Education and Sport Development

Department of Education and Sport Development
Departement van Onderwys en Sportontwikkeling
Lefapha la Thuto le Tlhabololo ya Metshameko
NORTH WEST PROVINCE

PROVINCIAL ASSESSMENT

GRADE 10

GEOGRAPHY P1

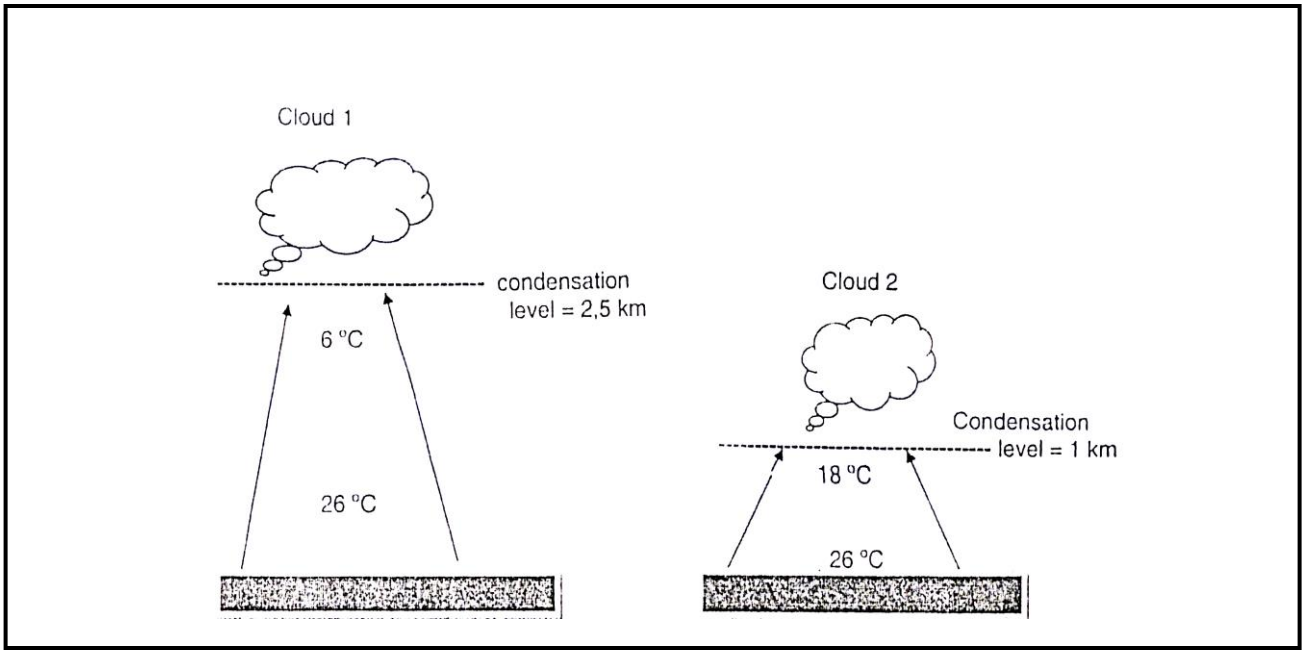
NOVEMBER 2019

ANNEXURE

MARKS: 225

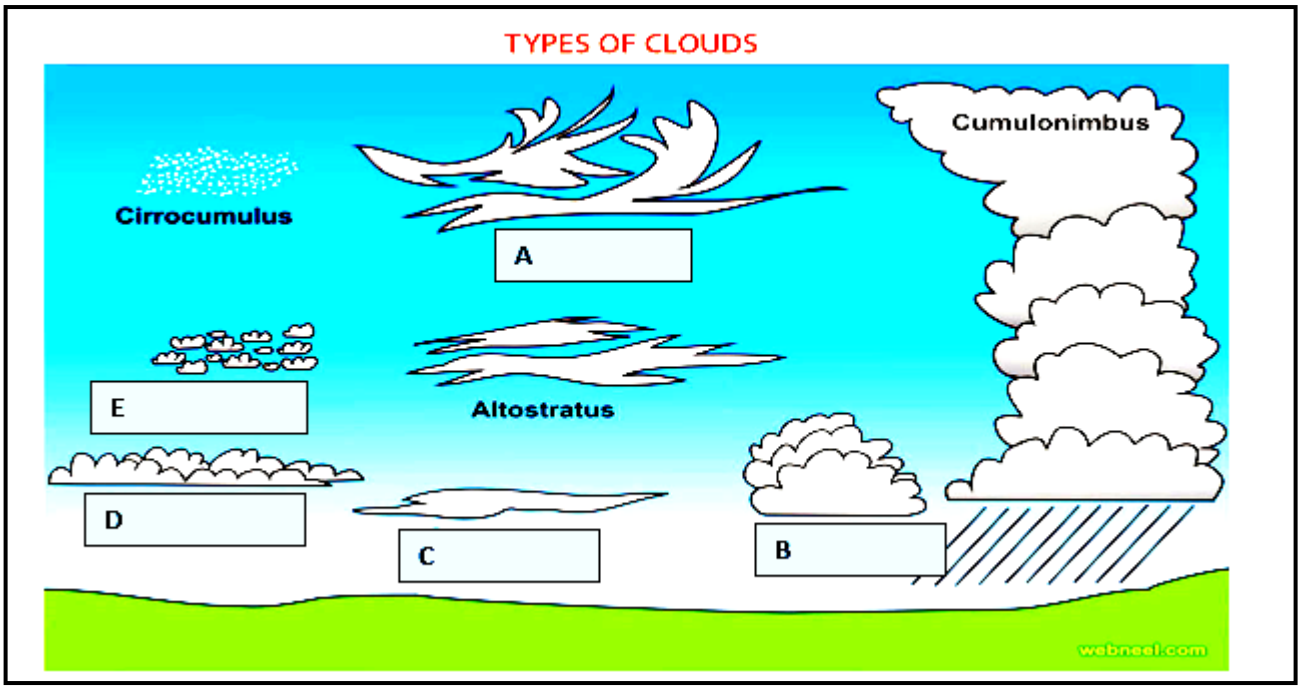
This Annexure consists of 13 pages.

FIGURE 1.3(a) CONDENSATION LEVEL OF CLOUDS



[Source: *Examiner's sketch*]

FIGURE 1.3(b) CLOUD FORMATIONS



[Source: webneel.com]

FIGURE 1.4 EARTHQUAKES

POWERFUL EARTHQUAKE SHOOK MEXICO CITY

19 September 2017

Rescuers searched for survivors through the night after Tuesday's powerful earthquake shook Mexico City and surrounding states, killing scores and leaving many trapped under collapsed buildings.

