

**NATIONAL
SENIOR CERTIFICATE**

GRADE 11

NOVEMBER 2015

GEOGRAPHY P1

MARKS: 225

TIME: 3 hours



This question paper consists of 13 pages.

INSTRUCTIONS AND INFORMATION

1. This question paper consists of FOUR questions.
2. Answer ANY THREE questions of 75 marks for a total of 225 marks.
3. All diagrams are included in the ANNEXURE.
4. Leave a line between the subsections answered.
5. Start EACH question on a NEW page.
6. Number the questions correctly according to the numbering system used in this question paper.
7. Do not write in the margins of the ANSWER BOOK.
8. Where possible, illustrate your answer with labelled diagrams.
9. Write neatly and legibly.

SECTION A: THE ATMOSPHERE AND GEOMORPHOLOGY**QUESTION 1**

- 1.1 Select from the list below a suitable term that matches the definition provided in 1.1.1–1.1.8. Write only the question number (1.1.1–1.1.8) and then the term of your choice:

Jet stream; Cyclonic; Orographic; Intertropical Convergence Zone; Continental climate; Maritime climate; Solstice; Equinox; Desertification; Degraded; Föhn; Monsoon

- 1.1.1 The time at which the sun is directly above a tropic line
- 1.1.2 A high speed wind in the tropopause
- 1.1.3 A wind warmed by adiabatic descent
- 1.1.4 A wind that reverses direction in summer and winter
- 1.1.5 Land that is no longer as productive as it was previously
- 1.1.6 Type of climate experienced by coastal places
- 1.1.7 Type of rain that occurs when air cools as it rises up a mountain
- 1.1.8 A front where tropical air masses north and south of the equator meet and converge (8 x 1) (8)
- 1.2 Match the terms/concepts in COLUMN B with the descriptions in COLUMN A. Write only the letter (A–I) of your choice next to the question number (1.2.1–1.2.8) for example 1.2.8 J.

	COLUMN A		COLUMN B
1.2.1	Stepped slope that forms when more than one sill is exposed on the side of a hill	A	Tectonic uplift
1.2.2	Joint between layers of sedimentary rock	B	Sheetwash
1.2.3	Steep slope which joins low-lying land with high lying land	C	Canyon
1.2.4	Surface erosion caused by thin film of water run off during heavy rain	D	Structural terrace
1.2.5	A flattened, featureless surface	E	Anticlines
1.2.6	A steep and rugged landscape	F	Pediplain
1.2.7	Rising of land mass due to crustal forces	G	Bedding plane
		H	Peneplain
		I	Escarpment

(7 x 1) (7)

- 1.3 Refer to FIGURE 1.3 showing the world's pressure belts and wind patterns at the earth's surface.
- 1.3.1 Provide a suitable term that describes major winds which blow all year round over large areas of the earth's surface. (1 x 1) (1)
- 1.3.2 FIGURE 1.3 depicts winds deflecting to the left in the southern hemisphere and to the right in the northern hemisphere. Name the force that causes this deflection. (1 x 1) (1)
- 1.3.3 Briefly describe any THREE characteristics of the force you mentioned in QUESTION 1.3.2. (3 x 1) (3)
- 1.3.4 Explain why the equator is an area of converging air. (2 x 1) (2)
- 1.3.5 Patterns of ascent and descent, of convergence and divergence, help us describe a more accurate model of air circulation. Justify this description by explaining in a paragraph of 8 lines how the tri-cellular model explains these patterns. (4 x 2) (8)
- 1.4 Refer to the synoptic weather map in FIGURE 1.4 and answer the questions that follow.
- 1.4.1 Identify the following:
- (a) Pressure cells at A and B (2 x 1) (2)
- (b) Front at C (1 x 1) (1)
- 1.4.2 Calculate the isobaric interval on the map. (1 x 1) (1)
- 1.4.3 What evidence suggests that the wind speed in Cape Town is greater than the wind speed in Port Elizabeth? (1 x 2) (2)
- 1.4.4 Find Gough Island and Marion Island on the map. At which of these two islands is the wind almost geostrophic? (1 x 1) (1)
- 1.4.5 Explain the reason for your answer in QUESTION 1.4.4. (1 x 2) (2)
- 1.4.6 Describe any FOUR weather conditions recorded at the weather station at Durban. (4 x 1) (4)
- 1.5 FIGURE 1.5 illustrates a classification of mass movements according to water content and velocity.
- 1.5.1 Define the term *mass movement*. (1 x 1) (1)
- 1.5.2 Give the water content and range of velocities that are associated with:
- (a) Mudflow (2 x 1) (2)
- (b) Rockfalls (2 x 1) (2)

- 1.5.3 Explain how different soils influence the degree and speed of mass movement. (2 x 2) (4)
- 1.5.4 Evaluate the impact that mass movement has on the environment. (3 x 2) (6)
- 1.6 FIGURE 1.6 illustrates a characteristic Karoo landscape found in areas with horizontal strata:
- 1.6.1 Identify the flat-topped hill at A. (1 x 1) (1)
- 1.6.2 Describe the cap rock on top of this flat-topped hill mentioned in QUESTION 1.6.1 (1 x 2) (2)
- 1.6.3 State how C can be differentiated from A and B. (1 x 2) (2)
- 1.6.4 Draw a simple freehand sketch through these flat-topped hills to illustrate the FOUR slope elements/forms. (4 x 1) (4)
- 1.6.5 Scarp retreat/scarp recession also known as back wasting played an important role in the development of these flat-topped hills. In a paragraph of approximately EIGHT lines explain the process of scarp retreat. (4 x 2) (8)
- [75]**

QUESTION 2

2.1 Various options are given as possible answers to the following questions. Choose the answer and write only the letter (A–D) next to the question number (2.1.1–2.1.8).

2.1.1 Slope failure refers to the ...

- A movement of sediments.
- B influence of gravity on sediments.
- C influence of gravity on a slope.
- D failure of the internal structure of soil.

2.1.2 Sedimentary rocks ...

- A form in horizontal layers.
- B are made mainly of dolerite.
- C are resistant to erosion.
- D forms when magma cools.

2.1.3 Topography refers to ...

- A horizontally layered rocks.
- B structure of rocks.
- C mountains, sea and depressions.
- D shape of the land.

2.1.4 Canyon landscapes are ...

- A important tourist attractions.
- B suitable for farming.
- C perfect for human settlements.
- D difficult for human settlements but ideal to develop infrastructure.

2.1.5 Tors ...

- A are usually convex in shape, steep low down and gentle higher up.
- B are sedimentary rocks which are made up of layers which erode.
- C develop in well-jointed igneous rock.
- D have serrated edges and portals.

2.1.6 Hilly landscapes and basaltic plateaus develop in areas where the rock strata are ...

- A horizontal and uniformly resistant to erosion.
- B horizontal and not uniformly resistant to erosion.
- C stratified and not uniformly resistant to erosion.
- D metamorphic and uniformly resistant to erosion.

- 2.1.7 Forces operating above the earth's surface, for example erosion and deposition are known as ...
- A contracting forces.
 - B exogenic forces.
 - C undercutting forces.
 - D endogenic forces.
- 2.1.8 River gorges and sea cliffs are examples of ...
- A primary slopes.
 - B secondary erosion.
 - C deposition slopes.
 - D primary erosion slopes. (8 x 1) (8)
- 2.2 Refer to FIGURE 2.2 showing the relationship between air pressure and wind. Choose ONE term in brackets to make each of the following statements true.
- 2.2.1 We measure air pressure in (hectopascals/degrees).
- 2.2.2 Lines joining places of equal pressure are known as (isotherms/isobars).
- 2.2.3 The difference in pressure between two places is known as the (pressure gradient force/pressure force).
- 2.2.4 Winds always blow from a (2.2.4(a) low/high) pressure to a (2.2.4(b) high/low) pressure.
- 2.2.5 The isobaric interval on in the sketch is (four/eight) hectopascals.
- 2.2.6 Air that subsides on the surface of the earth creates a high pressure, and so (convergence/divergence) takes place. (7 x 1) (7)
- 2.3 FIGURE 2.3 illustrates the position of the sun across the sky at two different places in the southern hemisphere.
- 2.3.1 Define the term *insolation*. (1 x 1) (1)
- 2.3.2 The amount of insolation is dependent on latitude and the seasons. List which ONE of the factors is illustrated in FIGURE 2.3. (1 x 1) (1)
- 2.3.3 State the factor in FIGURE 2.3 that determines the amount of insolation that the surface of the earth receives. (1 x 1) (1)
- 2.3.4 Name the heat zone of the earth that would be represented by X. (1 x 1) (1)
- 2.3.5 In FIGURE 2.3B the sun is not directly overhead and strikes the earth at an angle that is smaller than 90°. Explain how this will result in less radiation at point Y. (2 x 2) (4)

- 2.4 Study FIGURE 2.4 which depicts the frequency of droughts occurring in Southern African countries, measured over 50 years.
- 2.4.1 Interpret from the map the least spatial frequency of droughts on the eastern side of the map. (1 x 1) (1)
- 2.4.2 According to the map which country has the highest frequency of droughts within 50 years? (1 x 1) (1)
- 2.4.3 How can droughts be triggered by human activities? (2 x 2) (4)
- 2.4.4 State the relationship between drought and global warming. (1 x 2) (2)
- 2.4.5 Explain how it is possible that countries with low annual average rainfall have fewer droughts compared to countries with better average rainfall. (2 x 2) (4)
- 2.4.6 In a paragraph of approximately 8 lines outline the negative impact that drought has on the people of Southern Africa. (4 x 2) (8)
- 2.5 FIGURE 2.5 illustrates asymmetrical ridges (topography associated with inclined rocks). Study the FIGURE and answer the questions.
- 2.5.1 Classify asymmetrical ridges A, B and C according to the angle of their dip slope. (3 x 1) (3)
- 2.5.2 Name the type of rock associated with inclined rock strata. (1 x 1) (1)
- 2.5.3 Describe how this type of rock (answer in QUESTION 2.5.2) forms asymmetrical ridges. (2 x 2) (4)
- 2.5.4 Describe TWO characteristics of asymmetrical ridge A. (2 x 2) (4)
- 2.5.5 The THREE asymmetrical ridges illustrated in FIGURE 2.5 show potential for human activities. Explain in a paragraph format (approximately 8 lines) how these asymmetrical ridges can be utilised by humans. (4 x 2) (8)
- 2.6 Study FIGURE 2.6 which depicts the various igneous intrusion forms to answer the following questions.
- 2.6.1 Differentiate between intrusive and extrusive igneous rocks. (2 x 1) (2)
- 2.6.2 Identify the igneous intrusive features labelled A, B and C. (3 x 1) (3)
- 2.6.3 Name ONE landform that may develop from features A and D each when they are exposed to the earth's surface. (2 x 1) (2)
- 2.6.4 Explain how a *lopolith* is formed. (2 x 2) (4)
- 2.6.5 Name ONE South African example of a *lopolith*. (1 x 1) (1)

