

INSTRUCTIONS TO CANDIDATES:

1. This question paper consists of FOUR questions. Answer **ANY THREE** questions.
2. All diagrams are included in the ANNEXURE.
3. Number your answers exactly as the questions are numbered.
4. Write neatly and legibly.
5. This question paper consists of **8** pages with an annexure of **10** pages.

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

1.1 Refer to FIGURE 1.1 in the annexure and indicate whether the statements below refers to rainfall types A, B or C.

- 1.1.1 Storms, lightening and hail is common.
- 1.1.2 Made up of cold and warm masses of air.
- 1.1.3 Common in Drakensberg mountains.
- 1.1.4 Beneficial to farmers on the highveld.
- 1.1.5 Represents orographic or relief rainfall.
- 1.1.6 Occurs in Cape Town during winter.
- 1.1.7 This rainfall can be destructive.
- 1.1.8 Has a windward and shadow side.

[8]

1.2 Match the statements in Column A with the correct terms in Column B. Write down 1.2.1 to 1.2.7 and the letter next to each from Column B.

COLUMN A	COLUMN B
1.2.1 The outer-most layer of the earth.	A. Mantle ✓
1.2.2 A slight bend on the earth's crust.	B. Inner-Core ✓
1.2.3 Movement of plates due to convection currents in earth's mantle.	C. Compressive force ✓
1.2.4 Solid in nature consisting of nickel and iron.	D. Sial
1.2.5 Refers to the collision of plates.	E. Warping
1.2.6 Plastic in nature called peridotite.	F. Plate Tectonics
1.2.7 This term refers to the oceanic crust.	G. Crust ✓
	H. Sima

1.3 Study FIGURE 1.3 in the annexure showing the structure of the atmosphere and answer the questions.

- 1.3.1 Define the term atmosphere. (1)
- 1.3.2 Name layers B and D. (2)
- 1.3.3 What gas makes up most of the atmosphere? (1)
- 1.3.4 Identify the lapse rate in layer A and D. (2)
- 1.3.5 Name the upper-limit of the atmosphere at C. (1)
- 1.3.6 Why do aircraft choose to fly in the lower part of layer B? Give 2 reasons. (4)
- 1.3.7 Explain the importance of layer A to humans. (4)
- [15]

1.4 Study the extract FIGURE 1.4 in the annexure and answer the questions.

- 1.4.1 Why is the ozone layer important to humans? (2)
- 1.4.2 In which layer is the ozone found? (1)
- 1.4.3 State two ways in which the thinning of the ozone layer is affecting life on earth. (4)
- 1.4.4 Write a paragraph (about 8 lines) on strategies we could use to reduce ozone depletion. (8)
- [15]

1.5 Study the cartoon in FIGURE 1.5 in the annexure and answer the questions.

- 1.5.1 What term is used to describe the movement of earth depicted in the source? (1)
- 1.5.2 Name the scientist that postulated this theory whereby the continents move. (1)
- 1.5.3 State the name given to the giant landmass. (1)
- 1.5.4 Give three pieces of evidence that supports this theory where the landmass moves. (6)
- [9]

1.6 Study FIGURE 1.6 on volcanoes in the annexure and answer the questions.

- 1.6.1 Identify the type of volcano. (2)
- 1.6.2 Give a reason for your above answer. (2)
- 1.6.3 Differentiate between the terms lava and magma. (4)
- 1.6.4 Identify the extrusive volcanic features labelled A, B and C. (3)
- 1.6.5 Differentiate between dormant volcanoes and active volcanoes. (4)
- 1.6.6 Discuss three importance of volcanoes to human. (6)
- [21]

SUB-TOTAL:75

Top here

Meaple

Thexmasple

QUESTION 2:

2.1 Match the following terms/processes from the list below with the statements provided.

Conduction, DALR, WALR, Insolation, Dew point temperature, Terrestrial radiation, Humidity, Precipitation, Droughts, Sublimation

- 2.1.1 When the earth gives off heat into the atmosphere.
- 2.1.2 Incoming radiation from the sun.
- 2.1.3 Condensation at 0° celcius.
- 2.1.4 The rate of heating or cooling is 1°C per 100m.
- 2.1.5 An extended period of dry weather with no rainfall.
- 2.1.6 The amount of water vapour in the air.
- 2.1.7 Refers to all forms of water.
- 2.1.8 Transfer of heat by contact.

[8]

2.2 Write down whether the statements below apply to sedimentary, methamorphic or igneous rocks.

- 2.2.1 Consists of fossils.
- 2.2.2 Used in the making of tombstones.
- 2.2.3 Originates from volcanic activity.
- 2.2.4 Basalt weathers to form fertile soil.
- 2.2.5 The rocks have beautiful colours.
- 2.2.6 These rocks have layers of sediments.
- 2.2.7 Marble is used for monuments.

[7]

2.3 Study the synoptic map in FIGURE 2.3 in the annexure and answer the questions.

- 2.3.1 Identify the type of isolines drawn on the map. (1)
- 2.3.2 What is the atmospheric pressure at A. (1)
- 2.3.3 Describe the weather at Upington under the following headings:
 - 2.3.3.1 Air temperature
 - 2.3.3.2 Dew point temperature
 - 2.3.3.3 Wind speed
 - 2.3.3.4 Cloud cover
 - 2.3.3.5 Wind direction(5)
- 2.3.4 Name the fronts labelled:
 - 2.3.4.1 A
 - 2.3.4.2 B(2)

2.3.5 Does the map represents winter or summer conditions? Give a reason. (3)

2.3.6 Is X a low pressure or high pressure system? Give a reason for your answer. (3)

[15]

2.4 Study the climate graphs and sketch map of Durban and Cape Town in FIGURE 2.4 in the annexure and answer the questions.

2.4.1 Refer to the graphs of Durban and Cape Town. During which season is the highest rainfall recorded in each city. (4)

2.4.2 Does Durban have a continental or maritime climate? Give a reason for your answer. (4)

2.4.3 Calculate the temperature range between Durban and Port Nolloth. (2)

2.4.4 Identify the ocean current that flows past Cape Town. (2)

2.4.5 List 3 other factors that affect horizontal variation of temperature besides the one shown on the map. (3)

[15]

2.5 Read the case study on earthquakes in FIGURE 2.5 in the annexure and answer the questions.

2.5.1 Define the following terms:

2.5.1.1 Epicentre

2.5.1.2 Seismologist (4)

2.5.2 Explain briefly the cause of earthquakes. (2)

2.5.3 How would you interpret the earthquake measurement of 7.0 on the Richter scale? (1)

2.5.4 Write a paragraph (about 8 lines) on the effects of earthquakes. (8)

[15]

2.6 Refer to FIGURE 2.6 in the annexure which shows landforms associated with faulting and answer the questions.

2.6.1 Define the term faulting. (2)

2.6.2 Identify features A and B. (2)

2.6.3 Explain how feature A is formed. (3)

2.6.4 State 2 ways in which feature A is a hindrance (problem) to human. (4)

2.6.5 Discuss two ways how feature B is a benefit to people. (4)

[15]

SUB-TOTAL: 75

SECTION B: POPULATION AND WATER RESOURCES

Downloaded from Stanmorephysics.com

QUESTION 3:

3.1 Give one word / term for each of the following description by choosing a word / term from the list below. Write only the word / term next to the question number (3.1.1 - 3.1.8)

population distribution, population density, census, literacy rate, "brain drain", life expectancy, birth rate, infant mortality, death rate

- 3.1.1 The number of people that live per square kilometre.
- 3.1.2 The percentage of people that can read and write.
- 3.1.3 The loss of professional people from a country.
- 3.1.4 Shows the spread of people over an area.
- 3.1.5 The number of children that die per 1000 people of the population.
- 3.1.6 The average number of years that a person is expected to live.
- 3.1.7 A survey done to count all the people that live in a country.
- 3.1.8 The total number of live birth per 1000 people of the population.

