case study on catchment and river management. Read the article carefully before answering the questions that follow.
- 2.6.1 Name TWO initiatives that the Working for Wetlands programme has put in place for sustainable river management in South Africa. (2 x 1) (2)
- 2.6.2 Why have catchment management programmes been introduced for South African rivers? (1 x 2) (2)
- 2.6.3 Explain the role of wetland restoration in maintaining a good water supply in South African rivers. (2 x 2) (4)
- 2.6.4 Discuss the negative impact of human activities on catchment areas in South Africa. (3 x 2) (6)

CATCHMENT AND RIVER MANAGEMENT

FIGURE 2.6: CATCHMENT AND RIVER MANAGEMENT

CASE STUDY ON CATCHMENT AND RIVER MANAGEMENT: WORKING FOR WETLANDS

Covering many South African river basins, the Working for Wetlands programme operates in all major catchments.

Half the wetlands lost

65% of South Africa receives less than 500 mm average annual rainfall, meaning that drought is an ever-present risk.

Future projections indicate that by 2025 the country's water requirements will outstrip supply, unless urgent steps are taken to manage the resource more sustainably.

There are already major problems of supply and quality, with an estimated 8 million South Africans currently having no access to drinkable water.

It is against this background that the South African government, working in partnership with WWF and others, has initiated catchment management programmes. These include the control of water-thirsty alien plant infestations and wetland restoration across the country.

[Source: http://wwf.panda.org/about_our_earth/about_freshwater/rivers/irbm/cases/southafrica_river_case_study_cfm/]

Settlement Geography



Concepts



- Settlement: grouping of people, building structures and communication network that function as a single integrated system on daily basis/ place where people live
- Site: piece of land occupied by settlement
- Situation: A settlement in relation to its surrounding
- Sphere of influence: The maximum area served by function/ by central place
- Range: maximum distance from where a business draws its customers
- Threshold population: minimum number of customers required to support business
- Function: main activity that people are involved in (Primary, secondary or Economic sector.)



Classification according to size and function



Smallest

- Isolated farmstead: **single farm** and out buildings
- Hamlet: A **loose grouping** of few farmsteads
- Village: **Dense grouping** of farmsteads
- Town: **Dense populated urban area**
- City: Large town where **people live and work.**
- Metropolis: Main city **surrounded by dependent towns**
- Conurbation: A large town surrounded by **coalescence/combination of towns and cities**
- Megalopolis: A gigantic urban complex formed by **coalescence of Conurbations.** New York



Largest

Rural settlement: It is **unifunctional**, and focus on **primary activities** (e.g. farming, fishing, forestry, mining)
 Primary: **Extraction of raw material from nature**



RURAL-URBAN DISTINCTION

SETTLEMENTS

RURAL

UNIFUNCTIONAL

PRIMARY ACTIVITIES



FARMING



MINING



FISHING



FORESTRY

URBAN

MULTI FUNCTIONAL

SECONDARY ACTIVITIES



INDUSTRIES

TERTIARY ACTIVITIES



SERVICES

NUCLEATED & DISPERSED: P1/P2

NB: PATTERN involves NUCLEATED and DESPERSED SETTLEMENTS



NUCLEATED

Buildings close to each other

DISPERSED

Buildings far apart



FUNCTION: main activity that people are involved in

Primary activities:
extraction of raw material from nature (farming, fishing, mining, forestry)
Unifunctional

Secondary activities:
processing of raw materials (factories and Industries)

Tertiary activities:
provision of services (research, banks, teachers, doctors)

QUESTIONS

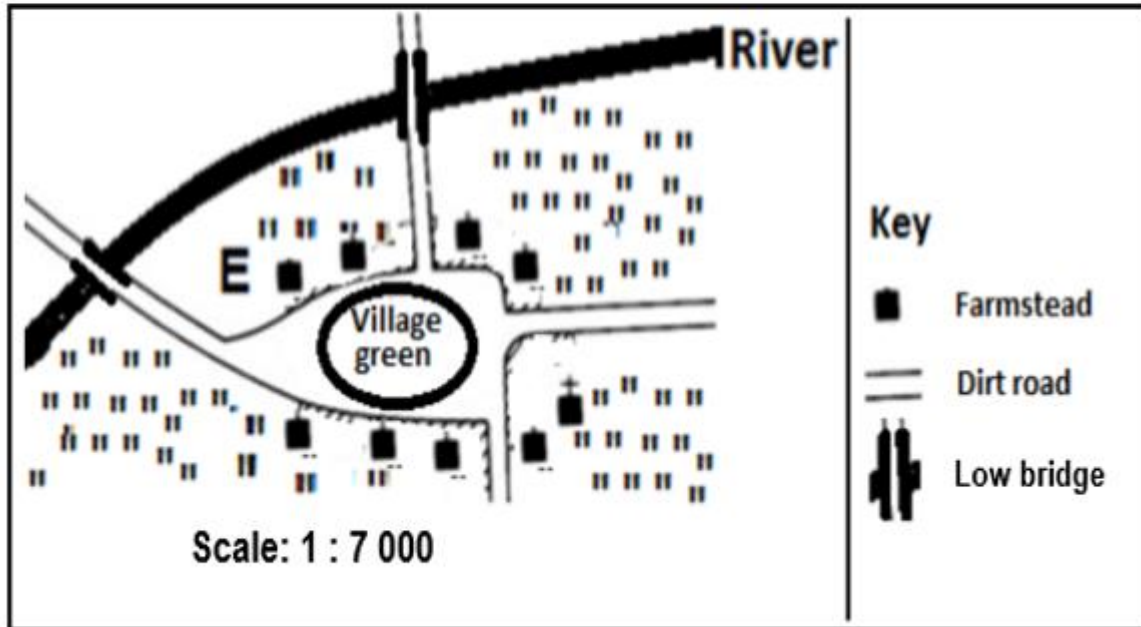
FEBRUARY/ MARCH 2015

- 3.3 Refer to FIGURE 3.3 showing a nucleated village.
- 3.3.1 Describe the shape of the village. (1 x 1) (1)
- 3.3.2 Discuss TWO disadvantages for farmers living in this village. (2 x 2) (4)
- 3.3.3 Discuss ONE advantage for farmers living in this village. (1 x 2) (2)
- 3.3.4 Write a paragraph of approximately EIGHT lines in which you suggest sustainable measures to prevent people from leaving this village to live in cities. (4 x 2) (8)



SETTLEMENT TYPE

FIGURE 3.3: SETTLEMENT TYPE



[Adapted from *GCSE Handbook*]