[75]

SECTION B: DEVELOPMENT GEOGRAPHY AND RESOURCES AND SUSTAINABILITY**QUESTION 3**

3.1 Read the statements below and determine if the statement refers to:

- MDC** Most developed countries
LDC Least developed countries
NIC Newly industrialised countries

Write the numbers 3.1.1–3.1.8 and write either **MDC**, **LDC** or **NIC** next to the question number. For example 3.1.9 **MDC**

- 3.1.1 Fast growing economies
- 3.1.2 High levels of poverty, weak economies
- 3.1.3 Growing economies, large informal sector
- 3.1.4 Access to services is excellent
- 3.1.5 These countries, according to the Brandt report, are mostly in the north
- 3.1.6 Colonialism had a major negative impact on these countries
- 3.1.7 Strong economies, high levels of employment
- 3.1.8 These countries favour export-led development (8 x 1) (8)

3.2 Choose ONE term in brackets to make each of the following statements TRUE.

- 3.2.1 Wind power is (reliable/unreliable) throughout the year.
- 3.2.2 The (Kyoto protocol/COP17) signed in 2002 required countries to reduce greenhouse gas emissions.
- 3.2.3 To keep areas of the earth in their present condition untouched by humans is known as (conservation/preservation).
- 3.2.4 The organic material in soil is known as (topsoil/humus).
- 3.2.5 (Deforestation/Afforestation) is tree planting on land that was previously wooded but has been cleared.
- 3.2.6 Hydro electricity is a (renewable/non-renewable) source of energy.
- 3.2.7 The power utility (Eskom/Koeberg) produces 95% of South Africa's electrical energy. (7 x 1) (7)

- 3.3 Refer to the pie graph in FIGURE 3.3 showing you how a rural African woman traditionally spends her time.
- 3.3.1 State what you understand by *gender roles*. (1 x 1) (1)
- 3.3.2 Calculate what percentage of a rural African woman's day is given to rest according to the pie graph. (1 x 1) (1)
- 3.3.3 According to the pie-chart, women in Africa are subjected to specific gender roles. Provide possible reasons why it is especially on the African continent the case. (2 x 2) (4)
- 3.3.4 In a paragraph format (approximately 8 lines) suggest some ways in which governments on the African continent can improve economic participation by women and improve their standard of living. (4 x 2) (8)
- 3.4 Read through the case study in FIGURE 3.4 on the South African textile industry.
- 3.4.1 Define the term *globalisation*. (1 x 1) (2)
- 3.4.2 List any TWO positive impacts of *globalisation*. (2 x 2) (4)
- 3.4.3 Provide reasons why the South African textile industry has had to close down so many factories and businesses. (2 x 2) (4)
- 3.4.4 Evaluate why China's clothing exports has increased. (2 x 2) (4)
- 3.5 Read through the newspaper article *Solar power changes villagers lives* in FIGURE 3.5 and answer the following questions.
- 3.5.1 State what you understand by *alternative energy*. (1 x 1) (1)
- 3.5.2 Suggest a possible reason why 'Eskom had no immediate plans to electrify the village'. (1 x 2) (2)
- 3.5.3 Identify the device that will be used for converting solar power into energy in the village. (1 x 1) (1)
- 3.5.4 Explain how electricity will help eradicate poverty for the villagers. (2 x 2) (4)
- 3.5.5 In a paragraph of approximately 8 lines explain the benefits that solar energy has for the world. (4 x 2) (8)

- 3.6 Refer to FIGURE 3.6 showing a simple soil profile and answer the questions that follow.
- 3.6.1 Match the horizons labelled 1, 2, 3, 4 and 5 with the following alternatives.
R-horizon; A-horizon; B-horizon; O-horizon; C-horizon (5 x 1) (5)
- 3.6.2 Soil erosion is the loss of soil from the ground by water and wind. Deduce how deforestation contributed to soil erosion. (1 x 2) (2)
- 3.6.3 Analyse how rainfall contributes to the process of leaching. (3 x 2) (6)
- 3.6.4 Justify how 'fallowing' can be used as an effective management strategy to prevent and control soil erosion. (2 x 2) (4)
- [75]**

QUESTION 4

- 4.1 Indicate whether each of the following statements are related to Renewable or Non-renewable energy sources:
- 4.1.1 Wind turbines that generate energy with wind
- 4.1.2 Special equipment, such as photovoltaic panels are used to capture energy
- 4.1.3 Coal seams are often removed by open-pit or strip mining
- 4.1.4 Gas is a fossil fuel formed from plant matter
- 4.1.5 Eskom operates a number of hydro-electric power stations
- 4.1.6 Paper mills use millions of tons of sawdust and scrap wood to generate electricity
- 4.1.7 Ethanol as a biofuel is made from food crops
- 4.1.8 Geothermal energy is energy gathered from the hot rocks below the earth's surface (8 x 1) (8)
- 4.2 Select from the list below a suitable term that matches the definition provided in QUESTION 4.1.1–4.1.7. Write only the number and correct answer.

Protectionism; Trade bloc; Terms of trade; Liberalisation of trade; Capitalism; Balance of trade; Balance of payments; Tariff; Economic development

- 4.2.1 The relationship between the prices a country sells its exports for and the prices it pays for its imports
- 4.2.2 The relationship between the value of a country's exports and its imports

- 4.2.3 A financial summary of all the payments made by a country to the rest of the world
- 4.2.4 A group of countries that have agreed to trade with one another
- 4.2.5 Tax collected by government on goods coming into a country
- 4.2.6 A control that restricts, restrains or supports trade to look after the interests of a country
- 4.2.7 Allowing more freedom of trade (7 x 1) (7)
- 4.3 FIGURE 4.3 is a cartoon depicting development and challenges in Africa.
- 4.3.1 List any TWO challenges depicted in the cartoon affecting Africa. (2 x 1) (2)
- 4.3.2 Interpret how the cartoonist illustrates these challenges affecting Africa. (1 x 2) (2)
- 4.3.3 Development aid has been seen as a possible solution to the challenges faced in Africa. Explain what you understand by this concept. (1 x 2) (2)
- 4.3.4 Explain why Africa continues to have these challenges despite being a recipient of development aid. (3 x 2) (6)
- 4.3.5 The Ebola outbreak in West Africa claimed the lives of more than 5 000 people in 2014. Write a paragraph (approximately 8 lines) in which you analyse how humanitarian aid could prevent the spread of the disease. (4 x 2) (8)
- 4.4 Refer to FIGURE 4.4 showing the levels of development of the BRICS countries.
- 4.4.1 Why are the BRICS countries classified as less economically developed countries? (1 x 1) (1)
- 4.4.2 Explain what you understand by GDP (Gross Domestic Product) per capita. (1 x 1) (1)
- 4.4.3 Interpret why GDP growth rate rankings for India and China are so high. (1 x 2) (2)
- 4.4.4 Suggest possible reasons why Russia would have the highest level of education among the BRICS countries. (1 x 2) (2)
- 4.4.5 Name the development model shared by the BRICS countries. (1 x 1) (1)
- 4.4.6 Explain how the BRICS countries relate to this development model (your answer in QUESTION 4.4.5) on a global and national scale. (2 x 2) (4)

- 4.5 Refer to the newspaper extract in FIGURE 4.5 on nuclear power.
- 4.5.1 State what you understand by *nuclear energy*. (1 x 1) (1)
- 4.5.2 State why nuclear energy is a non-renewable source of energy. (1 x 1) (1)
- 4.5.3 Explain why South Africa's national grid needs extra power. (2 x 2) (4)
- 4.5.4 In a paragraph of approximately 8 lines explain why you think David Hallows thinks that the R1tn nuclear deal is a disaster. (4 x 2) (8)
- 4.6 FIGURE 4.6 shows resources needed by Africa's people.
- 4.6.1 What are *resources*? (1 x 1) (1)
- 4.6.2 Identify any THREE natural resources in FIGURE 4.6. (3 x 1) (3)
- 4.6.3 Suggest TWO possible causes of resource exploitation evident in the diagram. (2 x 2) (4)
- 4.6.4 Explain how resources can be conserved for future generations. (3 x 2) (6)
- [75]**

TOTAL: 225

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NOVEMBER 2015

**GEOGRAPHY P1
ANNEXURE**



This annexure consists of 10 pages.

