KWAZULU-NATAL PROVINCE
EDUCATION
REPUBLIC OF SOUTH AFRICA

CURRICULUM GRADE 10 -12 DIRECTORATES

NCS (CAPS) SUPPORT

JUST IN TIME LEARNER REVISION DOCUMENT

LAST PUSH

GEOGRAPHY PAPER 1 and 2

GRADE 12

2025

CLIMATE AND WEATHER CONCEPTS

Mid-latitude cyclone	Intense low-pressure system which has a cold front and a warm front and occurs between 30° -60°N/S.
Polar front	Zone of separation that develops at 60^0N/S of the Equator and separates cold polar easterlies and warm tropical westerlies.
Cold front	Leading edge of cold air separating cold air from warm air
Warm front	Leading edge of warm air separating warm air from cold air
Undercutting	Process whereby cold air gets beneath warm air and forces it to rise rapidly.
Cyclone	Intense low-pressure cell where air rise and clouds form.
Cold polar easterlies	Cold air that blows from the poles to the sub-polar low(90^0 – 60^0N/S of the equator)
Warm tropical westerlies	Warm air that blows from the Sub-tropical high-pressure belt to the sub-polar low. (30^0 -60^0 N/S of the equator)
Backing	Change of wind direction from north-west to south west (anticlockwise) on a mid-latitude cyclone in the southern hemisphere.
Veering	Change of wind direction in a clockwise circulation on a midlatitude cyclone in the northern hemisphere.
Ridge	Elongated isobars on a high-pressure cell.
Trough	Elongated isobars on a low-pressure cell.
Tropical cyclone	Intense low-pressure system associated with severe storms
Vortex	A spiral motion of air in the centre of a tropical cyclone. It is a whirling mass air that draws everything near it toward its centre
Eye wall	Area near/around the eye of a tropical cyclone where highest wind speed, heavy rainfall and cumulonimbus clouds occur.
Latent heat	Heat released during condensation which contributes to the unstable air and convection.
Adiabatic heating	Increase of temperature of descending air at 1°c/100m.
Storm surge	an abnormal rise in the level of the sea along a coast caused by the onshore winds and intense low pressure of a severe cyclone.
Dangerous semi-circle	The south-western part of the tropical cyclone when it moves westerly.
Temperature inversion	Increase in temperature with an increase in height/altitude.
Local climate	Climate of a small area/small-scale climate
Katabatic winds	Cold, dense and heavy air which blows from the mountain to the valley due to the force of gravity especially during winter nights.
Anabatic winds	Upslope warm and light winds which blow from the valley during the day.
Inversion layer	Layer of warm air trapped between cold air.
Thermal belt	Area where there is warm air trapped between cold air in the valley.
Radiation fog	Air in the valley cooling to below dew point temperature.
Aspect	The direction the slope faces in relation to the sun rays.
Line thunderstorms	Thunderstorms arranged in a line along the trough of low from NW to SE over the interior in summer.
Moisture front	A boundary between two air masses with different moisture content and temperature.
Berg winds	Hot, dry and gusty winds which blow from the interior down the escarpment to the coast in winter.
Urban heat island	Higher temperatures over the city surrounded by lower temperatures in rural area.
Pollution dome	Mass concentration of pollutants hanging above the city.

MIDLALTITUDE CYCLONES (frontal depressions, extra tropical cyclones)

DEFINITION: Intense low-pressure system which has a cold front and a warm front and occurs between 30º -60ºN/S.

GENERAL CHARACTERISTICS

- They occur as a pair of fronts: a warm front and a cold front.
- The cold fronts reach South Africa mostly in winter due to pressure belts and wind systems moving slightly north in winter.
- They move from west to east and they are steered by westerlies.
- The air rotates clockwise around the centre of low pressure in the southern hemisphere.
- They have a diameter of about 1000km.

IMPACT OF MIDLATITUDE CYCLONES

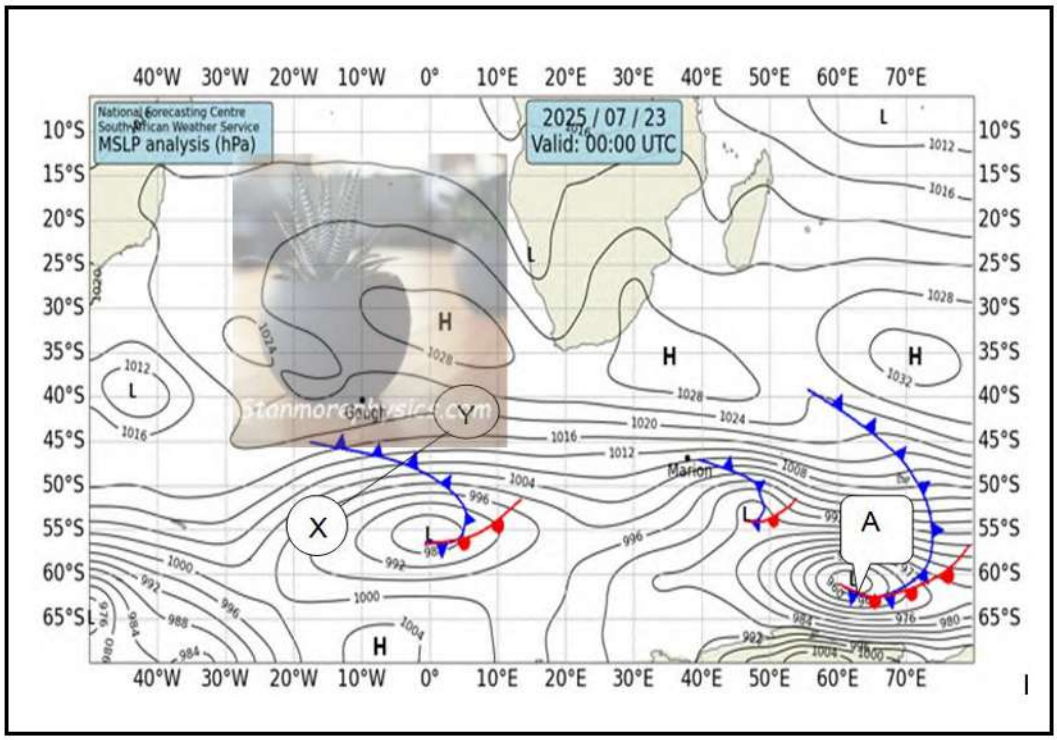
Social impact - Positive	**Environment** - Positive	**Economy** – Positive
• Winter rainfall provides water to farmers for irrigation. • Enough water for domestic, agricultural industrial and recreation use. • Snow in mountains attract tourist.	• Melting snow is a source of water for dams and rivers. • Replenishes underground water • Potentially bring rainfall to dry areas.	• Snowfall will attract tourists thus boosting the economy. • Production of winter crops benefits the GDP
Social impact – Negative	**Environment** - Negative	**Economy** - Negative
• Heavy rain from cold fronts leads to poor visibility and traffic accidents. • Strong winds and high seas occur posing a hazard to fishermen in the South Western Cape. • Snow that fall cause dangerous to people. • Extreme cold can result in power cuts and disruption of human activities. • Stormy conditions over ocean causes danger to ships. • Some businesses may be forced to shut down. • Loss of human lives and livestock. • Hinder travelling of people and outdoor activities.	• Destruction of biodiversity e.g. food chains. • Silting of dams. • Snowfall is dangerous for livestock. • Heavy rainfall cause floods that damage crops and property. • Soil erosion results from heavy rains. • Frost can damages crops and stock losses. • Frost can freeze the soil and kills off harmful organisms. • Coastal flooding due to heavy rainfall. • Landslides in mountain areas due to heavy rainfall.	• Floods can damage crops and farmers loose income thus decreasing the economy. • Expensive for farmers to protect crops and livestock. • Fishing vessels cannot go out and this results in shortage. • Insurance claims increase affecting the economy. • Storm surges will destroy fishing tanks which will increase food prices.

Possible pre-cautionary and management strategies

- Construction of houses and infrastructure should be avoided in low lying areas.
- Due to poor visibility minimise driving and remain indoors until weather clears.
- Livestock should be placed in kraal, shed to prevent losses during severe snowfalls.
- It is important to keep updated on weather conditions before planning outdoor activities.
- Stock up timeously on essentials such as batteries, food, fuel and medication as electricity can be disrupted.

ACTIVITIES

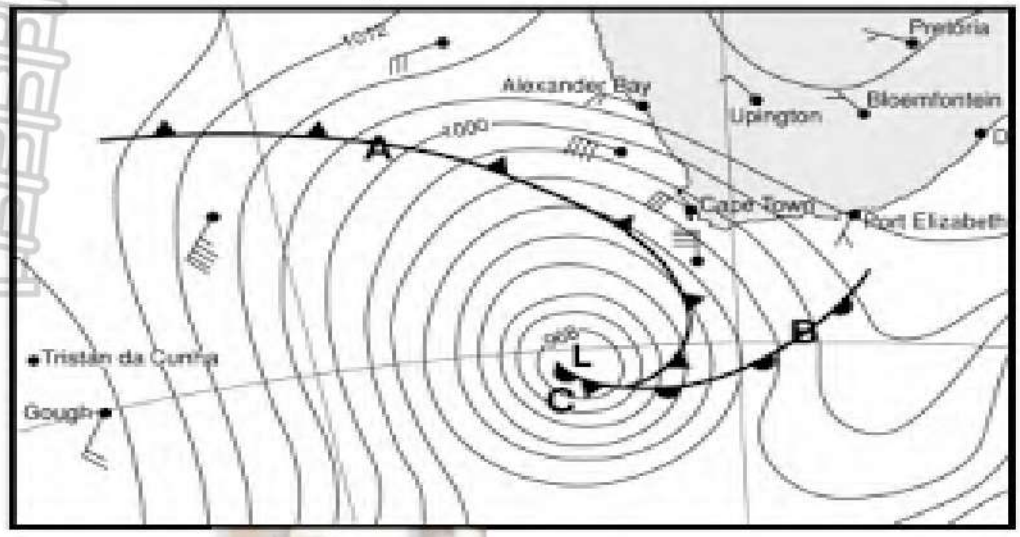
1.1 Refer to the sketch below showing the mid-latitude cyclone on a synoptic weather map of Southern Africa.



Source: https://afriwx.co.za/images/synoptic-chart-weather-south-africa.jpg

1.1.1	During which season does the mid-latitude cyclone affect South Africa?	(1 x 1)	(1)
1.1.2	Why does the mid-latitude cyclone have a great impact in South Africa during the season mentioned in QUESTION 1.1.1?	(1 x 2)	(2)
1.1.3	State the general movement of the mid-latitude cyclone.	(1 x 1)	(1)
1.1.4	What evidence suggests that mid-latitude cyclone **A** is in the occlusion stage?	(1 x 2)	(2)
1.1.5	Draw a free hand cross section through **X** and **Y**. Indicate the following: (i) Front I. (ii) Cold air (iii) Cloud type	(4 x 1)	(4)
1.1.6	Why is it important for South African weather service to issue weather warnings as mid-latitude cyclone approaches	(3 x 2)	(6)

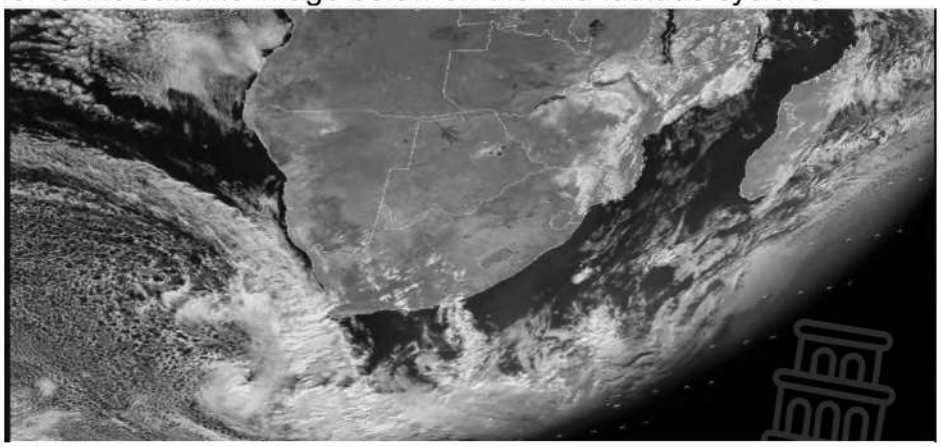
Activity 1.2.Refer to the mid-latitude cyclone



https://encryptedtbn0.gstatic.com/images?q=tbn:ANd9GcRrY9WmTIzvwU6GndUAsLZflTGQbB3o1bzfbw

1.2.1	Identify front **A**.	(1 x 1)	(1)
1.2.2	Why does the intensity of rainfall differ at **A** compared to **B?**	(2 x 1)	(2)
1.2.3	Explain how the occluded front **C** develops.	(2 x 2)	(4)
1.2.4	In a paragraph of approximately EIGHT lines, explain the negative economic impact of mid-latitude cyclone in Cape Town.	(4 x 2)	(8)

Activity 1.3. Refer to the satellite image below on the mid-latitude cyclone



https://encrypted-tbn0.gstatic.com/images?q=tbn:ANd9GcRrY9WmTIzvwU6GndUAsLZflTGQbB3o1bzfbw

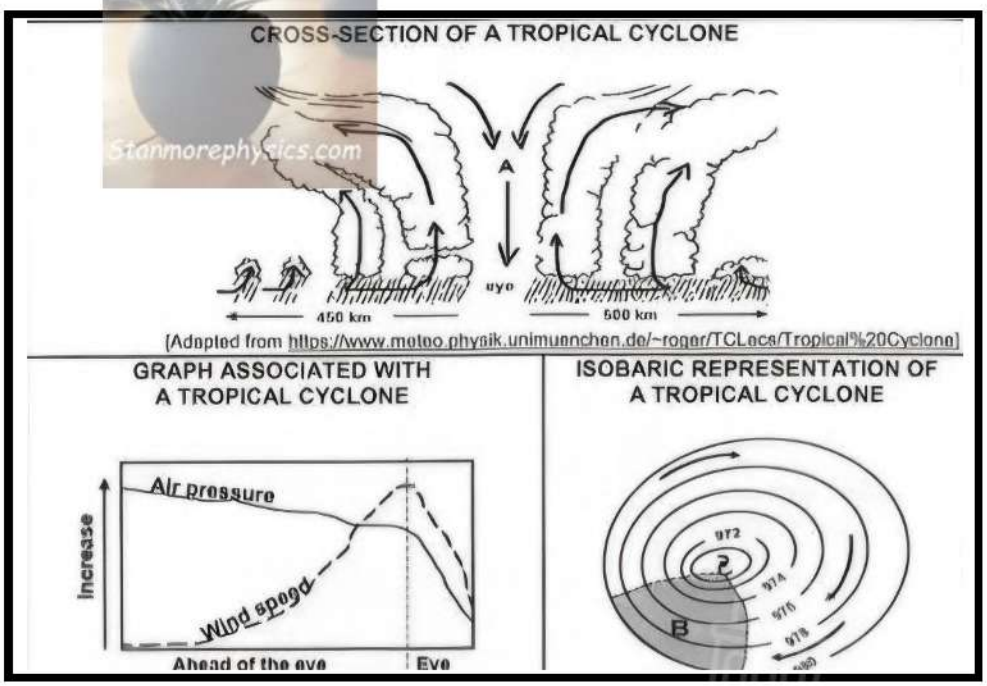
1.3.1	Define the concept mid-latitude cyclone.	(1 x 2)	(2)
1.3.2	State the general direction of the mid-latitude cyclone.	(1 x 1)	(1)
1.3.3	Give a reason for your answer to QUESTION 1.3.2	(1 x 2)	(2)
1.3.4	In which hemisphere did the mid-latitude cyclone in the above satellite image develop?	(1 x 1)	(1)
1.3.5	Give reason for your answer to QUESTION 1.3.4.	(1 x 2)	(2)
1.3.6	In a paragraph of approximately EIGHT lines, discuss the negative impact associated with the mid-latitude cyclone on farming in the South Western Cape.	(4 x 2)	(8)

TROPICAL CYCLONE

DEFINITION: Is the intense low pressure system that develops in the easterly wind belt from 5^0 N/S to 30^0 N/S.

GENERAL CHARACTERISTICS OF TROPICAL CYCLONE

- Moves from east to west.
- Driven by the tropical easterlies.
- Occurs between latitude 5^0 N/S and 30^0 N/S.
- Occurs in the easterly wind belt.
- Occurs in late summer and early autumn
- Diameter is 500km.
- The centre is known as an EYE.
- Tropical cyclones are named alphabetical.
- Sea surface temperature must be 26.5^0C and above.
- Dissipate over land, because of friction drag, less moisture and low temperatures.



ASSOCIATED WEATHER CONDITIONS

- Strong winds
- Heavy rainfall (torrential)
- Storm surges

IMPACT OF TROPICAL CYCLONE

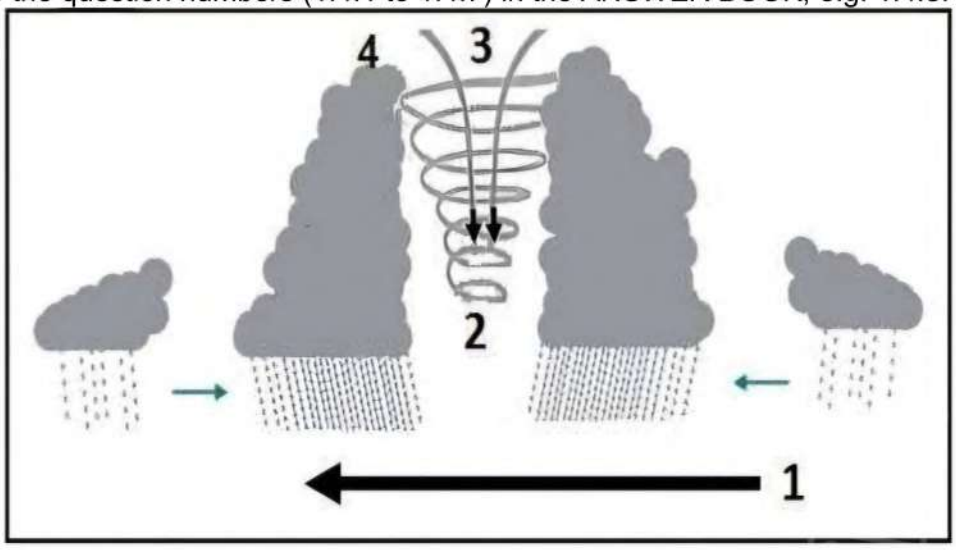
SOCIAL	ECONOMIC	ENVIRONMENTAL
Deaths and injuries	Loss of crops due to floods	Soil erosion
Strong winds collapse buildings	Destruction of business	Landslides
People become homeless	Damage to infrastructure	Strong winds uproot trees
Result in water borne diseases	Expensive to repair roads and bridges	Destruction of Biodiversity
	Trade is disturbed	

PRECAUTIONARY MEASURES TO REDUCE THE EFFECTS

- Evacuate from low lying areas
- Prepare evacuation centres
- People need to be updated
- Have electricity backups
- Build sea walls

ACTIVITIES

1.4 The sketch below shows a cross-section through a tropical cyclone in the southern hemisphere. Choose the word/term from COLUMN B that completes the statement in COLUMN A. Write only the letter next to the question numbers (1.4.1 to 1.4.7) in the ANSWER BOOK, e.g. 1.4.8. Z.

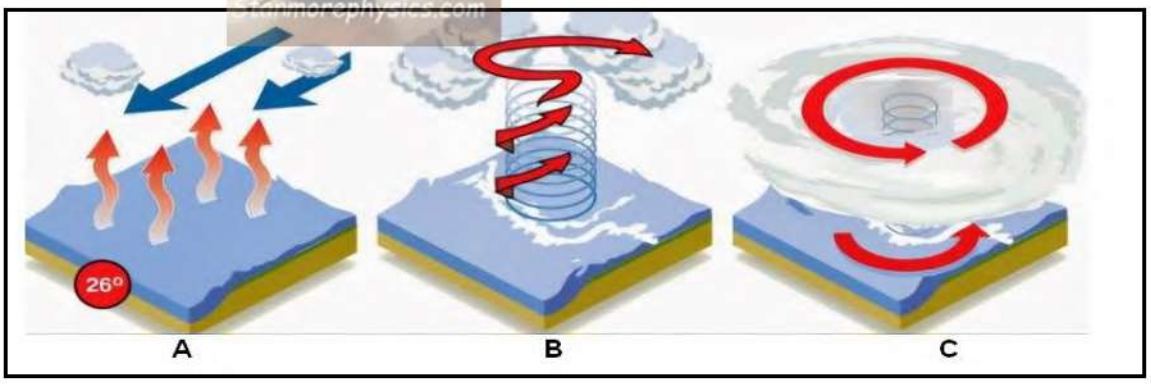


[Adapted from https://maritimesa.org/grade-11/2016/09/23/influence-of-weather]

	COLUMN A	COLUMN B
1.4.1	Wind **1** that steers the tropical cyclone is known as the...	**Y** westerlies **Z** easterlies
1.4.2	Area marked **2** is known as the...	**Y** eye **Z** centre
1.4.3	Circulation of air in the tropical cyclone in the southern hemisphere is...	**Y** clockwise **Z** anticlockwise
1.4.4	The air pressure at **2** is...	**Y** low **Z** high
1.4.5	The air at **3** is...	**Y** ascending **Z** descending
1.4.6	The cloud type at **4** is...	**Y** cumulonimbus **Z** stratus
1.4.7	The type of precipitation associated with cloud type **4** is...	**Y** drizzle **Z** thunderstorm

(7 x 1) (7)

1.5 The figure below shows the formation and characteristics of a tropical cyclone. Match the descriptions with the sketches, **A, B** and **C.** Write only the letter **A, B** and **C** next to the question numbers (1.5.1 to 1.5.8) in the ANSWER BOOK, e.g. 1.5.9. **C**



www.pmfias.com

1.5.1	Latent heat is released from the cooling air.
1.5.2	Cirrus and cumulus clouds produce light rain.
1.5.3	Column of low pressure develops in the centre.
1.5.4	Towering cumulonimbus clouds are evident around the eye.
1.5.5	Pressure of the eye drops below 1000hPa.
1.5.6	Tropical cyclone reaches up to 100km in diameter.
1.5.7	The most destructive stage.
1.5.8	Winds reach hurricane strength.
	(8 x 1) (8)

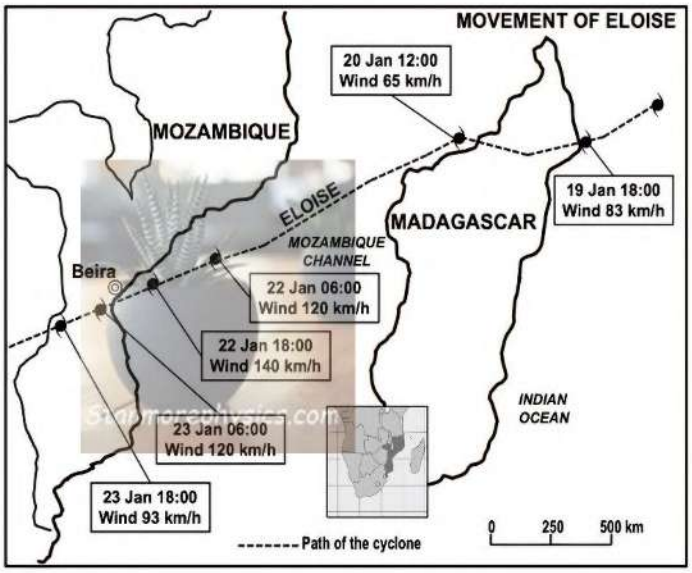
1.6 Refer to the info-graphic below on the tropical cyclone ELOISE.

DESCRIPTION OF THE DISASTER

Tropical Cyclone Eloise made landfall on 23 January 2021, 20 km south of Beira in Mozambique, as a category 2 tropical cyclone. Wind speeds of up to 160 km/h were recorded. Tropical Cyclone Eloise also caused heavy rainfall with 250 mm of rain in 24 hours. Other areas were already flooded ahead of Eloise's landfall, resulting in thousands of displaced people.

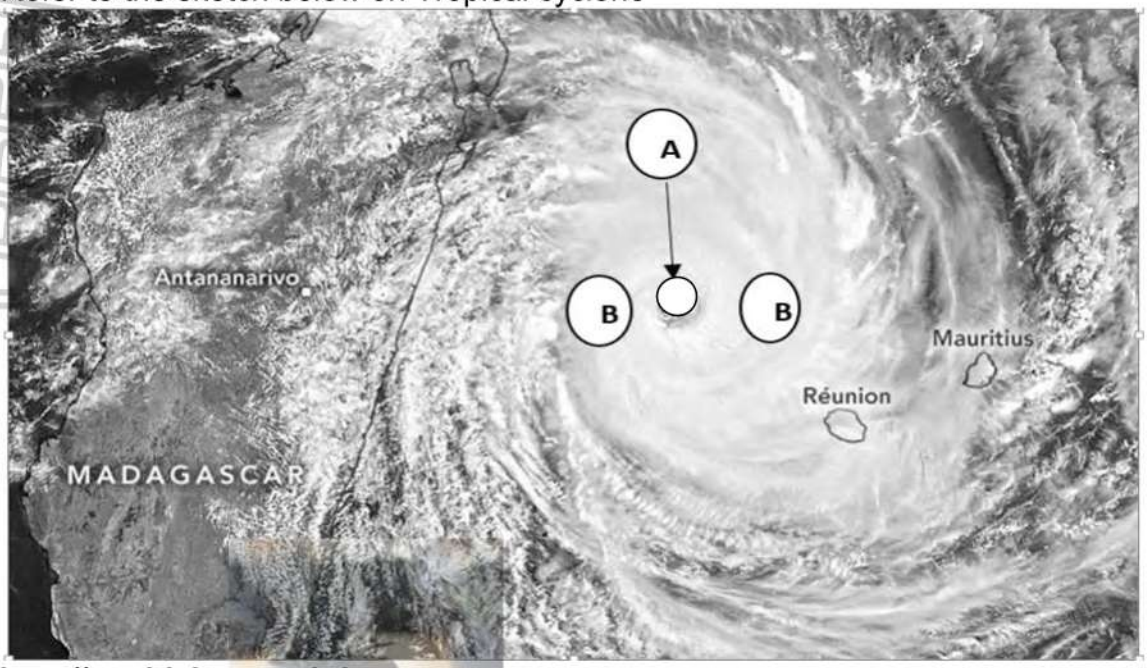
ELOISE IN NUMBERS

Affected	441 686 people
Displaced people	42 327
Deaths	7
Injured	15
Houses destroyed	20 798
Houses damaged	35 566
Houses flooded	27 127
Impassable roads	63
Flooded areas	219 124 ha



(source : www.education.gov.za)

1.6.1	In which hemisphere does this tropical cyclone develop?	(1 x 1)	(1)
1.6.2	Give TWO reasons for your answer in QUESTION 1.6.1	(2 x 2)	(4)
1.6.3	Account for the increase in the wind speed of Tropical Cyclone Eloise from the 20 January to 22 January 2021.	(2 x 2)	(4)
1.6.4	Suggest THREE strategies that could be put in place to reduce the impact of the tropical cyclone.	(3 x 2)	(6)

1.7	Refer to the sketch below on Tropical cyclone  **http://worldview.earthdata.nasa.gov**		
1.7.1	State ONE condition required for the development of a tropical cyclone.	(1 x 1)	(1)
1.7.2	In which hemisphere did this cyclone develop?	(1 x 1)	(1)
1.7.3	Give a reason for your answer to QUESTION 1.7.2	(1 x 2)	(2)
	Refer to **A** and **B** on the satellite image.		
1.7.4	Differentiate between the cloud cover at **A** and **B**	(2 x 1)	(2)
1.7.5	Explain why there is a difference in the cloud cover at **A** and **B**.	(2 x 2)	(4)
1.7.6	Draw a free hand cross section through a tropical cyclone. Indicate the following. I. Eye II. Air movement III. Clouds	(4 x 1)	(4)

SUBTROPICAL ANTICYCLONES

DEFINITION: A subtropical anticyclone is a high-pressure system found around 30° latitude (north and south). It is associated with clear skies, stable weather, and subsiding (sinking) air.

LOCATION IN THE SOUTHERN HEMISPHERE

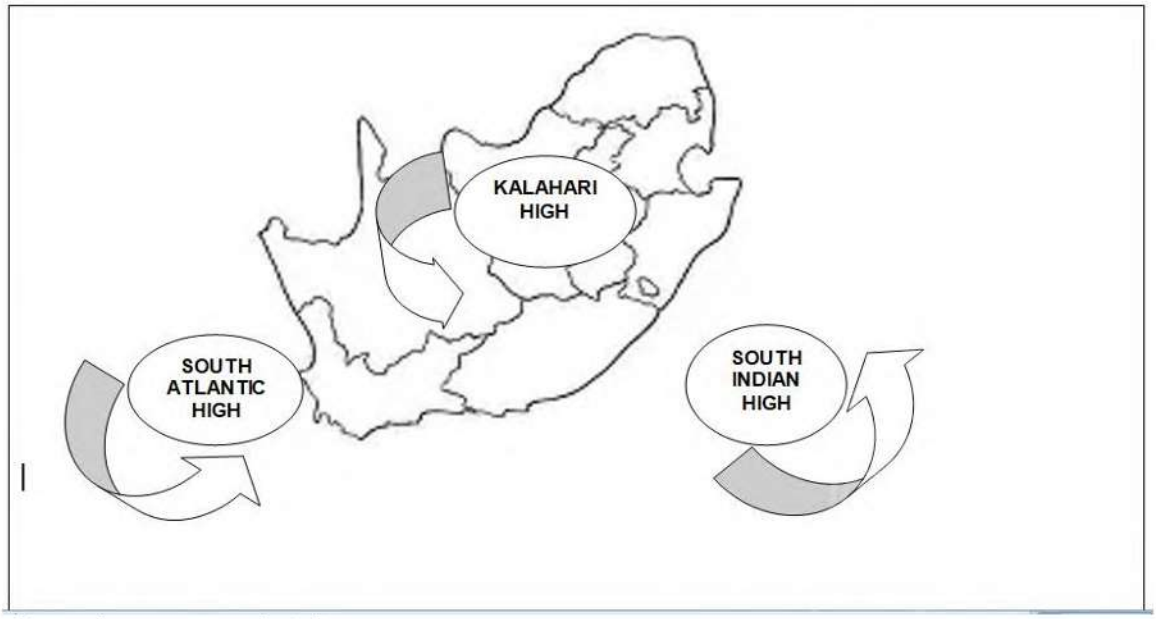
Southern Africa is influenced by three main subtropical high-pressure cells:

1. South Atlantic High
2. South Indian High
3. Kalahari High

CHARACTERISTICS

FEATURE	DESCRIPTION
Pressure	High pressure at the surface
Wind circulation (Southern Hemisphere)	anticlockwise
Air movement	Subsiding air (sinking from above)
Weather	Dry, clear and stable conditions

LOCATION OF SUBTROPICAL ANTICYCLONES

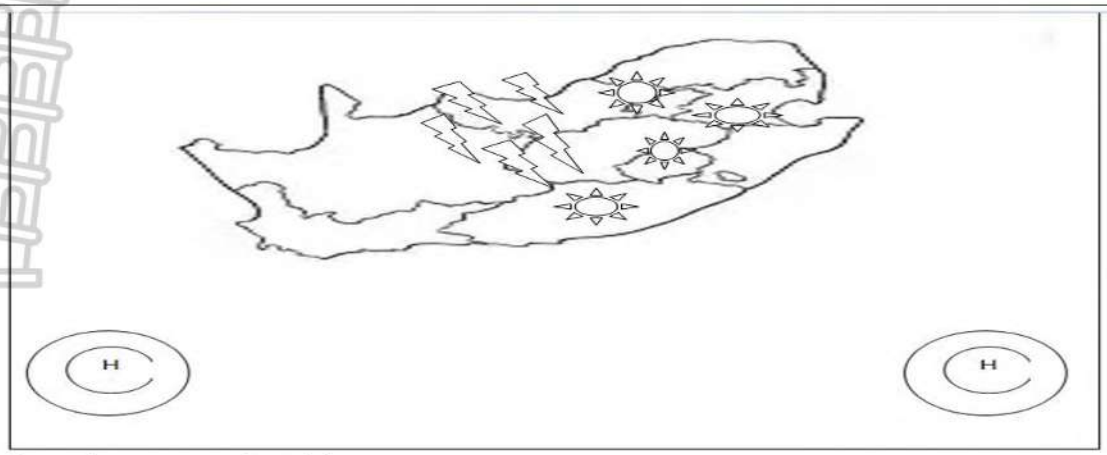


(Source:Examiners own sketch

Summer (December–February)

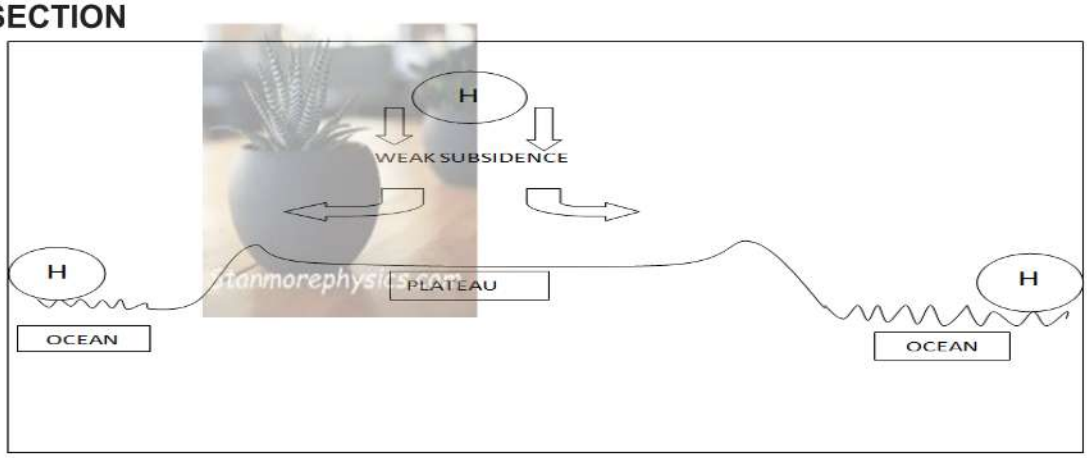
- The Intertropical Convergence Zone (ITCZ) shift south due the sun rays being more concentrated along the tropic of Capricorn causing the South Atlantic high and South Indian high move far south.
- This brings rain to the eastern part of South Africa
- The Kalahari High weakens or disappears, replaced by a thermal low (heat low)
- As a result South Africa experiences rainy summer weather in the interior.