RURAL SETTLEMENT

Factors influencing choice of site

How site affects location of rural settlement

1. **Availability of water:** Wet point – where water is scarce people are nucleated

2. **Dry point settlement:** where there is a lot of water, dry sites are chosen

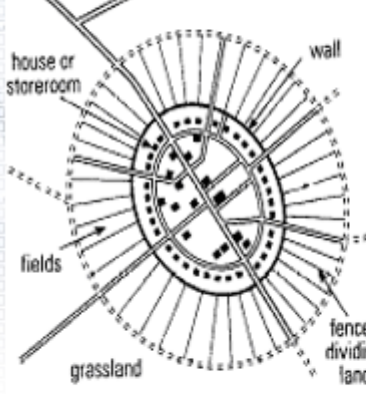
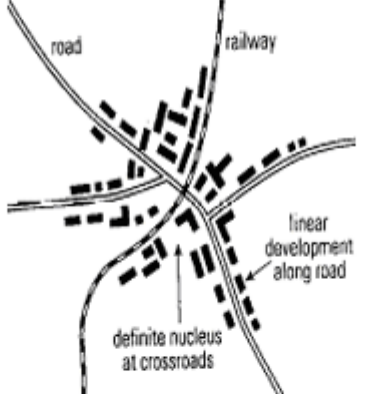
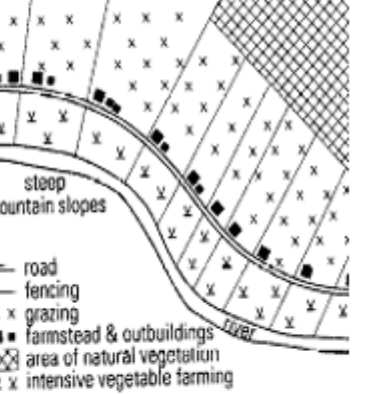
3. **Aspect:** The direction in which slope faces. North facing are warmer and good for settlement

4. **Relief:** Flat areas are better for farming and settlement. If on mountains it acts as defence.

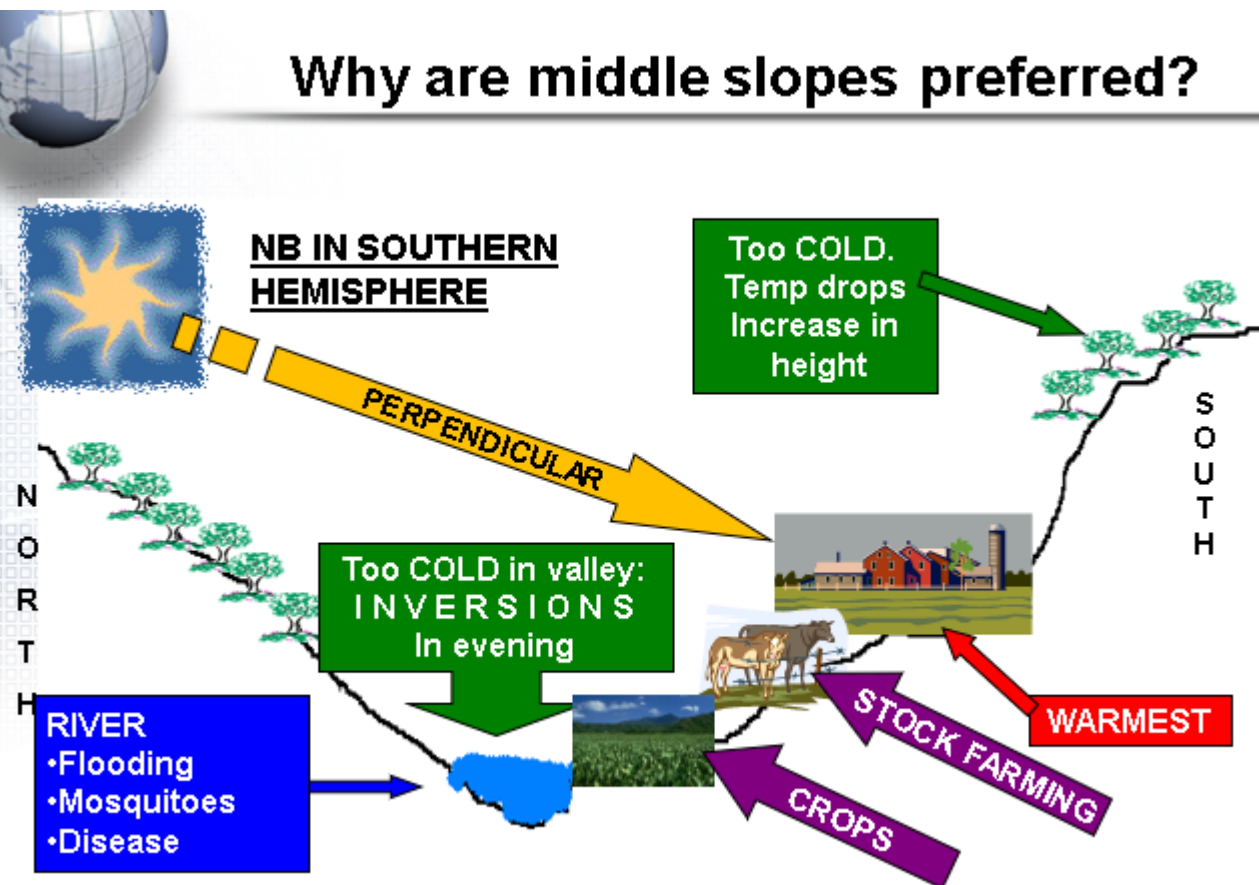
5. **Climate:** No areas can develop with extreme conditions. Climate must be good for crops and animals

6. **Soil:** Fertile soil attracts more farming since production is high.