FIGURE 1.3

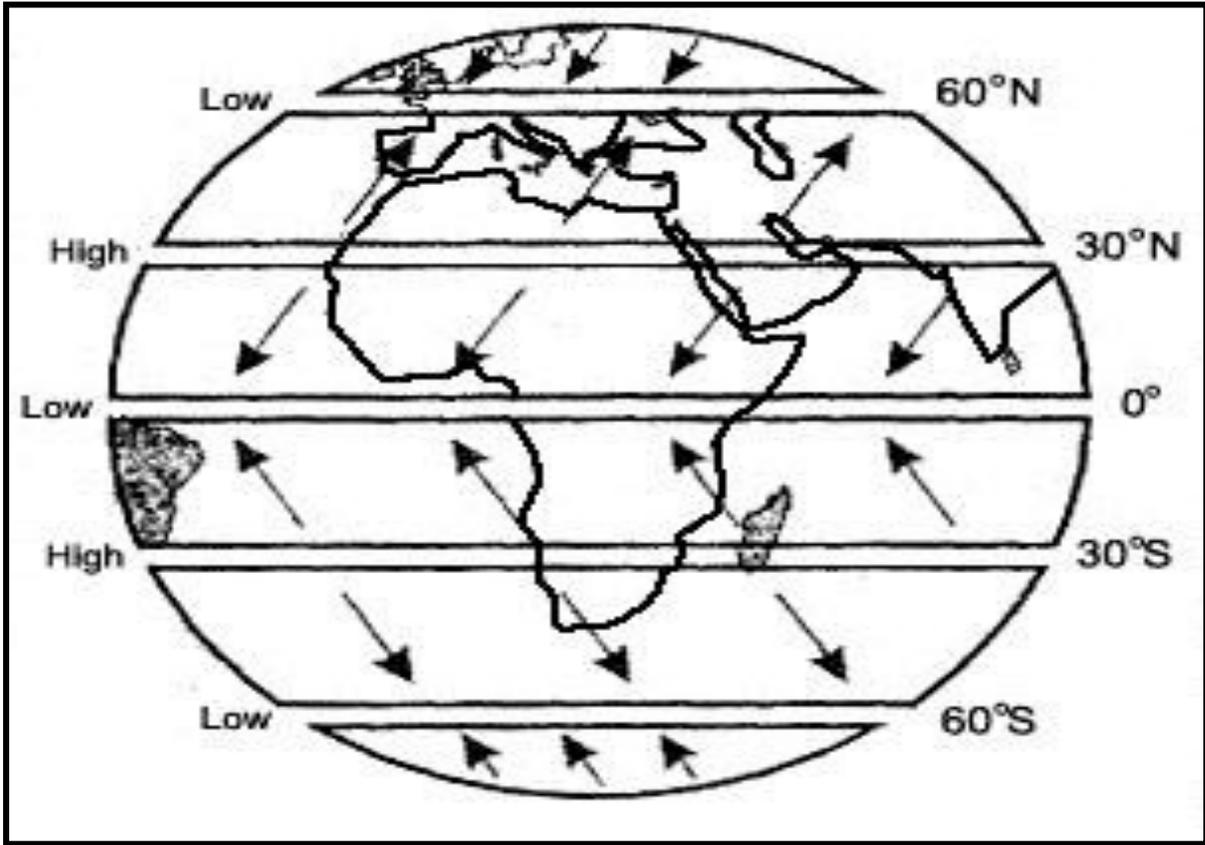


FIGURE 1.4

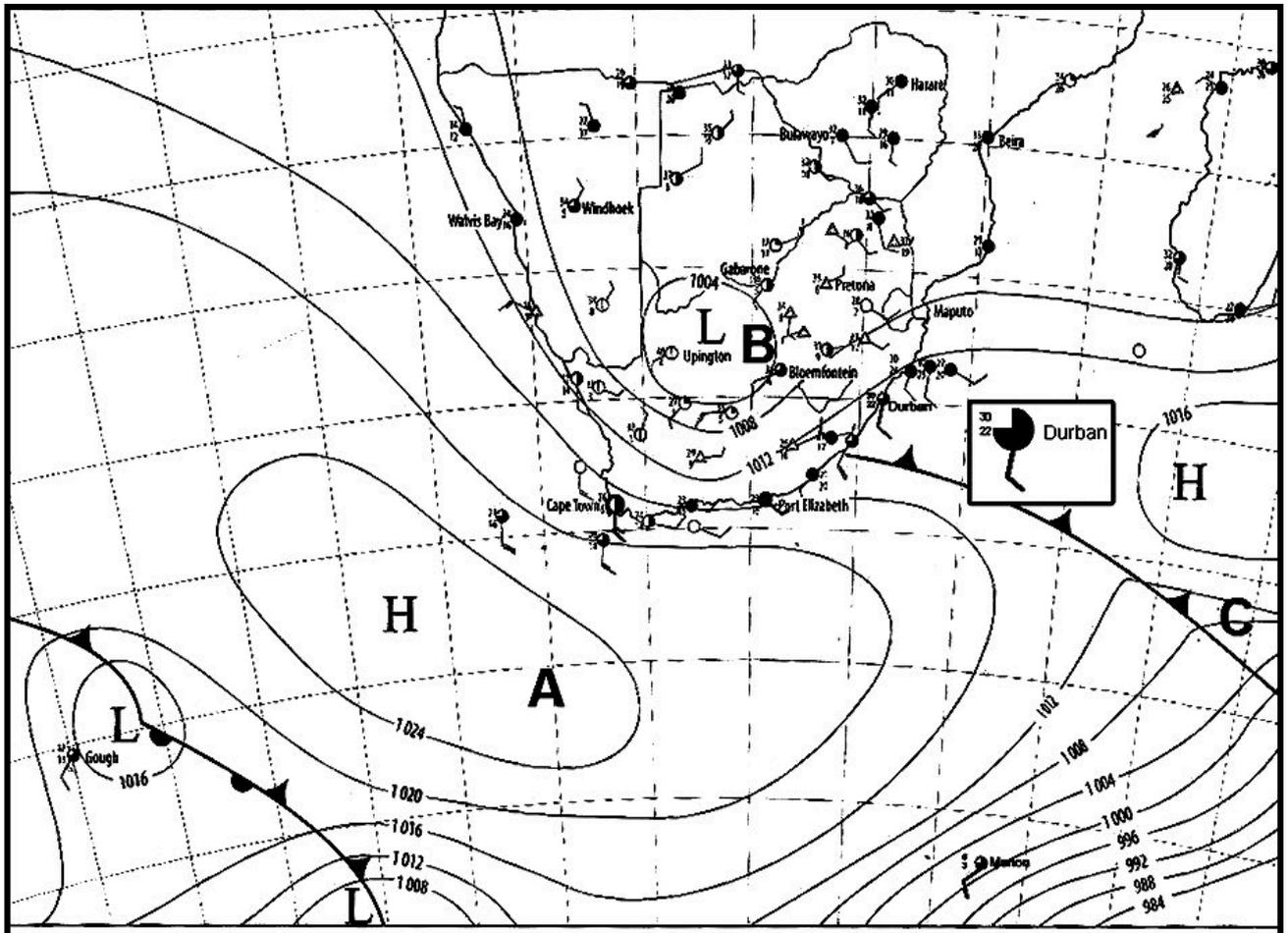


FIGURE 1.5

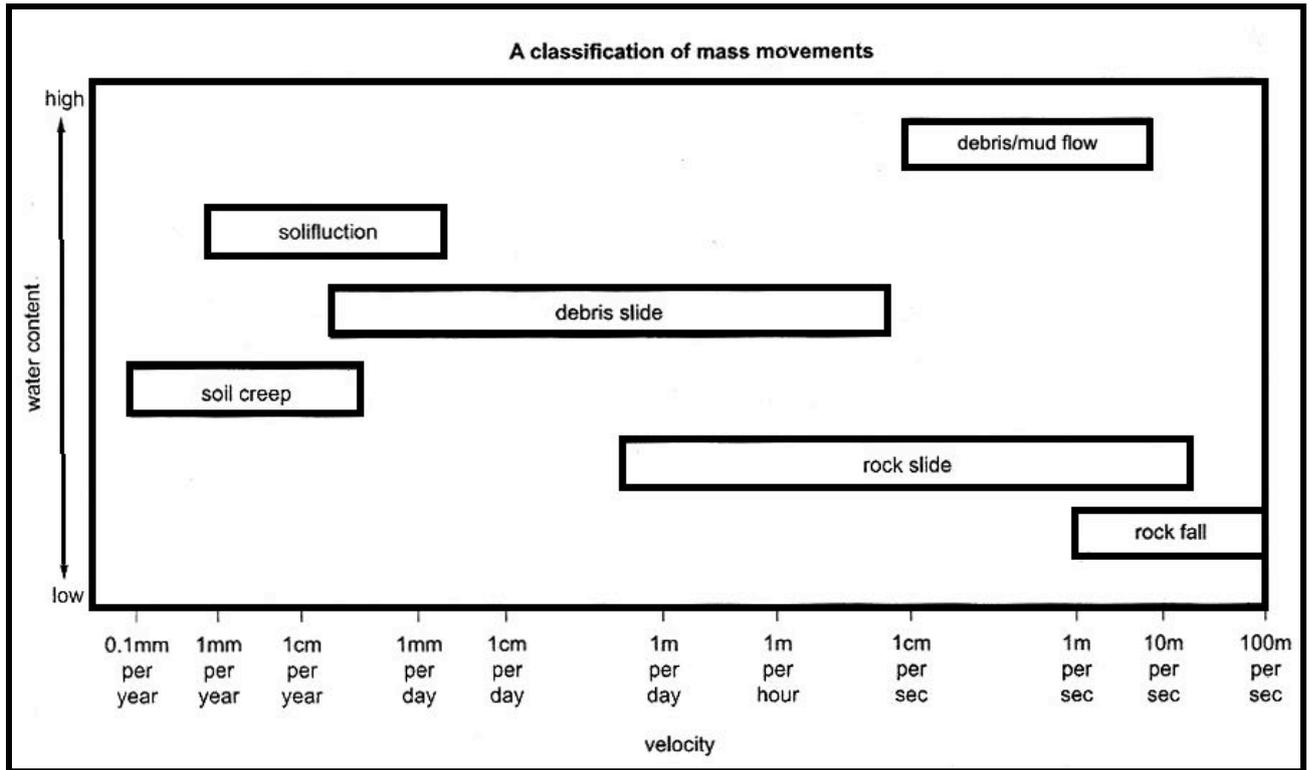


FIGURE 1.6

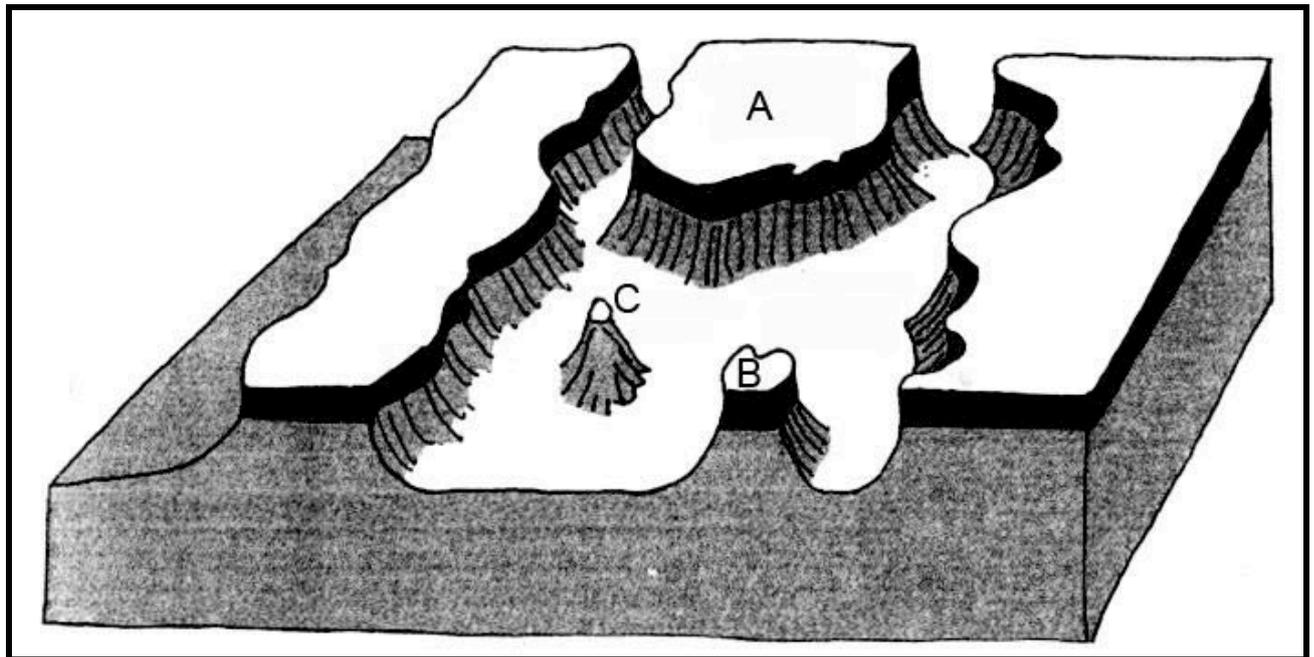


FIGURE 2.2

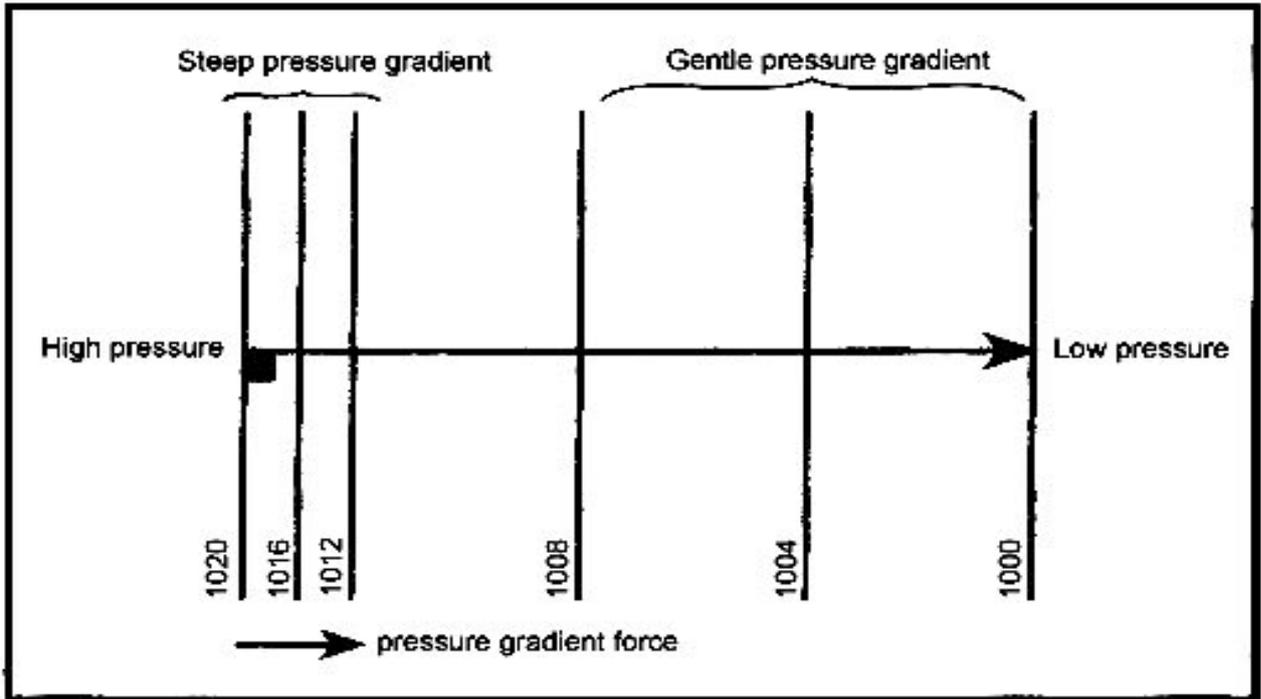


FIGURE 2.3

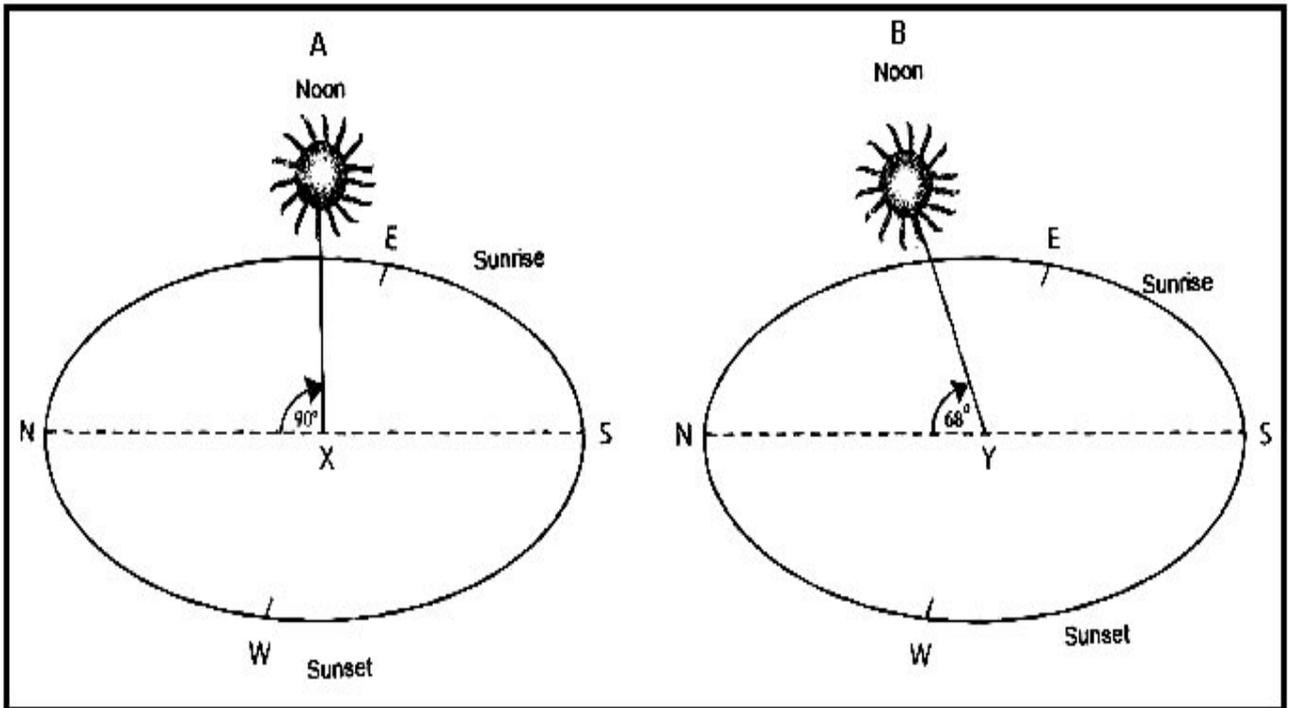