PLAIN VIEW



(Source: Examiners own sketch)

CROSS SECTION



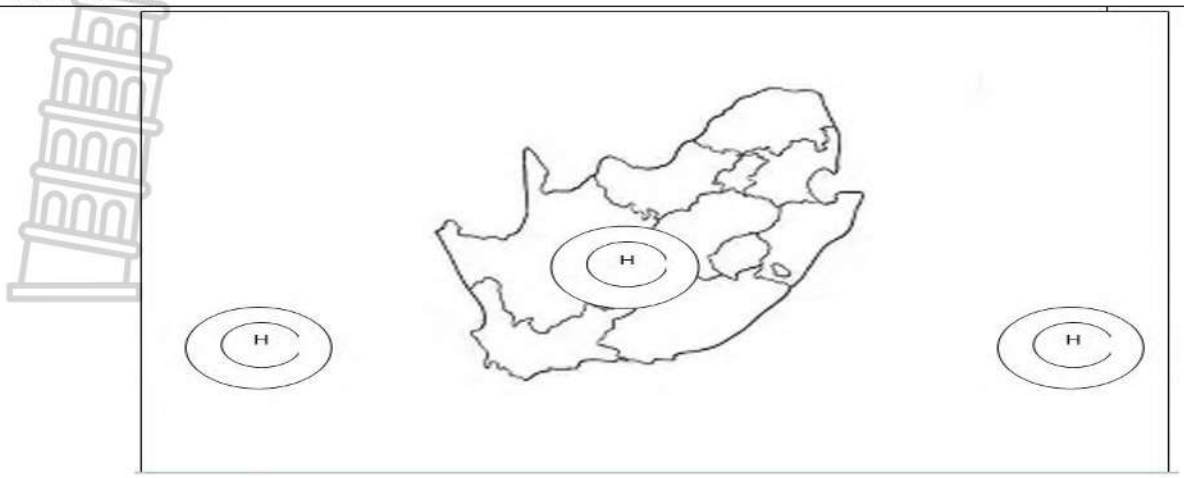
(Source:Examiners own sketch)

Winter (June–August)

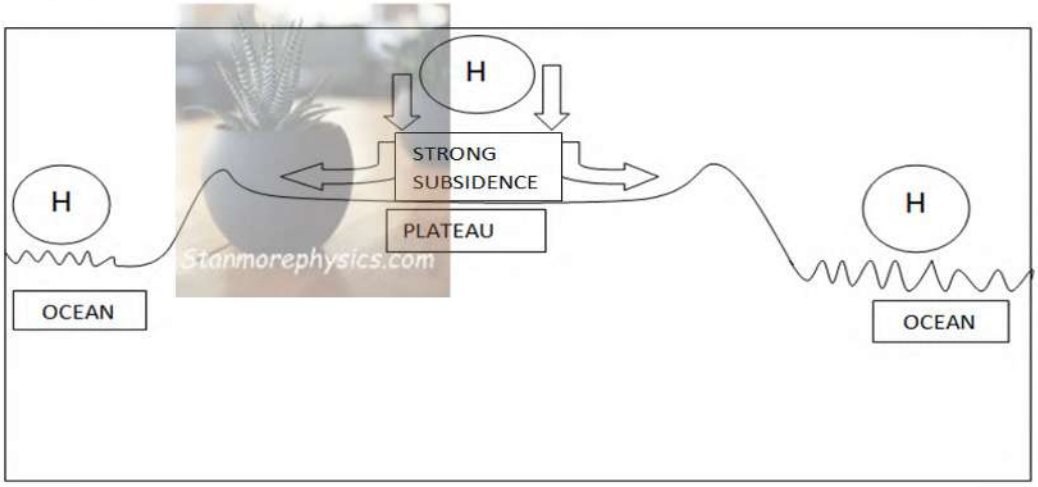
- The Intertropical Convergence Zone (ITCZ) shift north due the sun rays being more concentrated along the tropic of cancer causing the South Atlantic high and South Indian high move far north.
- The Kalahari high dominates thus bringing dry, stable weather over the interior
- Cold fronts affect the south-western cape bringing rain

Interior remains dry and cold due to stable air from the Kalahari High

PLAIN VIEW



CROSS PROFILE



(Source:Examiners own sketch)

MOISTURE FRONT AND LINE THUNDERSTORMS

DEFINITION: A **moisture front** is a zone of separation (discontinuity) between air masses of different moisture content (humidity).

• A moisture front develops over the interior during the summer months because of high temperatures that form a Thermal Low/Heat Low and the Coastal Low positioned south-east coast
• As a result of the pressure gradient, onshore winds from the South Atlantic High and South Indian High are adverted (blown across) towards the thermal low in the interior.

• The South West onshore winds from the South Atlantic High are dry, as the air originates over a cold ocean and blow over the cold benguela current that is very cold from the South Pole with low moisture content.

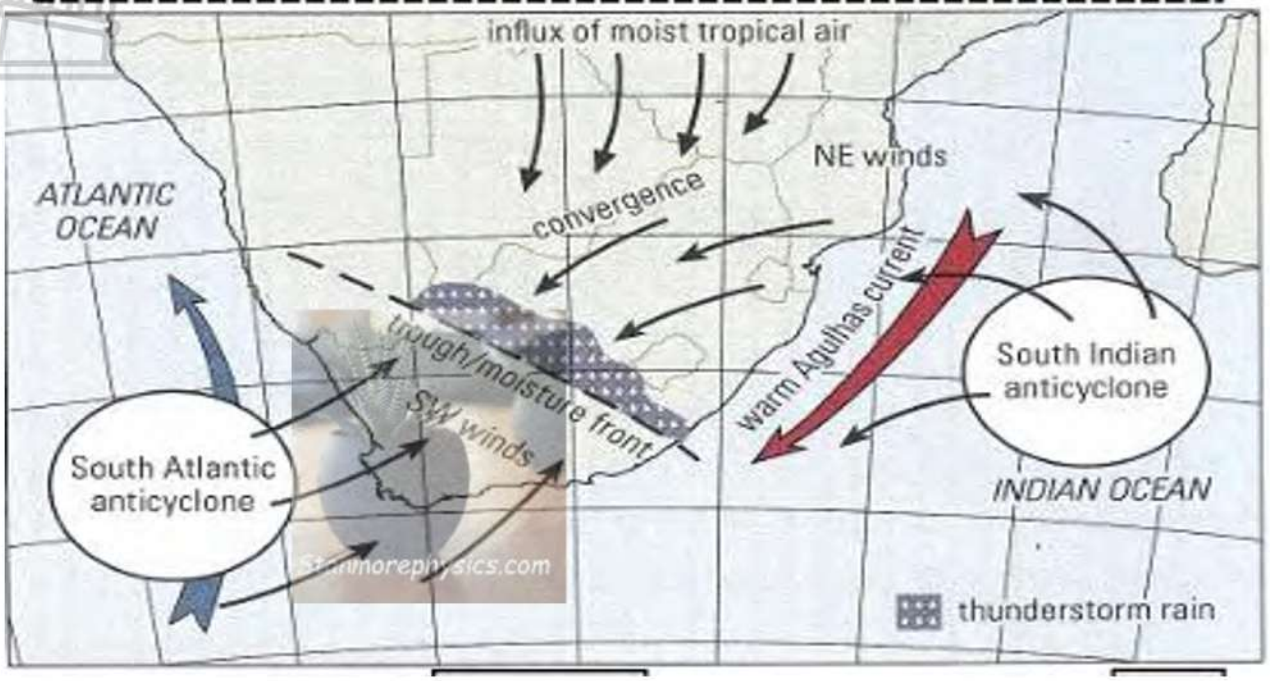
• The North East onshore winds from the South Indian High are moist, as they originate over a warm ocean and blow over the warm Mozambique current that is very warm from the Equator with high moisture content.

• The two air masses of different moisture content dry (cold) SW winds and moist (warm) NE winds meet (converge) at the moisture front in the interior.

LINE THUNDERSTORMS

DEFINITION: Are storm systems that develop on the eastern side of the moisture front in the interior of South Africa

A plain view of the moisture front in the line thunderstorm



www.eumesat.co.za

• During the summer the interior experiences high temperature as a result of the overhead sun, creating a thermal low/heat low.

• Warm, moist NE air from the South Indian High (anticyclone) is drawn towards the trough on the Eastern side following the pressure gradient

• Cold, dry SW air from the South Atlantic High (anticyclone) is drawn towards the trough on the Western side following the pressure gradient

• The cold, dry SW air and warm, moist NE air converges at the moisture front.

• The cold, dry air is dense; undercuts the warm, moist air on the eastern side; forcing it to rise rapidly to greater heights along the moisture front.

• The rapid rise of the warm, moist air on the eastern side leads to greater condensation at vertical heights, dense line of cumulonimbus clouds develop along the eastern side of the moisture front.

• Line thunderstorms are associated with dense cumulonimbus clouds, heavy rain, hail, thunderstorm and lightning.

IMPACT OF LINE THUNDERSTORMS

PHYSICAL (NATURAL) ENVIRONMENT

- Heavy rain will cause flash floods that will result in soil erosion.
- Lightning may ignite fires that may burn vegetation.
- Natural habitats of animals will be destroyed by floods.
- Food chains and food webs will be disrupted.
- Wetlands will thrive attracting biodiversity.
- Lightning will fix nitrogen into the ground increasing soil fertility.

SOCIO- ECONOMIC

- Floods will destroy property, increased insurance costs for repairs.
- Hailstones will destroy windows and roof tiles increasing the costs of repairs.
- Gale force winds can blow away poorly constructed housing structures.
- Rain will increase water in rivers and dams for irrigation reducing the cost of irrigation.

STRATEGIES TO REDUCE THE NEGATIVE IMPACT OF LINE THUNDERSTORMS

- South African Weather Services (SAWS) should issue a severe storm level alert to people in the interior.
- Communities should have an evacuation plan in low-lying areas that may be flooded.
- Farmers should place livestock in an enclosed area.
- Warn people not to walk or stand in the open area during line thunderstorms.
- Install lightning conductors to protect against lightning.
- Have enough feed and water for livestock.
- Place sand bags to prevent floods.
- Fire fighters should be on high alert should lightning ignite fires.

COASTAL LOW

DEFINITION: A coastal low is low-pressure system that forms along the coastline, usually ahead of a cold front, and brings warm, dry berg winds followed by cool, moist air when is passes.

FORMATION

1. Occurs mostly in South Africa's southern and eastern coasts
2. Formed when :
    - cold front approaches from the southwest
    - the Kalahari high is well developed in the interior in winter
    - The coastal air warms up and rises, creating a low-pressure trough parallel to the coastline.

CHARACTERISTICS

FEATURE	DESCRIPTION
Pressure	Low along the coast
Movement	Moves south east and later north east
Associated wind	Berg winds (before cold front)
Air circulation	Clockwise in the southern hemisphere
Occurrence	Usually in winter
Timing	Occurs before cold front

STAGES OF COASTAL LOW

1. **Before it passes**

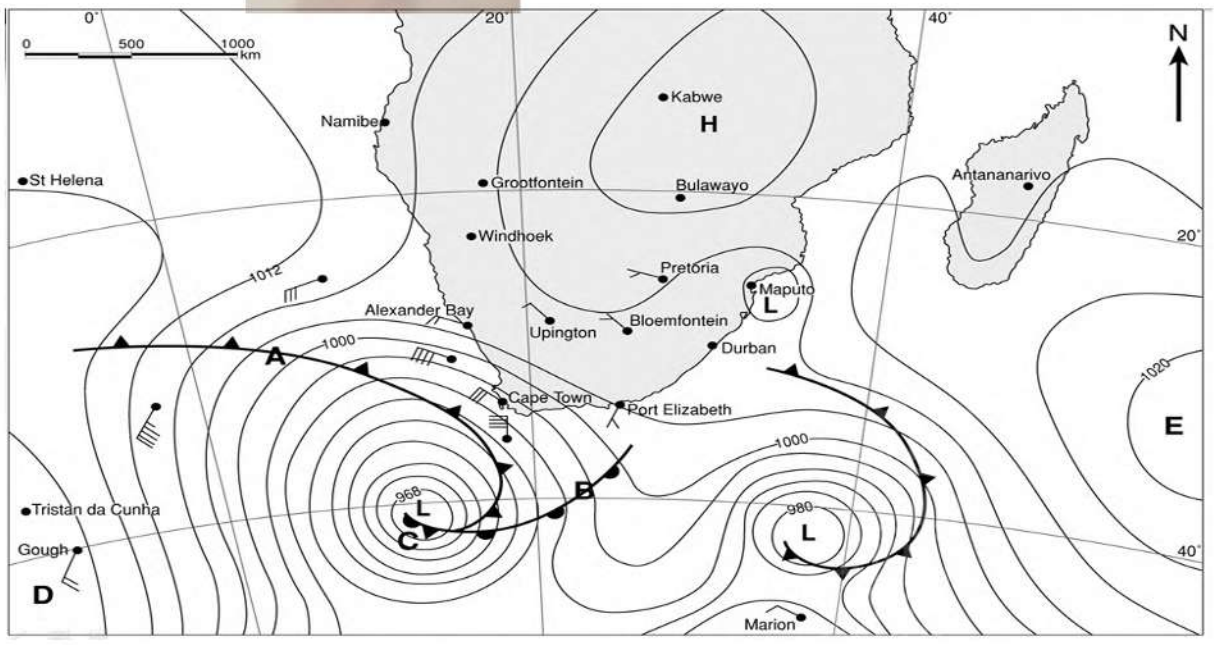
- Hot, dry berg winds blow from inland to coast.
- Coastal temperatures are very high.
- Wind moves from land to sea (offshore).

2. **After it passes**

- Wind direction reverses and moves from sea to land (onshore).
- Cooler, moist marine air moves in.
- Temperature drops.
- May bring fog, drizzle, or increased humidity.

SYNOPTIC CONDITIONS:

- Interior: high pressure cell (e.g. Kalahari high).
- Coastline: coastal low.
- Pressure gradient: steep near the coast resulting in strong winds.
- Wind: warm offshore wind ahead; cool onshore wind after passage.



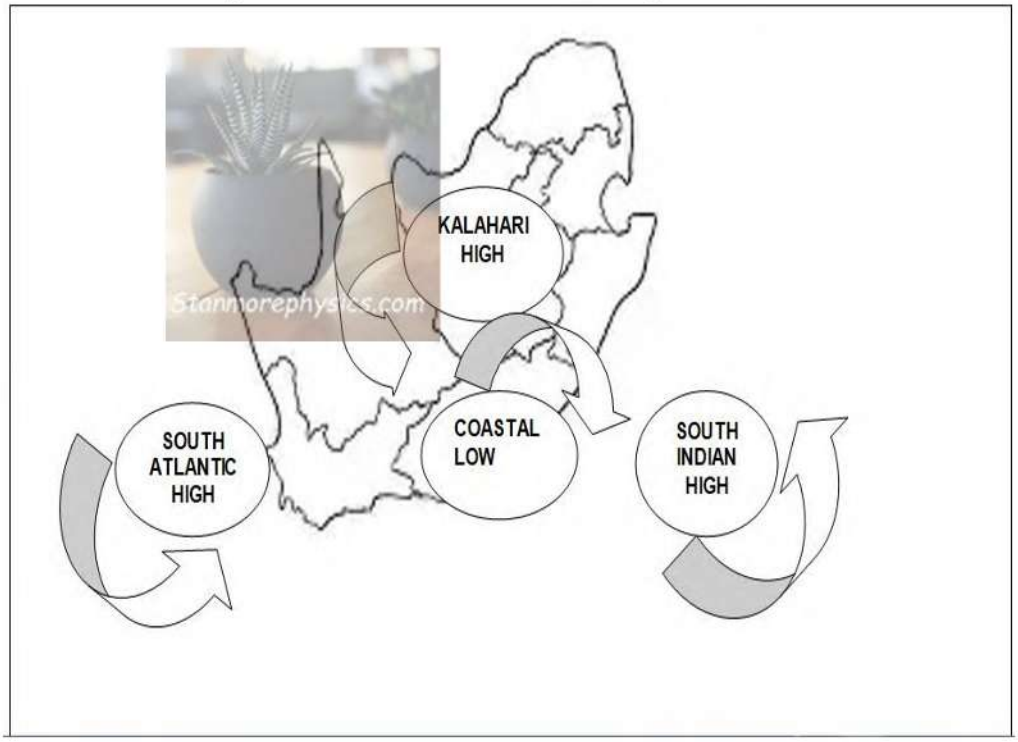
Adapted by Examiner

BERG WINDS

DEFINITION: Berg winds are hot, dry winds that blow from the interior (plateau) of South Africa towards the coast during winter months.

FORMATION

1. Kalahari High pressure system over the interior plateau.
2. Coastal low pressure system forms along the coast.
3. Air moves from high to low pressure(Kalahari high to coastal low).
4. As air descends from the interior to the coast it is compressed then heats up adiabatically (without gaining moisture) and become dry.
5. Clear skies and high coastal temperatures.
6. Berg winds are followed by a cold front which lower temperatures, form clouds and then rain.



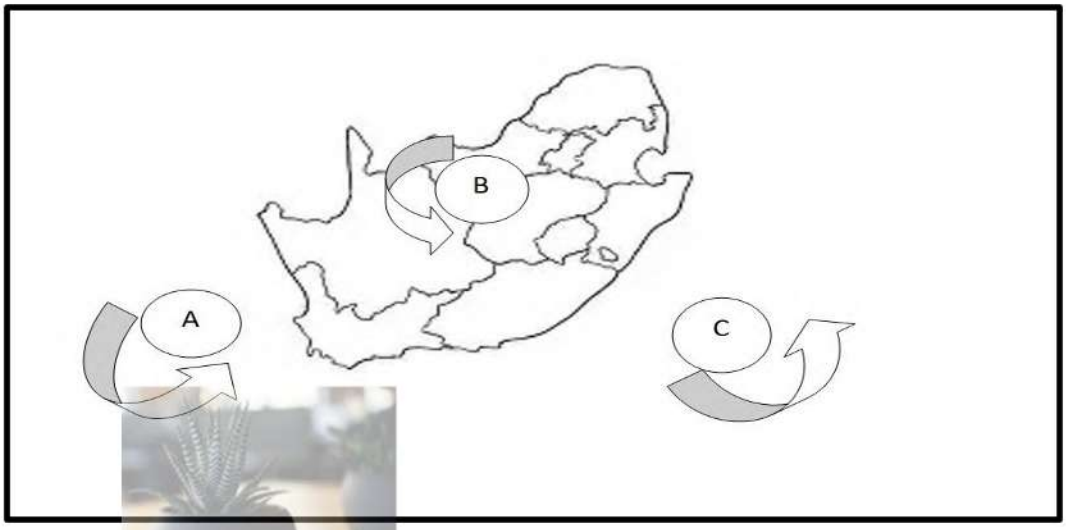
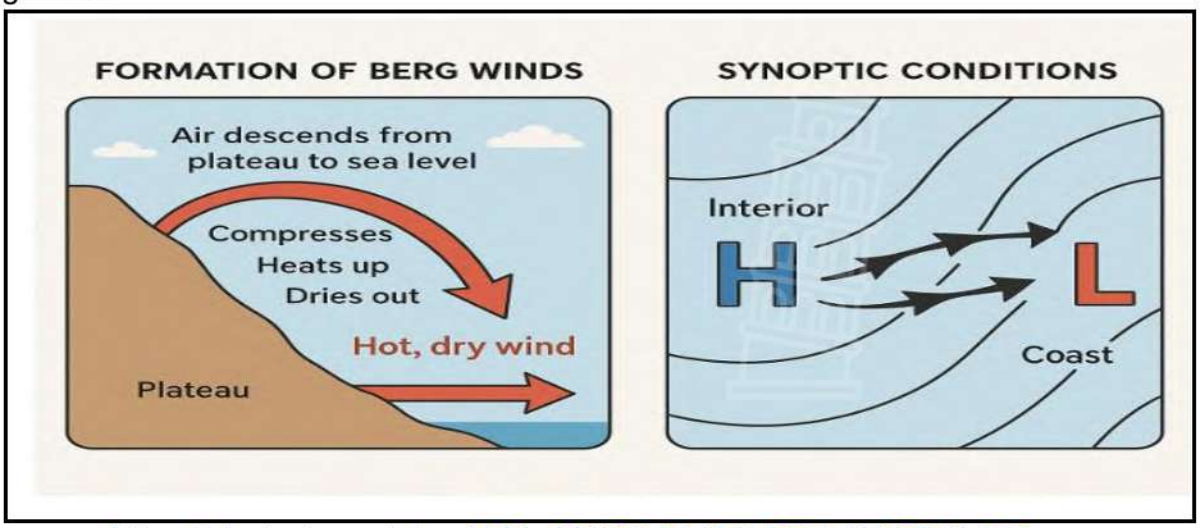
(Source: Examiners own sketch)

IMPACT OF BERG WINDS

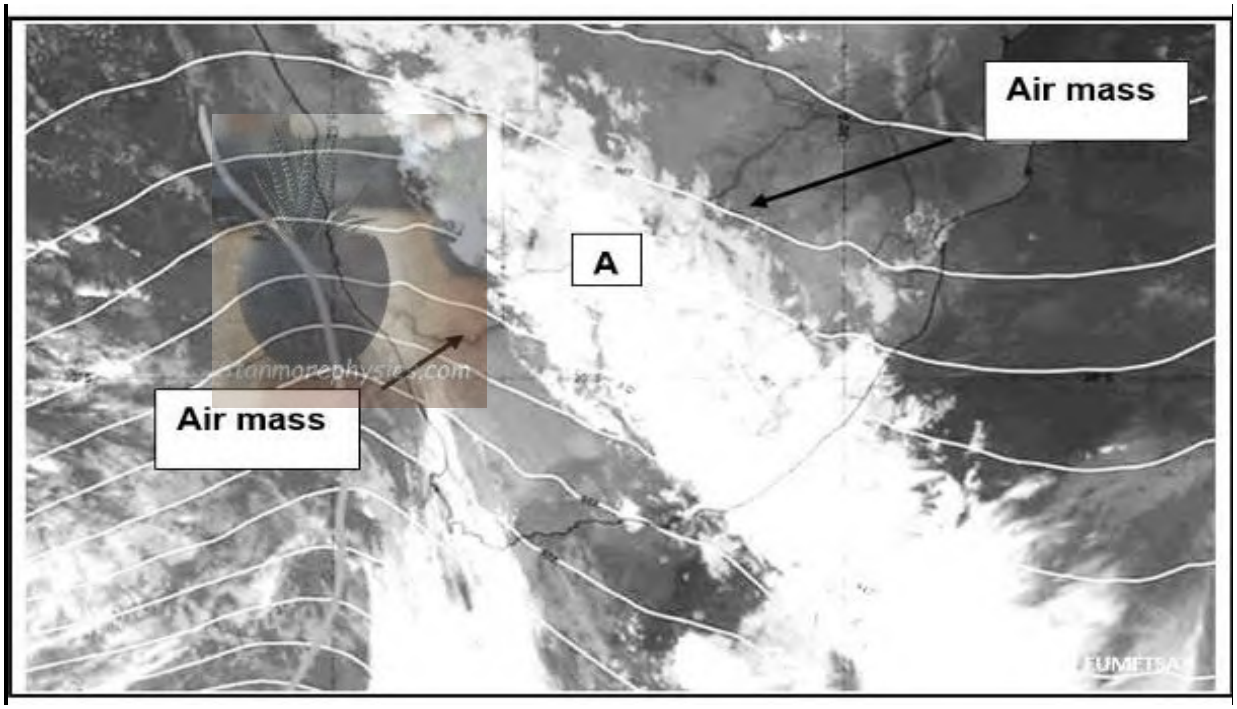
- High risk of fires (veld fires or bush fires) that damage property, vegetation and ecosystems.
- Coastal areas become unusually hot and cause fatigue .
- Temperature unbearable to poultry and livestock which can lead to death.
- The aged and the young children experience respiratory problems owing to decreasing humidity levels.

MANAGEMENT STATEGIES

- Create fire breaks.
- Install watch out towers.
- Fire fighters must be on standby during this weather.
- Construction of dams to extinguish the fire.
- Awareness campaigns.

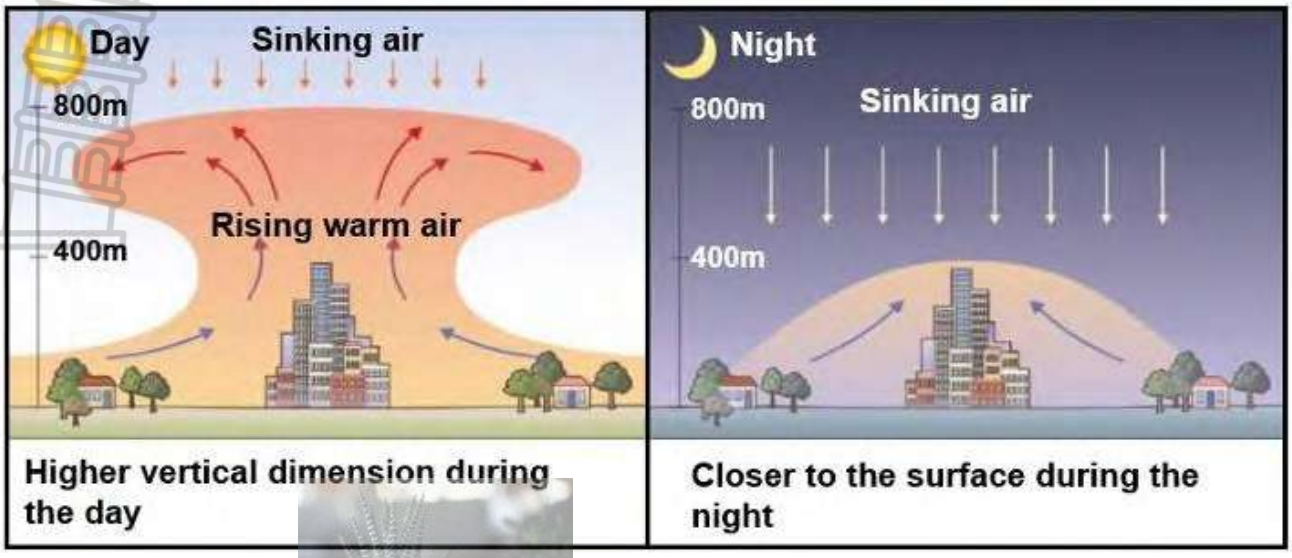
ACTIVITIES			
1.8	The figure below shows anticyclone over South Africa		
	ANTICYCLONES OVER SOUTH AFRICA  (Source: Examiners own sketch)		
1.8.1	Name anticyclones labelled **A**, **B** and **C**	(3 x 1)	(3)
1.8.2	Describe the temperature and moisture content of air mass blowing from anticyclone **A**	(2 x 1)	(2)
1.8.3	Give reasons for the descriptions in QUESTION 1.8.2	(2 x 1)	(2)
1.8.4	In a paragraph of approximately EIGHT lines, explain the influence of the intertropical convergence zone (ITCZ) on the changing position of three anticyclones, relative to South Africa.	(4 x 2)	(8)
1.9	Refer to sketches below showing the cross section and the plain view of South African berg winds.  https://chatgpt.com/s/m_6881e82887b08191b5278d1687b2b356		

1.9.1	Define the concept *berg winds*	(1 x 2)	(2)
1.9.2	Give ONE piece of evidence to support that the sketch shows South African berg winds	(1 x 1)	(1)
1.9.3	Provide TWO reasons why berg winds develop in winter	(2 x 2)	(4)
1.9.4	Discuss reasons for the high temperature and low humidity of berg winds when they reach the coast	(2 x 2)	(4)
1.9.5	Explain why berg winds are viewed as having a negative influence on farming communities.	(3 x 2)	(6)

1.10	Refer to the satellite image below showing line thunderstorms  **www.eumesat.co.za**		
1.10.1	Define the concept *line thunderstorm.*	(1 x 2)	(2)
1.10.2	Name front **A.**	(1 x 1)	(1)
1.10.3	Explain how the air masses in the satellite image cause line thunderstorms.	(2 x 2)	(4)
1.10.4	In a paragraph of approximately EIGHT lines evaluate the positive impact of line thunderstorms on the farming community in the interior of South Africa.	(4 x 2)	(8)

POLLUTION DOME

DEFINITION: is an accumulation of dust, soot and smoke particles over the city.



(Source: Online.htseden.co.za)

CAUSES OF POLLUTION DOME

- Construction activities causing dust.
- Exhaust fumes of motor vehicles.
- Industrial activities emitting large amount of air pollution.
- Fossil fuel combustion.
- Heat generating activities emitting high amount of air pollution.

SOME OF THE EFFECTS OF POLLUTION DOME

- Increase in precipitation due to pollution- acid rain.
- People suffer from allergies.
- Global climate change.
- People suffer from eye irritations and skin irritations.
- People suffer from respiratory illness like sinusitis and asthma.
- People suffer from heat stroke /fatigue.

SUSTAINABLE STRATEGIES TO MANAGE POLLUTION DOME

- Education on danger of high air pollution.
- Advocacy of greener energy.
- Installing filtering systems in chimneys.
- Decentralise industries from the city to surrounding rural countryside.
- Pass laws/green policy on emission standard for industries.
- Fines for none-adherence to emission standard.
- Ongoing monitoring of emissions.
- Introduce incentives to reduce air pollution.
- Develop Greenbelt in the city to absorb more carbon dioxide.
- Develop roof gardens in the city to absorb more carbon dioxide.
- Increasing efficiency of equipment to consume less energy.
- Install longer chimneys that go above inversion layer.
- Reduce number of vehicles in the roads.