[8]

3.2 Refer to SOURCE 3.2 in the annexure which illustrates the hydrological cycle. Replace the letters A to G in the statements below with the correct geographical terms.

- 3.2.1 A is the largest reservoir of water on earth.
- 3.2.2 B is the process whereby water changes to water vapour.
- 3.2.3 C is the process whereby water vapour changes to water.
- 3.2.4 D is any form of moisture released from the atmosphere to the earth's surface.
- 3.2.5 E is water that flows on the earth's surface after it has rained.
- 3.2.6 F is the process whereby moisture is released from plants into the atmosphere.
- 3.2.7 G is the process whereby water reaches the groundwater.

[7]

3.3 Refer to the cartoon (FIGURE 3.3) in the annexure and answer the questions below.

- 3.3.1 Define the term 'rural - urban migration'. (2)
- 3.3.2 Does the cartoon (figure 3.3) in the annexure depict push or pull factors? Give a reason for your answer. (2)
- 3.3.3 Explain two consequences that this movement will have on the rural areas. (4)
- 3.3.4 State three challenges experienced by a city as a result of people moving there. (6)
- 3.3.5 Discuss three solutions that can be used to reduce the number of people who leave the rural areas. (6)

[20]

3.4 Refer to the case study (FIGURE 3.4) in the annexure and answer the questions based on it.

- 3.4.1 Define the term 'flooding'. (2)
- 3.4.2 What physical phenomenon caused the 2011 flooding? (2)
- 3.4.3 According to the report in the case study, about 20 000 people needed emergency relief. What do you understand by the concept 'emergency relief'? (2)
- 3.4.4 Explain the impact that the flooding had on the farmers living in the area. (4)
- 3.4.5 The South African government admitted that it could have done more to prepare for the floods. Write a paragraph of approximately 8 lines, suggest measures that the government could have taken to reduce the effects of flooding. (8)
- [18]

3.5 Refer to the information on HIV/AIDS in South Africa in FIGURE 3.5 in the annexure and answer the questions below.

- 3.5.1 Define the term death rate. (2)
- 3.5.2 Give a possible reason for the trend in the child mortality rate between 2000 and 2010. (2)
- 3.5.3 Give two reasons why South Africa has such a high level of HIV/AIDS - related deaths. (4)
- 3.5.4 Discuss two measures that can be put in place to reduce HIV/AIDS - related deaths in South Africa. (4)
- [12]

3.6 Refer to FIGURE 3.6 in the annexure and answer the questions that follow.

- 3.6.1 What does exploitation of fish stocks mean? (2)
- 3.6.2 Describe one of the problems associated with fish losses. (2)
- 3.6.3 Suggest three ways in which the fishing industry can be regulated so that it becomes and remains sustainable. (6)
- [10]

SUB-TOTAL: 75

QUESTION 4:

4.1 Study the two population pyramids in FIGURE 4.1 in the annexure. They represent two different countries. Indicate which pyramids A or B, is referred to in each of the descriptions below.

- 4.2.1 The country with high birth and death rates.
- 4.2.2 The country showing a slow population growth.
- 4.2.3 A triangular population pyramid.
- 4.2.4 The country with a high life expectancy.
- 4.2.5 The country with a large number of young people.
- 4.2.6 The country with a large number of adults.
- 4.2.7 The country with a high life expectancy for females older than 80 years.

[7]

4.2 Read the excerpt in FIGURE 4.2 in the annexure and answer the following questions.

- 4.2.1 Explain the meaning of the following terms:
 - 4.2.1.1 Refugee (2)
 - 4.2.1.2 Xenophobia (2)
- 4.2.2 Name any one other African country (excluding Zimbabwe) from where South Africa attracts refugees. (2)
- 4.2.3 Give two reasons why Zimbabweans leave their country. (4)
- 4.2.4 Explain why many South Africans do not want refugees in the country. (4)
- 4.2.5 State one positive impact that refugees might have on South Africa. (2)

[16]

4.3 Refer to FIGURE 4.3 in the annexure showing the importance of oceans and answer the questions below.

- 4.3.1 How do ocean currents form? (2)
- 4.3.2 Explain the wonder of the ocean by discussing:
 - 4.3.2.1 The ocean as a source of moisture. (2)
 - 4.3.2.2 The role of the ocean in world trade. (2)
- 4.3.3 Discuss how oceans influence the climate of South Africa. (2)
- 4.3.4 Human activities cause serious marine pollution.
 - 4.3.4.1 Identify two ways in which ships pollute the ocean. (4)
 - 4.3.4.2 Discuss the negative impact of pollution on the ocean. (2)

[14]

4.4 Refer to FIGURE 4.4 in the annexure that shows the population characteristics of Brazil and answer the following questions.

- 4.4.1 Is Brazil a developed or developing country? (2)
- 4.4.2 Give one reason for your answer to QUESTION 4.4.1. (2)
- 4.4.3 Give two possible reasons for the high birth rate in Brazil. (4)
- 4.4.4 Discuss the negative impact of a rapid population growth rate on Brazil. (4)
- 4.4.5 Suggest two methods that Brazil can use to reduce the rapid population growth in their country. (4)

[16]

4.5 Refer to FIGURE 4.5 in the annexure and answer the questions.

- 4.5.1 Name the sector that uses the largest volume of water. (2)
- 4.5.2 Explain why the sector mentioned in question 4.5.1 has such a high demand for water. (4)
- 4.5.3 State the total percentage increase in the demand for water in the sector mentioned in QUESTION 4.5.1 (2)
- 4.5.4 Why did the demand for water in the mines increase so significantly? (2)
- 4.5.5 The demand for water for irrigation will continue to grow significantly. Do you agree? Motivate your answer by giving two reasons. (4)
- 4.5.6 Write a paragraph of approximately eight lines, discuss government initiatives that can be used to secure South Africa's scarce water supply in the future. (8)

[22]