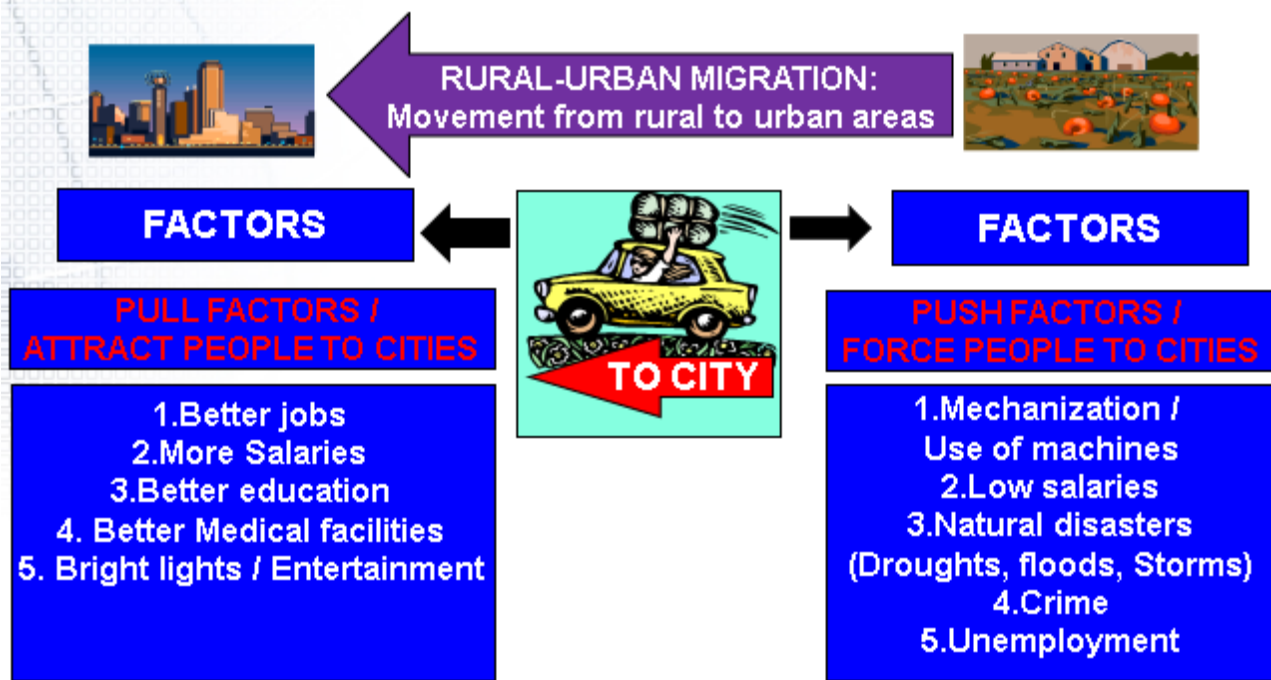
SHAPES OF VILLAGES

ROUND VILLAGE	CROSSROAD and T JUNCTION	LINEAR
		
<p>Settlement develops around a central point</p>	<p>Settlement develops along T junction and cross roads</p>	<p>Settlements along roads, transport, water source (Ribbon pattern)</p>

Why are middle slopes preferred?



RURAL DEPOPULATION : Decrease in number of people in rural areas.



RURAL DEPOPULATION

RURAL-URBAN MIGRATION:
Movement from rural to urban areas

CONSEQUENCES / RESULTS

RURAL ARREAS	URBAN ARREAS
1. Schools and shops close down	1. Crime (Gangsters)
2. Houses are dilapidated	2. Squatter settlements
3. Aged people are left behind	3. Polluted squatter settlements
4. Crime (Farm owners are killed)	4. Unemployment
5. Unemployment	
6. Few new investments	

SOLUTIONS

1. Consult with local people to satisfy their basic needs, shelter, water, food, education
2. Encourage tourism (Encourage visitors to rural areas)
3. Advertise town to road users
4. More jobs in maintaining roads , sanitation,
5. bridges, buildings (infrastructure)
6. Better educational institutions (schools and universities
7. Provide subsidies to businesses



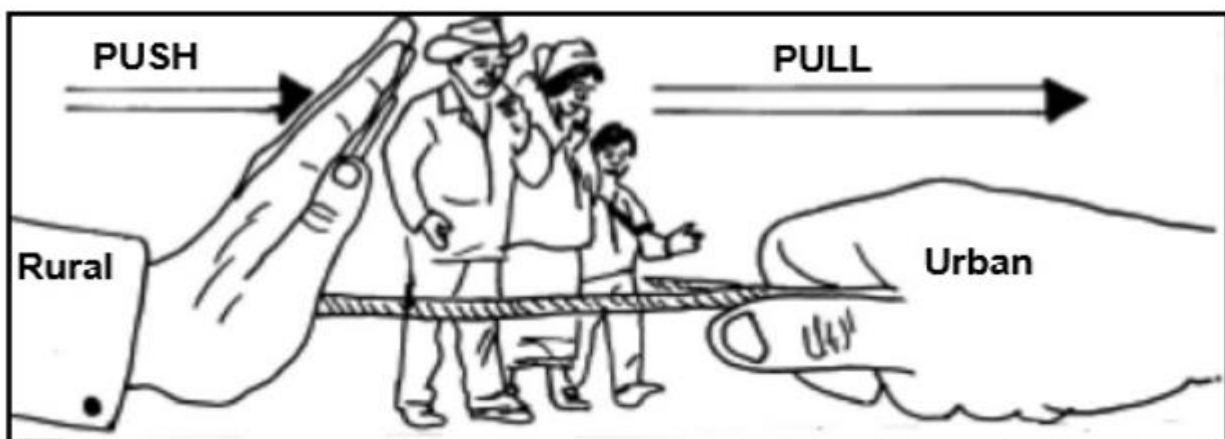
QUESTIONS

- 4.4 FIGURE 4.4 is a cartoon on rural-urban migration.
- 4.4.1 Define the term *rural-urban migration*. (1 x 1) (1)
- 4.4.2 Give TWO push factors that result in rural-urban migration. (2 x 2) (4)
- 4.4.3 Propose ONE way of preventing rural towns from becoming 'ghost towns'. (1 x 2) (2)
- 4.4.4 There is a view that quality housing and employment opportunities are pull factors to urban areas. In a paragraph of approximately EIGHT lines, critically evaluate the extent to which this is true. (4 x 2) (8)



RURAL URBAN MIGRATION

FIGURE 4.4: RURAL-URBAN MIGRATION



[Source: Examiner's own sketch]