SUSTAINABLE STRATEGIES TO MANAGE POLLUTION DOME

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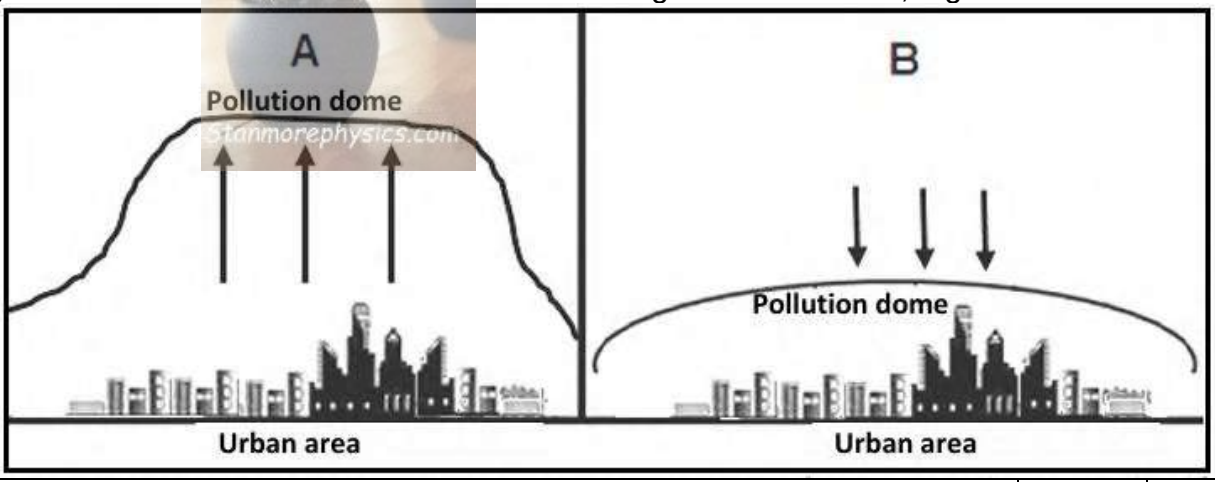
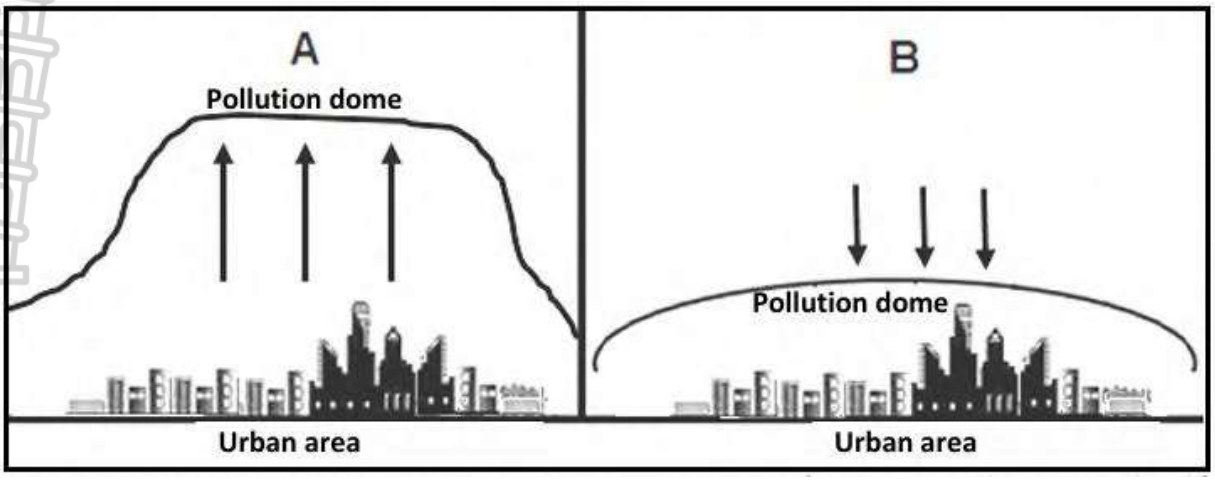
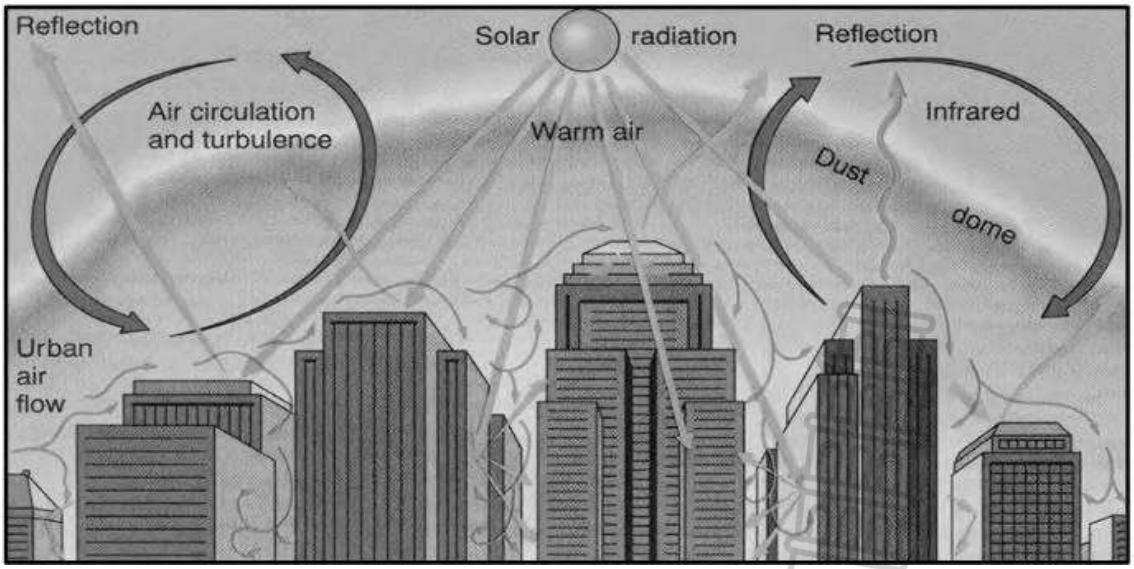
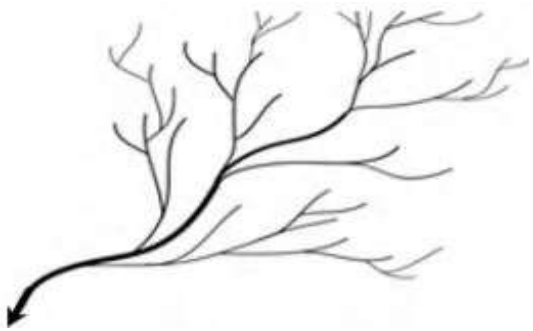
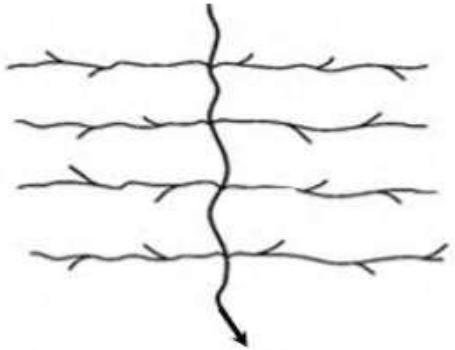
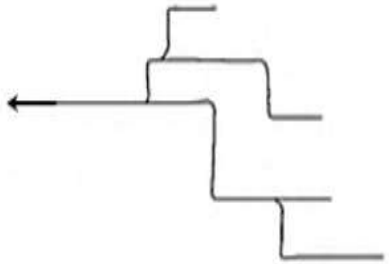
- Install longer chimneys that go above inversion layer.
- Reduce number of vehicles in the roads.

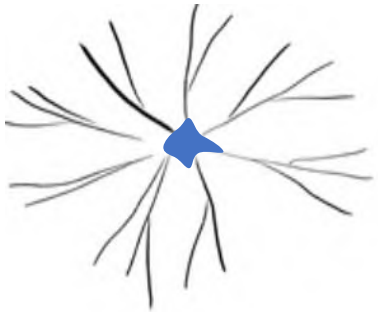
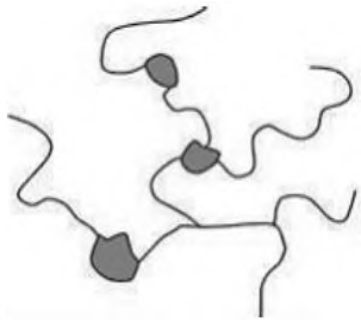
1.11	Refer to sketches **A** and **B** on pollution dome below. Choose the letter of the sketch that matches the description about the pollution dome. Write the number 1.11.1 to 1.11.6 on your answer book and the letter of the matching sketch next to it; e.g. **1.11.7 A** 		
1.11.1	Represents the day time condition over the city.		
1.11.2	Denser concentration of pollutant closer to the urban area.		
1.11.3	Strong convectional currents influence the dimensions of the pollution dome over the city.		
1.11.4	Strong subsidence of air affects the dimensions of the pollution dome over the urban area.		
1.11.5	Increased urban temperatures over the urban area as pollutants trap heat.		
1.11.6	Inversion layer is found at a lower altitude.		
		(6 x 1)	(6)

1.12	Refer to the sketch below showing the pollution dome over the city.  		
1.12.1	Define the concept *Pollution Dome*.	(1 x 2)	(2)
1.12.2	Give a reason why pollution dome is associated with urban areas.	(1 x 2)	(2)
1.12.3	Explain why the pollution dome is more concentrated at night	(2 x 2)	(4)
1.12.4	In a paragraph of approximately EIGHT lines, explain the negative impact of the pollution dome in the city.	(4 x 2)	(8)
1.13	Refer to the sketch below on pollution dome.  		
1.13.1	Accumulation of dust, soot and smoke particles over the city causes (more/less) incoming solar radiation.	(1 x 1)	(1)
1.13.2	Why pollution dome has smaller vertical dimension at night than during the day?	(2 x 2)	(4)
1.13.3	Explain the impact of pollution dome on the health of people.	(2 x 2)	(4)
1.13.4	Suggest THREE sustainable strategies that can be implemented in cities to reduce the effect of pollution dome.	(3 x 2)	(6)

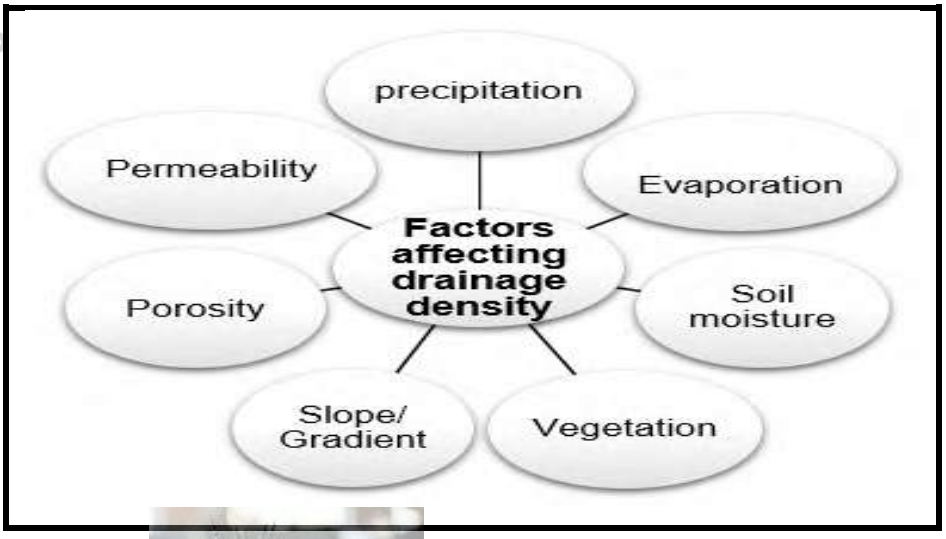
GEOMORPHOLOGY

Drainage patterns

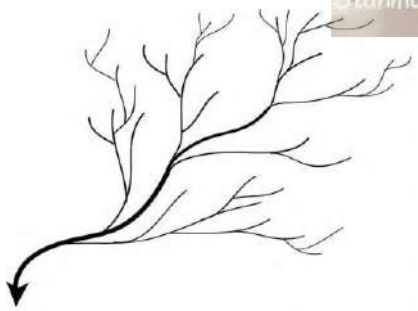
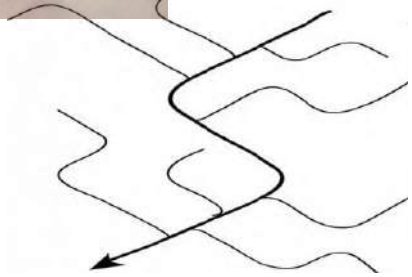
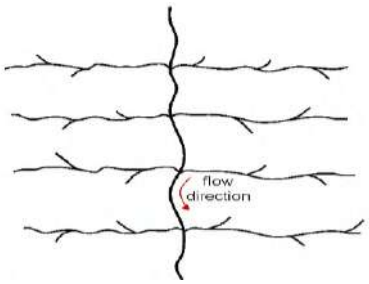
	Dendritic	Trellis	Rectangular
Diagram			
	[source:Geography_self_study_guide_geomorphology]		
Description	• Resembles branches of a tree. • Tributaries join the main stream at acute angles.	• The main streams are parallel to each other. • It has short tributaries. • The main stream cut through a ridge to form a gab or poort.	• The tributaries join the main stream at right angles.
Underlying rock structure	• Uniformly resistant to erosion. • Horizontal sedimentary and massive igneous rocks.	• Folded rock strata of alternating hard and soft rock (hard rock form the ridge and soft rock form the valley)	• Have joints and cracks at right angles. • Sedimentary rocks with joints and faults

	Radial	Centripetal	Deranged	Parallel
Diagram				
	[source:Geography_self_study_guide_geomorphology]			
Description	• Streams radiate from one central highland.	• Rivers flow towards one central point or depression.	• It has a haphazard pattern, the main river meanders across a wide, flat floodplain.	• Tributaries flow almost parallel to each other following the slope of the surface.
Underlying rock structure	• Associated with dome like features.	• Massive igneous rock, usually with a depression or swamp.	• Can develop from melting glaciers.	• Found in steep folded bedrock. • Occur in areas of major faults

Drainage Density



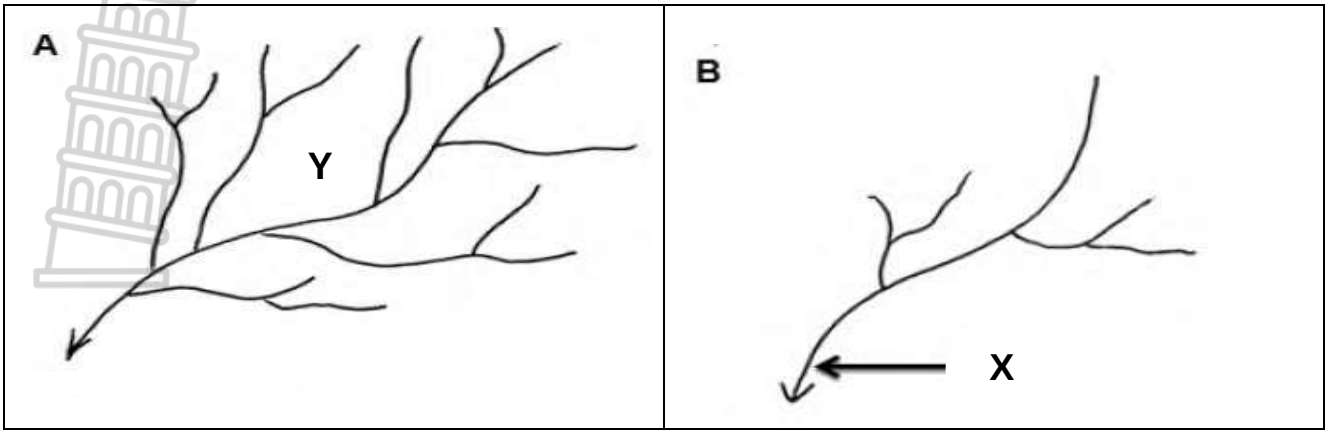
2.1. Refer to the diagrams below showing drainage patterns. Match the statement below with drainage pattern **A**, **B** or **C**. Write only the letter (A – C) next to the question number (2.1.1 – 2.1.7) in the ANSWER BOOK for example 2.1.8 A.

		
A	**B**	**C**

http://sageography.co.za

2.1.1	Drainage pattern forms on inclined rock strata's that are unequally resistant to erosion.		
2.1.2	Forms on igneous rocks that have joints and cracks.		
2.1.3	Drainage pattern formed from rocks of uniform resistance.		
2.1.4	Tributaries join the main stream at acute angles.		
2.1.5	Has short tributaries joining the main stream.		
2.1.6	Resembles branches of a tree.		
2.1.7	The main stream cut through a ridge to form a poort		
		(7 x 1)	(7)

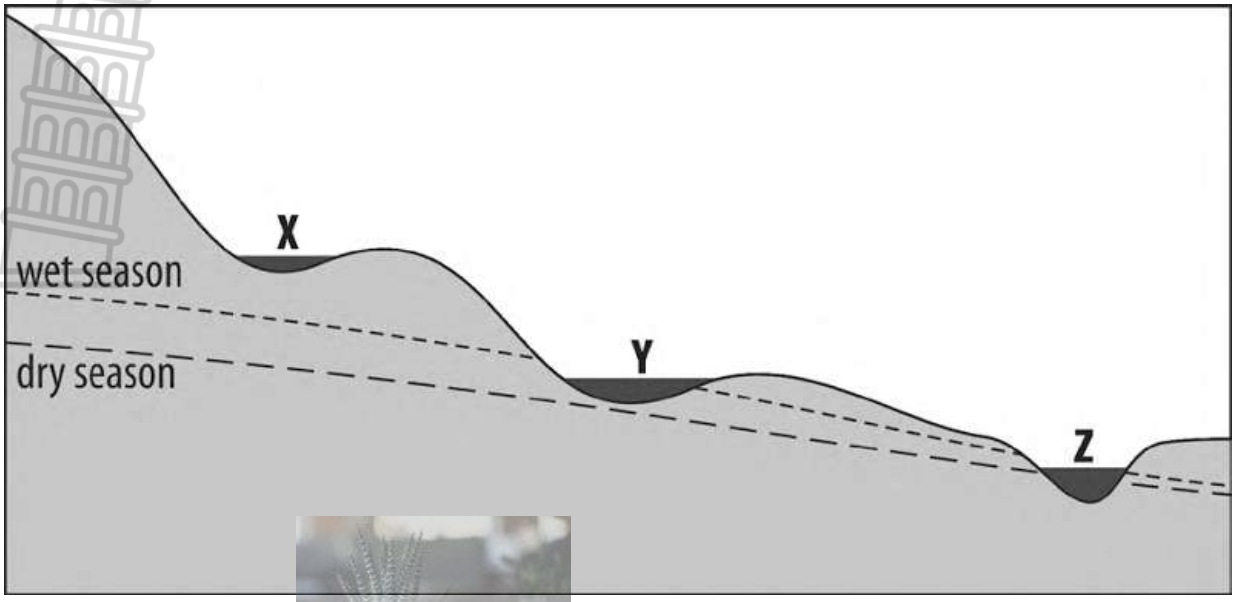
2.2. Refer to the diagrams below and answer the questions that follow.



[Source: 54_grd12_learner _activity]

2.2.1	Define the term *drainage density*.	(1 x 2)	(2)
2.2.2	Which drainage basin, **A** or **B** has the highest drainage density?	(1 x 1)	(1)
2.2.3	Give a reason for your answer to QUESTION 2.2.2.	(1 x 2)	(2)
2.2.4	Determine the stream order at **X**.	(1 x 2)	(2)
2.2.5	Discuss how rock porosity and permeability influence the drainage density at **B**.	(2 x 2)	(4)
2.2.6	Account for an increase in drainage density as the vegetation is removed for urban development around area **Y**.	(2 x 2)	(4)
			[15]

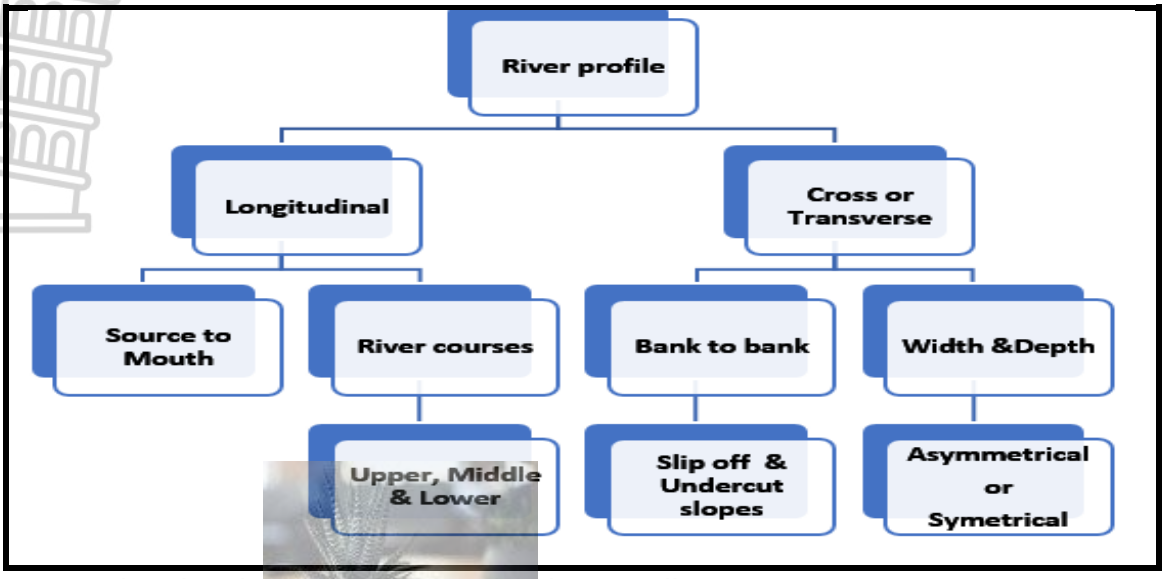
2.3. Study the diagram showing types of rivers and answer questions that follow.



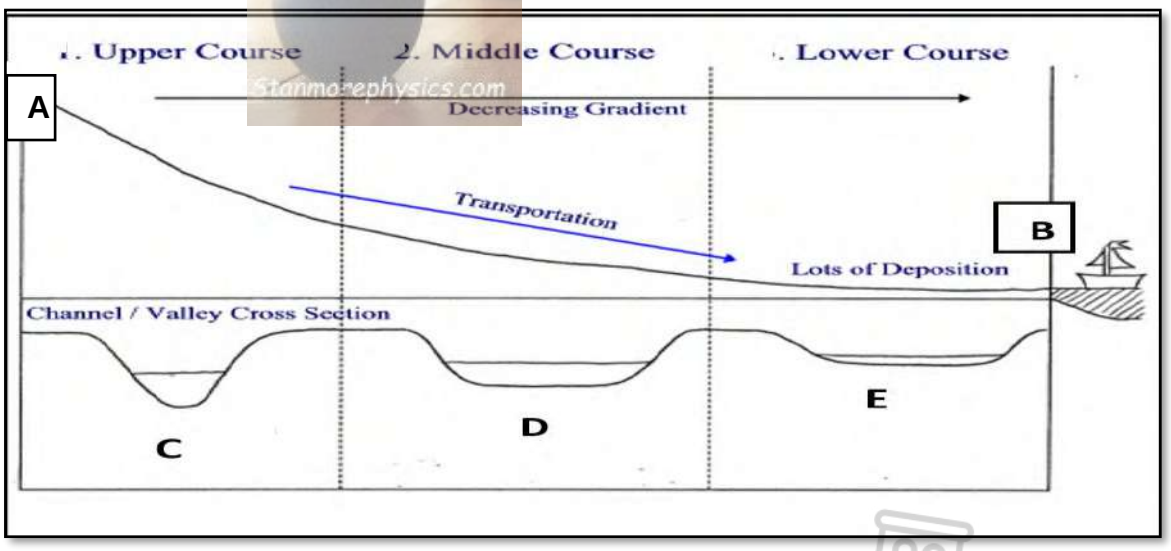
https://www.education.gov.za/portals/0/documents/manuals/digital

2.3.1	Define the concept *permanent river*.	(1 x 2)	(2)
2.3.2	Identify the type of rivers marked **X** and **Y** respectively.	(2 x 1)	(2)
2.3.3	Write down the type of river that flows through arid regions all year round.	(1 x 1)	(1)
2.3.4	Explain how shortage of rainfall can affect the flow of river **Y**.	(1 x 2)	(2)
2.3.5	Evaluate the importance of river mentioned in QUESTION 2.3.3 in water-scarce areas.	(2 x 2)	(4)
2.3.6	Propose strategies for managing water supply in areas that relies on river **Y**.	(2 x 2)	(4)
			[15]

RIVER PROFILE



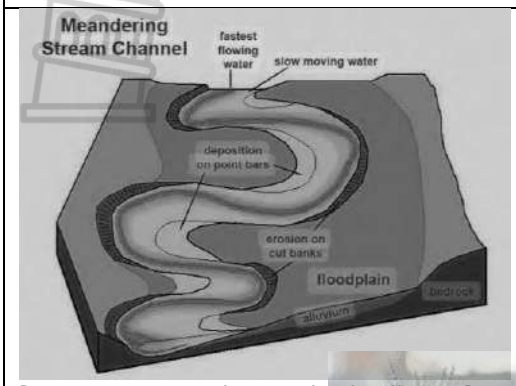
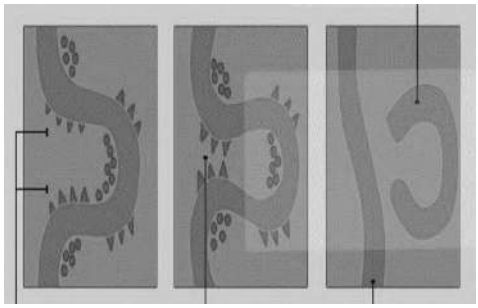
2.4. Refer to the sketch below showing the river profiles.



2.4.1	Identify the profile of the river represented by the curve **A-B**.	(1 x 1)	(1)
2.4.2	What type of erosion is associated with **C**.	(1 x 1)	(1)
2.4.3	Identify the letter or the river course likely to be associated with the turbulent flow	(1 x 1)	(1)
2.4.4	Define a *cross profile* of the river.	(1 x 2)	(2)
2.4.5	Account for the shallow appearance of the above stream around area marked **E**	(2 x 2)	(4)
2.4.6	How would the local municipality benefit from constructing a dam around area marked **A**?	(3 x 2)	(6)
			[15]

IDENTIFICATION AND DESCRIPTION OF FLUVIAL LANDFORMS AND FEATURES

Fluvial landforms are those landforms generated by running water, mainly rivers. Some features are a result of river erosion and some a result of river deposition.

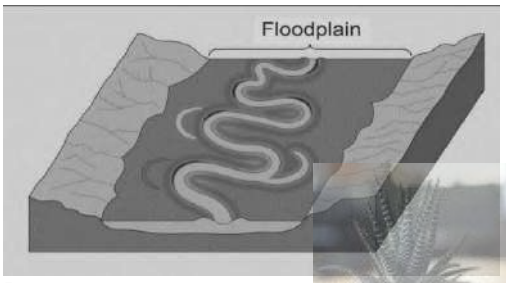
LANDFORMS	DESCRIPTION
 [Source:sageography.myschoolstuff.co.za]  [Source: Adapted:https://upload.wikimedia.org]	**MEANDERS** A meander is defined as a distinct curve or loop in the course of a river channel. **Formation** In the middle course the river has more energy and a high volume of water as a result of tributaries joining or merging. Lateral (sideways) erosion starts to widen the river channel. As the river erodes laterally (to the right side then the left side) it forms large bends, and then horseshoe-like loops called meanders.
 [Adapted from *Physical Geography*, RB Burnett]	**OXBOW LAKE** The cut-off meander loop filled with water is called oxbow lake. **Formation** Continuous undercutting at the outer bank and deposition at inner bank causes the horseshoe to become tighter over time, until the ends become very close together.
 [Source:https://www.google.com]	**Development of MEANDER SCARS (Dry oxbow lake)** Decrease in average rainfall over the years. Silt deposits from flooding.

[Adapted from ecorsesonlineiasri.com]

BRAIDED STREAM:

Braided streams forms when a river deposits its load and blocks its own path and is forced to split into smaller channels.

River divides and recombines numerous times forming a pattern resembling the strands of a braid.



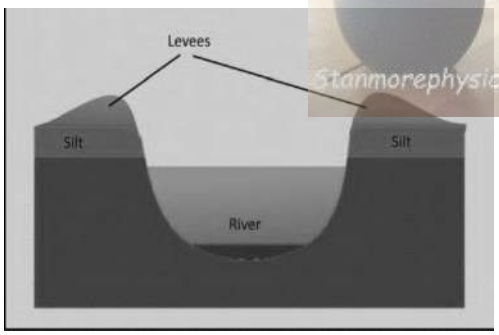
[Source: www.deltas.com]

FLOOD PLAIN

Flat land that is found on the banks of a river.

Formation

Floodplains form due to repeated flooding. Because of the gentle gradient, there is more deposition occurring.



https://www.google.com]

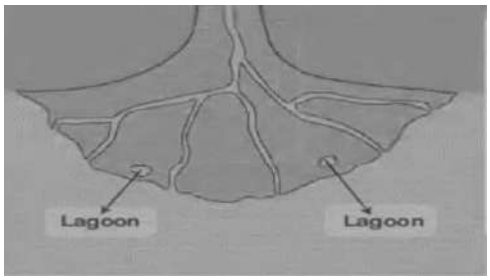
NATURAL LEVEES

Refers to the naturally raised banks of a river.

Formation

Levees are formed by the repeated flooding of the river.

Continuous flooding causes repeated deposition on the river banks.



[Source: www.deltas.com]]

DELTAS

It is landform at the mouth of a river, where different channels (distributaries) of the same river flow into an ocean or sea.

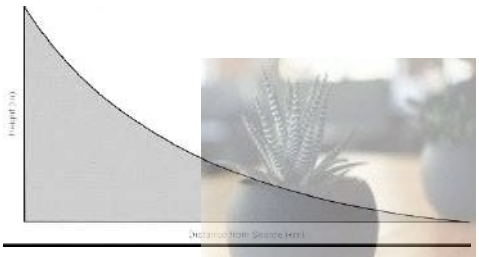
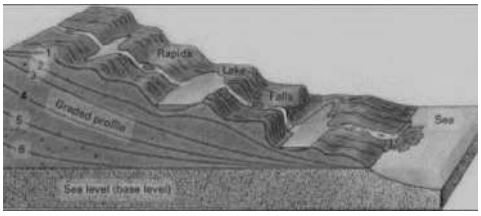
Formation

The river slows down at the mouth due silt deposits and gentle gradient.

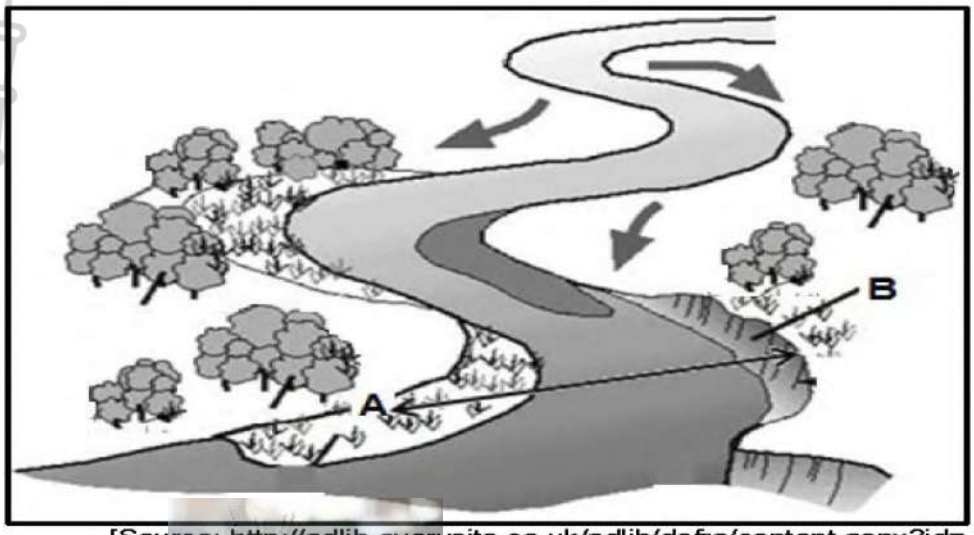
The channel splits into several smaller channels (distributaries) and it loses velocity.