SUB-TOTAL: 75

FIGURE 1.1

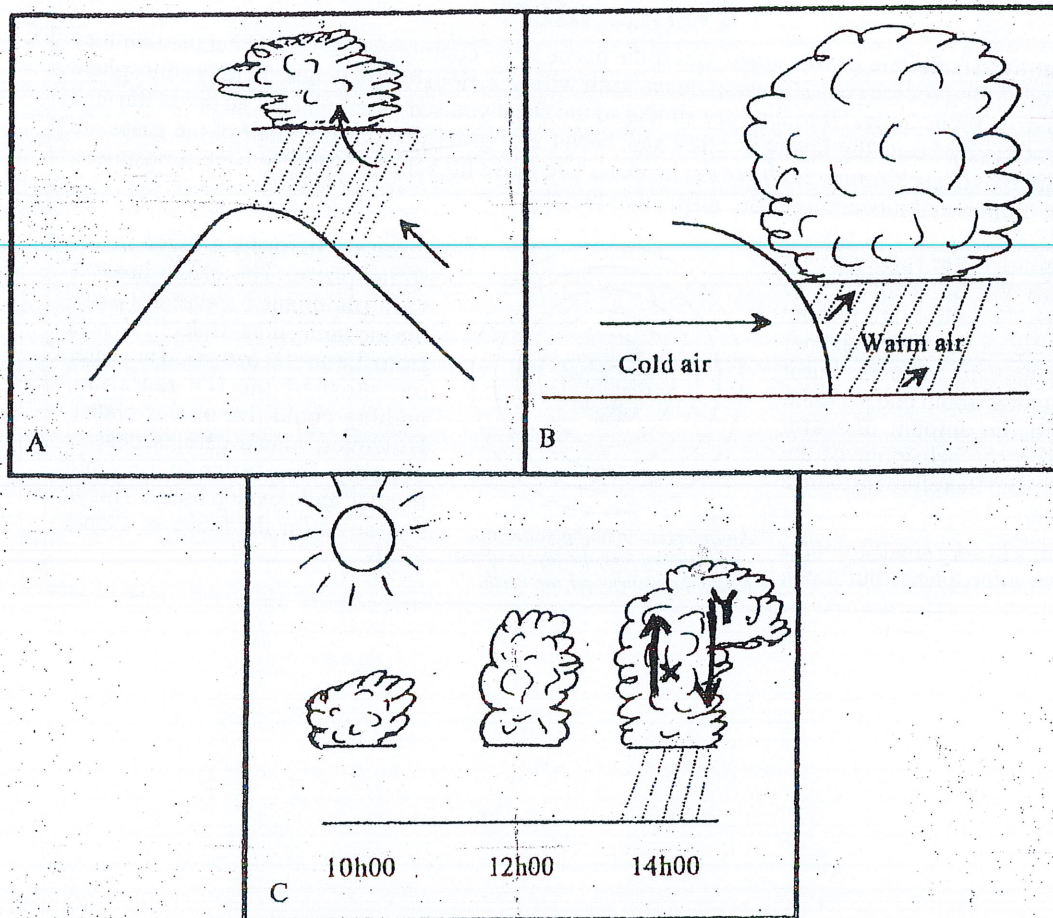


FIGURE 1.3

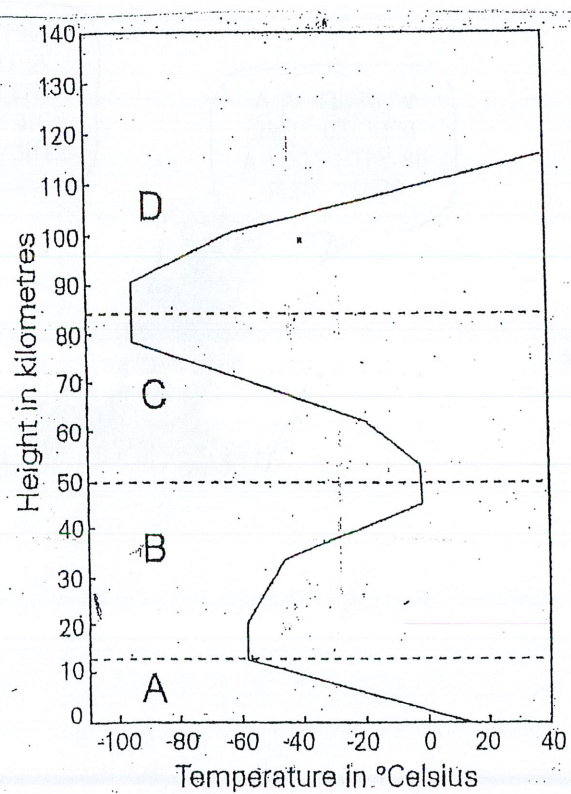


FIGURE 1.4

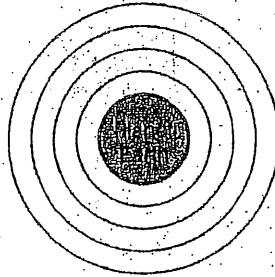
Study the extract before answering the questions that follow.

Ozone alert

Scientists at the South Pole have warned that if the ozone layer continues to be eroded at the rate they have been recording for the past 20 years, life on Earth will be seriously threatened. Earth's atmosphere is made up of gaseous layers. It looks very similar to the rings you see when you cut an onion through the middle. Gravity keeps the layers in place and, because of gravity, more than half of the gases are found within five or six kilometres above sea level. As you move higher and higher into the atmosphere, the air gets thinner and it becomes more difficult to breathe.

The amount of water vapour in the atmosphere varies according to temperature. On a hot, humid day there may be as much as four per cent water vapour in the air, but it usually contains about one per cent. Changes in the amount of water vapour affect the behaviour of the atmosphere and therefore influence our weather.

Ozone occurs in very small amounts in the lower atmosphere, but much

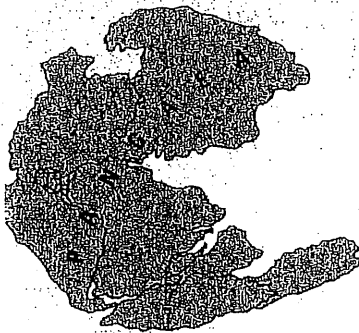


An onion cut in half gives us a good idea of how the layers of the atmosphere surround the earth

more of it forms a layer in the stratosphere. The ozone layer is very important because it blocks the incoming ultra-violet (UV) rays from the sun. If ozone did not filter out most of the UV radiation, nothing could live on our planet. However, man's carelessness is causing this layer to become thinner and develop holes. This is bad news for the future of Planet Earth.

FIGURE 1.5

The Earth's crust is moving



WEGENER IS A FOOL TO COME UP WITH SUCH A CRAZY IDEA!

FANCY SAYING THE CRUST IS LIKE JIGSAW PIECES FITTING TOGETHER – HE SHOULD STICK TO STUDYING THE WEATHER!