FIGURE 2.4

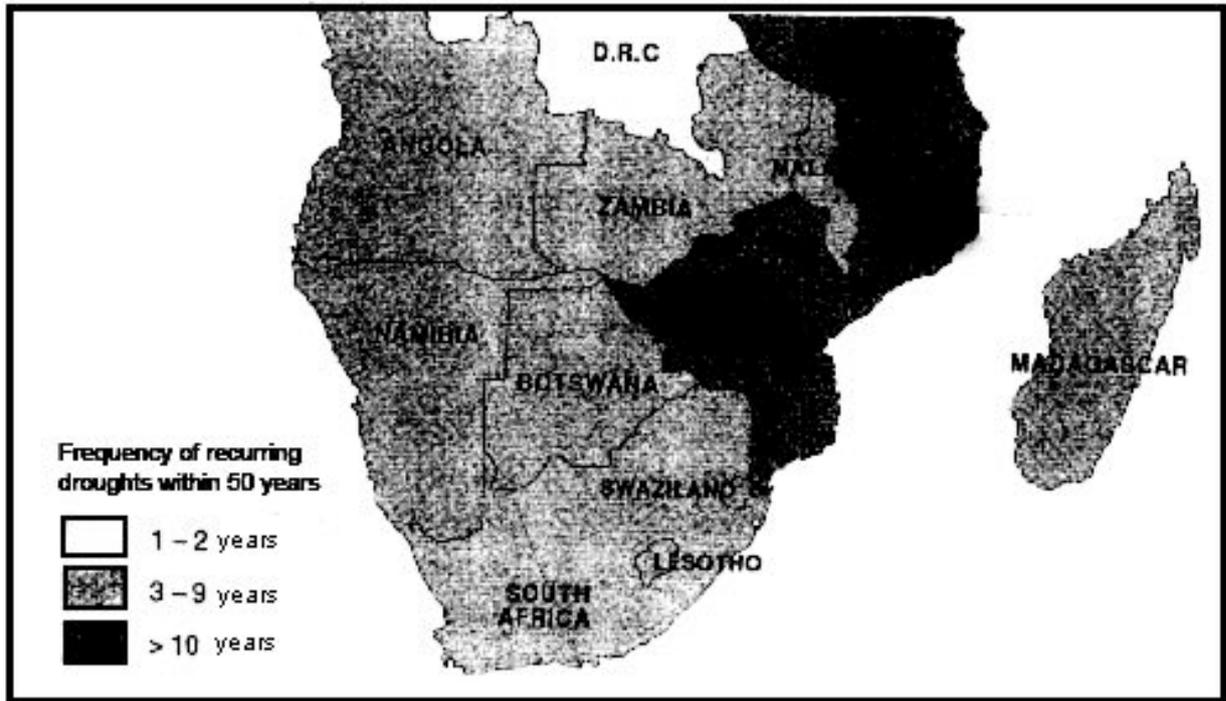


FIGURE 2.5

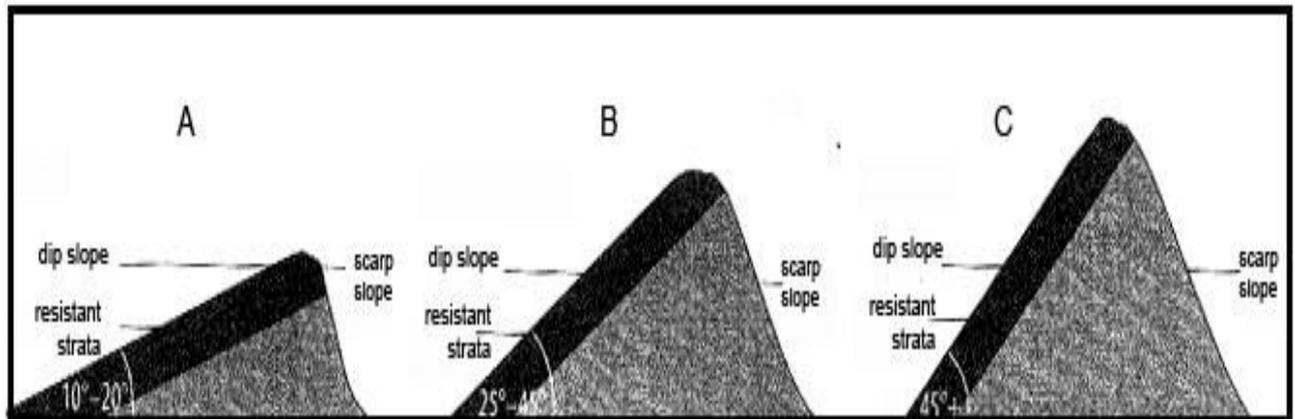


FIGURE 2.6

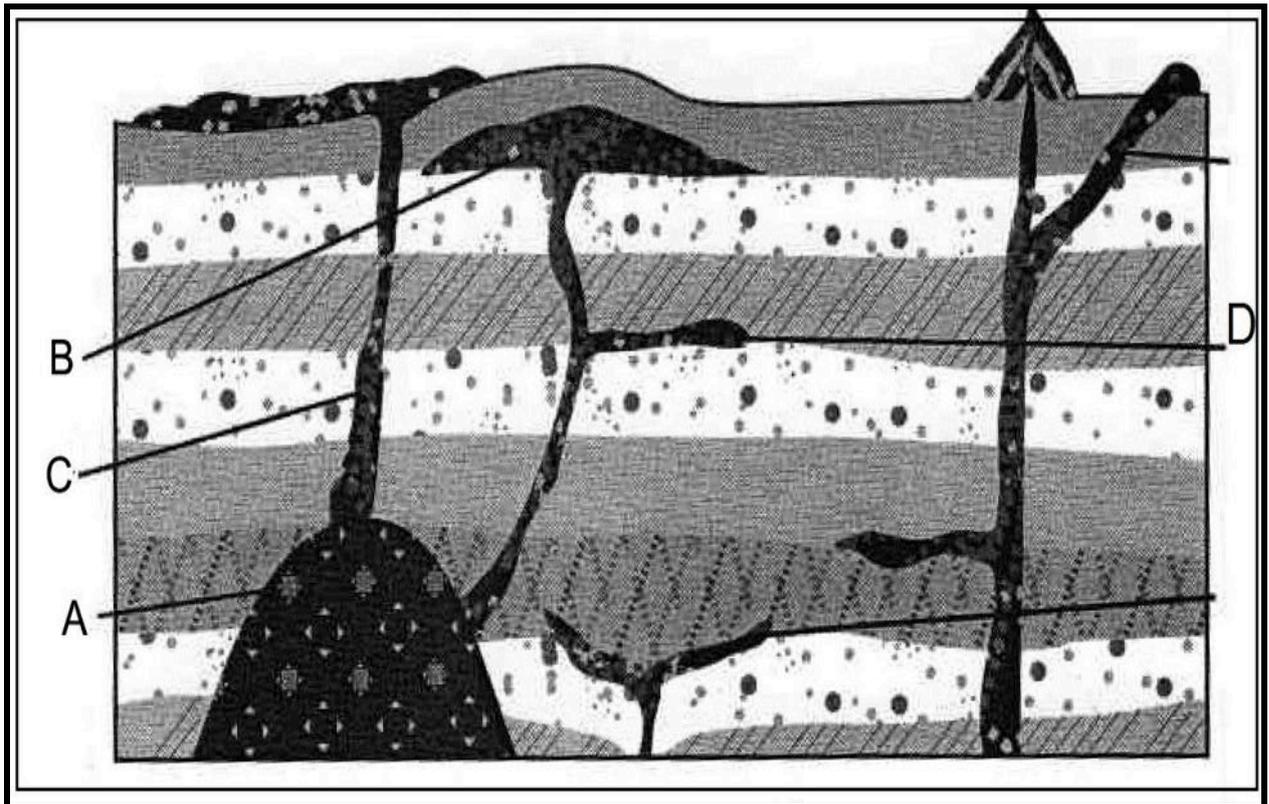


FIGURE 3.3

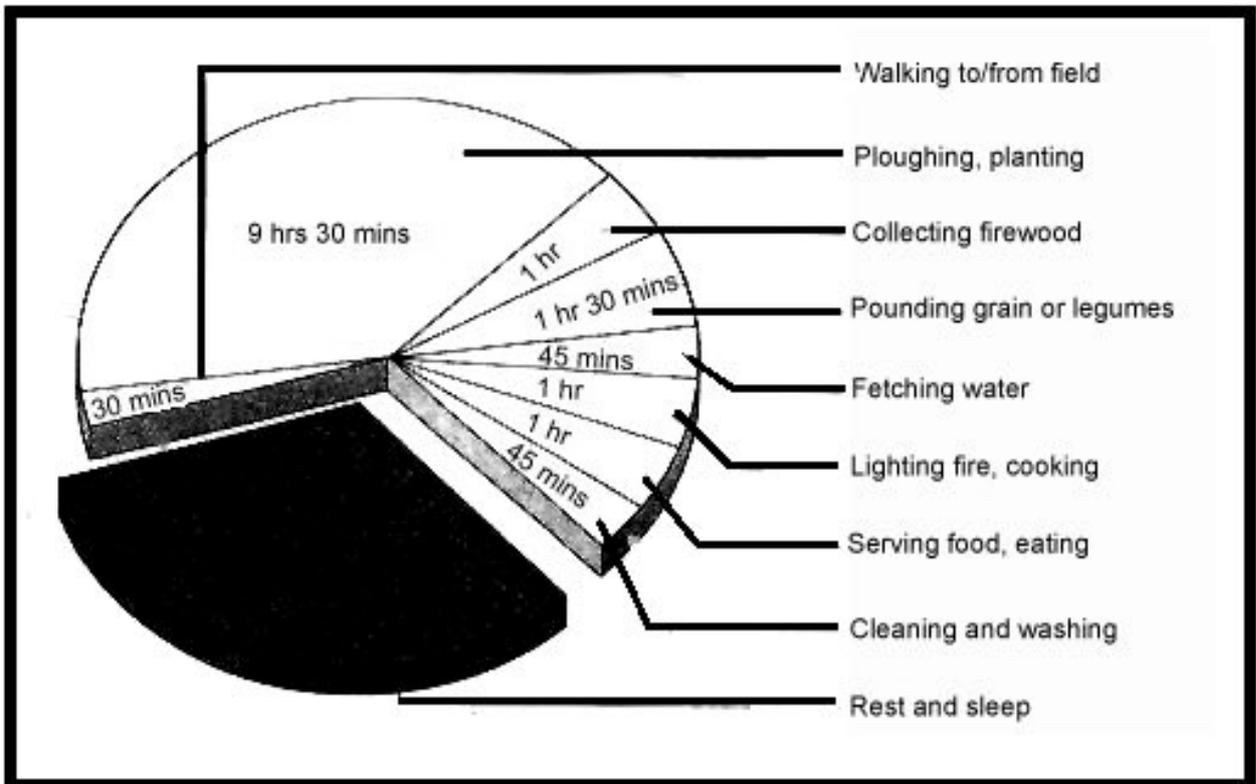


FIGURE 3.4**SOUTH AFRICAN TEXTILE INDUSTRY**

The South African textile industry, which is an important industry in our four major industrial areas, namely PWV (Gauteng), Durban, Cape Town and Port Elizabeth has had to adapt to the global situation. The industry has imported fabrics to keep the marginalized factories open. Between 2003 and 2005 some 67 000 jobs were lost and many factories and businesses were forced to close down.