As the river loses velocity it deposits its load on the river bed

RIVER GRADING

Graded Rivers	Ungraded Rivers
When there is a balance between erosion and deposition.	When either erosion or deposition dominates.
Graded Profile • The longitudinal profile is smooth concave. • Steep in the upper course and gentle in the lower course.  [Source:https://river grading-geography/model]	**Ungraded Profile** • The longitudinal profile indicates knick points like waterfalls and rapids. • The profile is therefore not smooth concave.  [Source:https://.com/river grading/model]
Permanent / Ultimate base level of erosion • The lowest level to which a river can erode. • It is usually sea level.	**Temporary / Local base level** • When features/ structures delay further erosion • This local base level causes a knick point in the profile, making it ungraded. **Types of local (temporary) base levels** Human-made ↙ ↘ Natural e.g.,lakes,e.g.dams waterfalls,rapids

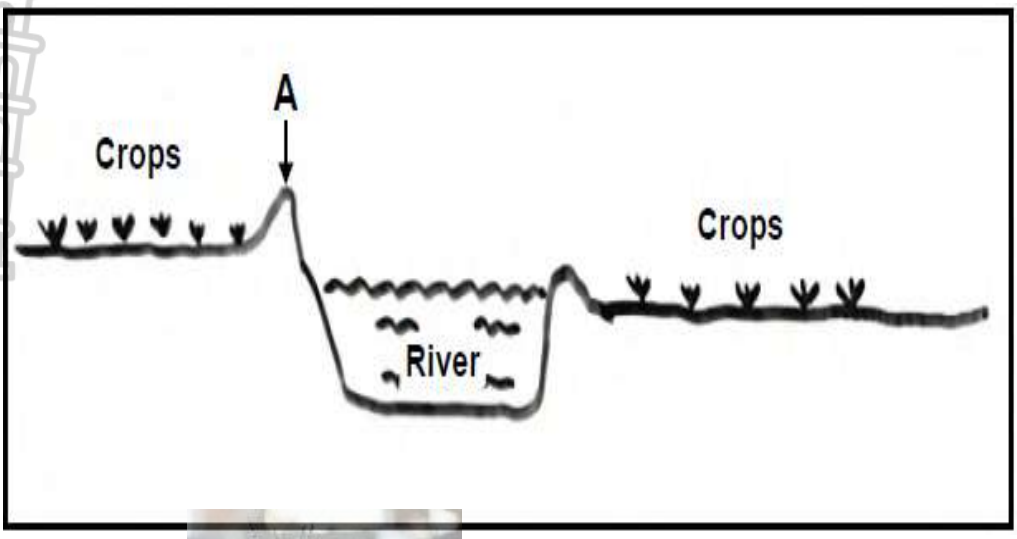
2.5. Refer to the diagram below showing a meandering stream channel.



[Source: http://adlib.everysite.co.uk/adlib/defra/content.aspx?id=000IL3890W.17UT30ZOH8G447]

2.5.1.	Identify the course of the river shown above.	(1 x 1)	(1)
2.5.2.	Describe the river profile reflected by line **A** - **B**	(1 x 1)	(1)
2.5.3.	Label the slopes marked **A** and **B**, respectively.	(2 x 1)	(2)
2.5.4.	Explain the formation of slope **A** and the formation of slope **B**.	(2 x 2)	(4)
2.5.5.	Draw an annotated diagram showing the cross section of a meander from **A** to **B** (Label the slopes and the dominant river process in each slope).	(5 x 1)	(5)
2.5.6.	Evaluate the socio-economic significance (importance) of slope **B.**	(2 x 2)	(4)
			[17]

2.6:Refer to the diagram below showing levees and answer the questions that follow.



[Adapted from https://open.uct.ac.za/bitstream/handle/]

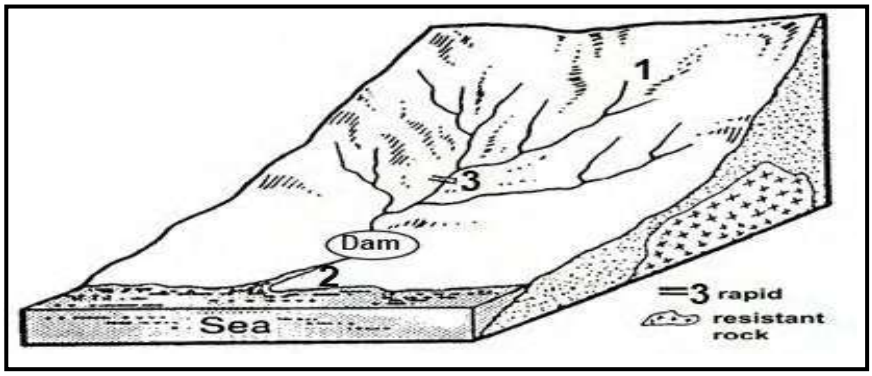
2.6.1	Identify the fluvial landform on which crops are grown.	(1 x 1)	(1)
2.6.2	Give TWO reasons why the landform in QUESTION 2.6.2 more likely to flood in the lower course?	(2 x 2)	(4)
2.6.3	Identify the natural feature **A** that protects crops from flooding.	(1 x 1)	(1)
2.6.4	Briefly describe the formation of the natural feature in QUESTION 2.6.3.	(2 x 2)	(4)
2.6.5	Discuss TWO negative impacts on farming, should the river breaks through feature **A**.	(2 x 2)	(4)
			[14]

2.7: Refer to the diagram showing delta and answer the following questions.

[Source: http://www.pugetsoundnearshore.org/graphics/landforms_deltafan.jpg]

2.7.1	Define the term *delta*?	(1 x 2)	(2)
2.7.2	Give TWO pieces of evidence from the photograph to support the statement that a delta is shown.	(2 x 1)	(2)
2.7.3	Name the feature labelled **A**.	(1 x 1)	(1)
2.7.4	Describe the formation of feature **A**.	(1 x 2)	(2)
2.7.5	Why are some coastlines not suitable for the development of deltas?	(1 x 2)	(2)
2.7.6	In a paragraph of approximately EIGHT line discuss why deltas are ideal for farming.	(4 x 2)	(8)
			[17]

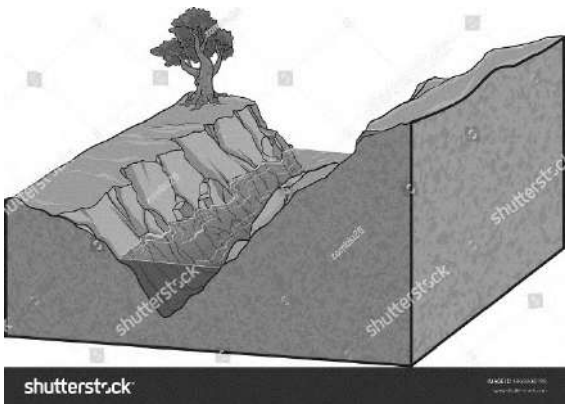
ACTIVITY 2.8: Refer to the diagram showing river grading



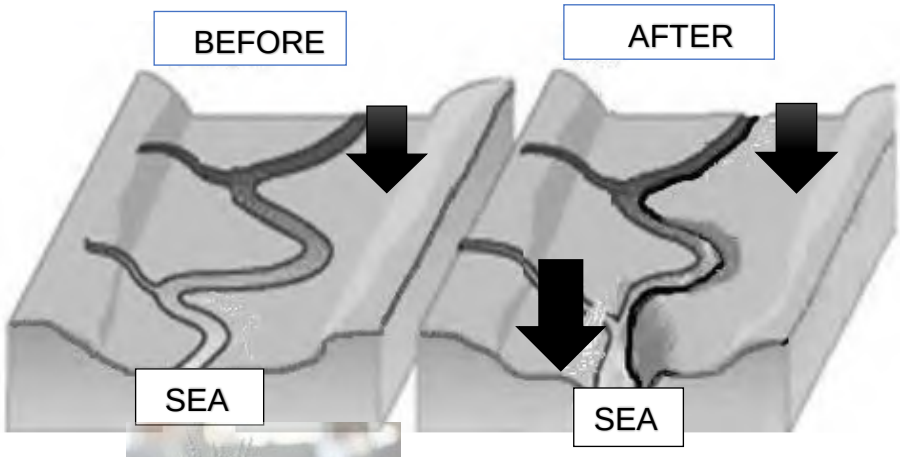
[Adapted: hydrology and Landforms]

2.8.1	Define the concept *base level of erosion.*	(1 x 2)	(2)
2.8.2	Identify ONE temporary base level of erosion in FIGURE 2.8.	(1 x 1)	(1)
2.8.3	Draw a labelled longitudinal profile of the river illustrated in FIGURE 2.8, clearly showing how the temporary base levels of erosion could have influenced the shape of the profile.	(4 x 1)	(4)
2.8.4	Comment on the shape of the longitudinal profile that you have drawn in QUESTION 2.8.3.	(1 x 2)	(2)
2.8.5	Describe the processes that a river undergoes to be graded.	(3 x 2)	(6)
			[15]

River Rejuvenation

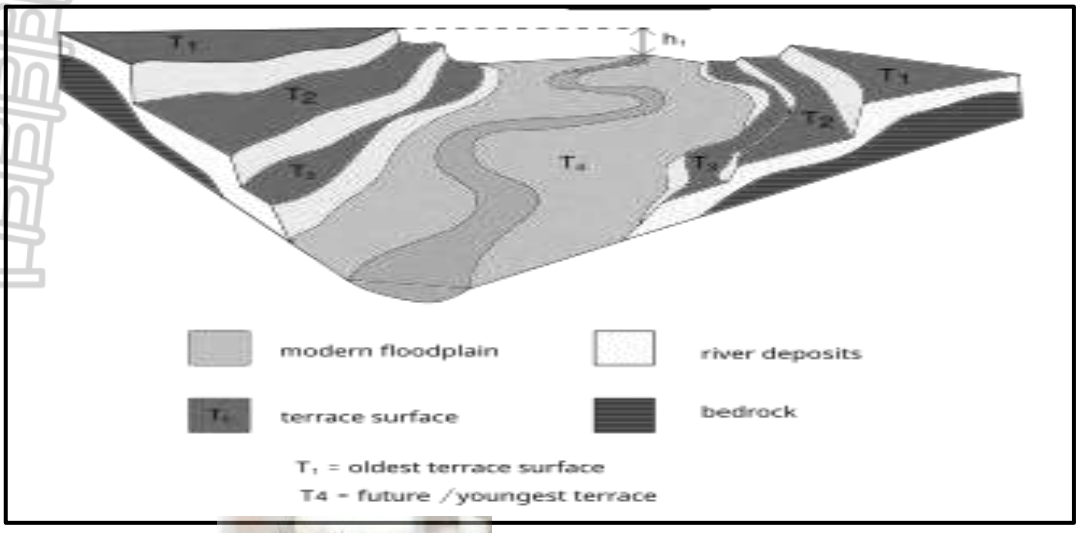
Feature	Description
Knickpoint  [https:knickpoint.rejuvation.com]	➢ The point where the old erosion level meets with the new. Sometimes waterfalls are formed where there is a change sharp change in gradient.
Terraces 	➢ It forms as a result of downward erosion. ➢ The floor of the old valley forms a terrace on either side of the river.
Entrenched meander / incised meander  shutterstock.com · 2448180763	➢ It occurs when a meandering river experiences rejuvenation resulting in more downward (vertical) erosion. This causes deep incisions (cuts) in the bedrock called incised meanders.
Valley within a valley 	➢ A new valley is carved into the old valley.

2.9 Refer to the diagram below indicating river rejuvenation



2.9.1	Define the concept *river rejuvenation*.	(1 x 2)	(2)
2.9.2	Which course of the river is illustrated in the diagram?	(1 x 1)	(1)
2.9.3	Give evidence from FIGURE 2.9 to support your answer to QUESTION 2.9.2	(1 x 2)	(2)
2.9.4	Why is there an increase in the rate of erosion in the river after rejuvenation?	(2 x 2)	(2)
2.9.5	Identify the changes to the following features after river rejuvenation took place. a) River channel b) Meander	 (1 x 2) (1 x 2)	 (2) (2)
2.9.6	Discuss the possible negative impact of river rejuvenation on storage dams in the lower course after the point of rejuvenation.	(2 x 2)	(4)
			[15]

2.10 Use the diagram below to answer the questions that follow.



2.10.1	What type of erosion is associated with river rejuvenation	(1 x 1)	(1)
2.10.2	What evidence indicates that rejuvenation has occurred in the illustrated diagram.	(2 x 1)	(2)
2.10.3	Explain the formation of the landform shown in the diagram above.	(2 x 2)	(4)
2.10.4	In a paragraph of approximately EIGHT lines, discuss the POSITIVE and NEGATIVE effects of rejuvenated landscapes on the economy.	(4 x 2)	(8)
			[15]

RIVER CAPTURE (STREAM PIRACY)

DEFINITION

River capture: refers to a process when a more energetic river intercepts the headwaters of a less energetic river.

Abstraction: Is a process whereby the watershed changes its position.

CONDITIONS NECESSARY FOR RIVER CAPTURE

- Greater rainfall on side of the watershed
- One river flow on the steeper side of the watershed
- Soft rock – one river flows on the side that has less resistant rock

Captor stream is flowing at lower altitude

FEATURES OF RIVER CAPTURE

- **Captor stream:** river that has captured the headwaters Captured stream: A river that has its water diverted into another river.
- **Misfit stream:** Stream that has too little water for the valley it flows
- **Elbow of capture:** Right angled bend indicating the point where one river captures the water of another.
- **Wind gap:** A dry river valley found immediately after the elbow of capture.

Impact of river capture

1. social	
At the Captor Stream • More agricultural production • Less irrigation • Increase in production might lead to manufacturing. • Increase in water might cause flooding and people must relocate. • More water might have damaged the recreational facilities on the banks of the river.	**At the Misfit Stream** • People will relocate due to job losses in agriculture. • Decrease in agricultural production. • Financial implication due to irrigation • Less of recreational facilities due to less income • Factories close due to lack of water • Decrease in fishing for source of food

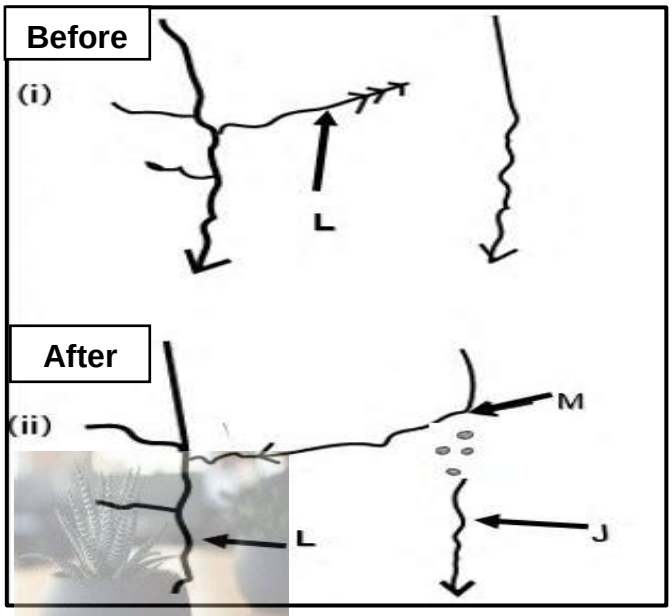
2. social	
Captor Stream • Due to increase of water along the banks people must relocate.	**Misfit Stream** • Due to the decrease in agricultural production people relocate. • Rural- urban migration • The settlement might become a ghost town

3. economic	
Captor Stream • Recreational facilities along the banks of the river might be damaged. • Increase in water sports	**Misfit Stream** • Decrease in water sports. • Because of less people, there is financial instability in the area

4. economic	
Captor Stream • Increase in crop production. • More exports • Less irrigation	**Misfit Stream** • More water expenses. • Decrease in crop production

5. environmental	
Captor Stream • Habitat will be disturbed. • Increase in water will cause an increase in fish. • Diversity of ecosystems will develop because of the increase in vegetation.	**Misfit Stream** • Marine/water ecosystem disturbed. • Less fish • Land degradation due to soil erosion • Decrease in biodiversity

2.11 Refer to figure 2.11 below and answer the following questions.

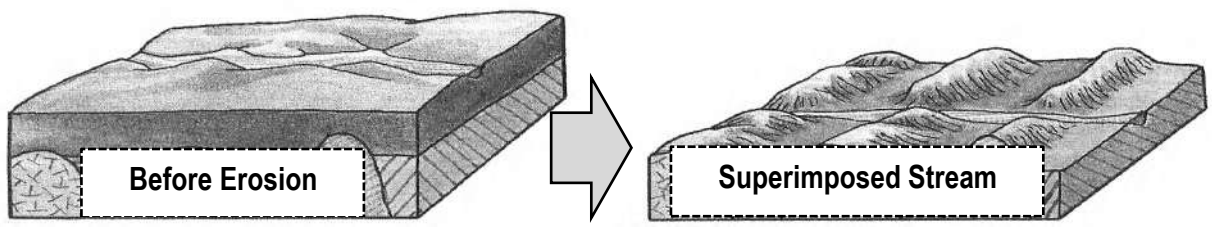


2.11.1	Define the concept *river capture.*	(1 x 2)	(2)
2.11.2	Identify the type of erosion associated with the process of river capture.	(1 x 1)	(1)
2.11.3	Name the features of river capture **L** and **M**	(2 x 1)	(2)
2.11.4	How will river capture affect the erosive power of river **L**?	(1 x 2)	(2)
2.11.5	In a paragraph of approximately EIGHT lines, assess the implications that river capture will have on communities that depend on stream **J** for economic activities	(4 x 2)	(8)
			[15]

SURPERIMPOSED AND ANTECEDENT

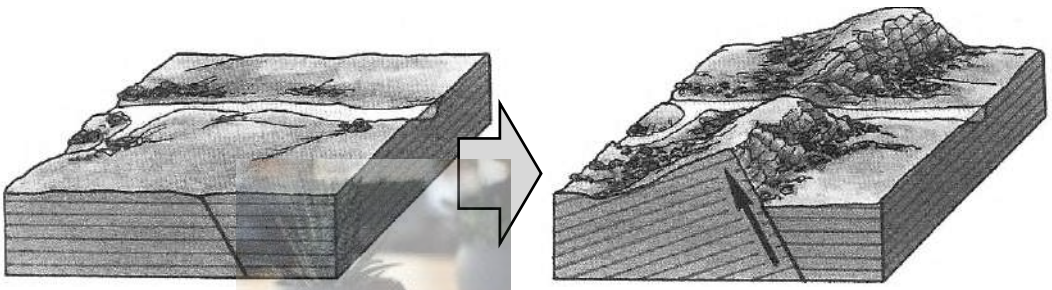
Superimposed Streams

- Are rivers which **imposed themselves over** the older bed rocks after **erosion of the top strata**.
- They impose their original channel flow pattern over the **mismatch** lower bed rocks. (the river is younger than the landscape over which it flows)
- This is caused by **slow erosion of the top strata at the rate that the river is able to impose its flow channel** course on the bottom (lower) landscape.



Antecedent Streams

- Are rivers which **maintain their flow channel course after uplift** (rise of the land) along the river channel.
- They **incise (cut deep)** their **channel against uplift** of the land.
- The **uplift is slow** at the rate which allows the river **to incise through the uplifted** landscape to maintain its course.



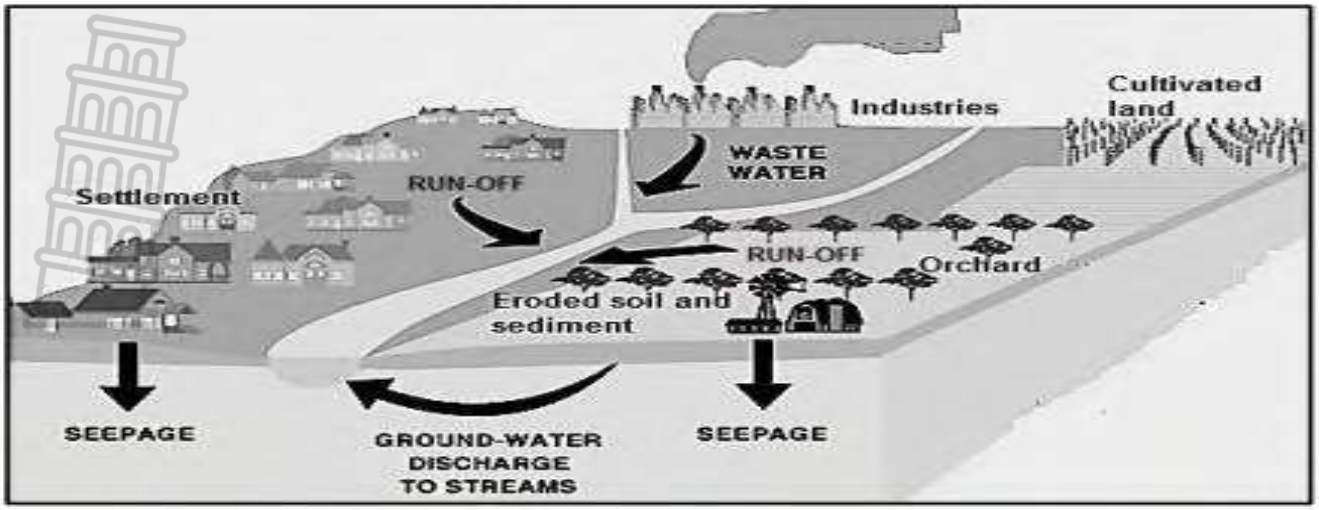
Before uplift

Antecedent Stream

[Source: http//:faulting_grd10.com.]

CATCHMENT AND RIVER MANAGEMENT

Catchment: the upper reaches where the river obtains its water.
Catchment Management: rehabilitation, maintenance and wise use of water sources to ensure clean high quality water resources in the drainage basin.
River Management: rehabilitation, protection and wise use of rivers to ensure clean high quality of river water supply.
Riparian*: moist areas along the river course.
Alien plants*: plant species that are foreign who are water thirsty.



[Source:https://openoregon.pressbooks.pub/envirobiology/chapter/7-3-water-pollution]

Importance of Drainage and Catchment Management

- To ensure clean-high quality water supply for crop irrigation schemes on flood plains and **riparian*** areas.
- To ensure clean-high quality water for recreational activities such as fishing, canoeing and froth (white water) rafting.
- To ensure that drainage basins and rivers are healthy for hydro-electricity generation.
- To ensure healthy drainage basins and rivers as tourist attractions in waterfalls and rapids.
- To ensure healthy water supply to households and industries.
- To ensure that aquatic ecosystems, food chains and food webs remain balance on healthy water habitats.
- To ensure flooding is controlled by maintaining vegetation along the **riparian zones**.

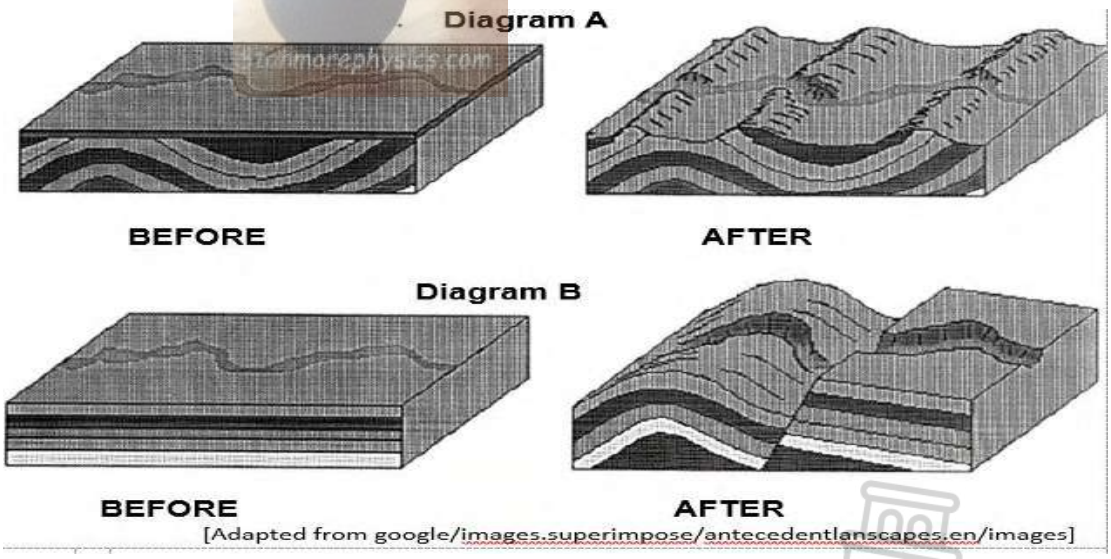
Causes of poor river/catchment management

- **Alien plants***: reduces stream discharge and ground water content causing lowering of water tables, increase deposition in the lower course.
- **Water disposal:** water pollution decreases water quality, affects aquatic balance, poses a danger to people and animals along the riparian area.
- **Poor Irrigation Methods:** reduces water volume downstream, decreases river's carrying capacity and increases deposition on the river course.
- **Poor farming Methods:** increases run-off and deposition of salts and pesticides in rivers, causing eutrophication*.
- **Furrows and Dam construction:** reduces river's water flow, reduces sediment load for delta formation and fertile soil for flood plain deposition.
- **Urban development:** Artificial surface and drainage systems increases run-off into rivers therefore increases river discharge, causing flash floods.
- **Mining:** increases minerals and salt in river water, causes acid levels to increase form acid mine drainage into rivers.
- **Overgrazing/Deforestation:** Removal of vegetation through animal grazing or clearing of natural vegetation in catchments reduces infiltration reducing ground water content which became base flow in dry seasons.
- **Wetland pollution:** Draining of wetlands (swamps) for irrigation, use as dump sites, polluted by sewage and industrial effluences; reduces ground water quality, biodiversity imbalance and promote flooding.

Drainage Basin/Catchment management strategies

- Promote afforestation to trap run-off and decrease erosion.
- Educate farmers along the riparian zones on sustainable farming methods.
- Promote waste recycling instead of dumping into rivers/wetlands.
- Local authorities should have laws to prevent dumping into rivers.
- Local authorities should impose heavy fines for river dumping.
- Quality of river water be frequently tested to prevent aquatic habitats from ecosystem disruption by pollutants.
- Conserve wetlands and create buffer zones to prevent industrial/settlement encroachment too close to catchments.

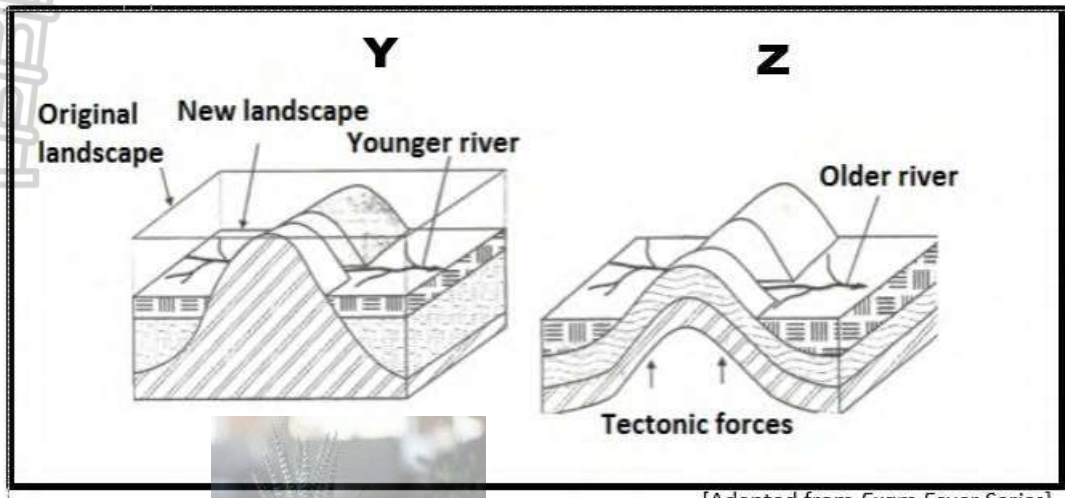
2.12. Study diagram **A** and **B** below based on superimposed and antecedent drainage patterns. Match the statement below with either Diagram **A** or Diagram **B**. Write the numbers 2.12.1 to 2.12.6 on your answer book and the letter **A** or **B** which matches the statement below. e.g. 2.12.7 **A.**



[Adapted from google/images.superimpose/antecedentlanscapes.en/images]

2.12.1	The river does not change its flow course after erosion of the top layer.		
2.12.2	Tectonic forces led to deformation of the landscape through folding and faulting.		
2.12.3	The rate of tectonic force activity was at the same rate as down-cutting by the river.		
2.12.4	The river is younger than the landscape over which it flows.		
2.12.5	The river has imposed its flow course onto the exposed bed rocks.		
2.12.6	Landscape is not suitable for human inhabitation due to unstable, steep and difficult to build topography	(6 x 1)	(6)
			[6]

2 13. Refer to the sketch **Y** and **Z** below based on superimposed and antecedent streams. Match the statements below with either sketch **Y** or sketch **Z** to make the statement correct. Write the numbers 1.2.1 to 1.2.8 on your answer book and the letter (**Y** or **Z**) next to it; **e.g. 1.2.9 Y.**



[Adapted from *Exam Fever Series*]

2.13.1	Represents an antecedent stream.		
2.13.2	Landscape has been raised at the same rate as river erosion.		
2.13.3	The river has imposed itself on the older landscape.		
2.13.4	The landscape is new as it has been deformed by tectonic uplift.		
2.13.5	Erosion of the top layer has made the river to flow on the older landscape.		
2.13.6	The landscape erosion has taken place at the same rate as vertical erosion on this landscape.		
2.13.7	These rivers are called superimposed streams.		
2.13.8	Uplift of the landscape has resulted in folding.	(8 x 1)	(8)
			[8]

2.14. Study the extract and the accompanying map below of catchment management.

HAMMANSKRAAL WATER CRISIS EXPOSES YEARS OF NEGLECT

The situation in Hammanskraal may be shocking, but it is not surprising. People have had a decade-long struggle with water and sanitation issues, serving as a clear example of what happens when unplanned development occurs.