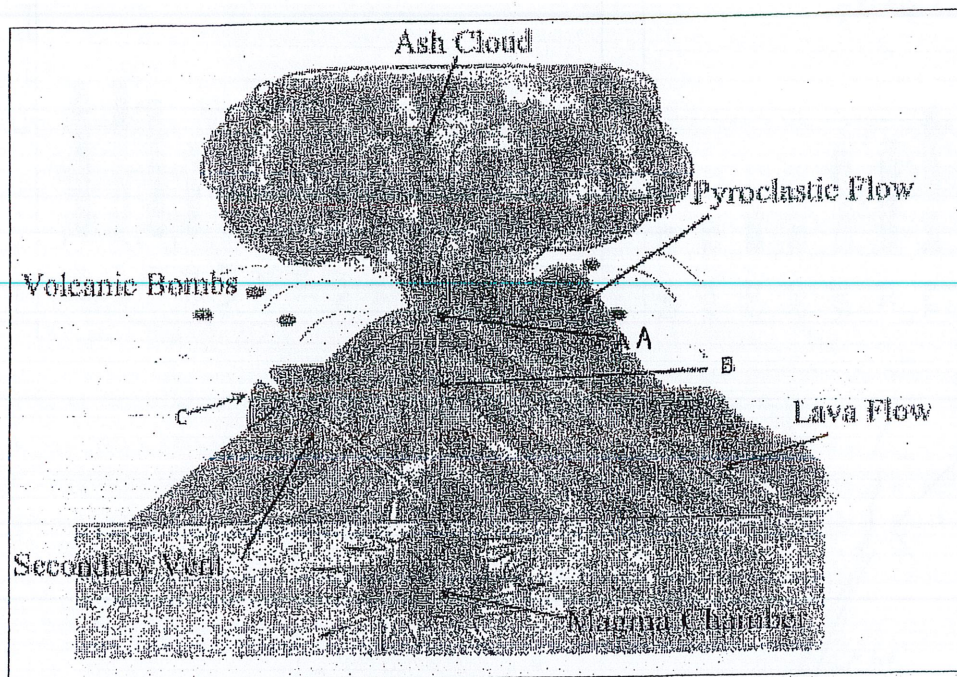


FIGURE 2.3

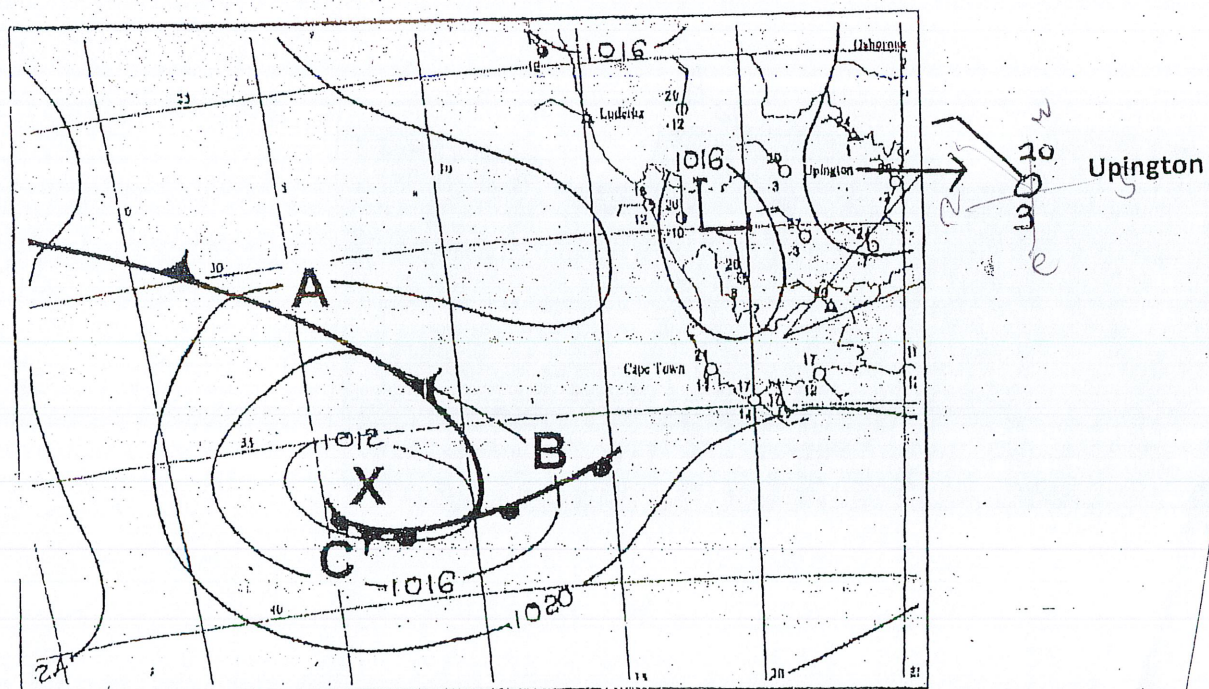


FIGURE 2.4

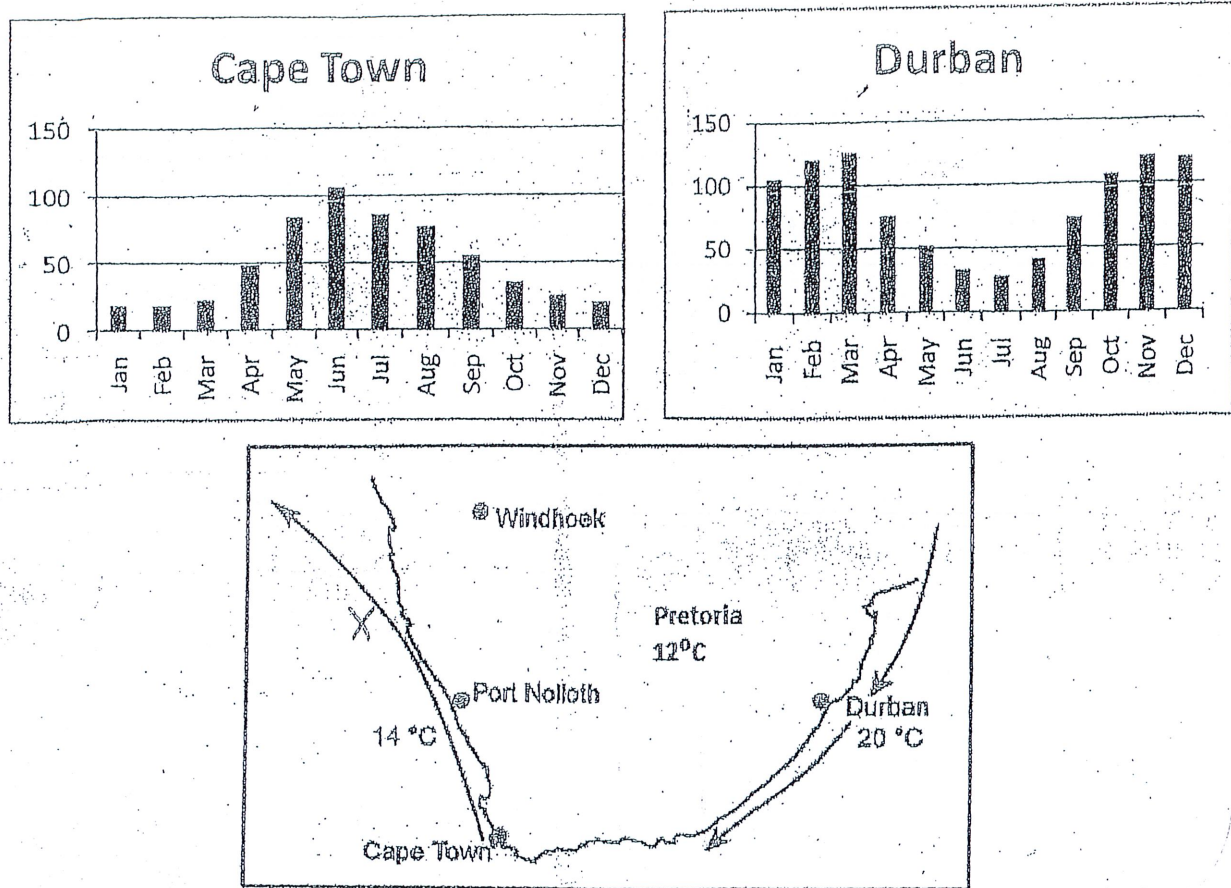


FIGURE 2.6

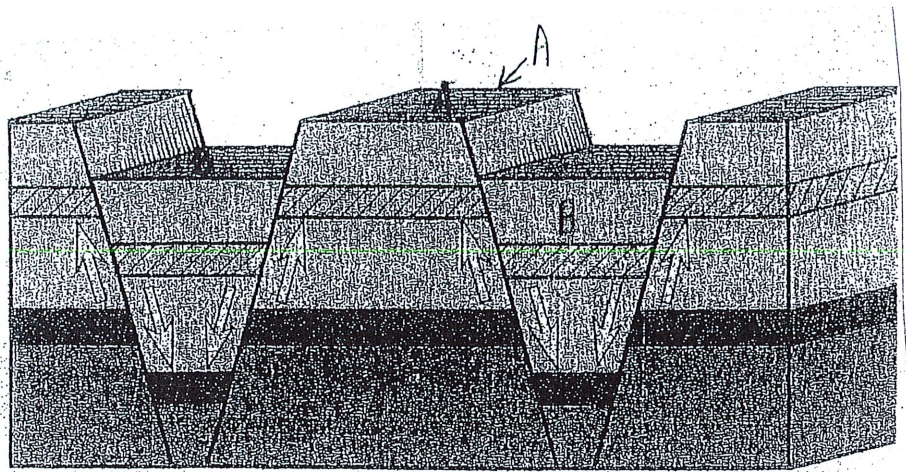


FIGURE 2.5

CASE STUDY: Haiti's devastating Earthquake

A devastating quake in January 2012, left Haiti's capital of Port-au-Prince in ruins, knocking down hospitals, prisons, churches, commercial buildings and several landmark buildings. The Presidential Palace and the Parliamentary Building were severely damaged. The five-storey UN Headquarters also collapsed killing many.