The South African industry has had to face China's dominance in the textile industry and the flood of cheap clothing being imported or sometimes entering the country illegally.

(Source: DTI and just-style.com)

FIGURE 3.5**SOLAR POWER CHANGES VILLAGES**

The days of cutting firewood for cooking and heating water are over for about 80 Xholobeni villagers in Mbizana who received solar panels and geysers from the Eastern Cape rural development and agrarian reform department.

The project was started earlier this year by former MEC Zoleka Capa as a means providing alternative energy to villagers after it was become known that power utility Eskom had no immediate plans to electrify the village.

The one-kilowatt solar panels provide the 80 households with enough energy for lights and to connect other household appliances and the 100-litre solar geyser ensure warm bath water daily.

(Source: Daily Dispatch (28/07/2014) - Lulamile Feni)

FIGURE 3.6

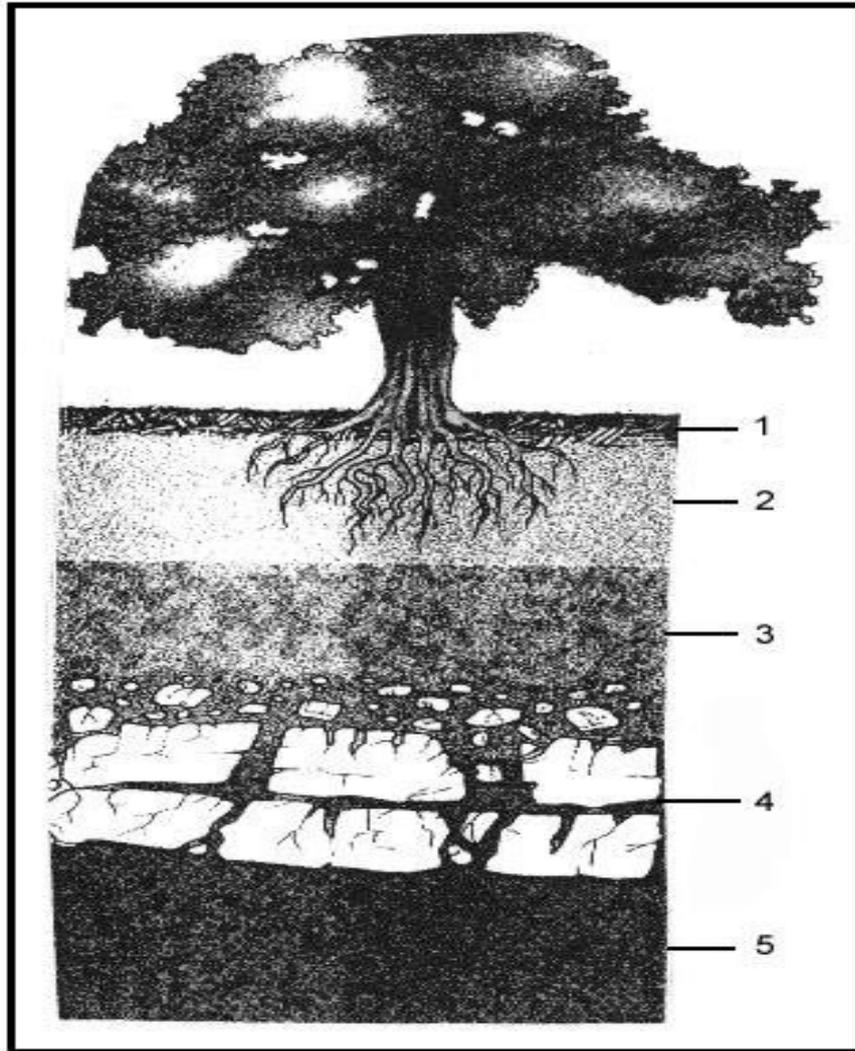


FIGURE 4.3

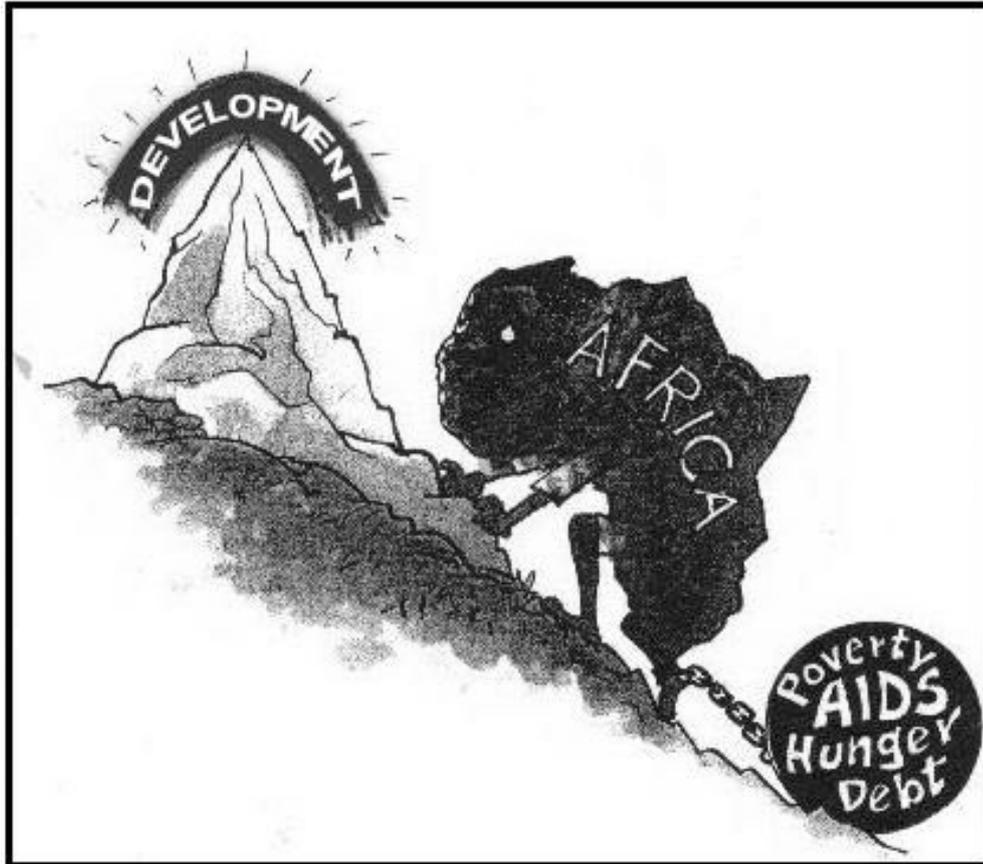


FIGURE 4.4 (Levels of Development)

Indicator	Brazil	Russia	India	People's Republic of China	South Africa
Population	5th	9th	2nd	1st	25th
GDP growth rate	15th	88th	4th	5th	117th
GDP/capita	53th	56th	138th	94th	71st
Number of mobile phone users	5th	4th	2nd	1st	25th
Rail network	10th	2nd	4th	3rd	12th
Exports	18th	11th	16th	1st	36th
Electricity consumption	9th	4th	5th	1st	14th
Human Development Index	73rd	65th	119th	89th	110th

FIGURE 4.5

MIXED REACTIONS TO SA'S R1tn NUCLEAR POWER DEAL

Eight new nuclear power reactors costing around R1-trillion will in the not-too-distant future add up to 96 gigawatts of power to South Africa's national grid.

Yesterday it was announced that South Africa signed a partnership agreement with Russia's state-owned nuclear company that will see Rosatom built reactors in Africa's second-biggest economy.

The agreement lays the foundation for a large-scale nuclear power-plant procurement programme. It will allow the country to implement its plan to create more nuclear capacity by 2030, she said.

Environment NGO Groundwork associate David Hallowes said: "I think it is an appalling development. If nuclear stations go wrong badly, disasters can be catastrophic."

(Source: Adapted from Daily Dispatch)

FIGURE 4.6





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**GEOGRAPHY P1
MEMORANDUM**

MARKS: 225

This memorandum consists of 12 pages.