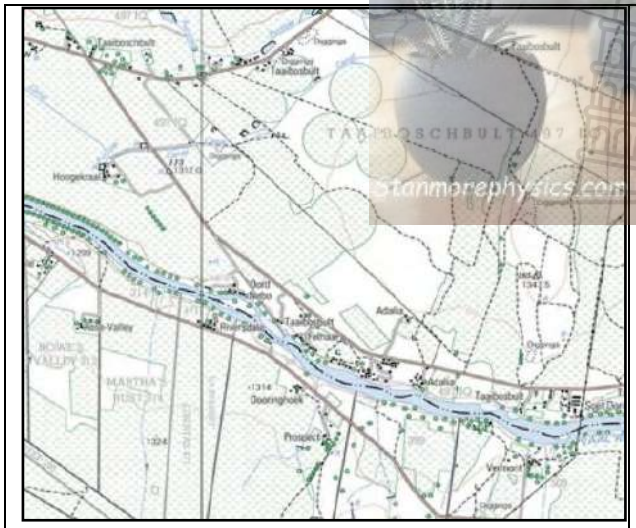
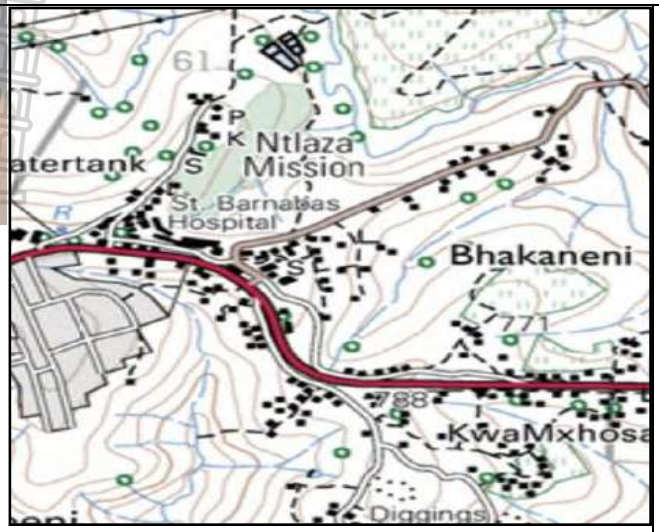
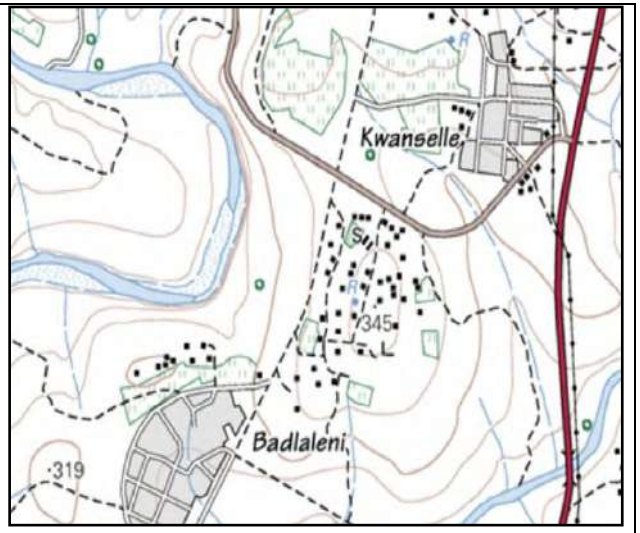
The water supply network in Hammanskraal needs to be upgraded and equipped to meet the growing demand. A significant portion of the water infrastructure is in a state of disrepair (poor condition), leading to frequent leaks and disruptions in the water supply. Over the years, several concerns have been raised, further highlighting the extent of the crisis. The Rooiwal water-treatment plant has been failing to treat the waste water and instead it is dumping raw or semi-treated waste water into the Apies River, which supplies Hammanskraal. Residents have repeatedly described the water in Hammanskraal as 'brown and slimy'. In 2019, the South African Human Rights Commission declared the water unfit for human consumption. Adding to the residents' plight, the City of Tshwane, in August 2021, shut down the Temba water purification plant, leaving Hammanskraal without access to water for a week.

[Adapted from https://mg.co.za/environment/2023-05-24-hammanskraal-water-crisis]

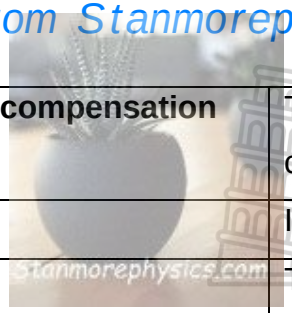
2.14.1	State the province where Hammaskraal is located on the map.	(1 x 1)	(1)
2.14.2	Explain why water supply network in Hammaskraal needs to be upgraded.	(1 x 2)	(2)
2.14.3	Identify the main source of river pollution in this area.	(1 x 1)	(1)
2.14.4	Give ONE reason for the South African Human Right Commission to declare the water unfit for human consumption in 2019.	(1 x 2)	(2)
2.14.5	Suggest strategies that local municipality in this province can implement to reduce pollution of the Apies River.	(3 x 2)	(6)
			[12]

STUDY OF SETTLEMENTS

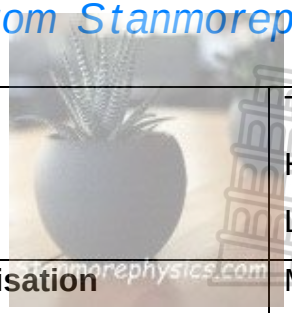
RURAL AND URBAN SETTLEMENT **Concepts**	
Site	Actual piece of land on which a settlement is built/ exact piece of land on which a settlement is built.
Situation	Location of a settlement in relation to the surrounding environment.
Complexity	Settlement classified according to services and functions it offers. Urban settlements are complex because they offer wide range of functions. Rural settlements are simple because they offer limited functions.
Pattern	The closeness of buildings in a settlement. **Nucleated Pattern** refers buildings being closer together in a settlement. All urban settlements are nucleated. **Dispersed Pattern** refers to buildings being far apart from each other in settlement.
Wet-point settlement	Settlement located close to a water source as water in the area is scarce.
Dry-point settlement	Settlement located away from a water source as too much water is a threat.
Shape	The arrangement of buildings in a settlement. **Linear shape**: Develops along a natural or artificial linear feature e.g. rivers, mountain pass, roads, railway lines etc. **Round shape**: Develops around a specific feature e.g. well, church, kraal etc. **T-shaped**: Develops at along a T-junction. **Crossroad**: Develops at a major intersection.

		
Linear shape	**T-Shape**	**Circular/Round Shape**

Injustice	Something unfair which violates a person's human right.
Environmental injustice	When the environment is treated in a manner that threatens
Rural-urban migration	Movement of people from rural areas to urban areas. **Push factors**- negative reasons that force people to leave rural areas. **Pull factors**- positive reasons that draw (attract) people into urban areas.
Rural depopulation	Decrease in the number of people living in rural areas.
Land Reform	Policy of government that is aimed at redressing the imbalances of the past in relation to land access and ownership.
Land Restitution	Compensating people in a form of land or finance for the land they lost during apartheid forceful removals.
Land Redistribution	Providing previously disadvantaged people with land for residential and agricultural use.
Land tenure reform	Securing communal right of land ownership to people.



Expropriation without compensation	The government's ability to take private property for public use without providing financial compensation to the owner, primarily seen in South Africa's recent legislative changes.
Urbanisation	Increase in percentage of urban population.
Rate of urbanisation	The speed/pace at which urbanisation occurs.
Level of urbanisation	The percentage of the number of people living in urban areas.
Urban Growth	The absolute increase in number of people living in urban areas.
Urban Expansion	The physical growth of an urban areas.
Urban Sprawl	Uncontrollable (formless) expansion of an urban area.
Central place town	Place that provides goods and services to the surrounding rural areas.
Trade and transport town	Town or City where goods change mode of transport
Gap Town	Town or city located where there are physical barriers.
Junction town	Town or city located at an important transport intersection.
Specialised town	Town or city with one main function.
Urban hierarchy	Arrangement of urban settlements from the smallest to the largest.
Range	Maximum distance that people are prepared to travel to buy goods or services.
Threshold population	The minimum number of customers needed to make a business profitable.
Sphere of influence	Area from which a business draws its customers.
High order goods	Goods that are not needed on daily basis/ goods that are needed infrequently
Low order goods (convenient goods)	Goods that are needed on daily basis/ goods that are needed frequently.
Land-use	A specific activity for which the land has been set aside.
Land-use zone	An area set aside for a specific function.



Compatibility	The degree to which functions attract or repel each other. High-income residential zone and Heavy industrial zone are not compatible (incompatible) Low-income residential area and Heavy industrial zone are compatible.
Commercial decentralisation	Movement of businesses out of the CBD and into the suburbs/outlying business centres High rental costs, crime, pollution, traffic congestion and competition are the common reasons for commercial decentralisation.
Land use model	Generalised version of the layout of urban areas.
Multiple nuclei model	A layout of a city that has many focal points.
Sector model	A layout of a city that has land-use zones developing along routes with the CBD at the centre.
Traffic congestion	Overconcentration of vehicles on the road.
Urban Blight	Deterioration of urban areas/buildings.
Informal settlement	Illegally built settlement using a variety of cheap materials such as corrugated iron, cardboards, plastics etc
Urban renewal	Improvement of a dilapidated parts of the urban areas
Gentrification	Upgrading of low-income residential building in the city.
Facadism	Retaining the front of the building while demolishing and building a new structure behind.

STUDY OF SETTLEMENTS

What is a settlement?

Settlement is a grouping of people, communication networks, buildings and activities that function as a single integrated unit on a regular daily basis.

DIFFERENCES BETWEEN A RURAL SETTLEMENT AND AN URBAN SETTLEMENT

RURAL SETTLEMENT	URBAN SETTLEMENT
Uni-functional (primary activities)	Multi-functional (secondary and tertiary activities)
Mostly dispersed (buildings are far apart)	Mostly nucleated (buildings are closed together)
Low population	High population
Farmstead, Hamlet and Village are rural settlements	Town, City, Metropolis, Conurbation and Megalopolis are urban settlements.
Fishing, Mining and Forestry	Commerce, Retail, Industrial and Recreational
Smaller in size than Urban settlement	Bigger in size than rural settlement

SITE AND SITUATION OF A RURAL SETTLEMENT

SITE

- Site is the exact terrain where the settlement is located/it is that piece of land where the settlement is located

FACTORS INFLUENCING CHOICE OF A SITE OF A RURAL SETTLEMENT.

- Soil fertility
- Fuel for cooking and warmth
- Flat land
- Availability of water
- Availability of building material

SOIL FERTILITY

- Good quality (fertile) soil is a major attraction for a farming community.

RELIEF/TOPOGRAPHY

- Flat areas of land are better for farming and development so rural settlements are more likely to develop over flat areas/gentle slopes.
- Rural settlements can develop on a hilltop for defence.

WATER SUPPLY

- If water is scarce, the settlement will be nucleated around/near the water source. (Wet point settlement)
- If water is plentiful, it poses a threat of flooding; settlements will be dispersed and located far away from water source. (Dry point settlement)

ASPECT (direction the slope faces in relation to the sun rays)

- Warmer slopes are preferred for cultivation of crops and human settlement development'
- Cooler slopes are more suitable for planting trees.

SITUATION

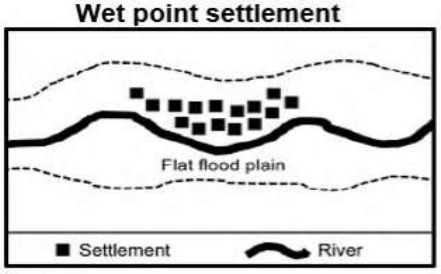
- Situation is the location of a settlement in relation to the surrounding settlement/environment e.g. How far is the settlement from the closest town, coastline or major road.

SITUATIONAL FACTORS

- Roads
- Railways
- Harbours
- Airports
- Distance to market
- Access to resources

INFLUENCE OF SITE AND SITUATION

Wet point settlement



Source: https://www.google.com/imgres?q=wet%20point

Settlements locate close to a water source e.g. river

Found in areas where water is scarce (arid areas)

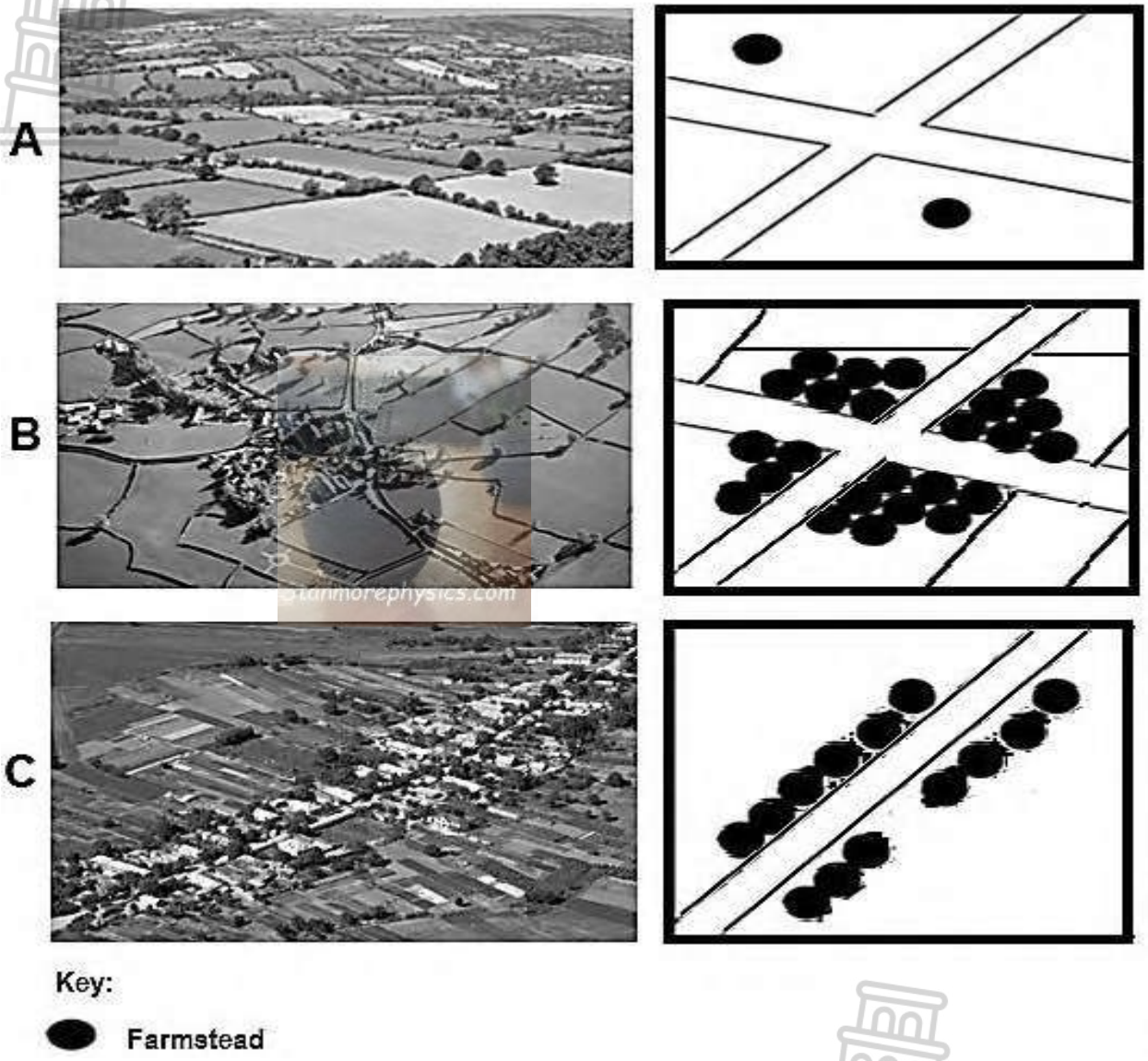
Dry point settlement

Source: own sketch

Settlements locate away from water source because water is a threat e.g. flooding.

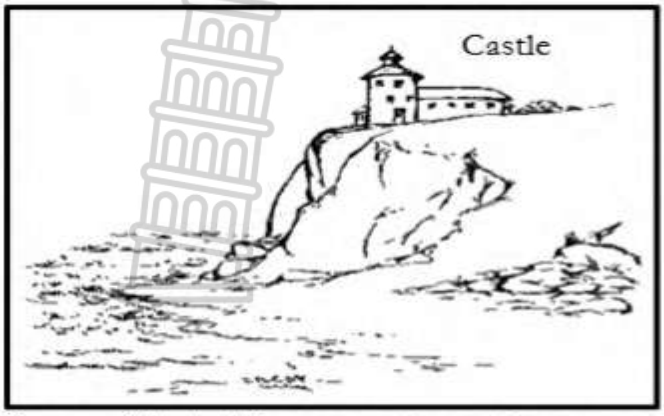
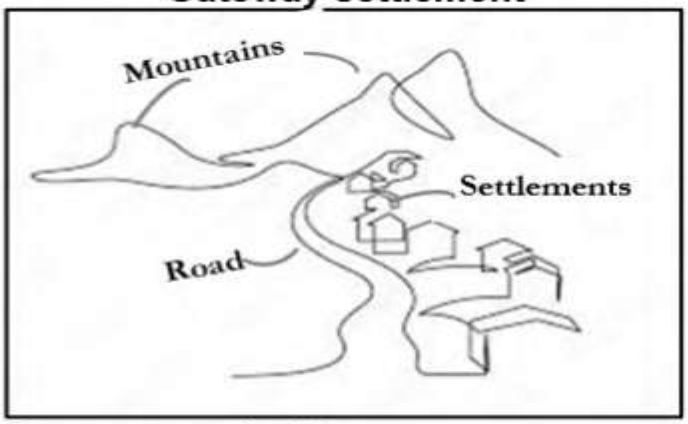
Found on top of hills because there is a potential threat of flooding on the lower ground

Activity 3.1. Refer to **FIGURE 3.1** on rural settlements. Match EACH of the descriptions below with ONE of diagrams **A**, **B** or **C**. You may choose the same settlement more than once.



3.1.1	Farm houses are found in a linear shape.		
3.1.2	Farm houses are far apart or scattered.		
3.1.3	Less safe and secure in this type of settlement.		
3.1.4	This shape is influenced by a single road.		
3.1.5	Settlement pattern associated with large commercial farms		
3.1.6	The shape of the settlement is stellar.		
3.1.7	Individual farmlands tend to be elongated (long and narrow).		

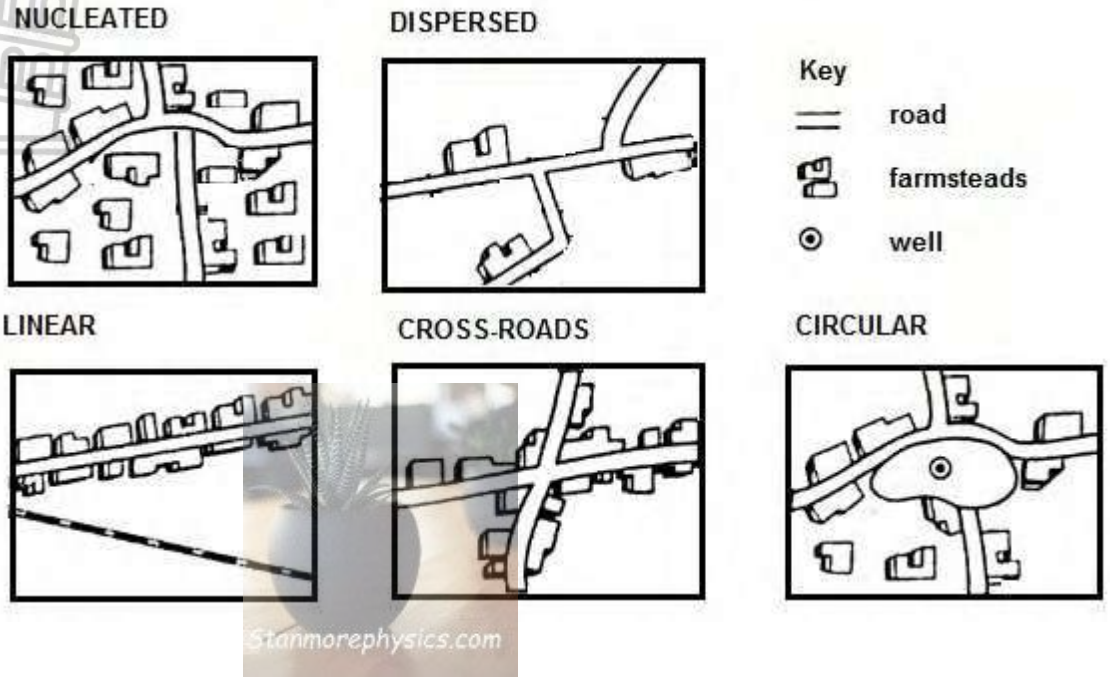
(7 x 1) (7)

Defence settlement	Gateway settlement
 Source: Adapted from www.dreamstime.com	 Source: own sketch
Found on higher grounds or in the loop of meanders for safety reasons	**Found in gaps between hills. Creates potential for growth and to link other areas**

SETTLEMENT PATTERNS

Nucleated   Source: https://encrypted-tbn0.gstatic.com/images?	**Houses are close together (clustered)** **Advantages** ▪ Shared farming tools and ideas ▪ Safety ▪ Social interaction **Disadvantages** ▪ Lack of privacy ▪ Small profits ▪ Conflicts may arise
Dispersed   Source: https://encrypted-tbn0.gstatic.com/images?	**Houses are far apart from each other (scattered)** **Advantages** ▪ Independent farmers and use modern methods and equipment ▪ Large profits ▪ Lots of privacy **Disadvantages** ▪ Lack of social life (boredom) ▪ Easy target for criminals ▪ Basic services are distant

SETTLEMENT SHAPES



Round/Circular shape

- Settlements develop around a central point (church, village green or park)
- Roads may radiate outwards from the centre.

Linear shape

- Buildings located along a line feature e.g. road, river or mountain range etc.

Crossroads

- Settlements develop from different ways in which roads meet.

T-shaped

- Settlements develop when a secondary road intersect with the main road

RURAL SETTLEMENT ISSUES: LAND REFORM

DEFINITION → A policy aimed to bring about equitable distribution and access to land for previously disadvantaged South Africans.

PURPOSE →
- To redress the past injustices
- To alleviate poverty
- To promote economic growth
- For national reconciliation and stability
- To foster agricultural development
- To reduce unemployment

THREE PILLARS

LAND REDISTRIBUTION	LAND RESTITUTION	LAND TENURE REFORM
Government buys land and makes it available to the previously disadvantaged.	Returning land to its original owners. It compensates those who lost land during apartheid years.	Securing the rights of those living on land owned by others. They are protected from eviction.

CHALLENGES →
- Willing buyer/seller clause
- Costly process
- Disagreement between government and traditional leaders
- Lack of training and support
- Lengthy period to resolve claim disputes
- Not yet accelerated economic growth & reduced poverty
- Gaps in the land reform policies

THE EXPROPRIATION ACT

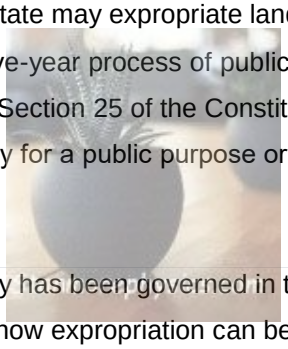
The South African Expropriation Act, passed in 2024, provides a framework for the government to acquire land for public purposes and in the public interest, including land reform. It outlines the procedures for expropriation and emphasizes the need for fair compensation, but also allows for nil compensation in specific, justifiable circumstances. The Act repeals the previous Expropriation Act of 1975.

Source:[*https://brandsouthafrica.com/176265/news-facts/what-is-south-africas-expropriation-act-of-2025/*]

CASE STUDY ON THE EXPROPRIATION BILL

President Cyril Ramaphosa has signed into law the Expropriation Bill which repeals the pre-democratic Expropriation Act of 1975 and sets out how organs of State may expropriate land in the public interest for varied reasons.

The Bill, which has undergone a five-year process of public consultation and parliamentary deliberation, aligns legislation on expropriation with the Constitution.Section 25 of the Constitution recognises expropriation as an essential mechanism for the state to acquire someone's property for a public purpose or in the public interest, subject to just and equitable compensation being paid.



Up to now, expropriation of property has been governed in terms of the Expropriation Act of 1975, which The Bill assented to by President Ramaphosa outlines how expropriation can be done and on what basis. This law will assist all organs of State - local, provincial and national authorities - to expropriate land in the public interest for varied reasons.

Local, provincial and national authorities will use this legislation to expropriate land in the public interest for varied reasons that seek, among others, to promote inclusivity and access to natural resources.

The Bill repeals the Expropriation Act and provides a common framework in line with the Constitution to guide the processes and procedures for expropriation of property by organs of state. In terms of this law, an expropriating authority may not expropriate property arbitrarily or for a purpose other than a public purpose or in the public interest.

Expropriation may not be exercised unless the expropriating authority has without success attempted to reach an agreement with the owner or holder of a right in property for the acquisition thereof on reasonable terms.

An expropriating authority is therefore obliged to enter into negotiations with the owner of a property required for such purposes. An expropriating authority must also attempt to reach an agreement on the acquisition of the property before resorting to expropriation - except in circumstances where the predates the expropriation mechanism provided for in section 25(2) of the Constitution.

[Source :https://www.parliament.gov.za/project-event-details/1670]

3.2. **Activity 3.2.** Refer to the infographic on land reform in South Africa.

Signed into Law: The Expropriation Bill

The Expropriation Bill addresses fair land redistribution by allowing expropriation without compensation in specific cases, such as abandoned or unused land. It aims to rectify historical injustices, reduce inequality, and ensure legal protections.

Source: https://www.google.com/search?q=land+expropriation+without+compensation+bill

Source: https://www.grainsa.co.za/upload/land_reform_2017_01_03.jpg

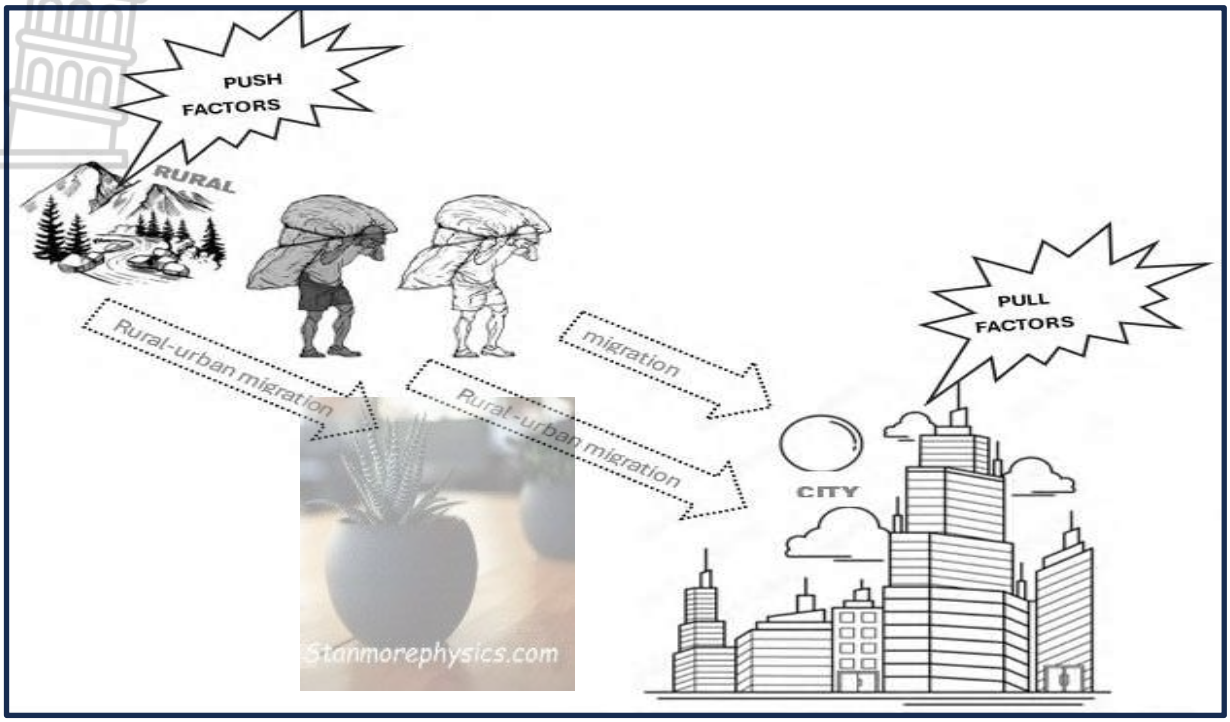
Source: Adapted from https://www.sagoodnews.co.za/land-reform-progress-or-not/

3.2.1	Define the concept *land redistribution*.	(1 x 2)	(2)
3.2.2	The phrase in the cartoon 'Give it back now!' relates to (land tenure/ land restitution).	(1 x 1)	(1)
3.2.3	Provide TWO intended benefits of the Expropriation Bill, according to the text.	(2 x 1)	(2)
3.2.4	Determine the total percentage of land ownership by individuals and community organisations?	(1 x 2)	(2)
3.2.5	How does the action of the people in the cartoon demonstrate the immediate implementation of the Expropriation Bill?	(2 x 2)	(4)
3.2.6	Explain why the Expropriation Bill was perhaps a solution to speed up the process of land reform.	(2 x 2)	(4)

RURAL-URBAN MIGRATION & RURAL DEPOPULATION

Rural-urban migration: the movement of people from rural areas to urban areas.

Rural depopulation: decline (decrease) in the number of people living in rural areas.



Source: Adapted from https://www.shutterstock.com/image-vector

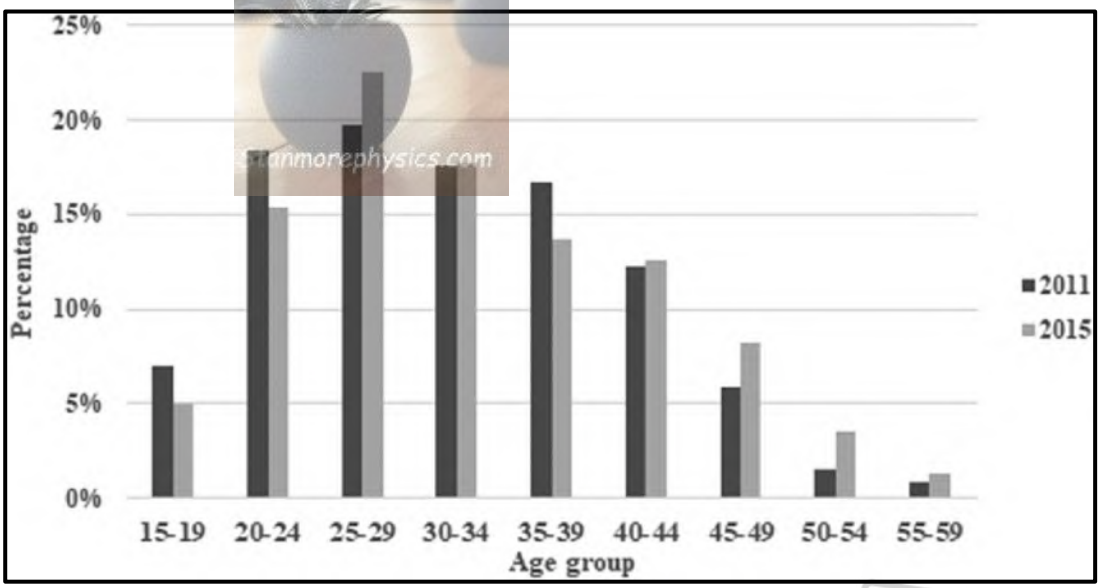
REASONS FOR RURAL-URBAN MIGRATION	
PUSH FACTORS	**PULL FACTORS**
Factors that force people to leave rural areas	Factors that attract (draw) people into urban areas
▪ Poor quality housing *(social)* ▪ Poverty *(social)* ▪ Lack of electricity *(social)* ▪ Poor health care services *(social)* ▪ Long distance travel for services *(socio-economic)* ▪ Crop & livestock diseases *(socio-economic)* ▪ Few jobs *(socio-economic)* ▪ Low salaries & wages *(socio-economic)* ▪ Drought & floods *(environmental)* ▪ Soil erosion *(environmental)*	▪ Improved housing ▪ Improved quality of life ▪ Access to electricity ▪ Availability & access to hospitals ▪ Efficient transport system ▪ Food security ▪ Variety of jobs ▪ Higher wages & salaries ▪ Greater access to sporting facilities ▪ Variety of educational institutions
NB: Social, economic & environmental factors	

REALITY IS DIFFERENT WHEN PEOPLE FLOCK INTO URBAN AREAS
▪ People end up living with relatives/ friends due to lack of money ▪ Some end up staying in informal settlements or on streets ▪ Local government cannot meet the demand for housing & other basic services ▪ People end up earning low salaries unexpectedly and cannot pay for rent ▪ Lack of job opportunities ▪ People lack qualifications to be competitive in the job market **NB: such questions might require a factor and a qualifier in paragraph questions.**

CONSEQUENCES OF RURAL- URBAN MIGRATION	
ON RURAL AREAS	**ON URBAN AREAS**
▪ Closure of shops & schools due to decreasing number of people *(economic)* ▪ Decrease in production due to few labourers *(economic)* ▪ Ghost settlements due to abandoned buildings *(social)* ▪ Under-utilisation of resources due to elderly people left behind *(socio-economic)* ▪ Family units are broken due to parents leaving children with grandparents to work in urban areas *(social)* ▪ Brain drain results as people who are less educated and skilled are left behind *(socio-economic)*	▪ Influx of informal settlements due to overcrowding of people *(social)* ▪ Increased crime due to unskilled people lacking jobs *(socio-economic)* ▪ Insufficient & demand for basic services due to overcrowding *(socio-economic)* ▪ Rapid spread of disease due to lack of appropriate shelter & overcrowding *(social)* ▪ Uncontrollable management of waste due to increased population *(social)* ▪ Traffic congestion due to overcrowding *(social)* ▪ Lack of hygiene due to informal settlements lacking sewage facilities *(social)* ▪ Values and traditions break down as people get caught to urban life *(social)*
NB: Such questions might require a fact and a qualifier in paragraph questions. They might be specific to social, economic & environmental consequences.	