QUESTIONS

NOVEMBER 2015

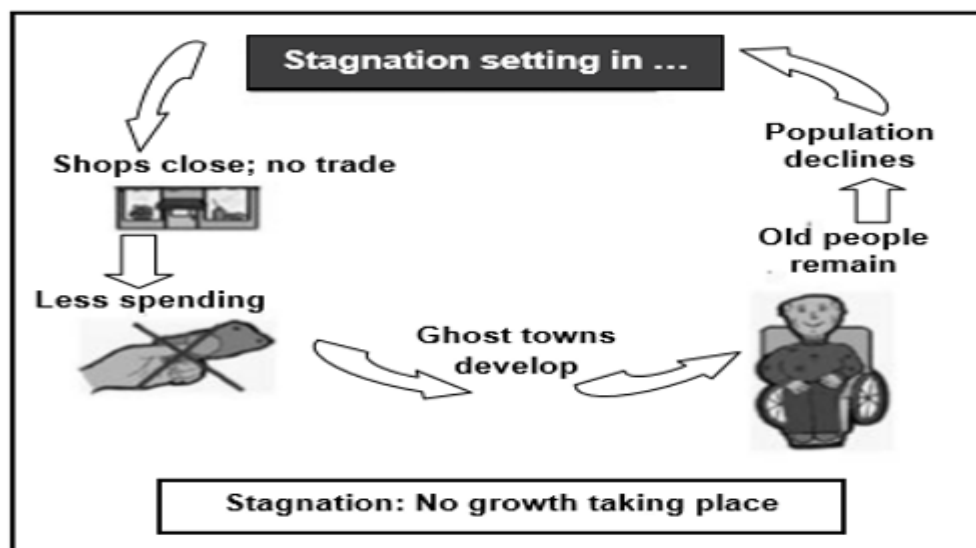
Refer to FIGURE 4.3, which shows characteristics of rural depopulation.

- 4.3.1 Define the term *rural depopulation*. (1 x 1) (1)
- 4.3.2 Which age group is the first to migrate to cities? (1 x 1) (1)
- 4.3.3 State ONE characteristic of a ghost town. (1 x 2) (2)
- 4.3.4 Give TWO reasons why stagnation (no growth) occurs in rural towns. (2 x 2) (4)
- 4.3.5 Write a paragraph of approximately EIGHT lines in which you make suggestions on how this cycle of stagnation can be broken. (4 x 2) (8)



RURAL DEPOPULATION

FIGURE 4.3: CHARACTERISTICS OF RURAL DEPOPULATION



[Source: omega7geog.com]



Social justice issues in rural areas

- **Social justice issues** are problems that affect person's standard of living.
- All people have the right to the satisfaction of their needs.
- **SOCIAL AND ECONOMIC INEQUALITIES INCLUDE THE FOLLOWING**
 1. Unemployment
 2. Land ownership issues (solve the unfair distribution of land)
 3. Women taking home responsibilities alone
 4. Food insecurity (shortage of food)
 5. Lack of services sanitation, and fresh water

PROGRAMMES TO SOLVE SOCIAL JUSTICE ISSUES

PROGRAMME	AIM / PURPOSE
1.Comprehensive Rural Development Programme	Give basic needs, develop roads, bridges, sanitation and entrepreneurship
2.Department of Rural development and land reform	Give housing, water, schools and crèches, jobs and land rights and tenure for people
3. Recapitalisation and Development Programme	Give jobs, Food security and irrigation schemes
4. Land Reform Programme	Acquire and redistribute farms



QUESTIONS

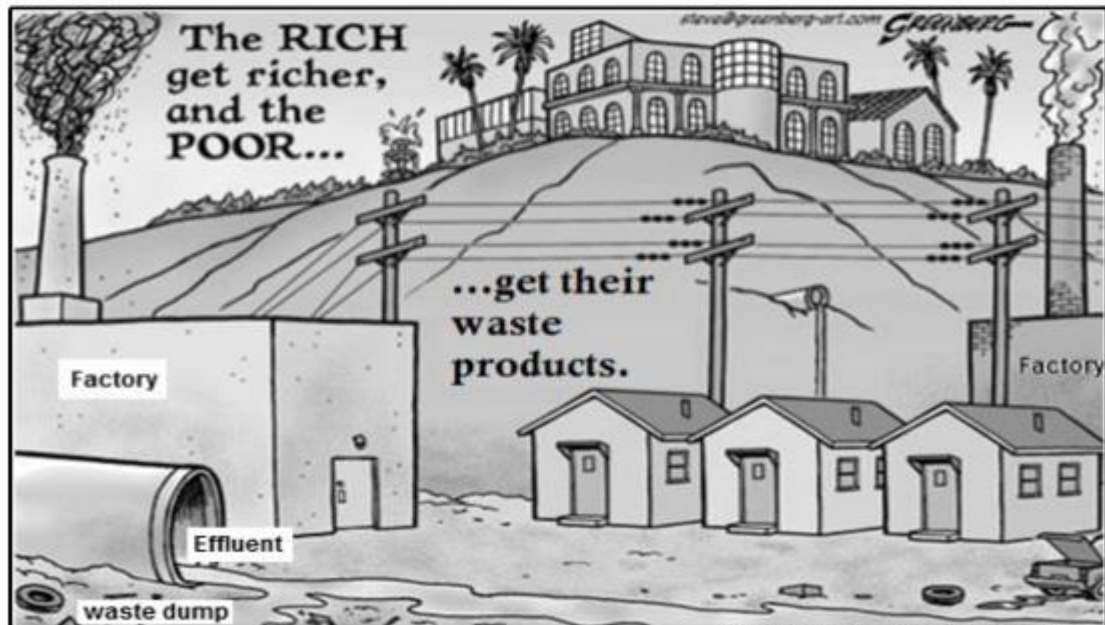
• **FEBRUARY/MARCH 2018**

- 4.4 FIGURE 4.4 shows injustices associated with urbanisation.
- 4.4.1 Define the term *injustice*. (1 x 1) (1)
- 4.4.2 What type of injustice is depicted in the cartoon? (1 x 1) (1)
- 4.4.3 What evidence in the cartoon indicates that the poor are being unfairly treated? (2 x 1) (2)
- 4.4.4 Discuss what is meant by the phrase, 'the POOR ... get their waste products'. (1 x 2) (2)
- 4.4.5 Explain the impact of waste products on the health and environmental well-being of the poor. (2 x 2) (4)
- 4.4.6 Suggest THREE ways in which to resolve the illustrated injustice in urban areas sustainably. (3 x 2) (6)



SOCIAL INJUSTICES IN URBAN AREAS

FIGURE 4.4: INJUSTICES IN URBAN AREAS



[Source: <https://s-media-cache-ak0.pinimg.com/originals/ca/ab/c7/caabc75946c2e1260c536d4081908cce.jpg>]

2. LAND REDISTRIBUTION:

Aim – to redistribute 30% of agricultural land to all other races from whites. This is to happen over 15 years

3. LAND TUNURE:

Aim – Is to legally protect the rights of people to use or occupy land which they do not own. Farm labourers own a sense of security and are protected from unlawful eviction

1. LAND RESTITUTION:

Aim – People who lost their land in the past, are allowed to get their land back or given money as compensation

3 LAND REFORM PROGRAMMES

- 4.3 Refer to FIGURE 4.3, an article about land reform.
- 4.3.1 Define the term *land reform*. (1 x 1) (1)
- 4.3.2 According to the article, why has the land reform programme failed? (1 x 1) (1)
- 4.3.3 Briefly discuss TWO factors that explain why land reform in South Africa is necessary. (2 x 2) (4)
- 4.3.4 In a paragraph of approximately EIGHT lines, discuss methods that the government can put in place to provide support to the people resettled on the land once land reform has taken place. (4 x 2) (8)



LAND REFORM

FIGURE 4.3: LAND REFORM

SOUTH AFRICA'S LAND REFORM EFFORTS LACK A FOCUS ON STRUGGLING FARMERS

South Africa's land reform programme has suffered many failures and its beneficiaries have in many cases seen little or no improvements to their livelihoods. Land reform remains an unresolved historical grievance.