SECTION A: THE ATMOSPHERE AND GEOMORPHOLOGY

QUESTION 1

- 1.1 1.1.1 Solstice ✓
 1.1.2 Jet stream ✓
 1.1.3 Fohn ✓
 1.1.4 Monsoon ✓
 1.1.5 Degraded ✓
 1.1.6 Maritime climate ✓
 1.1.7 Orographic ✓
 1.1.8 Intertropical Convergence zone ✓ (8 x 1) (8)
- 1.2 1.2.1 D Structural terrace ✓
 1.2.2 G Bedding plane ✓
 1.2.3 I Escarpment ✓
 1.2.4 B Sheetwash ✓
 1.2.5 H Peneplain ✓
 1.2.6 C Canyon ✓
 1.2.7 A Tectonic uplift ✓ (7 x 1) (7)
- 1.3 1.3.1 Planetary/Global/Primary winds ✓ (1 x 1) (1)
 1.3.2 Coriolis force ✓ (1 x 1) (1)
 1.3.3
 - It does not occur within 5° of the equator ✓
 - It is dependent on the strength of the wind/force is stronger when the wind is blowing faster ✓
 - It deflects the winds from their north-south direction ✓
 - The higher the pressure gradient, the greater the deflection ✓
 (Any 3 x 1) (3)
- 1.3.4
 - At the equator warm air expands and rises in convection currents ✓
 - Air from the subtropical high pressure regions are drawn towards the low pressure to replace the rising air ✓
 (2 x 1) (2)
- 1.3.5 **Hadley cell**
 - Hot air rises from the surface ✓✓
 - The risen air diverges in the upper air, moves poleward, and cools ✓✓
 - The cooled air subsides at about 30° north and south ✓✓
 - At the surface, the subsiding air diverges and some of the air returns to the equator ✓✓**Ferrel cell**
 - Air subsides at 30°; warms and diverges at the surface ✓✓
 - At about 60°, poleward moving warmer air meets cold air from the pole ✓✓
 - Colder air forces warmer air to rise causing the polar front to form at 60° north and south ✓✓

- Convergence causes air to rise, in the upper air the rising air diverges ✓✓
- The diverging air moves to the equator and then subsides at 30° north and south ✓✓

Polar cell

- Cold air subsides over the pole ✓✓
- It meets warm air from the Ferrel cell at about 60° ✓✓
- Converging air at 60° rises and moves polewards ✓✓

[ANY FOUR. MUST REFER TO ALL THREE CELLS. ACCEPT OTHER REASONABLE ANSWERS]

(Any 4 x 2) (8)

- 1.4 1.4.1 (a) A – High ✓
C – Low ✓ (2 x 1) (2)
- (b) Cold ✓ (1 x 1) (1)
- 1.4.2 4 hectopascals/millibars ✓ (1 x 1) (1)
- 1.4.3 Each long line represents 10 knots and each short line represents 5 knots, therefore Cape Town has a wind speed of 15 knots and PE a wind speed of 10 knots ✓✓ (1 x 2) (2)
- 1.4.4 Marion island ✓ (1 x 1) (1)
- 1.4.5 The geostrophic wind blows parallel to the isobars at Marion island ✓✓ (1 x 2) (2)
- 1.4.6
- Temperature of 30 °C ✓
 - Dew point of 22 °C ✓
 - Wind direction of south west/south southwest ✓
 - Wind speed of 10 knots ✓
 - Cloud cover of $\frac{3}{4}$ ✓
 - No precipitation ✓
 - Pressure gradient between 1012 and 1016 hectopascals ✓
- (Any 4 x 1) (4)
- 1.5 1.5.1 *Mass movement* refers to the downward movement of weathered material such as soil, stones and rocks on a slope as a result of the force of gravity ✓ [CONCEPT] (1 x 1) (1)
- 1.5.2 (a) Mudflow:
High water content ✓ between 1 cm per second and 10 m per second ✓ (2 x 1) (2)
- (b) Rockfalls:
Low water content ✓ between 1 m per second and 100 m per second ✓ (2 x 1) (2)

- 1.5.3
- Thin soils are unstable as there is less vegetation hence the movement is fast ✓✓
 - Unconsolidated sandy soils move more easily downhill and the movement is faster than thin soils ✓✓
 - Soils which are not porous become saturated and move downhill faster than unconsolidated sandy soils ✓✓ (Any 2 x 2) (4)

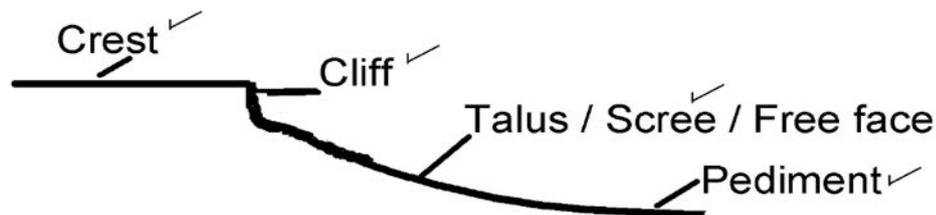
- 1.5.4
- Valuable soil is lost ✓✓
 - It takes years for vegetation to re-establish itself ✓✓
 - Habitats for animals are destroyed ✓✓
 - Forests and grasslands are destroyed ✓✓
 - Landslides and slumps can block river valleys and dam up rivers ✓✓
 - Sediment that reaches rivers reduces the quality of water, which can have a negative impact on fish in rivers ✓✓
 - Large landslides and slumps can alter the shape of the land, causing slopes to recede, mountains to become lower and valleys to be built up ✓✓ (Any 3 x 2) (6)

1.6 1.6.1 Mesas ✓ (1 x 1) (1)

1.6.2 Composed of resistant, ✓ horizontally lying strata ✓ (1 x 2) (2)

1.6.3 C has a pointed top instead of a flat top ✓✓ (1 x 2) (2)

1.6.4



(4 x 1) (4)

- 1.6.5
- Location of escarpment changes over time ✓✓
 - The cap rock of flat topped hills is not easily eroded ✓✓
 - The cap rock is undermined and eventually collapse ✓✓
 - A talus slope is formed ✓✓
 - Talus is chemically and mechanically weathered and removed through water and wind erosion ✓✓
 - The process of undermining resumes ✓✓ (Any 4 x 2) (8)

[75]

QUESTION 2

- 2.1 2.1.1 C ✓ influence of gravity on a slope.
 2.1.2 A ✓ form in horizontal layers.
 2.1.3 D ✓ shape of the land.
 2.1.4 A ✓ important tourist attractions.
 2.1.5 C ✓ develop in well-jointed igneous rock.
 2.1.6 A ✓ horizontal and uniformly resistant to erosion.
 2.1.7 B ✓ exogenic forces.
 2.1.8 D ✓ primary erosion slopes. (8 x 1) (8)
- 2.2 2.2.1 hectopascals ✓
 2.2.2 isobars ✓
 2.2.3 pressure gradient ✓
 2.2.4 (a) high pressure ✓
 (b) low pressure ✓
 2.2.5 four ✓
 2.2.6 divergence ✓ (7 x 1) (7)
- 2.3 2.3.1 Insolation is incoming solar radiation ✓ (1 x 1) (1)
 2.3.2 latitude ✓ (1 x 1) (1)
 2.3.3 The angle at which the sun's rays strike the earth ✓ (1 x 1) (1)
 2.3.4 Tropical zone/Equatorial low ✓ (1 x 1) (1)
- 2.3.5
- The smaller the angle, the more atmosphere for the rays to pass through ✓✓
 - Thus more radiation gets lost through absorption or reflection and less will reach point Y ✓✓
 - The smaller the angle of the incoming rays, the greater the radiation is spread over the earth, and less energy is received at Y ✓✓
- (Any 2 x 2) (4)
- 2.4 2.4.1 > 10 years which is the least frequent ✓ (1 x 1) (1)
- 2.4.2 DRC ✓ (1 x 1) (1)
- 2.4.3
- Poor farming techniques (accept examples) ✓✓
 - Deforestation ✓✓
 - Extensive urban landscapes ✓✓
 - Increase use of greenhouse gases ✓✓
- (Any 2 x 2) (4)
- 2.4.4 Due to the abnormal conditions of higher temperatures on the earth's surface, certain areas have now become areas that experience drought conditions ✓✓ (1 x 2) (2)
- 2.4.5
- Difference in population numbers ✓✓
 - Better water management strategies ✓✓
- (Accept any relevant answer) (Any 2 x 2) (4)

- 2.4.6
- Reduced crop production leads to famine and malnutrition ✓✓
 - People die from starvation and malnutrition ✓✓
 - Meat prices drop at first as farmers slaughter animals to avoid higher costs of feed ✓✓
 - Meat prices rise sharply as meat supplies become scarce ✓✓
 - Products bought by farmers become more expensive ✓✓
 - The number of exports is reduced ✓✓
 - Food has to be imported/Food insecurity ✓✓
 - Industries associated with farm products suffer ✓✓
 - Job losses in farming and industry result in more poverty ✓✓
 - There is less income from tourism ✓✓
 - More people move from rural areas to urban areas ✓✓
 - Urban overcrowding puts pressure on water resources in urban areas ✓✓
 - People die from heat stress ✓✓
 - Puts strain on government financial resources as they have to import food rather than use it on needy development projects ✓✓
- (Accept any relevant answer) (Any 4 x 2) (8)
- 2.5 2.5.1 A – Cuesta ✓
B – Homoclinal ridge ✓
C – Hogsback ✓ (3 x 1) (3)
- 2.5.2 Sedimentary ✓ (1 x 1) (1)
- 2.5.3
- Inclined rocks with different resistance to erosion ✓✓
 - Soft rock erodes away more quickly than hard rock ✓✓ (2 x 2) (4)
- 2.5.4
- The dip slope is 10–25° to the horizontal ✓✓
 - Folding can result in cuesta basins and cuesta domes ✓✓ (2 x 2) (4)
- 2.5.5
- Farming can take place on dip slopes ✓✓
 - Roads and railways can be built parallel to these landscapes ✓✓
 - Gaps or poorts between homoclinal ridges can be good sites to build dams ✓✓
 - Cuesta basins yield artesian water ✓✓
 - Cuesta domes may contain oil and natural gas (fracking) ✓✓
 - Fertile valleys and plains between cuestas are suitable for human settlements ✓✓
 - These ridges are used for forestry, tourism, recreation and nature conservation ✓✓
 - These ridges can be used for defence purposes ✓✓
- (Accept any relevant answer) (4 x 2) (8)

- 2.6 2.6.1 *Intrusive igneous rocks* form when molten magma solidifies deep below the surface ✓ while *extrusive igneous rocks* form when magma flows/erupts onto the surface and solidifies rapidly due to contact with the air ✓ (2 x 1) (2)
- 2.6.2 A – Batholith ✓
B – Laccolith ✓
C – Pipe ✓ (3 x 1) (3)
- 2.6.3 A – Domes/Tors ✓ (1 x 1)
C – Structural terraces/Mesas/Buttes/Plateau/Canyon ✓ (Any 1 x 1) (2)
- 2.6.4
- When magma is squeezed between layers of rock deep underground, the heat and pressure of the large body of magma causes the underlying rocks to sag. ✓✓
 - This allows the magma to cool and solidify in a dish slope or saucer shape. ✓✓ (2 x 2) (4)
- 2.6.5 Bushveld lopolith/Bushveld igneous complex ✓ (1 x 1) (1)