SUSTAINABLE STRATEGIES TO MANAGE DWINDLING RURAL SETTLEMENTS
▪ Creating more jobs through attracting the secondary sector ▪ Provision of basic services such as proper housing, water, health ▪ Improve skills through training programmes ▪ Accelerate land reform policy to alleviate poverty ▪ Provision of capital/ GM seeds to farmers ▪ Use of drought resistant crops to increase food security ▪ Use of scientific methods of farming to monitor environmental hazards
NB: Such questions might require a factor and a qualifier in paragraph questions. They might be specific to 'suggesting social, economic & environmental strategies'.

3.3. **Activity 3.3.** Refer to the graph on rural-urban migration in South Africa.



[Source: https://www.researchgate.net/figure/Age-distribution-years-of-rural-urban-migrants-2011-and-2015_fig1_328079590]

3.3.1	Define the concept *rural-urban migration*.	(1 x 2)	(2)
3.3.2	Which population group rarely (least) move from rural areas to cities?	(1 x 1)	(1)
3.3.3	Describe the general trend for the age groups 25-29 and 30-34 in 2015.	(1 x 2)	(2)
3.3.4	Account for the trend (ANSWER TO QUESTION 3.2.3) specifically for the age groups 25-29 and 30-34 in 2015.	(1 x 2)	(2)
3.3.5	How does the movement of people to cities have a negative impact on food production in the rural community?	(1 x 2)	(2)
3.3.6	Suggest THREE economic strategies that can be introduced in rural areas to minimise the movement of people to cities.	(3 x 2)	(6)

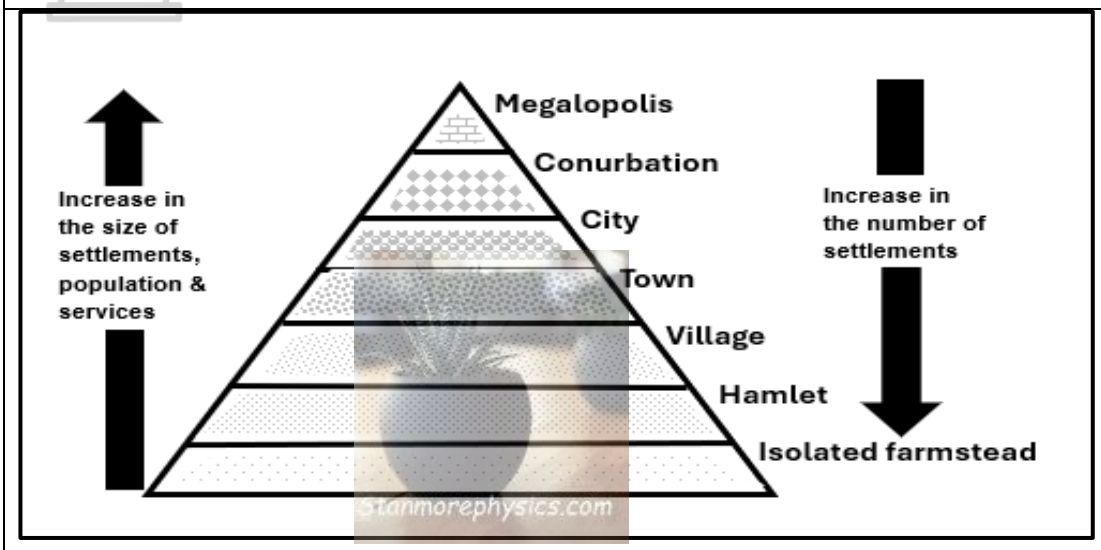
URBAN SETTLEMENTS

URBAN HIERARCHY

Hierarchy: arrangement/ranking of settlements in an area from the smallest to the largest e.g. isolated farmstead up to a megalopolis.

Urban hierarchy: arrangement of settlements in an urban area from the smallest to the largest e.g. town up to a megalopolis.

Settlements are classified according to size and complexity.



Source: Own sketch

Megalopolis: Gigantic settlement in a hierarchy. Largest urban settlement. Conurbations join together e.g. Washington DC, New York (USA).

Conurbation: Made up of cities and towns merging with each other e.g. Johannesburg, Midrand & Pretoria.

Metropolis: Made up of a major city surrounded by many independent towns e.g. Durban surrounded by Pinetown, Tongaat & Amanzimtoti.

City: Very large urban centre offering different services such as specialised functions e.g. Pietermaritzburg.

Town: A smallest urban settlement. An urban area that occupies a smaller geographical area e.g. Ladysmith.

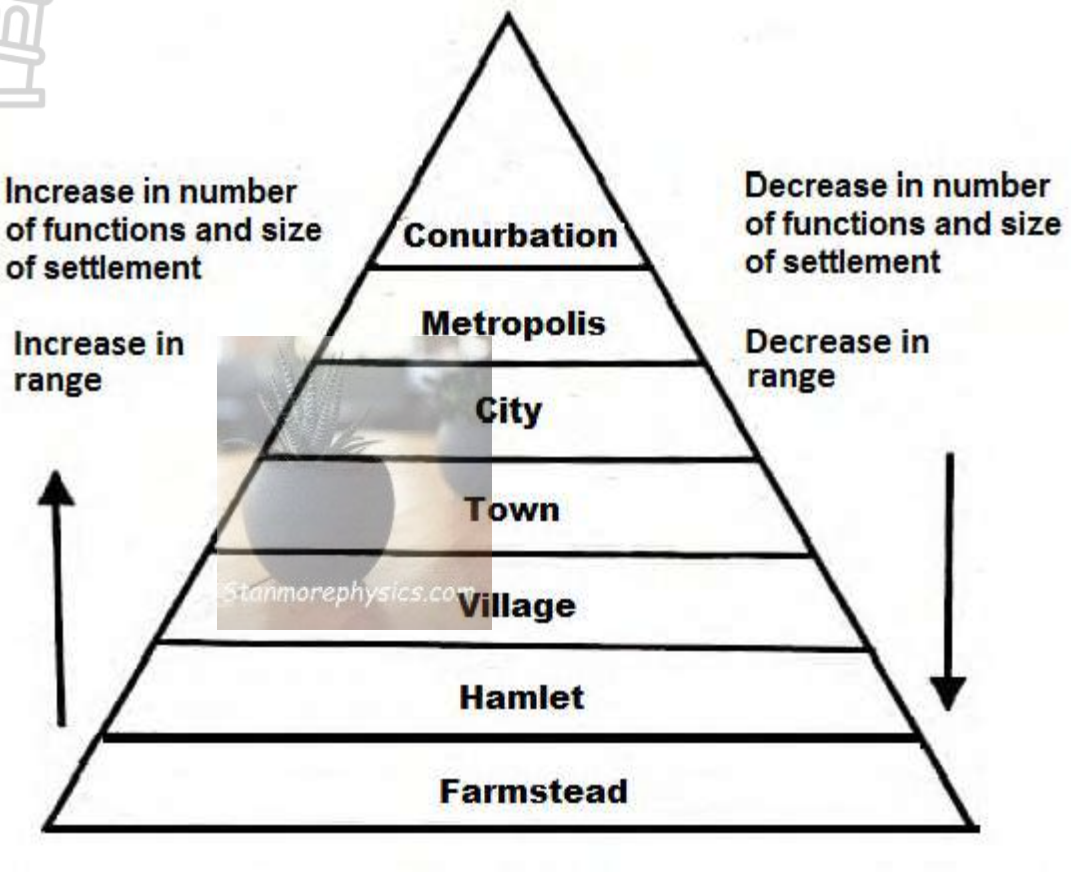
Village: A largest rural settlement. Type of rural settlement that offers both rural and urban functions (i.e. farming and shops)

Hamlet: A small group of farmsteads.

Isolated farmstead: The smallest settlement in a hierarchy. Smallest rural settlement. A single farm with a main building and have outbuildings for labourers and sheds.

Activity 3.4.

Refer to the sketch below on the classification of settlements. Choose the correct term(s) from those given in brackets. Write only the term(s) next to the question numbers (3.4.1 to 3.4.7)



[Source: Own sketch]

3.4.1 Settlements are ranked according to (function/population).

3.4.2 A (metropolis/conurbation) is made up of a city with independent towns.

3.4.3 A (village/town) is the smallest urban settlement.

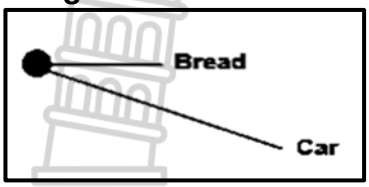
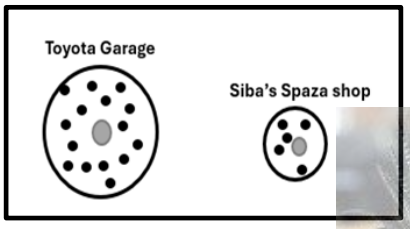
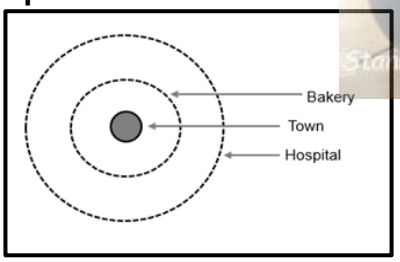
3.4.4 A (hamlet/village) has a mixture of both rural and urban functions.

3.4.5 The range of a (town/city) will be greater.

3.4.6 The (conurbation/metropolis) has a greater number of functions and size.

3.4.7 As the size of a settlement increases, the number of this type of settlement will (increase/decrease). (7 x 1) (7)

RELATED CONCEPTS

Central place	Settlement that provides goods and services to the surrounding rural population.
Range  Source: Adapted from Excel guide	Maximum distance customers are prepared to travel to buy goods or services ▪ People travel shorter distances to buy low order goods (convenient goods) or services. Example; sugar, milk & bread bought from a spaza shop. ▪ People travel longer distances to buy high order goods or services. Example; car, judiciary services
Threshold population  Source: own sketch	Minimum number of customers needed to make a business profitable. ▪ Businesses selling low order goods require a low threshold population to remain profitable ▪ Businesses selling high order goods require a large threshold population to be profitable.
Sphere of influence  Source: Adapted from Excel guide	Market or catchment area from where an urban settlement draws its customers. ▪ Sphere of influence of an urban centre depends on its size and the functions it offers ▪ Larger settlements offer more specialised functions and a greater number of functions than smaller settlements ▪ Therefore, larger settlements have a larger sphere of influence than smaller settlements
Low order goods/ low order services  Source: Google image	Goods or services required frequently (daily basis) e.g. milk, petrol station ▪ Offered by low order centres ▪ Small range ▪ Small threshold population
High order goods/ high order services  Source: Google image	Goods or services required infrequently e.g. car, high court ▪ Offered by high order centres ▪ Large range ▪ Large threshold population

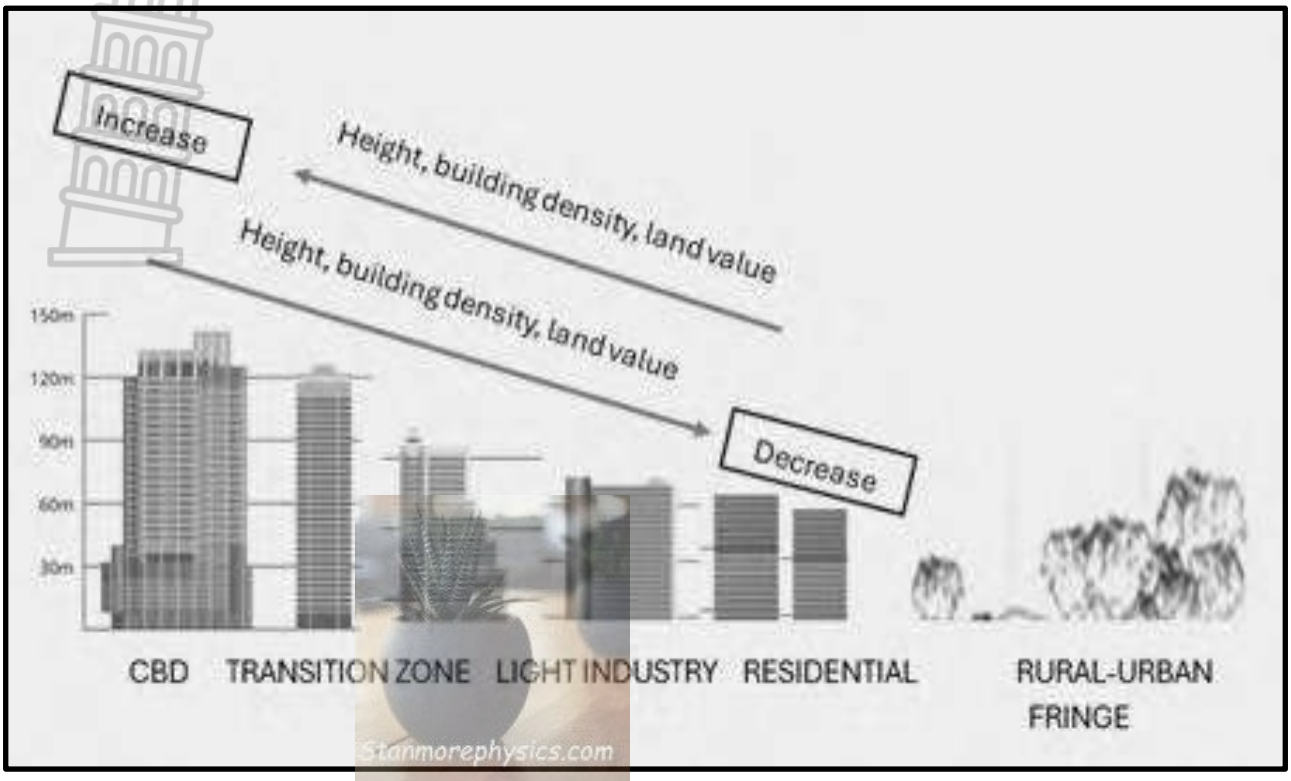
3.5. **Activity 3.5.** Refer to the graph showing the relationship between range and threshold population in a hierarchy of settlements.

Source: https://transportgeography.org

3.5.1	Define the concept *urban hierarchy*.	(1 x 2)	(2)
3.5.2	Identify a rural settlement from the graph.	(1 x 1)	(1)
3.5.3	A Toyota garage may be found in a (village/ city).	(1 x 1)	(1)
3.5.4	Differentiate between a central place and a sphere of influence.	(2 x 2)	(4)
3.5.5	How many customers are required to make shops in the town profitable?	(1 x 1)	(1)
3.5.6	Compare the following: a) the range of a city and a metropolitan b) the size of a town and a city c) the threshold population in a spaza shop and a business in a town	(3 x 2)	(6)
	URBAN SETTLEMENTS **URBAN STRUCTURE AND PATTERNS** **Morphology:** The external physical layout of an urban area. **Urban profile:** The side view of an urban area. **Building density:** The number of buildings per unit area. **Land use:** Purpose to which a land is used for (e.g. greenbelt, cemetery etc) **Land use zone:** An area in an urban settlement that has one dominant function.		

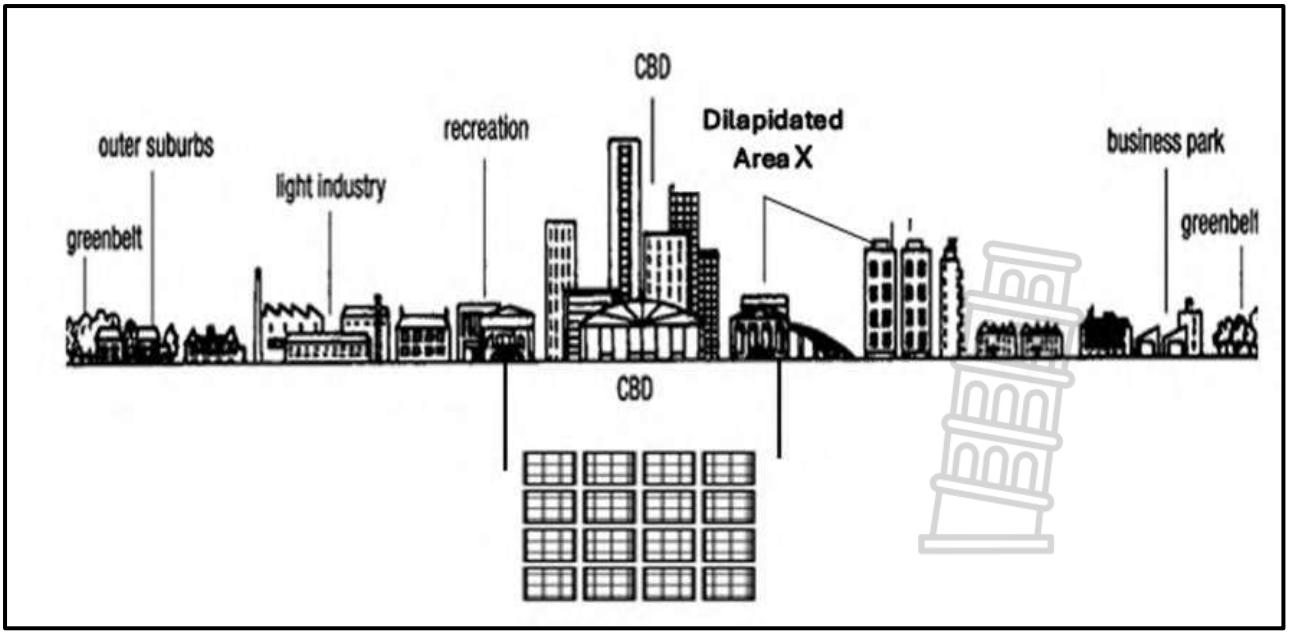
LAND USE ZONES	
CENTRAL BUSINESS DISTRICT (CBD)  Source: https://dreamstime.com	▪ Found at the centre of the urban area (city/town) for accessibility ▪ Characterised by tallest buildings to maximise space ▪ Oldest part of the urban area as development starts there ▪ Associated with high building density as there is competition for space ▪ Highest land values due to accessibility to important functions ▪ Normally associated with grid-iron street pattern (easy access) ▪ Recent exodus of urban functions due to crime, pollution, high rentals, illegal immigrants etc (CBD has become less prominent)
TRANSITION ZONE  Source: https://encrypted-tbn0.gstatic.com/images?	▪ Found around the CBD (edge of CBD) ▪ Zone of mixed functions e.g. residential, light industries etc. ▪ Zone of change since it is the future expansion of the CBD ▪ Buildings are dilapidated as landlords are not maintaining them ▪ Associated with urban blight (graffiti , broken windows, lack of maintenance, occupied by illegal immigrants) ▪ Necessary to renovate buildings as land values are still high
RURAL URBAN FRINGE  Source: https://encrypted-tbn0.gstatic.com/images?	▪ Found on the outskirt of an urban area ▪ Mixture of rural and urban functions ▪ Examples; cemeteries, airport, railway, golf course, shopping malls, sewage works, shooting range, high income residential areas ▪ Zone of change since urban functions invade the surrounding of this area

THE RELATIONSHIP BETWEEN HEIGHT, BUIDING DENSITY AND LAND VALUE IN AN URBAN AREA



Source: Own sketch

3.6. Activity 3.6. Refer to the sketch showing land use zones.



[Source: Adapted from https://encrypted-tbn0.gstatic.com/images?q=tbn:ANd9GcSm2JJmt-lOBgjgMlg9_xQOKlHX3ErIAofNxg&s]

3.6.1	Define the concept *urban profile*.	(1 x 2)	(2)
3.6.2	Identify the land use zone at area **X**.	(1 x 1)	(1)
3.6.3	Explain why the area (ANSWER TO QUESTION 3.4.2) is referred to the zone of change?	(1 x 2)	(2)
3.6.4.	Refer to the CBD.		
	a) Explain ONE challenge of the grid iron street pattern for motorists evident in this zone.	(1 x 2)	(2)
	b) Describe the height and the density of buildings in the CBD.	(2 x 1)	(2)
	c) Why is there a change in the building density as one move away from the CBD?	(1 x 2)	(2)
3.6.5.	Explain why commercial activities are forced to move from the CBD to the periphery (rural-urban fringe).	(2 x 2)	(4)

URBAN SETTLEMENT ISSUES:

INFORMAL SETTLEMENT

Informal settlement: Building of structures on land that people occupy with no legal claim

[Source: https://PreventionWeb.net]

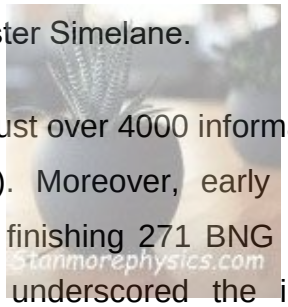
Characteristics of informal settlements	**Issues associated with informal settlements**	**Strategies to address issues related to informal settlements**
▪ Built by poor who cannot afford proper housing ▪ Made of a variety of cheap materials e.g. cardboard,	▪ Lack of basic services e.g. running water, electricity, sanitation, roads etc. ▪ Vulnerable in times of floods as most are	▪ Legal ownership of land ▪ Proper planning/ rezoning ▪ Providing proper building material

plastics, wood, corrugated iron etc. ▪ These materials are used because they are cheap and accessible (people are unemployed-cannot afford proper material) ▪ Common in developing countries	located on areas prone to floods ▪ High population density trigger spread of diseases ▪ Illegal electricity connection and flammable material easily start fires ▪ Crime and drugs-service providers are reluctant to enter ▪ No hygiene ▪ Unplanned street pattern (no street names) makes it difficult for accessibility of health care services etc.	▪ Provision of proper housing e.g. RDP houses ▪ Improve infrastructure e.g. roads ▪ Provide basic services e.g. potable water & sanitation, electricity etc. ▪ Monitoring and policing to maintain safety & security ▪ Implement educational programmes ▪ Provision of formal employment ▪ Provision of emergency facilities e.g. mobile clinics

CASE STUDY ON INFORMAL SETTLEMENT

Thembi Simelane, Minister of Human Settlements, has sent her deepest condolences to the family that lost six family members due to a fire that destroyed their structure at the Marikana informal settlement in Boksburg, City of Ekurhuleni.

The Department of Human Settlements has been inundated with several disasters over the past few weeks, particularly in KwaZulu-Natal and the Western Cape. “The unfortunate incidents in our informal settlements are a clear sign that we should accelerate and invest in the upgrading of informal settlements and commit to finishing all the stalled projects around the country. This will enable qualifying beneficiaries to have access to decent shelter, prevent loss of life and improve the quality of household life,” said Minister Simelane.

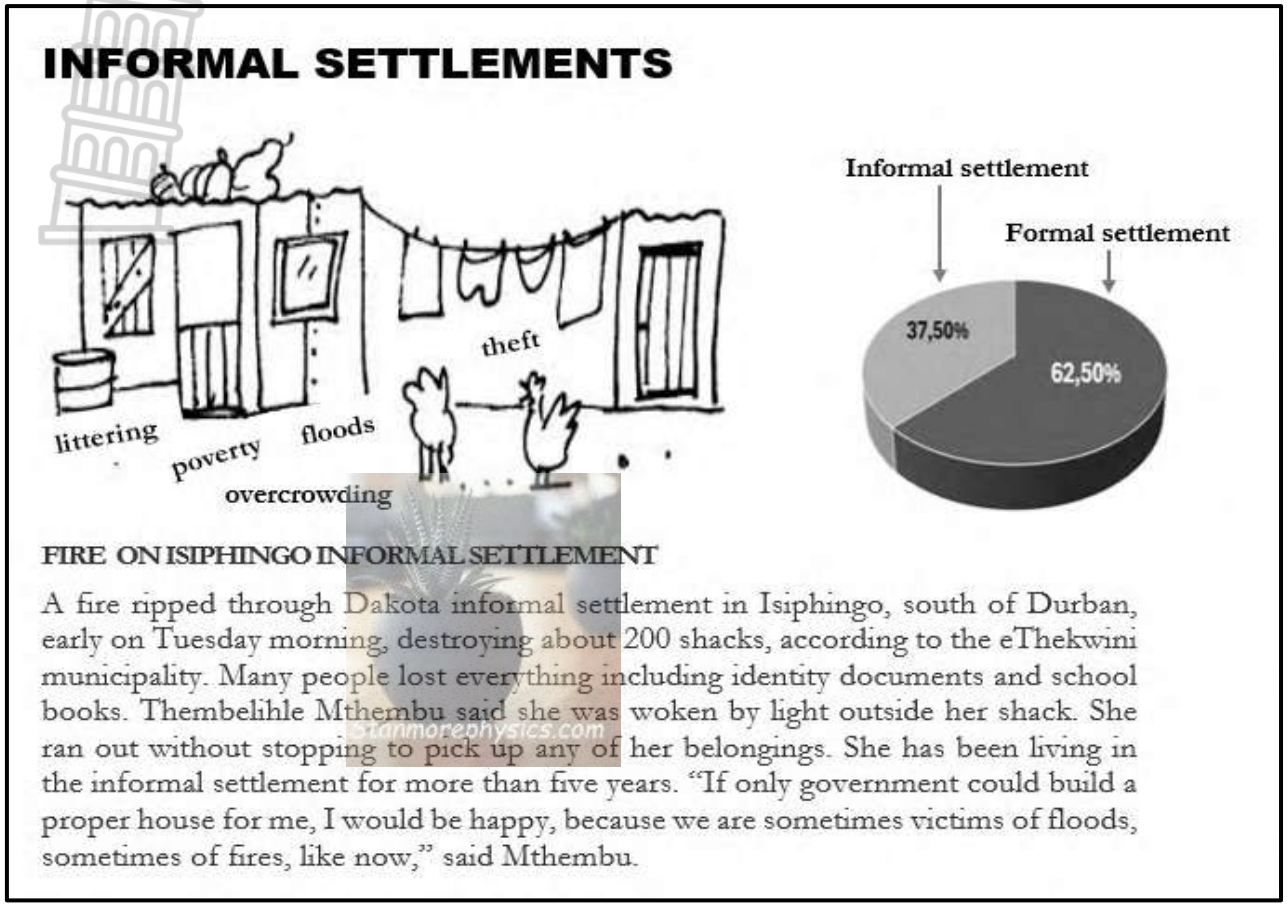


The DHS plans to upgrade just over 4000 informal settlements during the 2024-2029 Medium Term Development Plan (MTDP). Moreover, early this year, Minister Simelane revealed that the department would prioritise finishing 271 BNG blocked projects and 9 distressed social housing projects.Minister Simelane underscored the importance of collaboration among all affected stakeholders in dealing with informal settlements around the country. The affected stakeholders include the government, private sector, NGOs and the community at large.

Simelane has tasked the Emergency Housing Unit, a team responsible for disasters within the Department of Human Settlements, to work with the Gauteng Department of Human Settlements and the City of Ekurhuleni to assist the affected household. Early this morning, the fire destroyed several structures at the Marikana informal settlement, regrettably leaving six people dead.

Source: https://www.gov.za/news/media-statements/minister-thembi-simelane-upgrading-informal-settlements-26-may-2025

3.7. **Activity 3.7**. Refer to the infographic on informal settlements.



[Source: Adapted from https://groundup.org.za/article/200-shacks-destroyed-as-fire-rips-through-isiphingo-informal-settlement/]

3.7.1	Define the concept *informal settlement*.	(1 x 2)	(2)
3.7.2	Name ONE environmental problem (evident from the infographic) associated with informal settlements.	(1 x 1)	(1)
3.7.3	What percentages of people live in informal settlements?	(1 x 1)	(1)
3.7.4.	Quote evidence from the text supporting that people living in informal settlements struggle to access decent housing.	(1 x 1)	(1)
3.7.5.	Explain how the building material (evident from the infographic) could have contributed to the rapid spread of fires at Dakota.	(1 x 2)	(2)
3.7.6.	In a paragraph of approximately EIGHT lines discuss the strategies that could be employed by the eThekwini municipality to improve the lives of people living in informal settlements.	(4 x 2)	(8)

4. THE STRUCTURE OF THE ECONOMY

Definitions and Examples

PRIMARY ACTIVITIES deals with:

- Extraction of raw materials from nature
- Examples: farming, fishing, forestry, mining

SECONDARY ACTIVITIES deals with:

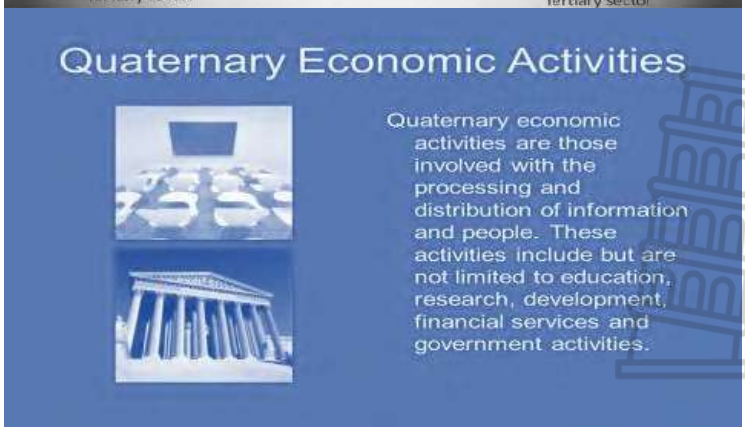
- Adding value to raw materials/ processing of raw materials
- Industries, factories, manufacturing and building

TERTIARY ACTIVITIES deals with:

- Service Industry
- Examples: Distribution, selling, education

QUATERNARY ACTIVITIES deals with:

- Specialised service rendered by professionals
- Examples: Administration, information, research



Refer to FIGURE 4.1 showing contributions selected Economic Activities to South Africa's GDP.

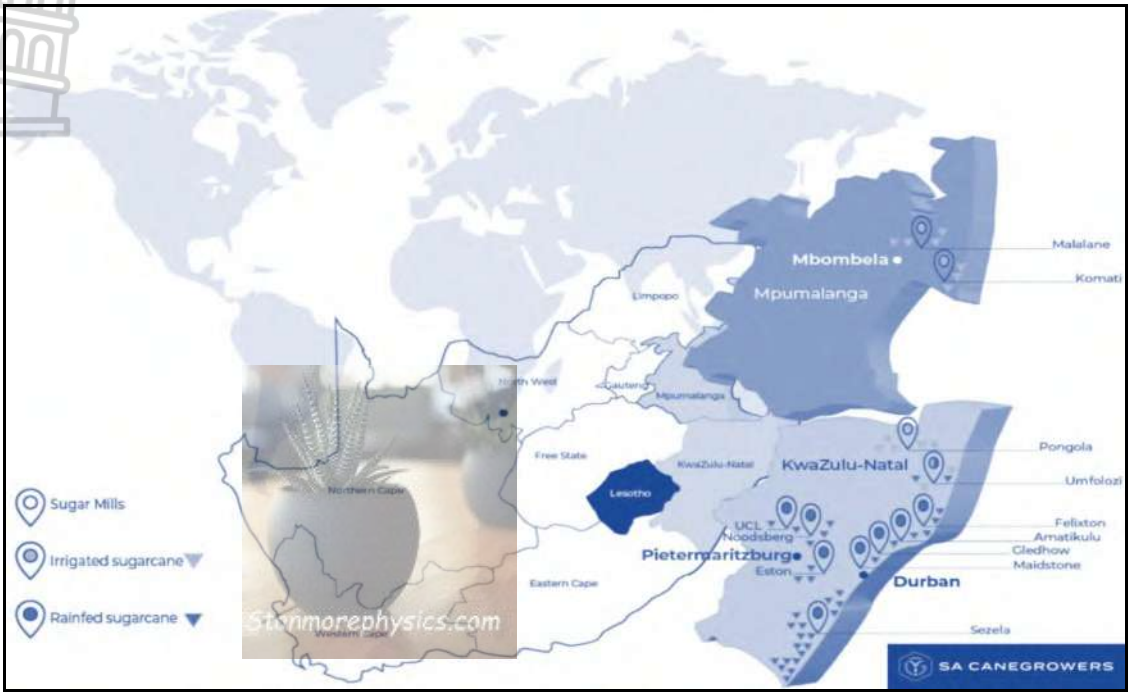
ECONOMIC ACTIVITY	CONTRIBUTION
Agriculture, forestry and fishing	**2,2%**
Mining and quarrying	**4,9%**
Manufacturing	**15,2%**
Electricity, gas and water	**1,8%**
Construction	**3%**
Finance, real estate and business services	**21,5%**
General government services	**13,7%**

[Source:https://www.brandsouthafrica.com/investments-immigration/economynews/sa-economy-key-sectors]

4.1.1	Which economic activity in FIGURE 4.1 contributed the most to South Africa's GDP?	(1 x 1)	(1)
4.1.2	Which economic sector contributed the most to South Africa's GDP?	(1 x 1)	(1)
4.1.3	Explain the contribution of the primary economic sector to the South African economy.	(2 x 2)	(4)
4.1.4	Why is it important to strengthen the secondary sector in South Africa?	(2 x 2)	(4)
4.1.5	Account for the contribution made by electricity, gas and water to the tertiary sector.	(2 x 2)	(4)
			[14]

SUGARCANE FARMING IN SOUTH AFRICA

SOUTH AFRICAN SUGARCANE PRODUCING REGIONS



The main sugar cane producing provinces in South Africa is KwaZulu Natal and Mpumalanga.