There is a general agreement that land reform has been a failure and needs to be sped up. Research shows that between 70% and 90% of the projects (including land restitution projects) have failed. The government needs to reconsider its policy of simply acquiring land for redistribution. It needs to take measures to make sure that redistributed land is used productively.

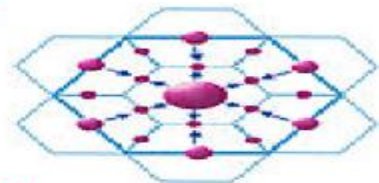
If land reform is to continue in its current fashion, its prospects are doomed. It is the government's duty to see to it that they create self-sufficient farmers through the provision of post-settlement support.

[Adapted from <http://mg.co.za/article/2016-12-06-south-africas-land-reform-efforts-lack-a-focus-on-struggling-farmers>]

URBAN SETTLEMENT

CLASSIFICATION OF URBAN SETTLEMENTS ACCORDING TO FUNCTIONS

1. **CENTRAL PLACE TOWN:** Provides goods and services to surrounding rural area

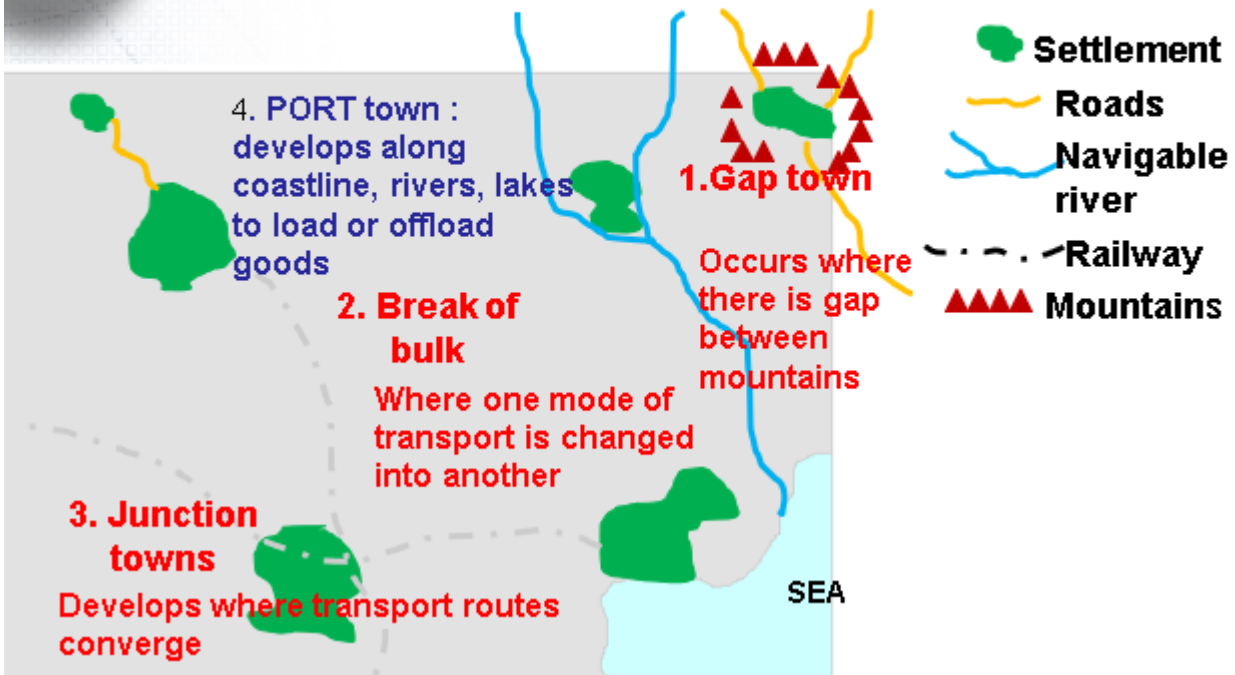


2. **SPECIALISED CITIES/ TOWNS:** these functions have one dominant function, education, mining, recreational