Approximately 316 000 people lost their lives, 300 000 were injured and 1 million were left homeless. Port-au-Prince's morgues were overwhelmed with tens of thousands of bodies which had to be buried in mass graves.

Rescue efforts were hampered by damage to infrastructure throughout the Capital. The quake affected three medical facilities causing one to be completely levelled. Roads were ripped apart and communications systems were disrupted. The near-complete power failures left Haiti, an impoverished island nation of 8 million, largely cut off from the world. Over 50 aftershocks have been recorded ranging from 4.5 all the way up to 5.9. Of these, 22 were of magnitude 5 or greater on the Richter Scale.

Many countries responded to the appeals for humanitarian aid by launching fund raising efforts and sending in search and rescue teams.

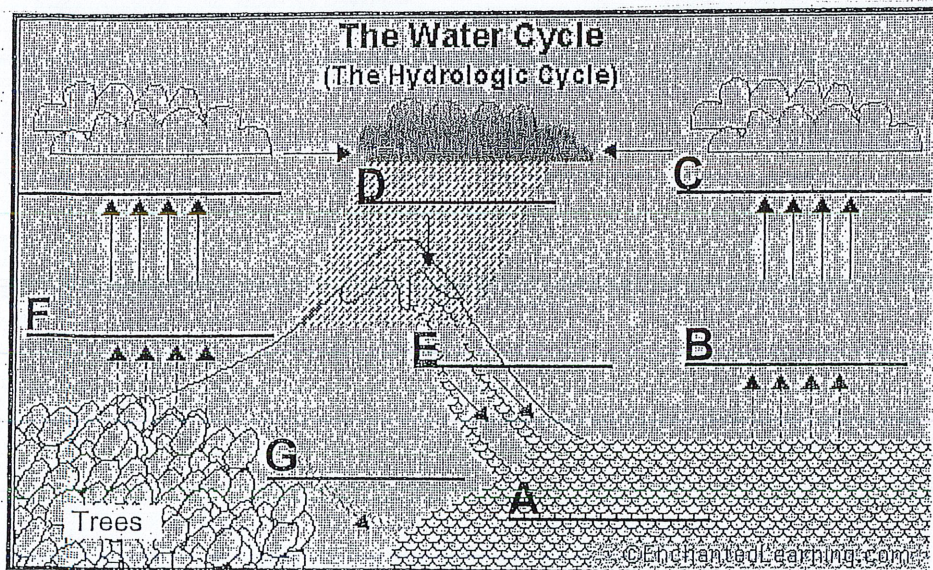
What made the Haiti Earthquake so devastating?

The Haiti quake occurred where the North American plate meets the Caribbean plate along the Enriquillo-Plantain Garden fault line. While the two plates creep eastwards by 2cm a year, the Enriquillo fault line has not been moved by an earthquake since the 18th Century resulting in pressure building up between the two tectonic plates.

The release of this seismic stress in a burst of energy caused the fault to finally give way causing the two sides of the fault line to move past each other, resulting in a major earthquake measuring 7.0 on the Richter Scale.

Seismologists say this earthquake was especially destructive because its epicenter was close to a major city (just 15 kilometres southwest of the capital of Port-au-Prince) and its hypocenter, or focal point, was close to the Earth's surface, approximately 10 kilometres below ground. This, they say, accounted for the violent ground shaking that damaged 80% of infrastructure in the Capital. American seismologist Burt Acker explains that deeper earthquakes cause lesser trembling as the energy loses intensity as it penetrates the earth's crust before moving upwards towards the earth's surface.

FIGURE 3.2



[Source: Google Image]

FIGURE 3.3



FIGURE 3.4

Downloaded from Stanmorephysics.com

The South African government admitted it could have been better prepared for floods that have killed more than 120 people. Weeks of above normal rains, caused by the "La Niña" weather phenomenon – also blamed for deadly floods in Brazil and Australia – have devastated thousands of homes and farms since mid-December.

Disasters have been declared in 33 municipalities in eight of South Africa's nine provinces. The Social Development Ministry puts the death toll at 123 with 13 000 homes having been destroyed. A further 20 000 people needed emergency relief, the ministry said.

Early damage assessment by organised agriculture is that farmers alone have suffered losses of two billion rand. "The rough estimate is one billion rand for crop damages

and the same amount more or less for infrastructure,"

said Dawie Maree, an economist with AgriSA. Small farmers were also hit hard. One woman looked out from her

flooded house in the Free State and said, "You can't even speak of crops in the fields. Everything is under water. I don't know what I am going to eat."

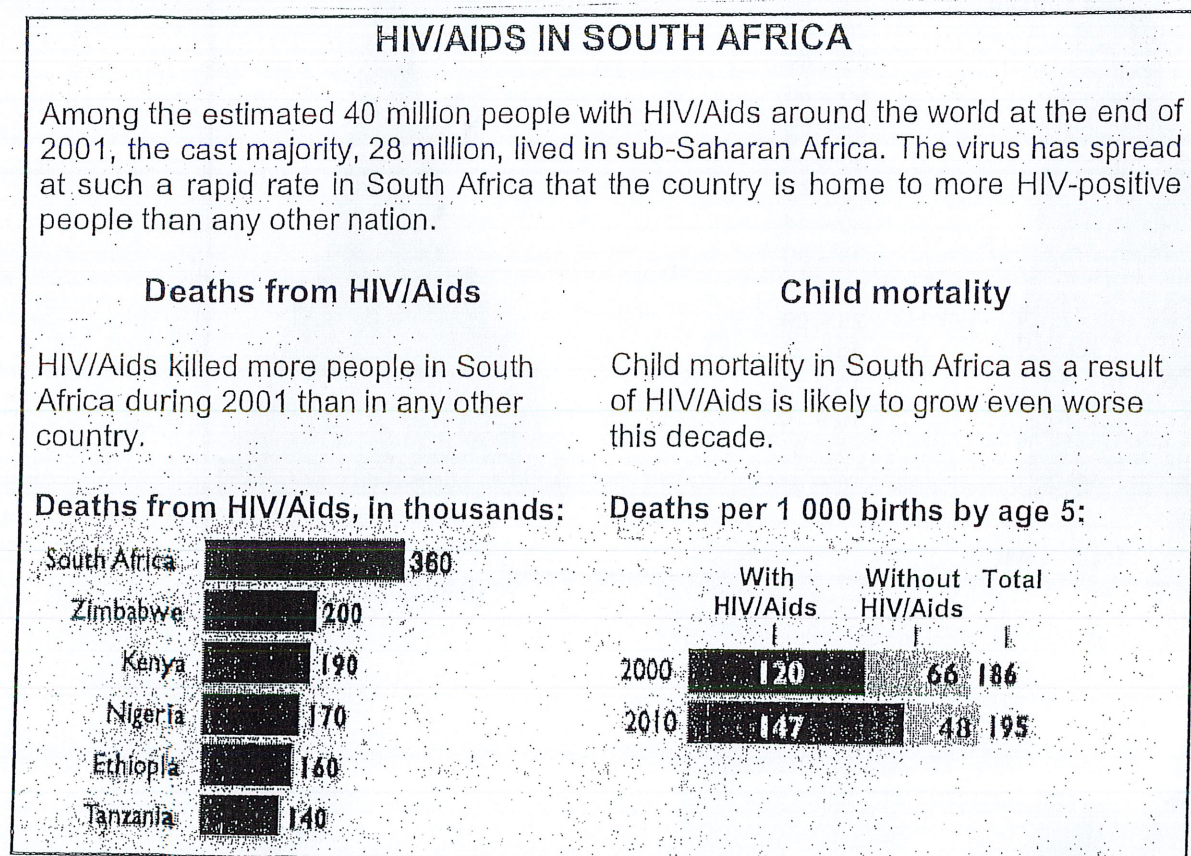
Maphaka Tau, a senior disaster official, said that more could have been done to limit the damage. Tau warned that rising dam levels would lead to the opening of further dam sluice gates. The country's biggest dam, the Gariep