At least 216 people died in Mexico City and in the states of Puebla, Mexico and Morelos, officials said. Previously, authorities had said that as many as 248 people had died. The death toll was later revised.

The epicenter of the 7.1-magnitude earthquake was 4.5 kilometers east-northeast of San Juan Raboso, in Puebla state, according to the US Geological Survey.

President Enrique Peña Nieto said 22 bodies were found in the debris of an elementary school in Mexico City that collapsed due to the earthquake. At least 30 children were still missing Tuesday night, he said.

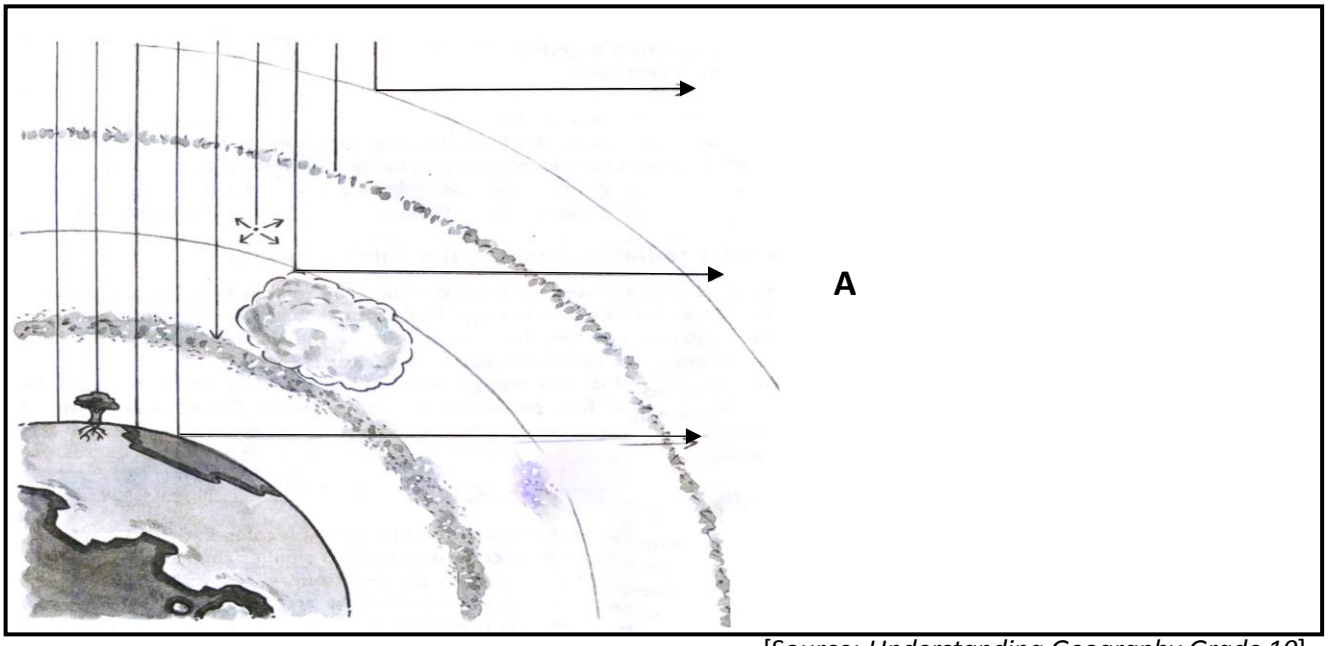
"We are facing a new national emergency," Peña Nieto told citizens earlier on his first address following the earthquake.