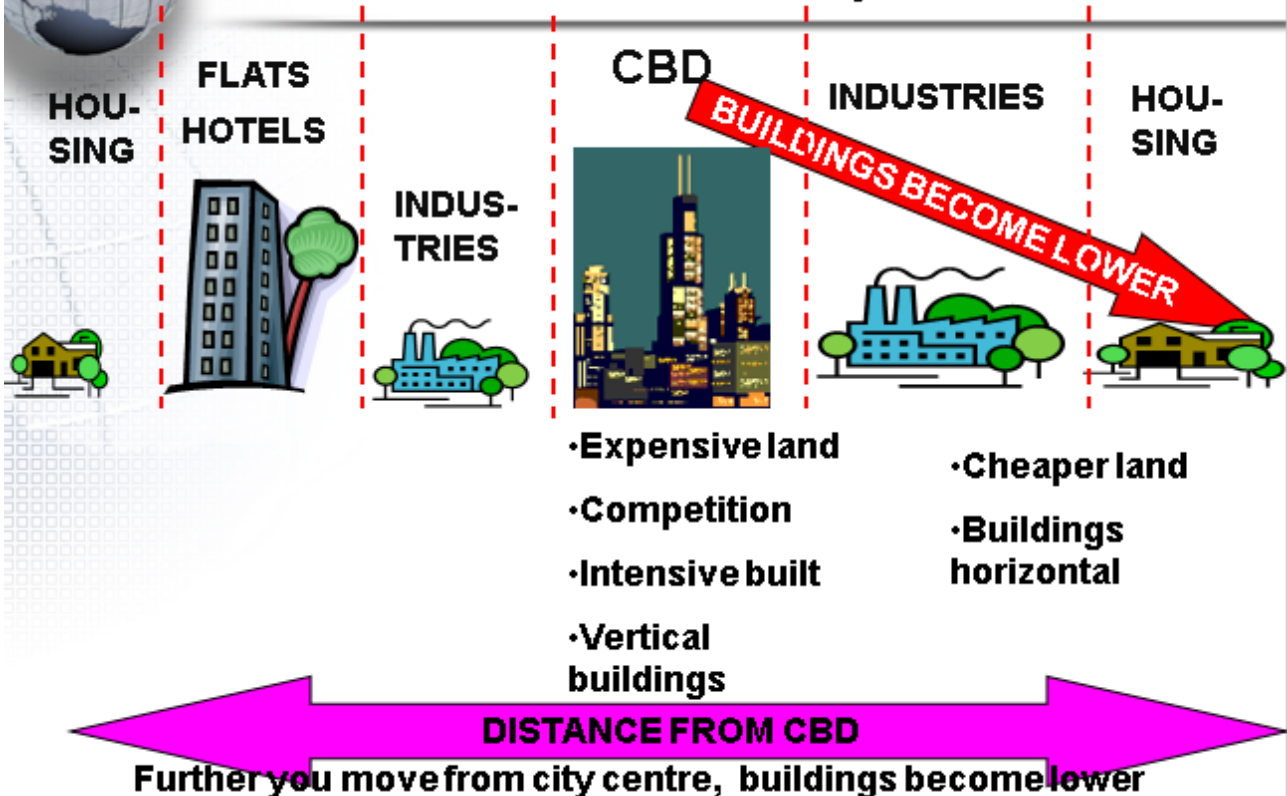




4 TYPES OF TRADE & TRANSPORT TOWNS



UBAN PROFILE : A view of city from a side





QUESTIONS

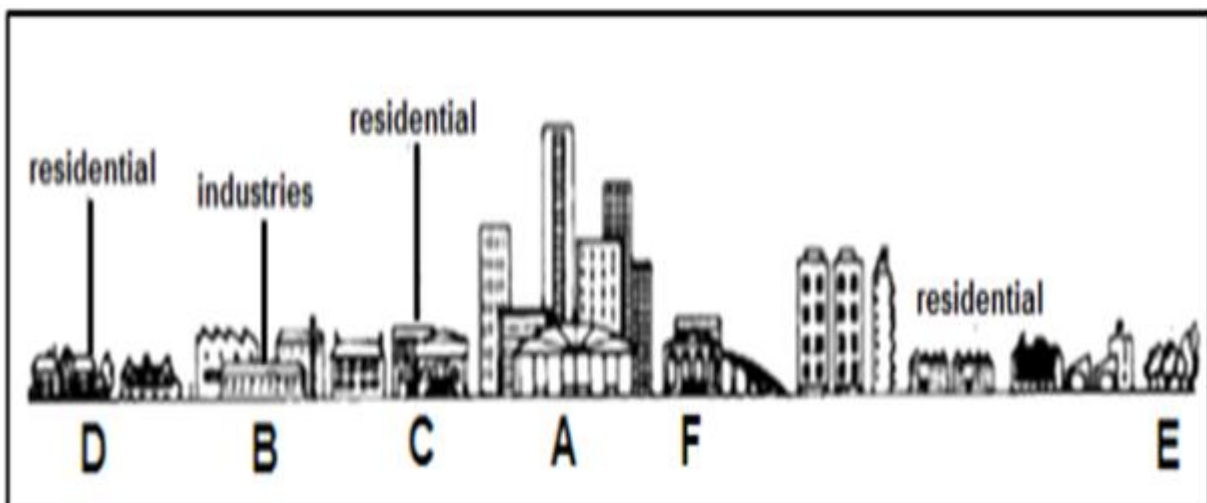
QUESTION 3

- 3.1 Refer to FIGURE 3.1 which shows the urban profile of a city.
- 3.1.1 Name land-use zone **A**.
- 3.1.2 Name land-use zone **F**.
- 3.1.3 Which land use-zone occupies the most space?
- 3.1.4 Is industrial area **B** a light or heavy industrial zone?
- 3.1.5 Which ONE of the two residential areas (**C** or **D**) is most likely the high-income area?
- 3.1.6 Identify land-use zone **E**.
- 3.1.7 Which land-use zone has the highest land value? (7 x 1) (7)









URBAN PROFILE

FIGURE 3.1: URBAN PROFILE



[Adapted from www.learnmindset.co.za]

LAND USE ZONES

<p>CBD</p>  <p>Accessible Highest buildings High order functions Low order Functions</p>	<p>INDUSTRIES</p>  <p>Light industries Heavy industries Location factors</p>	<p>RETAIL</p>  <p>Isolated stores Ribbon development Outlying business cen. Shopping Centre</p>
<p>RESIDENTIAL</p>  <p>High income - where Low income - where Informal settlements</p>	<p>ZONE OF DECAY</p>  <p>Found on edge of CBD Old buildings, pollution Functions mixed races Urban renewal</p>	<p>RURAL URBAN FR.</p>  <p>Between urban & rural. Golf, Power stations, Cemeteries, airports, sewage</p>

