

### PAPER 1: THEORY

#### 1. CLIMATE AND WEATHER

##### 1.1 Changes in Energy Balance

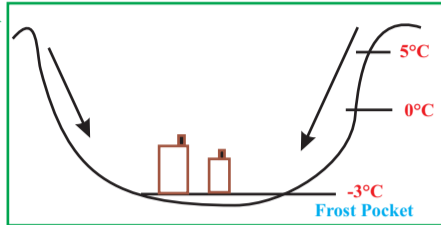
- Explain the following terms:
  - Global Warming
  - Greenhouse Effect
- Describe any three causes of **Global Warming**.
- Explain 3 ways in which Global Warming can pose a **challenge** to our **future survival** on Earth.
- As a member signatory of the **Kyoto Protocol**, what measures can you suggest to help **reverse the effects** of Global Warming in South Africa?

##### 1.2 Climates at Regional and Local Scales

##### 1.2.1 Anabatic and Katabatic Winds

Study the diagrams below to answer the questions set:

Sketch A



- Identify the winds in sketch A. Give a reason for your answer.
- Describe briefly how they form.
- Explain fully the **impact of such winds** on farming on the valley floor.
- Land prices increase away from the valley floor. How does this affect **residential land-use** in the area?

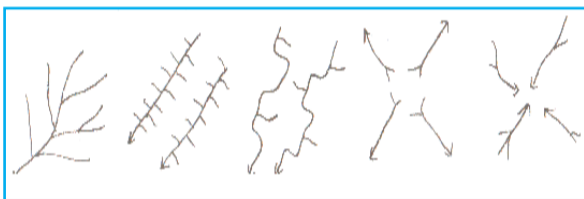
##### 1.2.2 Urban climates

- Why is urban climates referred to as '**Human-made**' climates?
- Define the terms **heat island** and **dust dome**.
- Describe **four factors** that result in the city experiencing **higher temperatures** than the surrounding rural regions.

#### 2. FLUVIAL PROCESSES AND LANDFORMS

##### 2.1 Stream Patterns, Profiles and Features

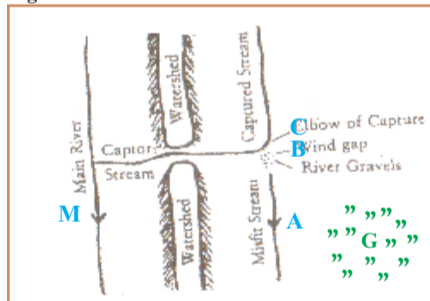
- Identify the stream patterns below and state the type of underlying rock in each case.



- Differentiate between a **longitudinal** and **cross** profile of a river.
- State two characteristics of the longitudinal profile of a river.
- Of what benefit is the **cross profile** of a river to a civil engineer?
- An ungraded river profile is **concave** in shape. Do you agree? Give a reason.
- Draw simple labelled sketches to show the difference between a **river island** and a **braided stream**.
- Illustrate the formation of an ox-bow lake.

##### 2.2 River Capture

Study the diagram below...



- Identify the following features in the diagram below: C, B, A.
- Explain the effect of **stream piracy** on:
  - The volume and velocity of flow in stream M
  - Farming in region G

##### 2.3 Topography associated with Horizontal Rocks

Study the sketch below...

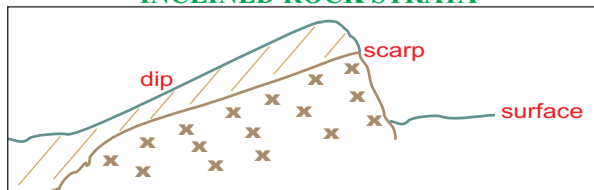


- Define the terms **backwasting** and **mass wasting**.
- Identify features A, B and E.
- State any two common characteristics of the above features (A, B and E).
- Describe briefly how B evolves into feature E.
- Illustrate the four slope elements contained by feature B.
- Which slope element is D? Of what significance is this slope element to farming in the area?