Tuesday's earthquake came more than one week after a magnitude-8.1 earthquake struck off the southern coast of the country, killing at least 90, according to the governor of the hard-hit state of Oaxaca.

In Mexico City, thousands of soldiers, rescuers and civilians were working side by side to dig through tall piles of rubble from dozens of crumbled buildings.

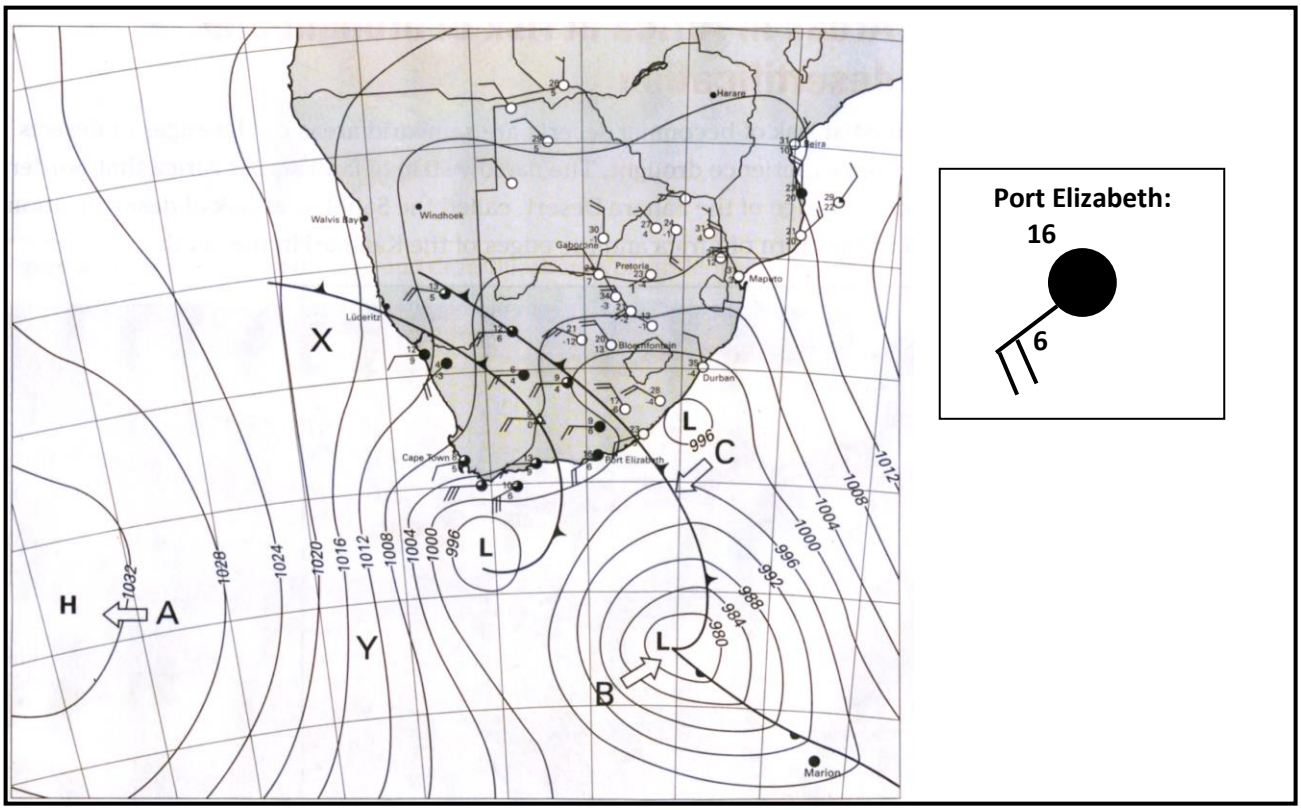
[Source: nbcnews.com/news/world]