FACTORS FAVOURING (PROMOTING)	FACTORS HINDERING (LIMITING)
• Adequate amount of rainfall and permanent rivers ensures availability of water. • Gentle slope allows use of machinery. • Fertile soils (alluvial soils) found in river valleys are highly suitable for sugarcane. • Availability of skilled and unskilled labour. • Access to foreign and local markets	• Climate variability (drought and floods). • Poor infrastructure for transportation and irrigation • High electricity costs affect farmers • Sugar tax reduces demand for sugarcane • Lack of financial support to small-scale farmers • Diseases reduce crop yields • Social unrests (labour strikes) disrupt farming activities
CONTRIBUTION OF SUGARCANE FARMING TO THE ECONOMY OF SA	
• Contribute to the GDP • Creates employment which increases revenue collection • Buying power increases • Attract investments • Promote infrastructure development	

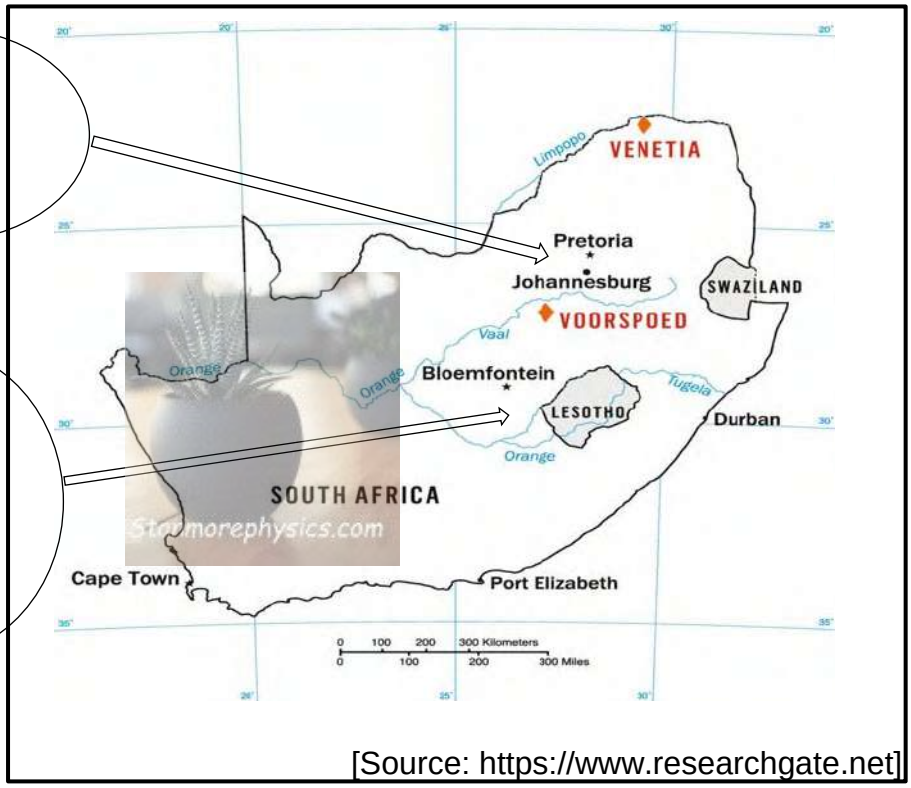
GOLD MINING IN SOUTH AFRICA

- Discovery of gold was a turning point to South African History. It changed South Africa from an agricultural society to the largest producer of Gold in the world.
- Until 2006, South Africa was the largest producer of gold in the world.
- There are 90 gold mines in South Africa. Most gold mines in South Africa are concentrated in the provinces of **Gauteng**, **Free state** and **Northwest**

MAP SHOWING LOCATION OF GOLD MINES IN SOUTH AFRICA

Elandsrand
Randfontein
Kalgold
Doornkop

Tshepong
Masimong 5
Bambanani
Joel
Phakisa
Target



[Source: https://www.researchgate.net]

FACTORS FAVOURING AND HINDERING GOLD MINING IN SOUTH AFRICA

FACTORS FAVOURING	FACTORS HINDERING
▪ Large labour force available. ▪ Modern technology well developed to enter the deep shafts. ▪ Large amount of gold reserves available. ▪ Infrastructure available to transport gold. ▪ Industries available to assist with the safety and machinery needed for blasting (explosives).	▪ Fluctuations in the gold prices in the markets ▪ Strikes and labour problems. ▪ Safety problems/Accidents onsite. ▪ Foreign investors' concern about labour unrest. ▪ Power struggle between labour unions. ▪ Talks of nationalizing the mines bring uncertainty. ▪ Impact of load shedding affects production. ▪ Long transport route to ports increases the transport costs.

CONTRIBUTION OF GOLD MINING TO SOUTH AFRICAN ECONOMY

- Gold mining contribute to the GDP of the country through gold trade
- Gold mining companies pay business tax to the government
- South Africa earns foreign exchange by exporting gold
- Create employment which increase buying power
- Gold mining attract direct foreign investments
- Stimulate growth in other sectors such as secondary sector
- Stimulate the growth of small businesses.

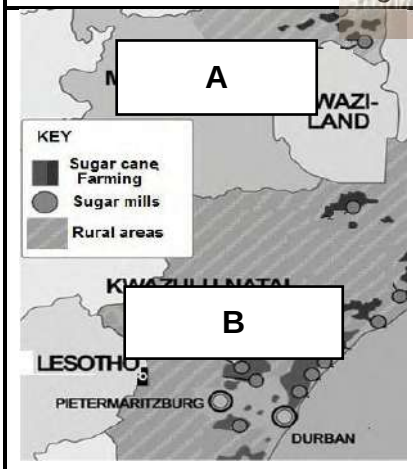
4.2 Refer to the infographic on sugarcane farming and production below.

Sugarcane Production in South Africa.

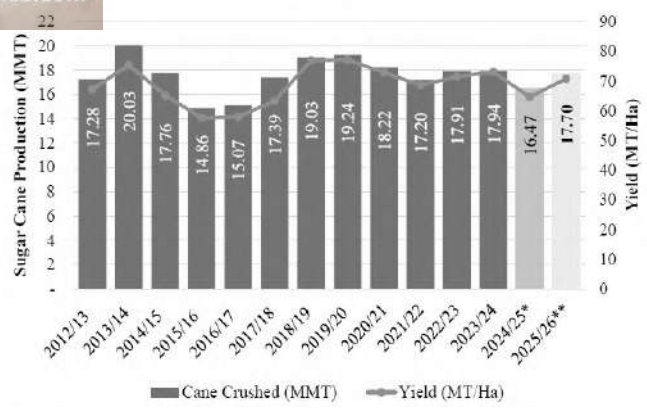
Area under sugarcane production in marketing year (MY) 2025/26 is forecast to remain virtually unchanged from MY 2024/25. Rain-fed growing regions experienced drier than usual conditions in MY 2024/25 which led to lower yields, reducing grower revenue and discouraging area expansion. Some growers replanted newer cane varieties on land previously left fallow due to milling capacity challenges, motivated by cane shortages in MY 2024/25.

Adverse weather events in MY 2024/25 led to a shortage of good quality seed cane for some growers. Additionally, the MY 2024/25 season ended earlier than usual; therefore, growers had an extended period without cash flow from cane production. Another challenge for producers will be a 12.7 percent increase in electricity rates in 2025/26 and a further 5.36 percent and 6.19 percent increase in 2026/27 and 2027/28 respectively. Higher electricity prices will affect the 20 percent of sugarcane production under irrigation and may further limit area expansion over the next few years.

Source: South African Canegrowers Association - www.sacanegrowers.co.za
South African Sugar Association - www.sasa.org.za



[Adapted from farmersweekly.co.za]



Sources: FAS Pretoria using South African Canegrowers Association (SACGA) data
**FAS/Pretoria Estimate **FAS/Pretoria Forecast*

4.2.1	Name the sugarcane producing provinces labelled **A** and **B** on the map.	(2 x 1)	(2)
4.2.2	What is the projected sugarcane production (yield) in the marketing year (MY) 2025/26?	(1 x 1)	(1)
4.2.3	Explain TWO reasons for decline in sugarcane production in 2024/25 marketing year (MY).	(2 x 2)	(4)
4.2.4	Discuss the role of sugarcane farming in improving the standard of living of people in rural areas of provinces **A** and **B**.	(2 x 2)	(4)
4.2.5	Discuss the negative economic impact of the decline in sugarcane production experienced from marketing year 2024/25 in SA.	(2 x 2)	(4)

4.3 Refer to the extract below on sugarcane production in South Africa.

Tax on sugar-sweetened Beverages

The South African government created a sugar tax (dubbed a "health promotion levy") in 2017 with an objective to cut obesity levels. The levy is currently 2.1 cents per gram of sugar content that exceeds 4 grams per 100 ml, or about 10 percent of the price of sugary drinks. In 2020, the government announced an increase in the levy, however, implementation was postponed to April 2023 to allow for engagement with the sugar industry.

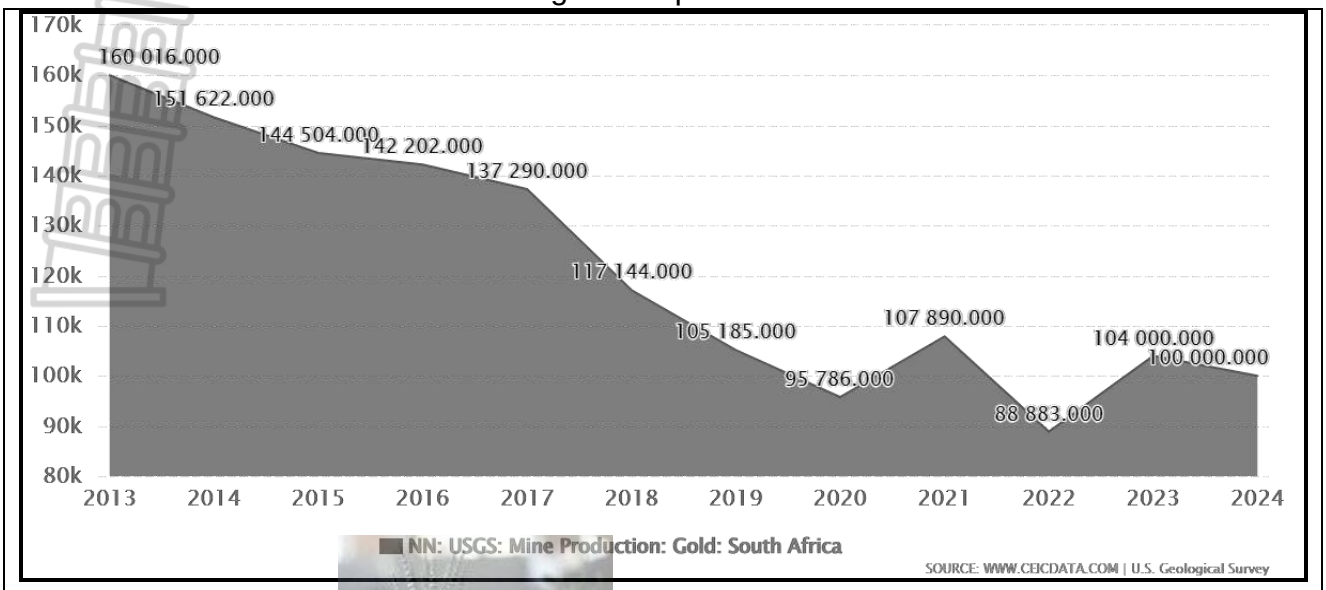
In February 2023, the Minister of Finance announced that increases to the sugar tax would be postponed for another two fiscal years, citing the impact of flooding and social unrest on the sugar industry. On March 12, 2025, the minister of Finance, Enoch Godongwana, announced that the sugar tax will not increase in fiscal year 2025/26.

The South African sugar industry reports that the sugar tax added financial pressure and resulted in a loss of jobs. The minister's decision allows the sugar industry more time to diversify and implement transformation plans.

Sources: South African Canegrowers Association - www.sacanegrowers.co.za
South African Sugar Association - www.sasa.org.za

4.3.1	According to the extract, why the South African government created a sugar tax.	(1 x 1)	(1)
4.3.2	What is the current amount of tax levied on sugar-sweetened beverages	(1 x 1)	(1)
4.3.3	Explain TWO reasons mentioned in the extract for the postponement of sugar tax increase.	(2 x 2)	(4)
4.3.4	Discuss the negative economic impact of sugar tax on small-scale sugarcane farmers in South Africa.	(2 x 2)	(4)
4.3.5	Suggest sustainable strategies that the South African government can implement to strengthen the sugarcane industry in South Africa.	(3 x 2)	(6)

4.4 Refer to the extract below on sugarcane production in South Africa.



South Africa Gold production was reported at 100 000 000kg in December 2024. This records a decrease from the previous figure 104 000 000 kg for December 2023. The fall in gold production has reduced its contribution to the economy of South Africa. At current production levels, it is estimated that gold resources will be exhausted in 33 years.

4.4.1	According to the graph, which year was gold production at its highest in South Africa?	(1 x 1)	(1)
4.4.2	According to extract, it is estimated that gold resources will be exhausted in 33 years. By which year will gold resources be exhausted in South Africa?	(1 x 1)	(1)
4.4.3	Explain ONE possible physical factor that hinders gold mining in South Africa.	(1 x 2)	(2)
4.4.4	Discuss the negative social impact of the decrease in gold production in South Africa.	(2 x 2)	(4)
4.4.5	Evaluate the positive economic impact of gold mining in South Africa.	(3 x 2)	(6)
			[14]

SECONDARY SECTOR

KEY CONCEPTS

Secondary Sector: Deals with processing and manufacturing of raw materials
GDP: Total value of all goods and services produced within a country in one year
GNP: Total value of goods and services produced by the permanent citizens of a country in one year
Formal sector: Registered businesses that are licensed to sell goods or provide services
IDZ: Industrial estates or areas aimed at economic growth and new investment in developing countries

CONTRIBUTION SECONDARY SECTOR TO THE SOUTH AFRICAN ECONOMY

- Contribution to GDP- money is generated in the form of taxes
- Foreign exchange- money from exports are used on imports for development of the country
- Job creation- increases purchasing power of people and improves life quality

TYPES OF INDUSTRIES

Heavy industries	Light industries
Large quantities of raw materials	Small products manufactured
Generates large amount of air and noise pollution	Little pollution generated
Outskirts of settlement	Often close to CBD and suburbs
Close to bulk transport facilities	Road transport used
Uses lots of raw materials and energy	Small areas used
Direct access to road, rail and harbour facilities	No need for rail transport
Heavy machinery	Light machinery
Example: Mittal Steel, oil refining, engineering Iron and steel, power stations, motor vehicle factory	Example industries: clothing panel beating, shoes, furniture, consumer electronics and home appliances. Jewellery, clothes factory, food and beverages
Tends to operate continuously with employees working shifts	Tends to work during office hours

RAW MATERIAL ORIENTATED INDUSTRY

These types of industries are found close to the source of the raw materials that they require. This is usually because transportation costs are high.
For example: Sugar mills are located close to the sugar fields, wood mill

Market Orientated Industry

- These types of industries are located close to the market.
- This is usually because the products are perishable and need to be sold relatively fresh.

For example: baked foods, vegetables and fish products, cheese industry, home industry

Footloose Industry

- These industries can be located anywhere without effect from factors such as resources or transport. Location is not dictated by access to materials or markets.
- It is service orientated and highly skilled people worked in this industry
- It does not need to transport any raw materials and the product is non-perishable (it lasts forever)
- Industries that can locate in any place without being affected by factors such as resources or transport,

For example: a software company, design and research companies

Ubiquitous Industry

- These industries are not located at a particular space on a landscape.
- Industries not tied to a specific source of raw materials or markets.
- Industries found everywhere.
- Involve producers who are inseparable from the immediate markets that they serve.

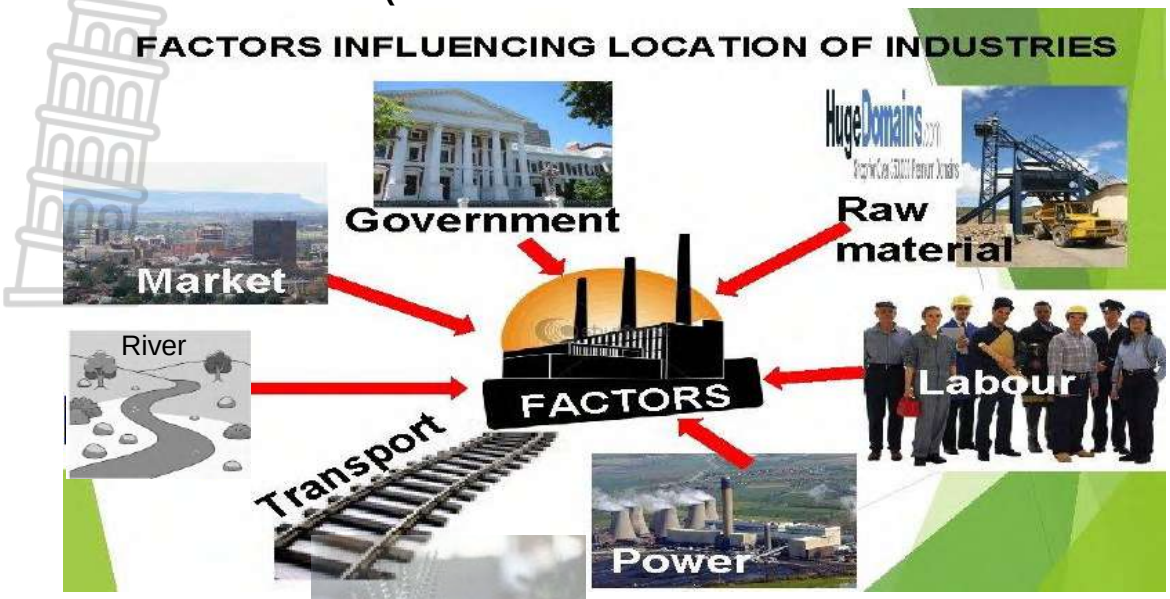
For example: Telkom is a ubiquitous industry because it has lines that cover entire suburbs.
Telecommunication service

Bridge Industry/ Break-of-bulk industry

- Located between source of raw materials and customers/market, where transport type changes.
- Oil is pumped ashore, refined into products and transported to the market

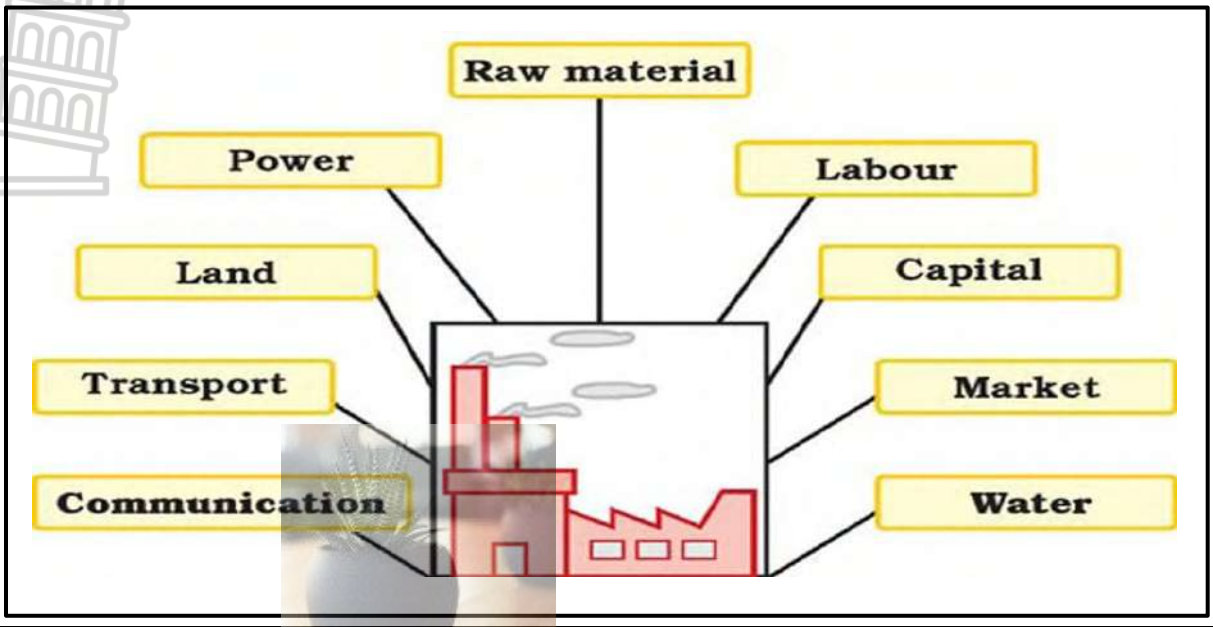
For example: sugar refineries and oil refinery.

FACTORS INFLUENCING (FAVOUR INDUSTRIAL DEVELOPMENT IN SOUTH AFRICA



ECONOMIC FACTORS	**Trade and Competition** • Harbours promote trade by creating a route for export of goods • Access to local and international markets promotes competition and trade **Transport** • The country has a well-developed road and rail network for transportation of goods to markets. • There are four international airports to transport goods to local and international markets. • There is a good railway network that connect the markets to the harbour for export of goods. **Energy supply** • Many industries are located close to the sources of power to reduce the cost of energy.
PHYSICAL FACTORS	**Raw materials** • Availability of a large variety of raw material. • There is a variety of raw material that can be used for food processing. • Different climatic conditions allow for a variety of agricultural products. **Water supply** • Water is used for processing raw material and cooling of machines in industries.
SOCIAL FACTORS	**Labour supply** • Availability of large skilled and unskilled labour force in South Africa.
POLITICAL FACTORS	**Political intervention** • Government has laws and policies which support local industries to grow. • Incentives given to industries **Example**: Spatial Development Initiative (SDIs) and Industrial Development Zones (IDZ)

FACTORS AFFECTION (HINDER) THE LOCATION OF INDUSTRIES



ECONOMIC FACTORS	**Transport** • Road construction is very expensive. • It is costly for companies to export goods. • The railway lines are not sufficient. • Cable theft of power lines cause delay of transported goods. • There is large distance from industries located away from the harbours. **Competition** • Competition from cheaper imported products can destroy local industries • Local industries cannot compete with imported goods from china • Fluctuating rand value creates instability • The cheap Clothes and fabrics brought the SA textile industries to their knees. **Trade** • Trade restrictions and taxes on imports to SA and exports to other countries lead to lower profits. • Trade is often limited due to embargos and cooperation agreements between countries **Energy supply** • Unreliable electricity supply from Eskom disrupts production in industries. • The price of electricity is increasing at a high rate.

SOCIAL FACTORS	**Labour supply** • There is a shortage of skilled labour force. • Labour disputes such as strikes decrease production in companies. • Lack of funding for skills development has not improved the shortage of skilled labour force. • Brain drain results in loss of skilled workers, making it necessary to employ foreigners at high costs • Lack of funding to uplift education results in lack of skilled labour force • Workers demand higher pay by striking which hinders production **Over-concentration** • There are many industries are in the urban areas. • When many industries a concentrated in urban areas it creates a challenge of lack of space.
PHYSICAL FACTORS	**Water supply** • South Africa is a water scarce country and water is used in manufacturing processes. • Companies need a permit from government to use a certain amount of water which limits the capacity to produce goods. • Industries dump waste in rivers and make the water unusable **Raw materials** • When companies use imported goods the products produced are expensive. • The price of imported goods depends on exchange rate makes industries to be unstable. **Air pollution** • The industries cause a lot of noise and air pollution.
POLITICAL FACTORS	**Political interference** • It leads to heavy taxation and restrictions which prevent foreign investment and further development.

FOUR INDUSTRIAL REGIONS OF SOUTH AFRICA

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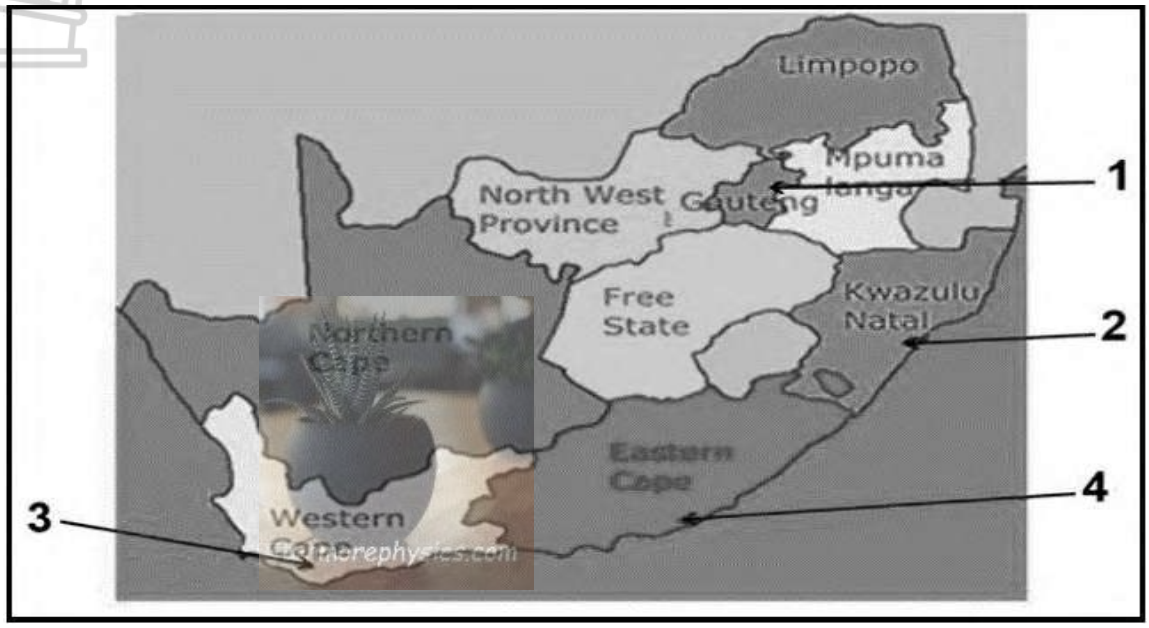
1. PWV/Gauteng
2. Durban-Pinetown / eThekwini
3. South Western Cape
4. Port Elizabeth-Uitenhage / Nelson Mandela Bay



	Main industries	Factors favouring the location of PWV/GAUTENG	Factors hindering location of PWV/GAUTENG
PWV/GAUTENG	- Chemical - Iron and steel - Metal processing - Explosives	- A good transport network e.g. roads, rail and airport - Has skilled and unskilled labour available - Availability of raw materials - Has large market due to high dense population - Relatively flat land	- Labour strikes and protests - Traffic transport - Strain on resources e.g. water supply and electricity supply - Far from the harbours creating more expenses. - Create a lot of air pollution.

<table>
<tr><td></td><td colspan="3">Economic and social impacts of the PWV/Gauteng Industrial Region

• Industries contribute money to the GDP of our country.
• The industries earn foreign exchange when trough the export of machinery.
• The money earned through exports increase the earnings of the regions.
• Local people and the rest of the country (both skilled and unskilled) benefit by getting employment in the region.
• The industries serve as a market for the local raw material.
• Some companies reinvest in communities by providing bursaries and skills development.</td></tr>
<tr><td></td><td>Main industries</td><td>Factors influencing location of DURBAN-PINETOWN</td><td>Factors hindering location of DURBAN-PINETOWN</td></tr>
<tr><td rowspan="2">DURBAN-PINETOWN</td><td>- Paint manufacturing
- Oil and sugar refining
- Ship building
- Food and drink
- Textiles
- Footwear
- Soap making</td><td>- Good transport network to access the markets including a harbour, and King Shaka international airport.
- Enough water supply for the industries and to generate electricity.
- Access to the domestic and international markets.
- High population to serve as the markets and as labourers.
- Availability of raw materials (such as sugar cane) to support the industries.
- Availability of institutions of higher learning to equip labourers with skills.</td><td>- Limited household levels of production (Agriculture and other primary sectors).
- High levels of unemployment to support industrial development.
- Low household income levels.
- Limited access to social facilities.
- Limited transport infrastructure.</td></tr>
<tr><td colspan="3">Economic and Social Impacts of the Durban-Pinetown (eThekwini)
• Development of industrial area for vegetable market especially fruit market.
• Development of a hub for automotive parts and car assembly.
• Development of the tyre and textile industry.
• Ensure safety and security across the area.</td></tr>
</table>

4.5	Match the description from Column A with the term from Column B. Write down only the letter from next to the question number in your answer book.		

	COLUMN A	COLUMN B
4.5.1	Over-concentration of industries in a few core areas	A Heavy industries
4.5.2	The largest industrial core areas in South Africa	B Footloose industries
4.5.3	Industries that can locate anywhere due to improved technology	C Market orientated
4.5.4	Industries that produce perishable	D Centralisation
4.5.5	These industries are associated with high air and noise pollution	E. Bridge industry
4.5.6	Industries that are located between the source of raw materials and the customer,	F PWV/Gauteng
4.5.7	Registered businesses that are licensed to sell goods or provide services	G Infrastructure
4.5.8	Roads, railway, communication	H Formal sector

(8 x 1) (8)

4.6	Refer to the case study on Durban-Pinetown region below and answer the questions. Case study on the manufacturing sector in the Durban-Pinetown region	

MANUFACTURING SECTOR

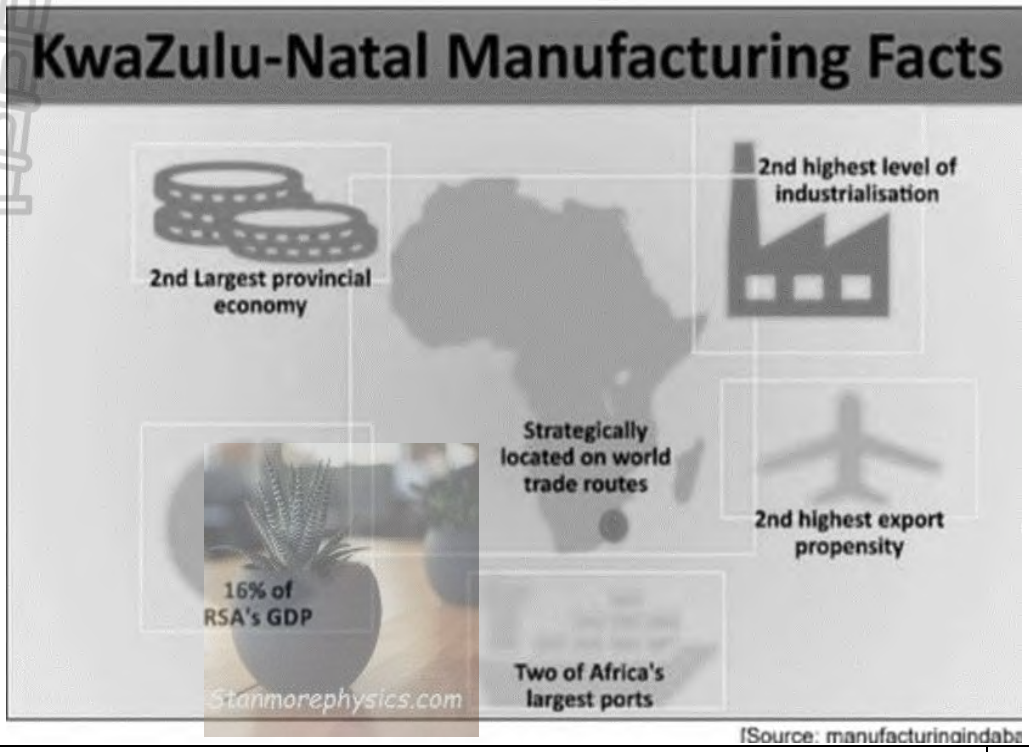
The Durban-Pinetown Industrial Region is the second largest in the country, after PWV/Gauteng. The manufacturing sector is geared for export, with nearly a third of South Africa's manufactured exports being produced in KwaZulu-Natal. Its diversified nature is significant in the KwaZulu-Natal's economic growth rate, and generates 20 per cent of provincial employment.