Uplington.

Dam, is already 112 percent full and set to hit 122 percent of its capacity by Saturday.

(adapted from J. Gerardy, AFP, <http://newsinfo.inquirer.net/breakingnews/world/view/20110127-316867/South-Africa-braces-for-months-of-deadly-floods>)

FIGURE 3.5



[Source: Google]

FIGURE 3.6

RIPPLE EFFECT OF EXPLOITING FISH STOCKS

Kamcilla Pillay

Marine biologists predict that fish stocks will be depleted by 2050, upsetting the delicate balance of the world's oceans. The loss of fish will have a domino effect (an effect on one level will affect the next level) where other species are affected, for example whales will have a shortage of food.

This is made worse by the increasing death of coral reefs. Corals store carbon, and this will have an impact on the climate. There is a serious need to investigate other means of harvesting fish.

[Source: *Daily News*, June 2011]

FIGURE 4.1

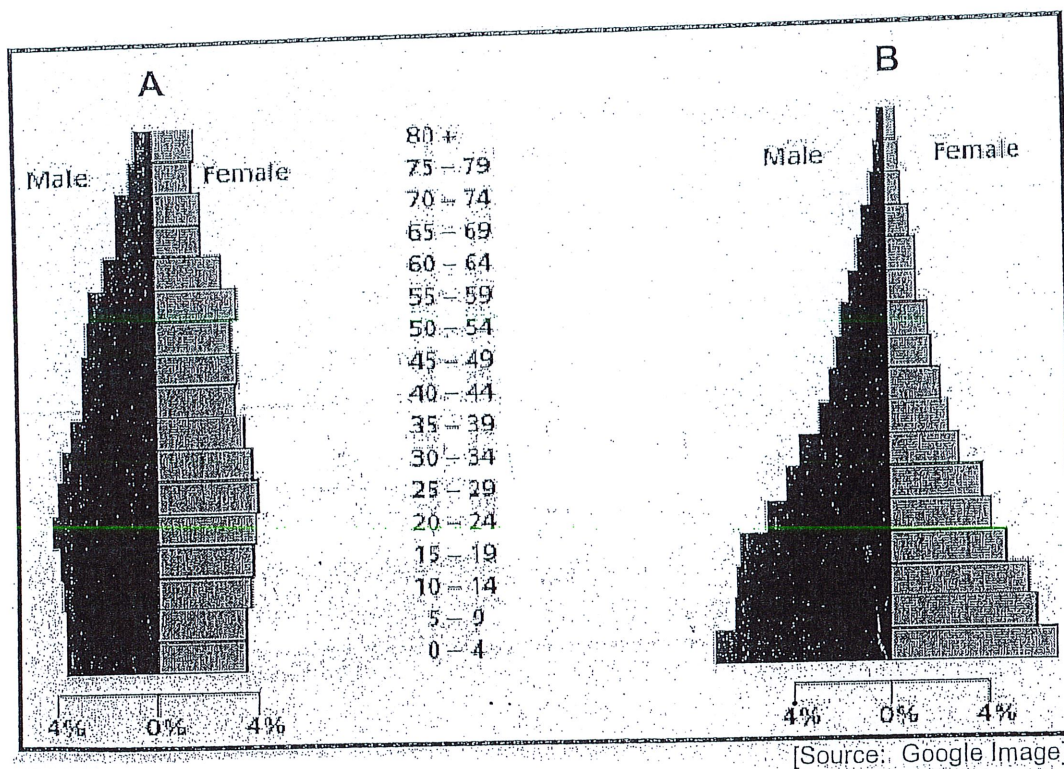


FIGURE 4.2

REFUGEES FLEE SA ATTACKS

John left Zimbabwe hoping for sanctuary in South Africa. Now he fears for his life. 'I left home to try and support my family. But it is better to starve at home than to die here'. A mob had attacked him in Johannesburg. They took all his belongings.