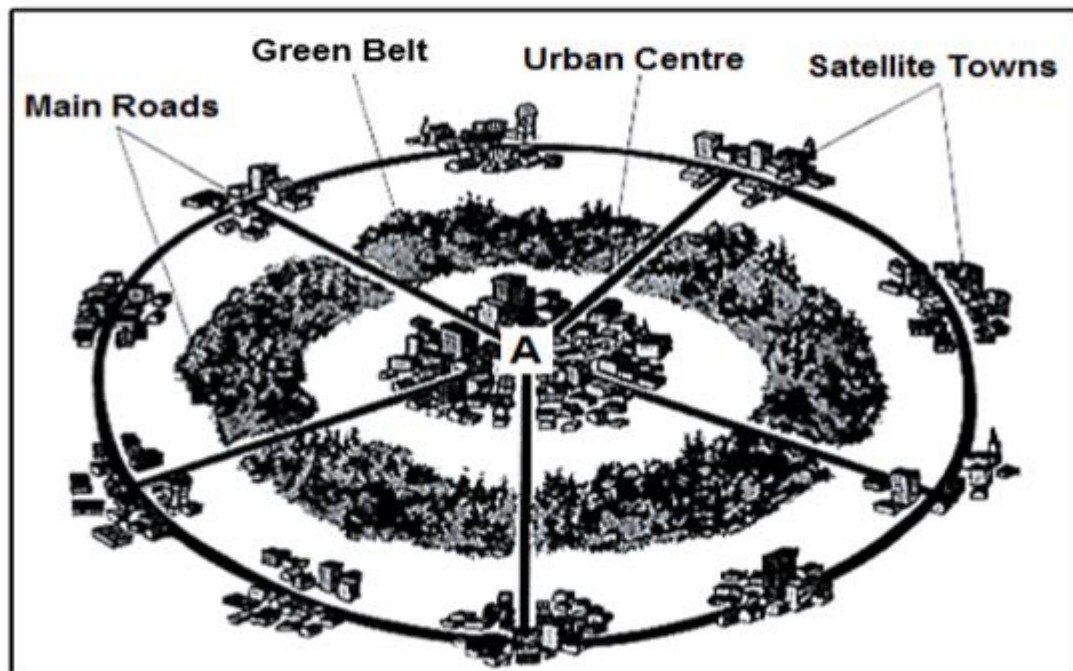


QUESTIONS

- 3.3 Study FIGURE 3.3 showing urban land-use.
- 3.3.1 Define the term *urban land-use*. (1 x 1) (1)
- 3.3.2 Name land-use zone **A**. (1 x 1) (1)
- 3.3.3 What evidence indicates that land-use zone **A** has a high degree of accessibility? (1 x 2) (2)
- 3.3.4 Discuss TWO problems that land-use zone **A** experiences due to its high accessibility. (2 x 2) (4)
- 3.3.5 In a paragraph of approximately EIGHT lines, analyse the role that green belts play in reducing the environmental problems that land-use zone **A** experiences as a result of its accessibility. (4 x 2) (8)

URBAN LAND USE ZONES

FIGURE 3.3: URBAN LAND-USE



[Source: <http://www2.mcdaniel.edu/Biology/ESP/cities/urbanquestions.html>]

Street patterns P1 and P2



RADIAL

Street radiate away from CBD

ADVANTAGES

1. Easy flow of traffic
2. Equal access to centre of town

DISADVANTAGES

1. Traffic congestion
2. Wastes a lot of space



GRID / BLOCK

A regular planned street pattern, with right angle. Associated with older cities

ADVANTAGES

1. Easy to plan and layout
2. Easy to find way out
3. Plots are easily subdivided
4. Less wastage of land

DISADVANTAGES

1. Traffic congestion
2. Waste time and fuel
3. More accidents
4. Monotonous



IRREGULAR

Planned around physical feature

ADVANTAGES

1. Easy flow of traffic
2. Not monotonous

DISADVANTAGES

1. Easy to get lost
2. Difficult to find direction



QUESTIONS

• FEBRUARY/ MARCH 2015

QUESTION 4

4.1 FIGURE 4.1 represents an urban profile and street patterns.

4.1.1 Name the street pattern at **A**.

4.1.2 Name the street pattern at **B**.

4.1.3 Give ONE historical reason for the particular layout of the street pattern at **B**.

4.1.4 Give ONE reason why urban planners have chosen street pattern **A** in modern times.

4.1.5 State ONE characteristic of the land-use zone at **C**.

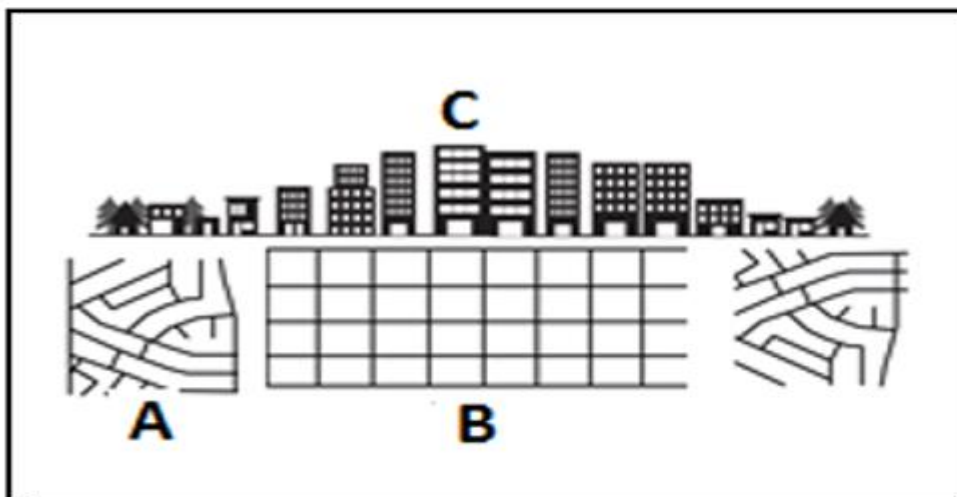
4.1.6 Give ONE reason why the height of the buildings decreases from **C** to the periphery.

4.1.7 Is the density of buildings at **C** high or low? (7 x 1) (7)



STREET PATTERNS

FIGURE 4.1: URBAN PROFILE AND STREET PATTERNS



[Source: <http://urbanvistadotnet.files.wordpress.com/2011/08/4-1.jpg>]



QUESTIONS

• NOVEMBER 2017

QUESTION 4

4.1 Refer to FIGURE 4.1 on street patterns. Match the descriptions below with street pattern **A** or **B**. Choose the answer and write only the letter A or B next to the question number (4.1.1–4.1.8) in the ANSWER BOOK, for example 4.1.9 A.

- 4.1.1 Longer streets with fewer intersections
 - 4.1.2 Planned to facilitate a smooth flow of traffic
 - 4.1.3 A feature of new urban developments
 - 4.1.4 Makes building easier due to the regular shaped plots
 - 4.1.5 Not suitable for steep and hilly land
 - 4.1.6 Saves fuel and travelling time
 - 4.1.7 Easier to find places
 - 4.1.8 Associated with the oldest part of a settlement
- (8 x 1) (8)



STREET PATTERNS

FIGURE 4.1: STREET PATTERNS



[Source: www.planetizen.com]



QUESTIONS

- 3.4 Refer to FIGURE 3.4, an extract based on urban blight, which is an urban issue related to rapid urbanisation.
- 3.4.1 What do you understand by the term *urban blight*? (1 x 1) (1)
- 3.4.2 State ONE cause of urban blight. (1 x 1) (1)
- 3.4.3 Why have the inhabitants of 120–128 Bromwell Street not vacated (left) their homes yet? (1 x 2) (2)
- 3.4.4 Why do residents feel that urban renewal of the Woodstock Hub is destroying their lives? (1 x 2) (2)
- 3.4.5 Give TWO reasons why the transition zone requires urban renewal. (2 x 2) (4)
- 3.4.6 Explain why urban renewal will change 120–128 Bromwell Street from a low- to a middle- or a high-income residential area. (2 x 2) (4)