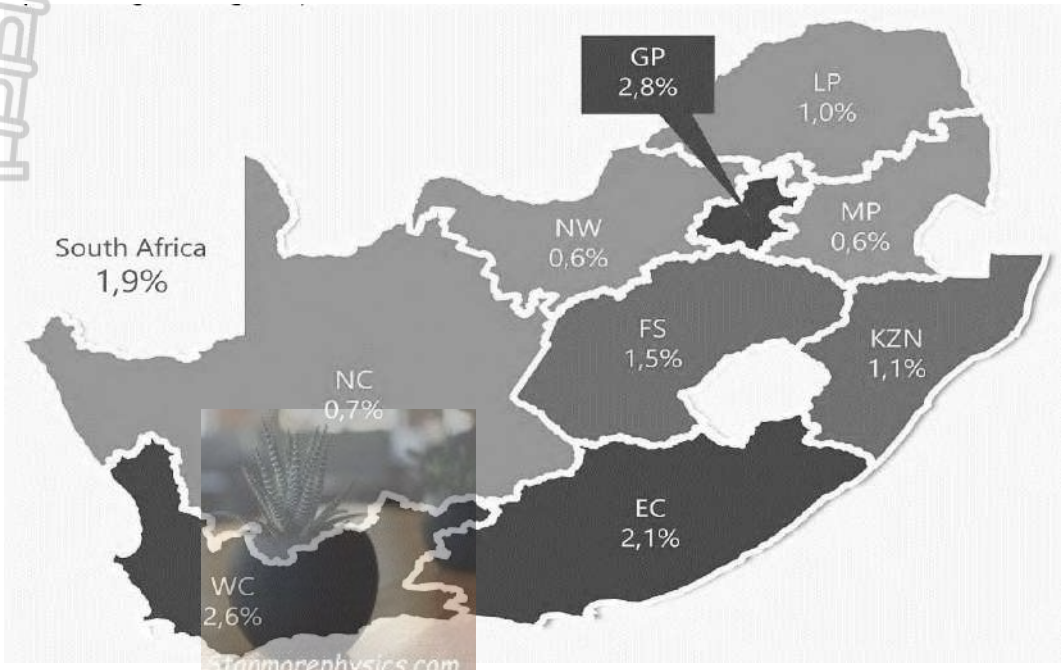
The largest manufacturing industries are the automobile and component sector, pulp and paper products, chemicals and petrochemicals, and food and beverages.

The Durban-Pinetown Industrial Region has a competent shipbuilding and repair sector with an excellent skills base. Over the years a variety of ocean going vessels have been built as well as renowned luxury motorised yachts. At present the shipbuilding industry has good basic infrastructure. There are immense possibilities around the Durban shoreline, especially in the construction of ships or parts. World demand for ships is on the increase and such an investment would create many jobs in the area.

[Source: https://askfilo.com/user-question-answers-smart-solutions/read-the-case-study-below-based-on-durban-pinetown-33353932313036 37]

4.6.1	Where would you rank Durban-Pinetown in terms of industrial output in South Africa?	(1 x 1)	(1)
4.6.2	Quote evidence from the passage to show that secondary economic activities make a big contribution to the GDP.	(1 x 1)	(1)
4.6.3	In a paragraph of approximately EIGHT lines, discuss the positive impact of the Durban-Pinetown Industrial Region on the economic development in KwaZulu-Natal.	(4 x 2)	(8)
4.7	Refer to the extract on the PWV/Gauteng industrial Region **SOUTH AFRICA'S ELECTRICITY WOES CONTINUE TO PLACE MANUFACTURING IN THE GAUTENG (PWV) CORE INDUSTRIAL REGION AT RISK** The lack of reliable electricity supply is not only leading to lost production and increased costs across South Africa's shrinking manufacturing sector, but has left enterprises unable to plan, invest and grow. The region was at a 'tipping point' and at risk of becoming a 'rust belt', with significant plant closures, rising unemployment and crime, as well as low rates of local and foreign investment. However, the Gauteng (PWV) core industrial region has cemented its status towards being the capital of SA's motor vehicle manufacturing industry by launching its first automotive special economic zone (SEZ). The automotive vehicle manufacturer Ford Motor Company will see at least R3.6bn in projected investment being pumped into the project. The first phase of the project was set to create almost 7,000 direct jobs. [Source: https://www.engineeringnews.co.za/article/south-africas-electricity-woes-continue-to-place-manufacturing-at-risk-2021-10-19]		
4.7.1	What energy source has led to the Gauteng/PWV core industrial region declining?	(1 x 1)	(1)
4.7.2	State TWO economic problems that the manufacturing industry is facing, according to the extract.	(2 x 1)	(2)
4.7.3	What is the role of the automotive industry in stimulating the growth of other industries in the region?	(1 x 2)	(2)
4.7.4	Explain how energy provision may become a major challenge for the automotive special economic zone (SEZ), which is located in the PWV/Gauteng core industrial region in the next three years.	(2 x 2)	(4)
4.7.5	Explain why the PWV/Gauteng Industrial Region is a preferred destination for Ford Motor Company international investors.	(3 x 2)	(6)

4.8	Study Infographic which shows some basic facts about the KwaZulu-Natal economy.		
			
4.8.1	List TWO factors that promote and TWO factors that limit economic development in KZN.	(4 x 1)	(4)
4.8.2	Explain ONE advantage that may result from industrial agglomeration (centralisation).	(1 x 2)	(2)
4.8.3	Suggest TWO ways in which transport infrastructure influences the location of economic activities in KZN.	(2 x 2)	(4)

4.9	Study the map which shows the percentage contribution to the South African GDP per province.		
	 Source: statsa.gov.za		
4.9.1	Define the concept *Gross Domestic Product (GDP)*	(1 x 2)	(2)
4.9.2	Which province contributed the most in the South African economy?	(1 x 1)	(1)
4.9.3	Explain ONE limitation to economic development in Gauteng.	(1 x 2)	(2)
4.9.4	Discuss TWO factors favouring industrial development in Gauteng.	(2 x 2)	(4)
4.9.5	Suggest the role government can play in promoting economic development in Gauteng.	(3 x 2)	(6)

STRATEGIES FOR INDUSTRIAL DEVELOPMENT

THE GOOD HOPE PLAN

The Good Hope Plan was a regional development strategy implemented in South Africa during the apartheid era (1982). It aimed to **decentralize industrial activities,** particularly around designated "homelands," **to create jobs and improve living conditions** in those areas. The plan was largely **motivated by political rather than purely economic considerations, seeking to confine Black South Africans to specific territories.** The plan led to an unbalanced economy with limited downstream manufacturing and a dependence on resource exports.

THE GROWTH, EMPLOYMENT AND REDISTRIBUTION (GEAR)

The Growth, Employment and Redistribution (GEAR) strategy was a macroeconomic policy adopted by the South African government in June 1996. It aimed to achieve faster economic growth, create jobs, and redistribute wealth. GEAR replaced the Reconstruction and Development Programme (RDP) and focused on fiscal discipline, trade liberalization, and privatization.

THE RECONSTRUCTION AND DEVELOPMENT PROGRAMME (RDP)

The Reconstruction and Development Programme (RDP) was a South African socio-economic policy framework launched in 1994. Its primary goal was to address the deep-seated inequalities and socio-economic challenges inherited from apartheid, focusing on improving living conditions, providing basic services, and promoting economic development for all South Africans.

THE INDUSTRIAL DEVELOPMENT ZONES (IDZs)

The Industrial Development Zones (IDZs) are purpose-built industrial estates, linked to an international port or airport, which have been specifically designated for new investment by export-oriented industries and related services.

Dube Trade Port is an Industrial Development Zone (IDZ) located near King Shaka International Airport in KwaZulu-Natal, South Africa. It's designed as a multi-modal logistics platform connecting road, rail, sea, and air transport, and aims to promote local and international trade, attract investment, and boost economic development.

SPATIAL DEVELOPMENT INITIATIVES (SDIs)

Spatial Development Initiatives (SDIs) are a type of development strategy focused on **targeted geographic areas, often along transportation corridors**, to stimulate economic growth and attract investment. They aim to unlock the economic potential of specific locations by improving infrastructure, promoting private sector investment, and creating jobs.

The Maputo Development Corridor (MDC) is a Spatial Development Initiative (SDI) **focused on improving the transport infrastructure and economic integration between South Africa and Mozambique,** particularly between the Gauteng and Mpumalanga provinces in South Africa and the port of Maputo in Mozambique. **It aims to reduce transport costs**, **stimulate economic growth,** and **maximize regional investment opportunities** by rehabilitating road, rail, port, and border crossing infrastructure.

THE DUBE TRADE PORT

4.10 Study the satellite image and the extract below of the Dube Trade Port and answer the questions that follow.

Dube Trade Port Special Economic Zone offers globally integrated logistics and manufacturing infrastructure, together with support for a range of airport-related activities including cargo operations, warehousing, agriculture and commercial real estate for office, retail and hospitality.

The benefits associated with operating within this Special Economic Zone (SEZ) are designed to promote business growth, revenue generation, employment creation, the export of value-added commodities and the attraction of both foreign and local investment — all of which enhance South Africa's manufacturing and export capabilities.

[Source: https://mg.co.za/article/2020-01-30-dube-tradeport-a-world-class-industrial-and-commercial-precinct/]

4.10.1	Identify the province where the Dube Trade Port IDZ is located.	(1 x 1)	(1)
4.10.2	Explain TWO positive social impact of the Dube Trade Port IDZ for the people of KwaZulu Natal.	(2 x 2)	(4)
4.10.3	Discuss the significance of the Dube Trade Port IDZ for both local and international trade.	(2 x 2)	(4)
4.10.4	Discuss THREE ways in which the location of the Dube Trade Port IDZ strengthens international trade for South Africa.	(3 x 2)	(6)
			[15]

THE DUBE TRADE PORT

4.11 Study the extract on the the Dube Trade Port below and answer the questions that follow.

Dube Trade Port Special Economic Zone

VISION

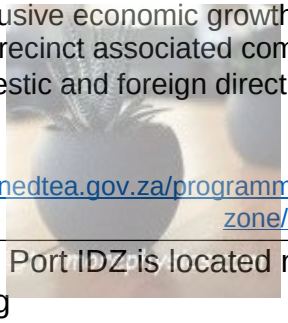
To be the leading global manufacturing and air logistics platform in Southern Africa, seamlessly integrated with inter- modal road, rail and sea infrastructure.

CORE FUNCTIONS

The organisation is mandated by the KwaZulu - Natal Provincial Government to drive the development of Dube Trade Port Special Economic Zone, a highly competitive business operating environment and home to King Shaka International Airport. The core functions include:

- To facilitate inclusive economic growth and job creation by developing the Dube Trade Port industrial precinct associated commercial zones and air logistics platform.
- To attract domestic and foreign direct investment to the province and facilitating imports and exports.

[Source:https://www.kznedtea.gov.za/programmes/public-entities/dube-trade-port-special-economic-zone/index.htm]



4.11.1 The Dube Trade Port IDZ is located near which major city?

(A) Johannesburg
(B) Durban
(C) Cape Town
(D) Port Elizabeth

4.11.2 The primary purpose of the Dube Trade Port IDZ is to…

(A) promote entertainment
(B) enhance agricultural exports
(C) facilitate trade and logistics
(D) develop residential housing

4.11.3 Dube Trade Port includes which of the following aspects?

(A) An airport and a port
(B) An industrial park and a logistics hub
(C) A shopping mall and a hotel
(D) A sports stadium and a convention centre

4.11.4 One of the key sectors benefiting from the Dube Trade Port IDZ is…

(A) mining
(B) manufacturing and logistics
(C) fishing
(D) tourism

4.11.5	Describe the strategic importance of the Dube Trade Port IDZ for South Africa's economy.	(1 x 2)	(2)
4.11.6	Identify TWO key infrastructure projects associated with the Dube Trade Port and explain their significance.	(2 x 2)	(4)
4.11.7	Discuss the impact of Dube Trade Port on employment in the region.	(1 x 2)	(2)
4.11.8	How does the Dube Trade Port IDZ enhance South Africa's position in global trade?	(2 x 2)	(4)
4.11.9	Evaluate the positive and negative socio-economic impacts of the Dube Trade Port IDZ on the local communities and the broader KwaZulu-Natal province.	(3 x 2)	(6)
			[22]

MAPUTO DEVELOPMENT CORRIDOR

4.12 Study the extract on the the Dube Trade Port below and answer the questions that follow.

The Maputo Development Corridor (MDC) is a Spatial Development Initiative (SDI) focused on improving infrastructure and trade between South Africa and Mozambique, particularly linking the Gauteng province and the port of Maputo. It involves investments in roads, railways, and border facilities to enhance transportation and lower trade barriers. The MDC is considered a flagship SDI and a model for other similar initiatives in the region.

[Source: https://www.google.com/search?q=maputo+development+corridor+sd]

4.12.1 The Maputo Development Corridor primarily connects which two countries?

(A) South Africa and Mozambique
(B) Zimbabwe and Mozambique
(C) South Africa and Swaziland
(D) South Africa and Tanzania

4.12.2 The MDC was established to enhance…

(A) tourism
(B) trade and transport
(C) agricultural production
(D) environmental conservation

4.12.3 Which city is considered the endpoint of the MDC in Mozambique?

(A) Johannesburg
(B) Maputo
(C) Pretoria
(D) Beira

4.12.4 One of the key infrastructure projects within the MDC includes…

(A) a railway line
(B) a hydroelectric dam
(C) a new airport
(D) a national park

4.12.5	Explain the significance of the Maputo Development Corridor for regional trade.	(2 x 2)	(4)
4.12.6	Identify and describe two major economic activities that benefit from the Maputo Development Corridor.	(2 x 2)	(4)
4.12.7	Discuss one environmental concern associated with the development of the Maputo Development Corridor.	(1 x 2)	(2)
4.12.8	How has the Maputo Development Corridor impacted the local communities along its route?	(2 x 2)	(4)
4.12.9	Discuss the positive and negative socio-economic impacts of the Maputo Development Corridor on Mozambique and South Africa.	(2 x 2)	(4)
			[22]

ACTIVITY 4.13 RELATED CONCEPTS

4.13.1	The Good Hope Plan primarily aimed to… (A) promote tourism (B) support smallholder agriculture (C) encourage industrial development in specific regions (D) strengthen the mining sector	(1 x 1)	(1)
4.13.2	The RDP was introduced as a means to… (A) Focus exclusively on urban development (B) Address the socio-economic challenges post-apartheid (C) Reduce government intervention in the economy (D) Promote tourism and hospitality	(1 x 1)	(1)
4.13.3	GEAR was implemented to… (A) limit foreign investment (B) focus solely on rural development (C) create a macroeconomic framework for growth and job creation (D) increase agricultural output	(1 x 1)	(1)
4.13.4	The SDI strategy is aimed at… (A) improving service delivery in urban areas only (B) promoting economic development in underdeveloped regions through infrastructure (C) concentrating industries in major cities (D) increasing tariffs on imports	(1 x 1)	(1)

4.13.5	Industrial Development Zones (IDZs) are designed to… (A) attract foreign investment and promote export-oriented industries (B) support local farming initiatives (C) centralize all industrial activity in urban areas (D) focus on the mining sector exclusively	(1 x 1)	(1)
4.13.6	Describe the main objectives of the Reconstruction and Development Programme (RDP) in the context of industrial development.	(1 x 2)	(2)
4.13.7	Explain how the Growth, Employment and Redistribution (GEAR) strategy aims to address unemployment in South Africa.	(1 x 2)	(2)
4.13.8	What is the significance of Spatial Development Initiatives (SDIs) in enhancing economic growth in underdeveloped areas.	(1 x 2)	(2)
4.13.9	Discuss the role played by decentralization in promoting industrial development in regional areas of South Africa?	(2 x 2)	(4)
			[15]

TERTIARY SECTOR

What is International Trade?

[Adapted from https://www.google.com/search?tbm]

What are imports and exports?

- Imports are goods that are brought into a country.
- Exports are goods that are shipped out of a country.

INTERNATIONAL TRADE

ADVANTAGES

- Disposal of surplus goods
- Optimal use of natural resources
- Access to foreign currency
- Larger variety of goods available
- Better quality of goods
- Closer ties between countries
- More exchange of technical knowledge
- Development of transport and communication
- Increase in salaries
- Increase in employment
- Competition, both internationally and locally

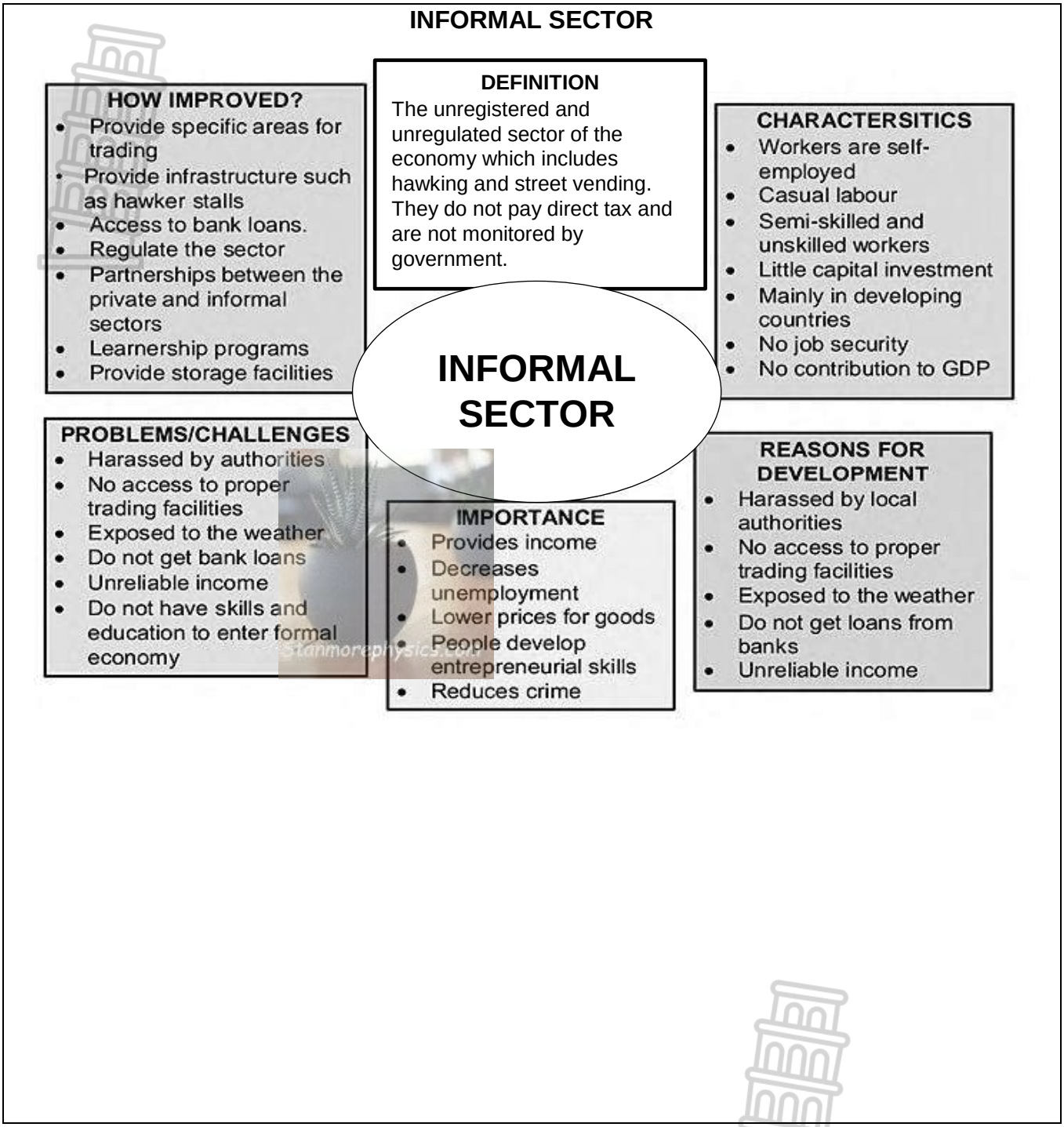
DISADVANTAGES

- Dependence on developed countries
- Local production can suffer
- Local industries overshadowed
- Rich countries may influence political matters in other countries
- Rivalries amongst nations

The role of Transport inthe Economy of SouthAfrica

- Provides access to different locations
- Opens access to new markets
- Increases domestic and international trade
- Develops of less developed areas in the country
- Reduces costs in many economic sectors
- Improved business efficiency

INFORMAL SECTOR

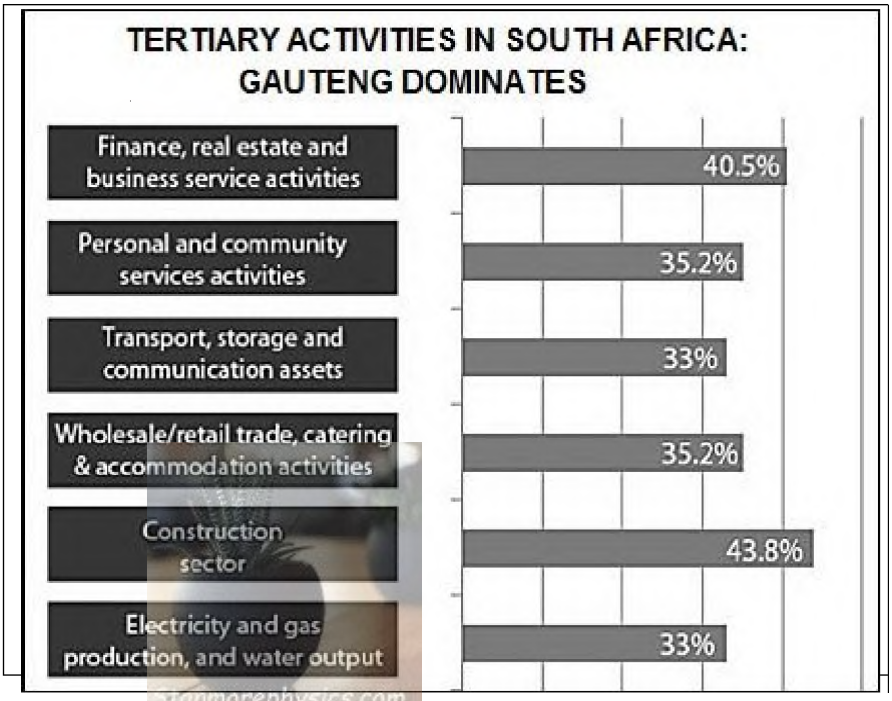


4.14 Refer to the cartoon showing the role of international trade in the South African economy.

[Source: www.google/Business Day; 26 January 2017]

4.14.1	What is *international trade?*	(1 x 2)	(2)
4.14.2	Name the product that is being imported into South Africa in large quantities	(1 x 1)	(1)
4.14.3	Which government department is represented as the referee in the cartoon?	(1 x 1)	(1)
4.14.4	Explain why the cartoon suggests that the fight cannot be nice, clean and fair.	(1 x 2)	(2)
4.14.5	Name ONE way in which cheap imports negatively impact on the GDP of South Africa.	(1 x 2)	(2)
4.14.6	Suggest TWO possible measures to reduce South Africa's reliance (dependence) on cheap imports.	(2 x 2)	(4)
			[12]

Study FIGURE **4.15** showing the percentage of Gauteng's activities in the tertiary sector in South Africa.



[Source: http://www.fin24.com/Entrepreneurs/News/Gauteng-the-top-dog-for-years-to- come-20140703]

4.15.1	Define the concept *tertiary economic activities*.	(1 x 2)	(2)
4.15.2	Which tertiary activity in Gauteng contributes the most to South Africa's economy.	(1 x 1)	(1)
4.15.3	Give a reason for the economic activity that contributes the highest percentage to the tertiary sector.	(1 x 2)	(2)
4.15.4	Comment on the contribution by the tertiary sector of Gauteng to the economy of South Africa, based on the information in FIGURE 4.15	(1 x 2)	(2)
4.15.5	Why is it preferable for a country to have a stronger tertiary sector than a primary sector?	(2 x 2)	(4)
4.15.6	Explain the role that transport plays in strengthening the tertiary sector in Gauteng.	(2 x 2)	(4)
			[15]

4.16 INFORMAL SECTOR

INFORMAL FOOD SECTOR MAKES UP TO 40% OF FOOD MARKET

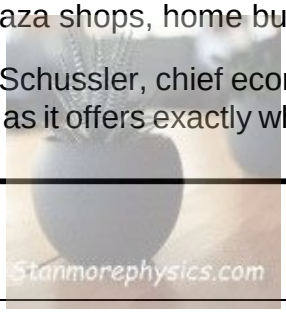
May 2, 2018

South Africa's informal food sector makes up at least 40% of the food market, meaning that it contributes notably to the economy, while providing consumers with easy access to food.

According to Efficient Group, the informal food, sector is valued at about R404 billion, with the formal food sector holding the other 60% of the market. Collectively the market is worth R1,02 trillion. Informal food sector is mostly comprised of small businesses like spaza shops, home businesses and street vendors.

According to Mike Schussler, chief economist at Economists.co.za, the informal sector is important as it offers exactly what people need – cheap food near them.

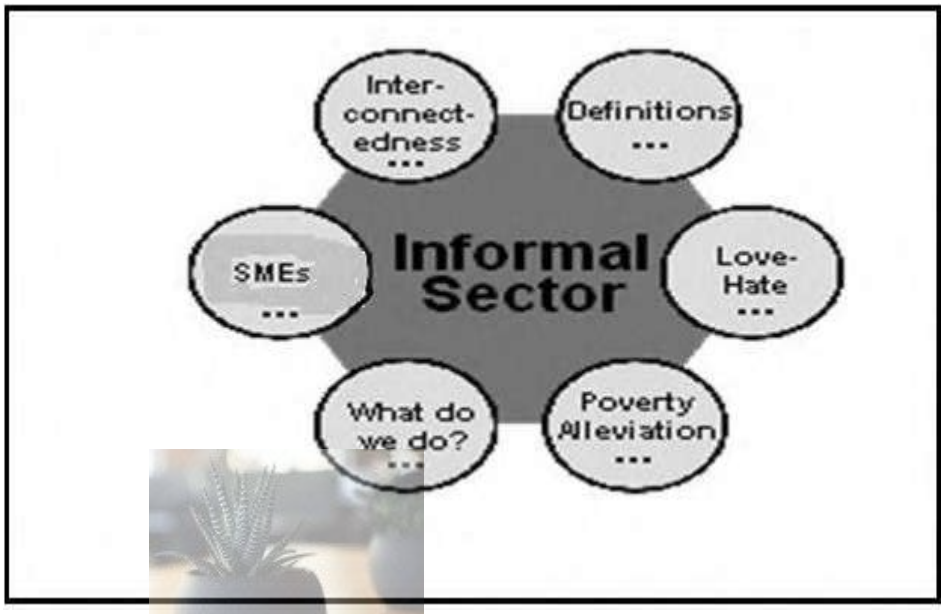
[Source: Adapted from: *Bloemfontein Courant*]



4.16.1	Define the concept *informal sector*.	(1 x 2)	(2)
4.16.2	Give an example of informal food sector.	(1 x 1)	(1)
4.16.3	How much, according to the article, is the food sector valued at?	(1 x 1)	(1)
4.16.4	Quote from the extract, pieces of evidence showing that the informal food sector contributes notably to the economy.	(2 x 1)	(2)
4.16.5	Explain challenges faced by the informal traders.	(2 x 2)	(4)
4.16.6	Suggest ways in which South African government can help strengthen the informal food sector.	(3 x 2)	(6)
			[16]

FIGURE 4.17 INFORMAL SECTOR

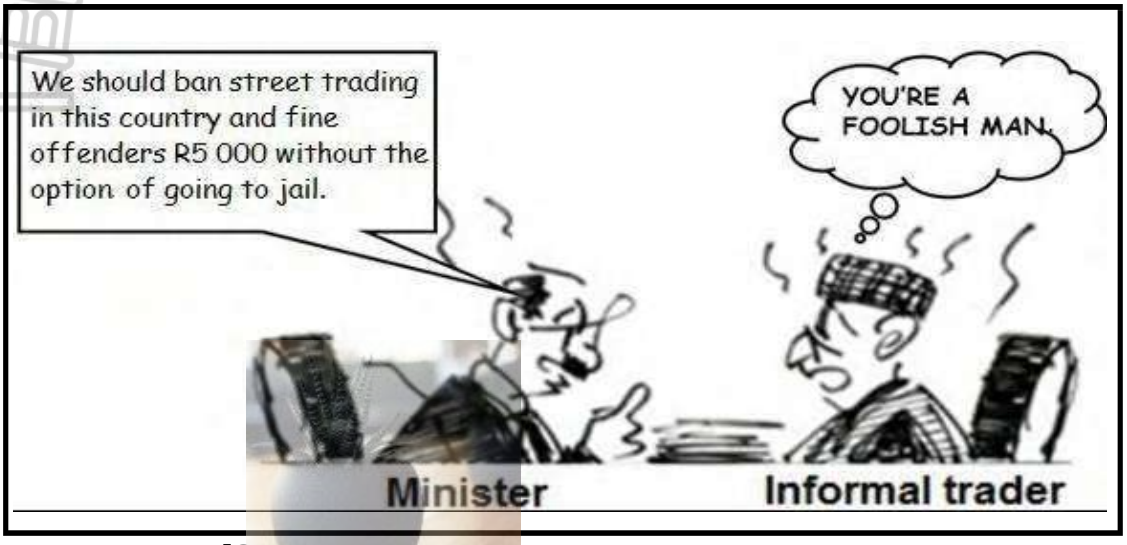
FIGURE 4.17 is a source based on the informal sector.



4.17.1	What is an *informal trader*?	(1 x 2)	(2)
4.17.2	State the reason given in the source as to why people become informal traders.	(1 x 1)	(1)
4..17.3	Suggest 'rights and protection' that informal traders are possibly denied.	(2 x 2)	(4)
4.17.4	How can the government improve the working conditions under which informal traders operate?	(2 x 2)	(4)
4.17.5	Explain the economic 'interconnectedness' (relationship) between the formal and informal sector.	(2 x 2)	(4)
			[15]

THE INFORMAL SECTOR

Refer to FIGURE 4.18, a cartoon based on the informal sector and answer the questions that follow.



[Source: https://images.app.goo.gl/mrNK8AG4su1DBbdj8]

4.18.1	Define the concept *informal sector.*	(1 x 2)	(2)
4.18.2	What evidence in the cartoon indicates that the minister is not in favor of the informal sector?	(1 x 1)	(1)
4.18.3	Suggest a possible reason for the minister not wanting informal street trading taking place.	(1 x 2)	(2)
4.18.4	Explain why the informal sector is important for the informal trader.	(2 x 2)	(4)
4.18.5	In a paragraph of approximately EIGHT lines, discuss reasons for the growth of the informal sector in South Africa.	(4 x 2)	(8)
			[17]