FIGURE 4.3

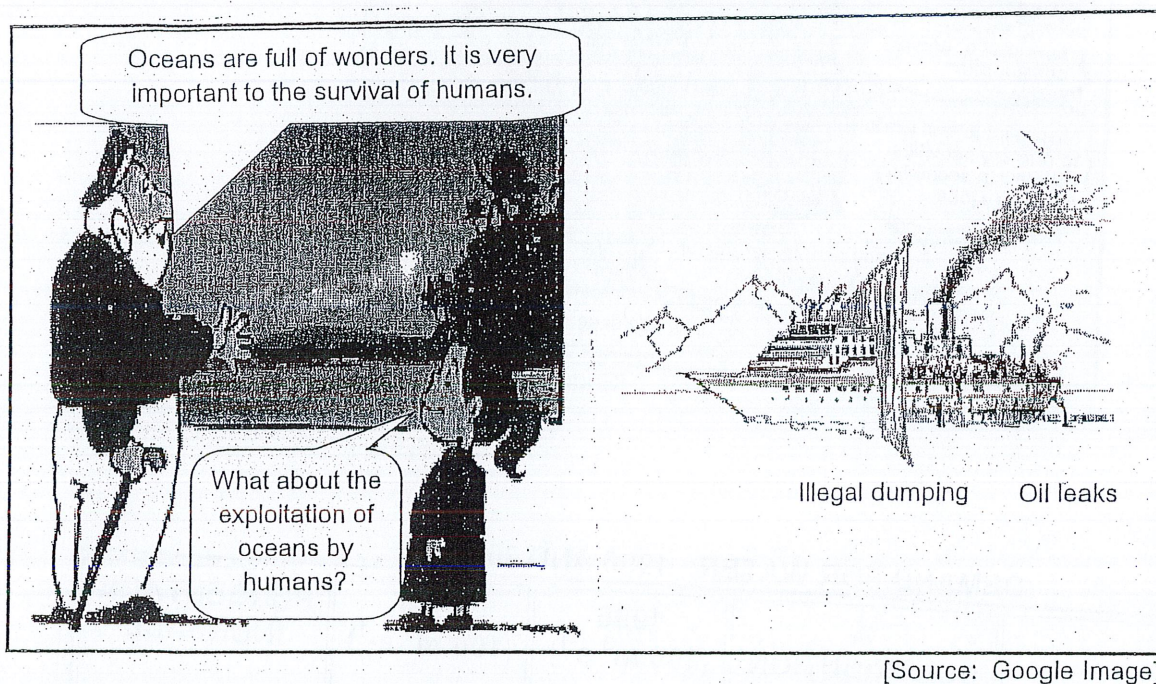
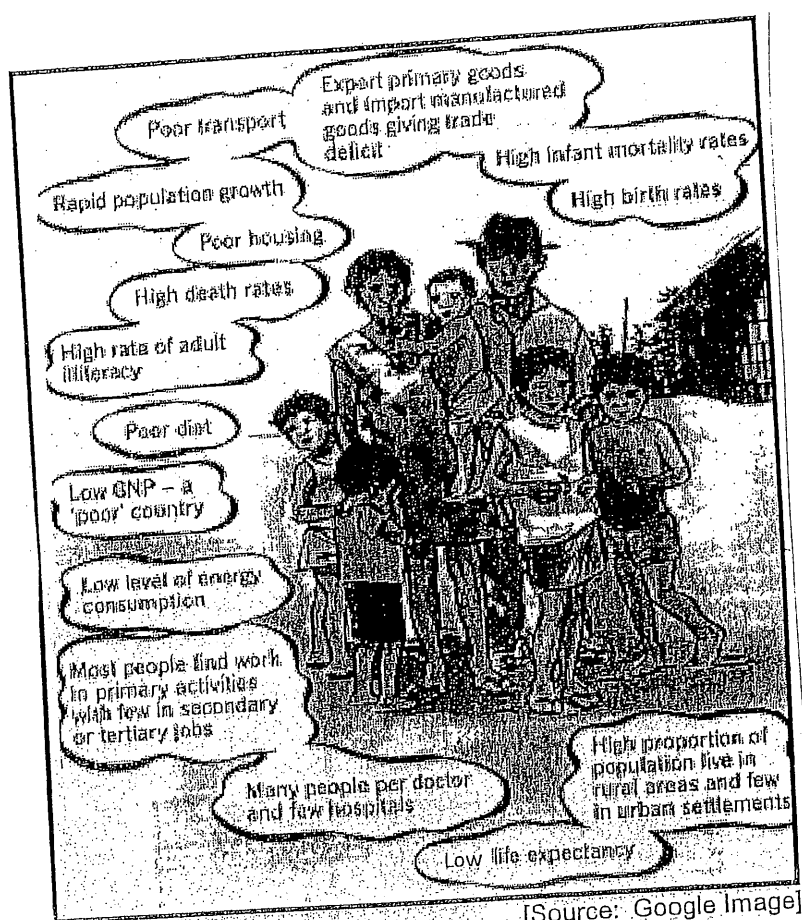


FIGURE 4.4



[Source: Google Image]

FIGURE 4.5

DEMAND FOR WATER: 1996 AND 2030

SECTOR	% CONTRIBUTION TO GDP	1996 (106 m ³ a ⁻¹)	2030 (106 m ³ a ⁻¹)	PERCENTAGE INCREASE
Urban and Domestic	-	2 171	6 936	219,5%
Mining and Industrial	37%	1 598	3 380	111,5%
Irrigation and Forestry	6%	12 344	15 874	28,6%
Environmental	-	3 932	4 225	7,5%
TOTAL	-	20 045	30 415	51,7%

[Source: Google]

Q1.

1.1.1 G

1.1.2 B.

1.1.3 A.

1.1.4 C.

1.1.5 A.

1.1.6 B.

1.1.7 C.

1.1.8 A.

8

1.2.1 G (Crust)

1.2.2 E (warping)

1.2.3 F (Plate tectonics)

1.2.4 B (Inner core)

1.2.5 C (Compressive force)

1.2.6 A (Mantle)

1.2.7 H (Sima)

7

1.3.1 Gaseous layer that surrounds the earth 1

1.3.2 B Stratosphere

D. Thermosphere

2

1.3.3 Nitrogen

1

1.3.4 A - Positive lapse rate

D - Negative lapse rate

2

1.3.5 Mesopause

1

1.3.6. Less turbulence

Horizontal flow of air pushes

the aircraft along. Saves fuel and time 4

1.37. Provides O_2 thus sustains life //
Supports plant and animal life //
Responsible for weather ^{or} forming
processes.

Filters and purifies the ^{or} atmosphere

4

[15]

1.4.1. Absorbs the dangerous UV rays and prevents
it from entering the lower atmosphere // 2

1.4.2. Stratosphere ✓

1.4.3. Exposure to UV rays causes skin cancer

Can cause cataracts of the eye leading
blindness. // 2x2 4

Causes early ageing ^{or} and weakens the
immune system

Stunts the growth ^{or} of plants and animals.

Cause premature ^{or} deaths.

Affect the weather ^{or} extreme climate change.

1.4.4. Switch to ozone friendly products. //

Farmers must switch from ozone depleting
pesticides and insecticides to organic
substances. // Replace CFC's used

in the manufacture of fridges, air conditioners
with ozone healthy alternatives like
hydrofluorocarbons. // Commit to reducing

the production of greenhouse gases //

Use cleaner sources ^{or} of energy, eg solar
power. Plant more trees. ^{or} Use public

transport. // Encourage recycling

4x2

8

[15]

1.5.1. Continental Drift

1.5.2. Alfred Wegener

1.5.3. Pangaea.

1.5.4. Continents fit like jigsaw pieces

Similar plant and animal fossils have been found along coastlines that seem to fit together in shape

Similar rocks occur with the same age and structure along the edge of coastlines. Coastlines and ^{or} mountain ranges are similar. Similar ^{or} mineral content along coastlines

3x 2 = 6

[9]

1.6.1. Composite

1.6.2. Made up of alternative layers of ash and lava.

Tall, towering volcano

1.6.3. Lava - Molten material that erupts

from the volcano and is found on the earth's surface

Magma - Molten rock found beneath the earth's surface

1.6.4. A Crater

B Central vent (pipe)

C Secondary cone (fissure)

1.6.5. Dormant volcano - Has not erupted in recent times.

Active volcano - Erupts regularly.

1.6.6. Creation of more land

Forms fertile soil

Formation of geysers - used for industrial purposes. ^{or} Ash can be used for building material. Emission of gases from volcanic activity can be used in industries. Tourist attraction. Brings precious minerals to the surface, eg, diamonds. Volcanic craters can be used to store water.