URBAN BLIGHT

FIGURE 3.4: URBAN BLIGHT

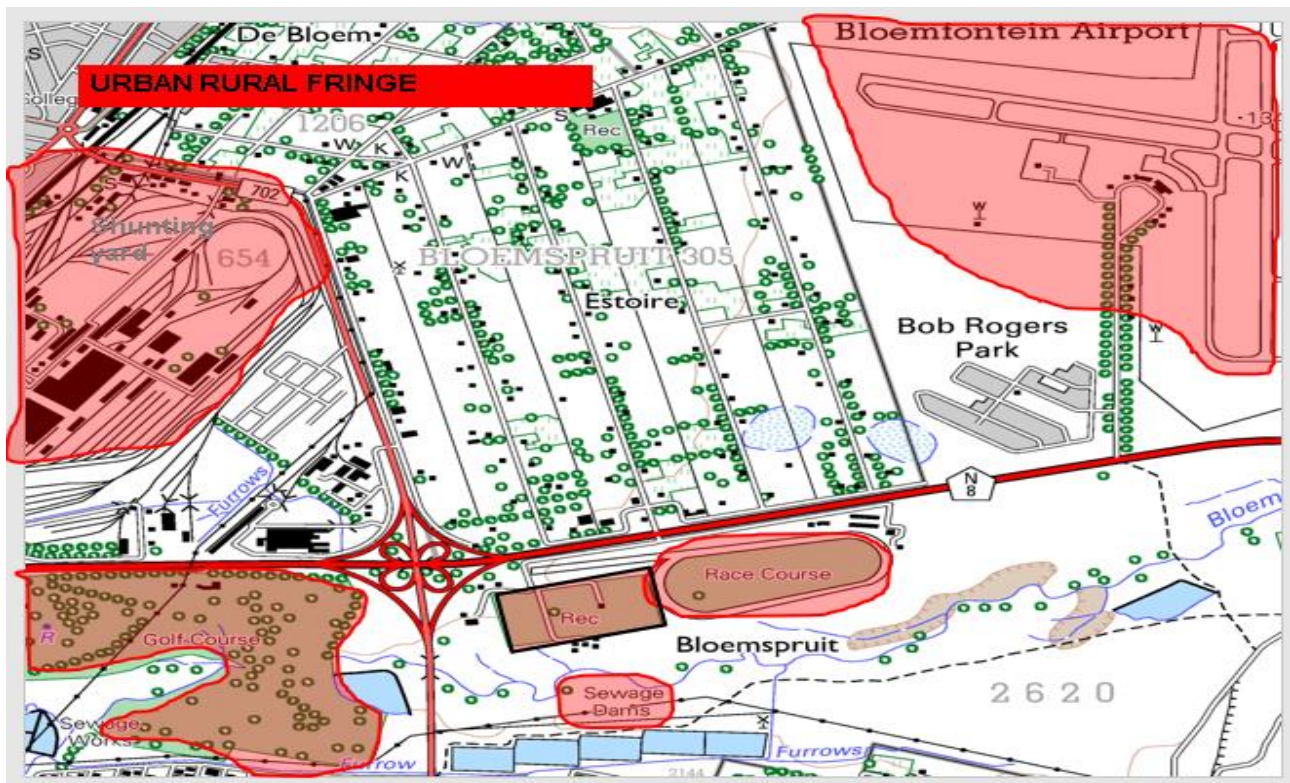
URBAN RENEWAL PROGRAMME TO FIGHT URBAN BLIGHT ANGRERS WOODSTOCK RESIDENTS

The deadline for Bromwell Street residents in Woodstock, Cape Town, to leave their homes has been extended. One of the residents says urban renewal programmes are destroying their lives in Woodstock and Salt River.

The Woodstock Hub gained possession of 120–128 Bromwell Street in 2013 to upgrade the buildings. The director of the Woodstock Hub says these properties were supposed to be vacated. Three years later the residents say they have nowhere to go, and blame the urban renewal project and the government for their predicament.

Western Cape MEC of Human Settlements says he has offered the families housing in Delft, but they didn't want to take it. The residents say they don't want to be forced to move so far out of the city into a community that they are not familiar with.

[Adapted from <http://www2.mcdaniel.edu/Biology/ESP/cities/urbanquestions.html>]





INFORMAL SETTLEMENT



INFORMAL SETTLEMENT

- Is an unplanned residential
- **OTHER NAMES OF INFORMAL SETTLEMENT:**
 - 1. Slums
 - 2. Shanty towns
 - 3. Squatter camps
 - 4. Ghetto

MATERIALS USED TO BUILD THEIR HOUSES:

1. Wood
2. Plastics and
3. Corrugated irons

AREAS WHERE INFORMAL SETTLEMENT ARE FOUND:

1. The outskirts of the city.
2. Alongside of formal houses.

INFORMAL SETTLEMENT ISSUES / PROBLEMS/ CHALLENGES:

1. Lack of basic services e.g water, electricity and sanitation
2. Improper houses
3. Fire > due to the use of paraffin and candles and open fires.
4. Bad weather during summer and winter
5. Crime
6. Unemployment
7. Poverty
8. Experience floods especially at the low lying areas.

STRATEGIES TO ADDRESS THE ISSUES OF INFORMAL SETTLEMENT:

1. Formalising the settlement
2. Build proper houses.
3. Provide basic services like water and sanitation.
4. Relocate those who are living in a risk area
5. Construct proper roads.



QUESTIONS

• MAY/ JUNE 2016

- 4.4 Study FIGURE 4.4 showing an informal settlement.
- 4.4.1 Define the term *informal settlement*. (1 x 1) (1)
- 4.4.2 (a) Name TWO factors that could have influenced the location of this informal settlement. (2 x 1) (2)
- (b) Why is location an important factor to the residents of informal settlements? (1 x 2) (2)
- 4.4.3 Explain TWO negative environmental impacts of informal settlements. (2 x 2) (4)
- 4.4.4 With reference to FIGURE 4.4, give ONE reason why fire could spread through this settlement easily. (1 x 2) (2)
- 4.4.5 Give TWO possible reasons why local governments want to restrict the growth of informal settlements. (2 x 2) (4)

INFORMAL SETTLEMENT

FIGURE 4.4: AN INFORMAL SETTLEMENT



[Adapted from <http://www.pholapark.settlement.co.za>]