##### 2.4 Topography associated with Inclined Rock Strata

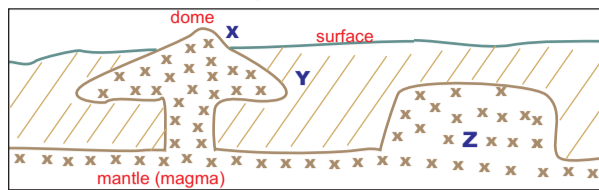
- Identify the feature below.
- Describe the formation of the underlying rock.
- Differentiate between the dip and scarp slopes that form this feature.

#### INCLINED ROCK STRATA



##### 2.5 Features associated with Massive Igneous Rocks

Look at the sketches carefully in the next column and then...



- Identify from the diagrams the following:
  - Batholith
  - Laccolith
  - Dome
- Define a **tor**.
- Explain briefly how they form.
- State a **significance** of tors.

#### 3. PEOPLE AND PLACES

##### 3.1 Refer to the diagrams/sketches showing six settlements below and then answer the questions set:



- Define the term **settlement**.
- Which of the six settlements is most likely to be a **rural settlement**? Explain your answer.
- Classify settlement D according to its shape.
- Why did D assume the shape (mentioned above)?
- Settlement D shows a **dry-point settlement**. Do you agree? Explain.
- The river passing through the settlement is both a **threat** and a **necessity**. Explain.
- Give a possible reason for the **rectangular morphology** of the farms in C.
- Describe any **2 advantages** of living in settlement F.
- Settlements B and E are classified as **central place towns**. What is a central place?

##### 3.2 Study the diagram below showing land-use in a large urban settlement.

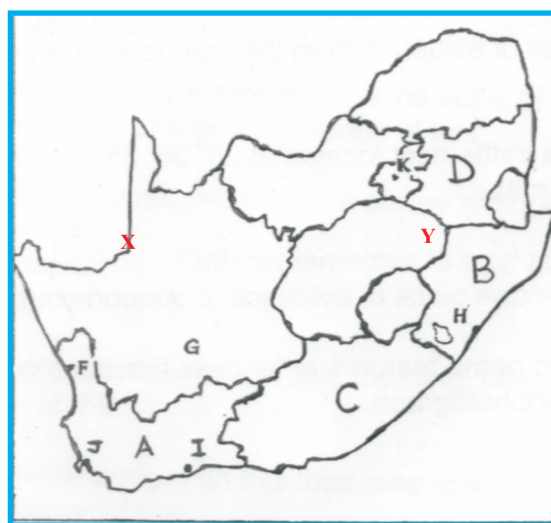


- Identify any two **urban land-use zones** visible in the diagram.
- Describe and give reasons for the location of the **high-income** and **low-income** residential zones.
- The park surrounding most of the urban area is part of a **greenbelt**. What is a **greenbelt**?
- Why is it important to maintain such a **greenbelt**?
- Depopulation** of the surrounding rural regions is bound to impact on the urban area above. Describe **one major challenge** the authorities will face as depopulation occurs.
- Suggest** measures you will put in place to manage the above challenge.

#### 4. PEOPLE AND THEIR NEEDS

##### 4.1 Study the table below and the map below and then answer the questions set:

	i	ii	iii	iv	v
Mean Annual Rainfall	250mm	627mm	61mm	860mm	1008mm
Maximum Rainfall Season	Summer	Winter	Summer	All Seasons	Summer
Mean Summer Temp	30°C	22°C	16°C	20°C	24°C
Mean Winter Temp	10°C	10°C	12°C	14°C	17°C



- Identify the provinces labelled A, B, C and D.
- State the capital cities of each of the provinces named above.
- Match the numbers i to v (i.e. the climatic data in the table) with the five towns/cities labelled F to J.
- Area J is a **winter rainfall** region. Do you agree? Explain your answer.
- The following types of **vegetation** occur in some of the regions in South Africa:
  - Sub-tropical forests
  - Desert and semi-desert scrub
  - Savanna grassland
 Match the areas **K, H** and **G** with the above types of vegetation. In each case give a reason for your answer.
- Identify the **ocean currents** labelled X and Y.
- Explain the influence of ocean current Y on the climate of the eastern parts of South Africa.
- Natural vegetation** plays an important role in the prevention of soil erosion. Explain two ways in which this is achieved.