[75]

SECTION B: DEVELOPMENT GEOGRAPHY AND RESOURCES AND SUSTAINABILITY

QUESTION 3

- 3.1 3.1.1 NIC ✓
 3.1.2 LDC ✓
 3.1.3 LDC ✓
 3.1.4 MDC ✓
 3.1.5 MDC ✓
 3.1.6 LDC ✓
 3.1.7 MDC ✓
 3.1.8 NIC ✓ (8 x 1) (8)
- 3.2 3.2.1 Unreliable ✓
 3.2.2 Kyoto protocol ✓
 3.2.3 Preservation ✓
 3.2.4 Humus ✓
 3.2.5 Afforestation ✓
 3.2.6 Renewable ✓
 3.2.7 Eskom ✓ (7 x 1) (7)
- 3.3 3.3.1 Activities that a given society considers appropriate for men and women ✓ [CONCEPT] (1 x 1) (1)
- 3.3.2 $33\frac{1}{3}\%$ (1 x 1) (1)
- 3.3.3
- Tradition dictates that women are responsible for growing and producing food ✓✓
 - Women are frequently excluded from decision making ✓✓
 - Women are excluded from higher education and learning ✓✓
 - Women have less access to resources like employment ✓✓
 - Women are not allowed to own land ✓✓
 - Women are seen as subordinate to men ✓✓
- (Accept any relevant answer) (Any 2 x 2) (4)
- 3.3.4
- New laws for women to receive better education ✓✓
 - Women should have access to land ownership ✓✓
 - Women should be employed in management positions ✓✓
 - Women should have better access health care facilities ✓✓
 - There should be more women in government to affect decision making ✓✓
- (Accept any relevant answer) (Any 4 x 2) (8)

- 3.4 3.4.1 Systems linking all the economies of different countries closer together ✓ [CONCEPT] (1 x 1) (2)
- 3.4.2
- Has encouraged the liberalisation of trade ✓✓
 - Better networks for sharing knowledge and fostering relationships ✓✓
 - Led to the regulation of global economic activities ✓✓
 - Free movement of people, goods and ideas between countries ✓✓
 - Stimulated production, trade and economic growth ✓✓
 - More people employed in a global workforce ✓✓
- (Accept any relevant answer) (Any 2 x 2) (4)
- 3.4.3
- Importing cheaper clothing from China is more viable ✓✓
 - This has rendered local business unprofitable ✓✓
- (Accept any relevant answer) (Any 2 x 2) (4)
- 3.4.4
- Offers low wages ✓✓
 - Highly productive workforce ✓✓
 - Sources cheaper raw materials ✓✓
 - They market good quality products ✓✓
- (Accept any relevant answer) (Any 2 x 2) (4)
- 3.5 3.5.1 A non-conventional energy source which is renewable ✓ (1 x 1) (1)
- 3.5.2
- Village is in a remote area ✓✓
 - It is not linked to Eskom's electricity grid ✓✓
 - Financial constraints ✓✓
- (Any 1 x 2) (2)
- 3.5.3 Solar panels ✓ (1 x 1) (1)
- 3.5.4
- Access to clean, safe energy at home ✓✓
 - Use of better cooking facilities ✓✓
 - Refrigerate food to reduce the risk of disease and illness ✓✓
 - Job creation in the energy sector ✓✓
- (Accept any relevant answer) (Any 2 x 2) (4)
- 3.5.5
- Reduces dependence on fossil fuels ✓✓
 - It is a renewable resource ✓✓
 - It is a sustainable resource ✓✓
 - Protects the environment ✓✓
 - Helps diversify energy resources ✓✓
 - It is a solution to global warming and climate change ✓✓
 - Helps benefit the achievement of the United Nations Millennium development goals ✓✓
 - It is compliant with the Kyoto protocol ✓✓
 - It fulfils the aims and objectives of Agenda 21 ✓✓
- (Accept any relevant answer) (Any 4 x 2) (8)

- 3.6 3.6.1 1 – O-horizon ✓
 2 – A-horizon ✓
 3 – B-horizon ✓
 4 – C-horizon ✓
 5 – R-horizon ✓ (5 x 1) (5)
- 3.6.2 There is no roots and surface vegetation to stop wind or water from carrying away soil ✓✓ (1 x 2) (2)
- 3.6.3 • It provides water for chemical weathering ✓✓
 • This influences biological processes ✓✓
 • The dissolved minerals and nutrients then trickle down through the soil, in the process called leaching ✓✓ (3 x 2) (6)
- 3.6.4 • Allows nutrients to return and fertility to be restored ✓✓
 • Animals feeding on plants that grow on fallow land will add manure to the land ✓✓ (2 x 2) (4)
- [75]**

QUESTION 4

- 4.1 4.1.1 Renewable ✓
 4.1.2 Renewable ✓
 4.1.3 Non-renewable ✓
 4.1.4 Non-renewable ✓
 4.1.5 Renewable ✓
 4.1.6 Renewable ✓
 4.1.7 Non-renewable ✓
 4.1.8 Renewable ✓ (8 x 1) (8)
- 4.2 4.2.1 Terms of trade ✓
 4.2.2 Balance of trade ✓
 4.2.3 Balance of payments ✓
 4.2.4 Trade bloc ✓
 4.2.5 Tariff ✓
 4.2.6 Protectionism ✓
 4.2.7 Liberalisation of trade ✓ (7 x 1) (7)
- 4.3 4.3.1 Poverty ✓
 Aids ✓
 Hunger ✓
 Debt ✓ (Any 2 x 1) (2)
- 4.3.2 The cartoonist depicts the challenges as obstacles/difficulties preventing Africa from attaining development (1 x 2) (2)
- 4.3.3 Aid given by wealthy nations towards stimulating the growth of developing countries ✓✓ (1 x 1) (1)

- 4.3.4
- Encourages corruption ✓✓
 - Aid does not reach poor or marginalised people ✓✓
 - Financial loans have high interest rates which lock African countries into high repayments for many years ✓✓
 - Human and physical resources are exploited ✓✓
 - Does not encourage self-reliance ✓✓
 - Local markets are distorted ✓✓
- (Accept any relevant answer) (Any 3 x 2) (6)
- 4.3.5
- Specialised medical personal can be sent in ✓✓
 - Developed countries would respond to the emergency and provide crisis aid ✓✓
 - Primary health care, example immunisation programs and training of nurses would be provided ✓✓
 - Help with education of the virus ✓✓
 - Provide technical support to governments ✓✓
 - Can help to protect human rights ✓✓
 - Can provide water, food, medical supplies, clothing, shelter, etc. ✓✓
 - Examples of international organisations like International Red Cross, Doctors without borders, United Nations Organisation, Gift of the Givers, World food program and others would help ✓✓
 - Aid would be people focused and not country-focused ✓✓
 - Countries can send in soldiers/army to man quarantine stations ✓✓
- (Any 4 x 2) (8)
- 4.4 4.4.1 They are in the process of still developing their economies ✓
[CONCEPT] (1 x 1) (1)
- 4.4.2 Average amount of money available to each person in that country ✓
OR
The total value of goods and services produced in a country divided by the total population ✓ (Any 1 x 1) (1)
- 4.4.3
- Mass industrial growth led to growth in their economies ✓✓
 - Export orientated products lead to higher foreign income ✓✓
- (Any 1 x 2) (2)
- 4.4.4 It has the highest HDI ranking, which includes literacy as an indicator of development ✓✓ (1 x 2) (2)
- 4.4.5 Core-periphery model ✓✓ (1 x 1) (1)
- 4.4.6
- On a global scale, the USA, Europe and Japan are the major cores. The BRICS countries are the regions that span the distance between the core and the periphery ✓✓
 - On a national scale the capital cities of the BRICS countries are the major cores and the surrounding cities and towns are the peripheral areas from where they draw their resources ✓✓
- (2 x 2) (4)

- 4.5 4.5.1 The use of uranium to provide energy ✓ (1 x 1) (1)
- 4.5.2 It is generated from uranium which is a non-renewable mineral resource ✓ (1 x 1) (1)
- 4.5.3
- There has been an increase in population ✓✓
 - Coal is a non-renewable reserve and cannot meet all our needs ✓✓
 - There has been an increase in economic growth ✓✓ (Any 2 x 2) (4)
- 4.5.4
- Radiation is very dangerous to people and the environment ✓✓
 - Nuclear meltdown can occur releasing massive amounts of radiation ✓✓
 - Nuclear waste is very difficult to dispose of and is active for thousands of years ✓✓
 - Danger of tremors that can damage nuclear power stations and release dangerous radiation ✓✓
 - Reactors are very expensive to build and operate ✓✓
 - Danger of uranium being stolen and used to make nuclear weapons ✓✓
 - Threat of terror attacks on nuclear power stations ✓✓
- (Accept any relevant answer) (Any 4 x 2) (8)
- 4.6 4.6.1 Resources are substances, qualities or organisms that have use and value to a society ✓ (1 x 1) (1)
- 4.6.2
- Soil ✓
 - Land ✓
 - Trees ✓
 - Air ✓
 - Water ✓
- (Any 3 x 1) (3)
- 4.6.3
- Overpopulation ✓
 - Poverty ✓
 - Poor methods of resource use ✓
 - Unnecessary use of resources ✓
 - Development ✓
 - Pollution of resources ✓
 - Gaps in our understanding of the natural processes involved ✓
- (Any 2 x 2) (4)
- 4.6.4
- People must be educated about how to care of the environment and resources ✓✓
 - Use fewer resources ✓✓
 - Reduce waste production ✓✓
 - Develop alternative, less damaging methods of energy ✓✓
 - Develop more environmentally methods of farming ✓✓
- (Accept other relevant answers) (Any 3 x 2) (6)

[75]**TOTAL: 225**