6

Subtotal - 75

[21]

Question 2

- 2.1.1. Terrestrial Radiation
- 2.1.2. Insolation
- 2.1.3. Dew point temperature
- 2.1.4. DALR
- 2.1.5. Droughts
- 2.1.6. Humidity
- 2.1.7. Precipitation
- 2.1.8. Conduction

(8)

- 2.2.1. Sedimentary
- 2.2.2. Igneous
- 2.2.3. Igneous
- 2.2.4. Igneous.
- 2.2.5. Metamorphic
- 2.2.6. Sedimentary
- 2.2.7. Metamorphic

(7)

2.3.1 Isobars. ✓ 1
 2.3.2 1020 mb / hpa. ✓ 1
 2.3.3.1 20°C
 2.3.3.2 3°C ✓
 2.3.3.3 10 knots ✓
 2.3.3.4 Clear ✓
 2.3.3.5 NW. ✓ 5

2.3.4.1 A Cold front ✓
 2.3.4.2 B Warm front ✓ 2

2.3.5. Winter - low temperatures ✓
 Presence of Mid-^{or} latitude cyclone 3
 Presence of coastal low.

2.3.6. Low Pressure ✓ Lowest recording of pressure
 at centre ✓ MLC is a low
 pressure cell. 3

[15]

2.4.1. Durban - Summer ✓
 Cape Town - Winter ✓ 4

2.4.2. Maritime ⇐ Weather conditions are influenced
 by the South Indian High / Warm Mozambique
 current 4

2.4.3. $20^{\circ}\text{C} - 14^{\circ}\text{C} = 6^{\circ}\text{C}$ ✓ 2

2.4.4. Cold Benguella Current ✓ 2

2.4.5. Distance from the sea
 Latitudes ✓ 3
 Aspect ✓

[15]

2.5.1. The point on the earth's surface where the first vibrations occur //

2.5.1.2. A person who studies earthquakes //

4

2.5.2. When crustal blocks begin to move. //

2

2.5.3. Destructive //

1

2.5.4. Destruction of infrastructure - Loss of life
Medical facilities completely levelled.

Communication systems disrupted.

Power failures - Fires^{or} caused by explosions

Landslides and massive rockfalls.

Dam walls break causing massive

flooding - use examples from extract 8

[2.5]

2.6.1. A break in the earth's crust causing crustal blocks to move //

2

2.6.2. A. Block mountain //

B. Rift valley //

2

2.6.3. Compressive forces by adjacent crustal blocks forces the plate in middle above its surroundings. //

3

2.6.4. Hinders the construction of roads and communication networks. Discourages settlements. Cannot engage in agricultural practices //

4

2.6.5. Tourist attraction //

Used to provide hydroelectricity //

Used for recreation - "white water rafting" //

4

[2.6]

Draft Memorandum

- 3.1.1) Population density ✓
- 3.1.2) Literacy rate ✓
- 3.1.3) Brain drain ✓
- 3.1.4) Population distribution ✓
- 3.1.5) Infant mortality ✓
- 3.1.6) Life Expectancy ✓
- 3.1.7) Census ✓
- 3.1.8) Birth rate ✓

[8]

- 3.2.1) Ocean / sea ✓
- 3.2.2) Evaporation ✓
- 3.2.3) Condensation ✓
- 3.2.4) Precipitation ✓
- 3.2.5) Run-off ✓
- 3.2.6) Evapotranspiration ✓
- 3.2.7) Infiltration ✓

[7]

3.3.1) Movement from the rural area to the urban area. ✓

3.3.2) Pull Factors ✓

- Positive impact living in the urban areas. ✓

3.3.3) "Ghost towns" ✓✓

- Nobody to man the farms ✓✓
- Low food production / schools & shops close down
- Danger factor - aged and children alone in farms.

3.3.4) Housing ~~short~~ shortages //

Pollution //

Growth of informal settlements //

Rising crime levels

High unemployment rate

3.3.5) Provide proper services //

Education in scientific farming //

Improve infrastructure //

Provide government assistance during times of droughts.

3.4.1) Area covered with water after / during excessive rainfall. //

3.4.2) La Nina //

3.4.3) Organised help - usually from government and specialised organisations eg Red Cross. //

3.4.4) Farmers have been devastated / farms destroyed. Farmers suffered losses of 2 billion rands - 1 billion for crop damage + 1 billion for infrastructure. //

3.4.5) Early warning signals - to evacuate area. //

- Inspection of dams properly & regularly. //

- Support programmes for farmers - so that they could be adequately prepared. //

3.5.1) The number of people that die per 1000 of the population in one year. //

3.5.2) Increasing deaths of HIV/AIDS. //

3.5.3) Lack of condoms //

Denial //

Shortage of anti-retroviral drugs

Illiteracy - lack of education.

3.5.4) Awareness campaigns //

Education campaigns //

Improving literacy rates

Availability of anti-retroviral

Regular testing.

Providing condoms.

3.6.1) Catching too many fish. //

3.6.2) Economic losses //

Fish related industries will close down

Price of fish will go up / unaffordable to many.

Disruption of food chain.

Shortage of food.

3.6.3) Fishing quotas //

Closed seasons for fishing. //

Fishing licences. //

Heavy fines for not adhering to regulations.

- 4.1.1) 50 mm ✓
- 4.1.2) 50 cumecs ✓
- 4.1.3) log time ✓
- 4.1.4.1) 01:50 ✓
- 4.1.4.2) rising limb ✓
- 4.1.4.3) falling limb ✓
- midnight ✓
- day two ✓

[8]

4.1

- 4.2.1) A B ✓
- 4.2.2) B A ✓
- 4.2.3) A B ✓
- 4.2.4) B A ✓
- 4.2.5) A B ✓
- 4.2.6) B A ✓
- 4.2.7) B A ✓

(7)

4.2

- 4.3.1.1) People that are forced to leave their country. ✓✓
- 4.3.1.2) Intense dislike of people of another country / fear of hatred of foreigners. ✓✓
- 4.3.2) Nigeria / Tanzania / Swaziland /
Lesotho / Namibia / Congo. ✓
- 4.3.3) Lack of job opportunities ✓✓
Corrupt government ✓✓
Fear of safety
Food shortage

4.3.4) Take the jobs of locals //
Associated with crime / drugs //
Cheaper labour.

4.3.5) Fill a skills gap //
Source of cheap labour supply.

4.3

4.4.1) Ocean currents originate from wind //
transferring water. //

4.4.2.1) Ocean largest reservoir of water. //
Highest evaporation rate occurs from it. //
Replenishes our fresh water supply.

4.4.2.2) Cheapest form of transport over long //
distances. //
Transport of bulky / heavy goods possible. //
Warm currents keep harbours ice free //
during winter so trade can continue.

4.4.3) Warm currents increase the temp° / rainfall //
along east coast of S.A. //
Cold current lower temp° / rainfall along west //
coast of S.A.

4.4.4.1) Oil spills // / Illegal dumping //
Sewage spills

- 4.4.4.2) Fish are poisoned. ✓
Negative impact on food chain
Seabirds / animals covered in oil.
Oil spills pollute beaches / effects tourism.
Reduce food source.

4.4

4.5.1) Developing country. ✓

4.5.2) High birth / death rate //
High infant mortality rate
Poor housing
High rate of adult illiteracy
Low life expectancy

4.5.3) Poor education in family planning. //
Marriages at young age //
Low social status of women
Lack of access to contraception.

4.5.4) Lack of jobs //
Lack of housing / growth of informal //
settlements.
Higher crime rate
Standard of living drops
Food shortage.

4.5.5) Improve living standards //
Population control //
Education
Improve accessibility to contraception.

4.5.1) Irrigation / Forestration ✓

4.5.2) Rainfall is low / unreliable in S.A. ✓
High evaporation rates ✓
Population growth.
Incorrect irrigation methods.

4.5.3) 28,6 % ✓

4.5.4) Building of dams ✓
Water transfer schemes ✓
Proper water / drainage management ✓
Water awareness programmes ✓
Create a culture of water conservation.
Scientific farming methods.

4.5.4 Production in the mines increased - ✓
water is needed for smelting minerals 2

4.5.5. Yes

- a) Population increases causing a greater demand for food ✓
- b) Desertification / reduction in rainfall results in more irrigation ✓

100