##### 4.2

4.2.1 Differentiate between the terms **Gross Domestic Product** and **Gross National Product**.

4.2.2 Classify the following human activities as **Primary, Secondary** or **Tertiary Activities**:

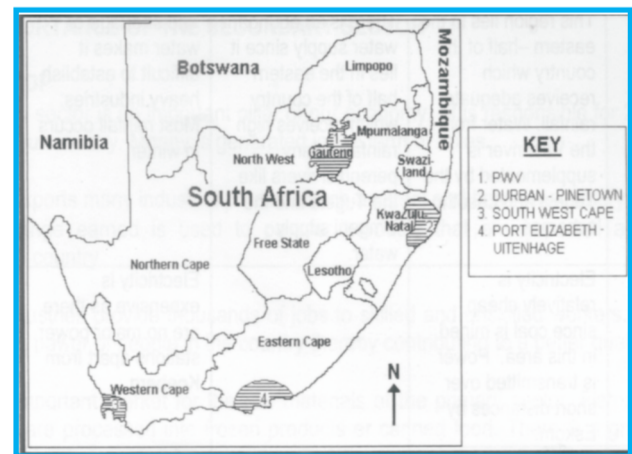
- manufacturing
- mining
- Trade
- Community, personal and social services

##### 4.2.3 Refer to the table below to answer the questions set:

Imports (R million)		Exports (R million)	
<b>1995</b>		<b>1995</b>	
Food	5 102	Food	7 505
Inedible raw materials	3 838	Metal ores	4 643
Chemicals	12 323	Chemicals	6 997
Textiles	2 815	Diamonds excluding industrial diamonds	9 936
Metal & metal products	3 636	Metal & metal products	15 649
Machinery	31 413	Machinery & transport equipment	8 392
Other manufactured goods	18 201	Other	28 219
Unclassified	9 785	<b>Total: excluding gold</b>	<b>81 219</b>
<b>Total</b>	<b>98 614</b>	<b>Gold: export value</b>	<b>20 178</b>

- Explain the term '**trade balance**'.
- With reference to the table, state whether South Africa has a **favourable** or **unfavourable trade balance**. Explain your answers with evidence from the table.
- How did the **sale of gold** affect the trade balance in SA in 1995?
- Describe the impact of **fluctuating gold prices** on our trade balance and economy.

##### 4.3 Refer to the map showing the industrial core areas in South Africa



##### SPATIAL DEVELOPMENT INITIATIVES

- Saldanha
- Fish River
- Wild Coast
- Richards Bay
- Lebombo
- The Maputo Development Corridor
- Phalaborwa Secondary Corridor
- Rustenburg
- Trans-Kalahari Transport Corridor
- Phalaborwa

##### INDUSTRIAL DEVELOPMENT INITIATIVES

- Saldanha Bay
- Coega Port Elizabeth
- West Bank East London
- Durban
- Richards Bay
- Johannesburg
- Polokwane
- Upington

- Describe any **3 physical factors** that make the **PWV region** the most industrialised part of South Africa.
- The **Durban-Pinetown area** is strategically located to favour the chemical industries found there. Do you agree? Explain.
- Explain the effect of **HIV-Aids** on our **GDP**.
- State **two advantages** and **two disadvantages** of centralising our industries into '**core**' areas.
- The formation of **Industrial Development Zones (IDZ's)** is government's way of addressing the problems of **industrial centralisation**.
  - Explain what **industrial decentralisation** is.
  - Describe the relationship between industrial decentralisation and the creation of **Spatial Development Initiatives (SDI's)**.
  - State any **3 key objectives** of SDI's.