FIGURE 1.5 HEATING OF THE ATMOSPHERE



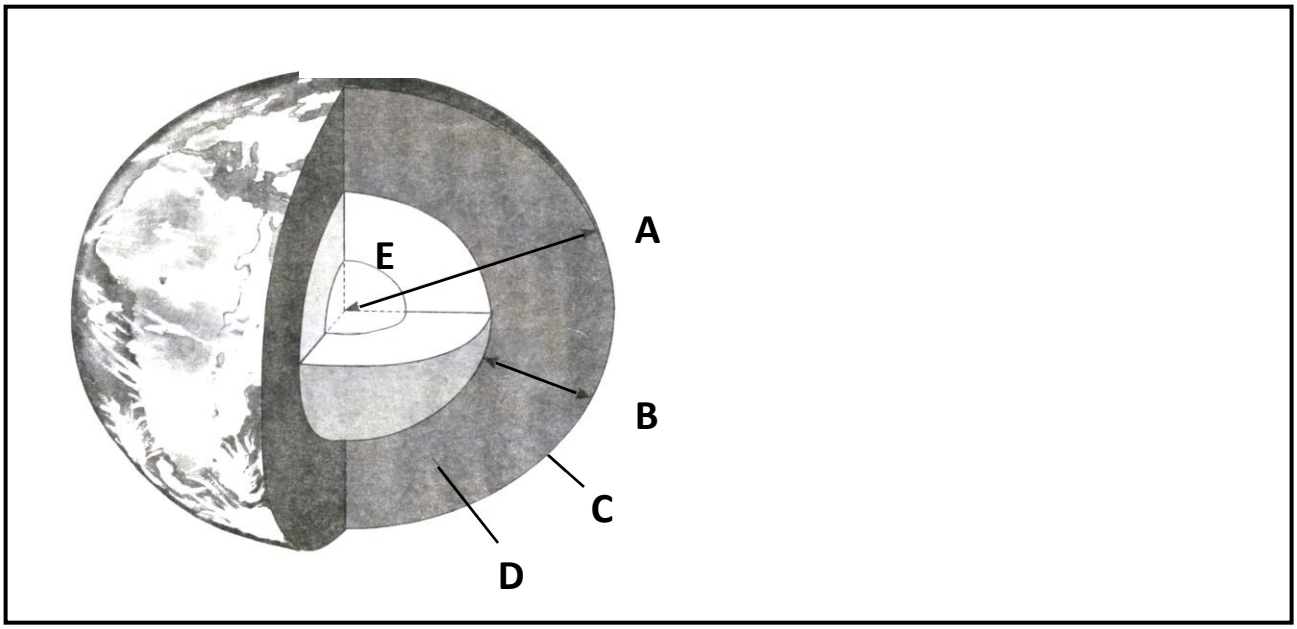
[Source: *Understanding Geography Grade 10*]

FIGURE 1.6 SYNOPTIC WEATHER MAP



[Source: *Focus on Geography Grade 11*]

FIGURE 2.2 CROSS SECTION OF THE EARTH



[Source: *Understanding Geography Grade 10*]

FIGURE 2.3 GLOBAL WARMING

Cow 'emissions' more damaging to planet than CO2 from cars

By Geoffrey Lean, Environment Editor

Meet the world's top destroyer of the environment. It is not the car, or the planeor even George Bush: it is the cow.

A United Nations report has identified the world's rapidly growing herds of cattle as the greatest threat to the climate, forests and wildlife. And they are blamed for a host of other environmental crimes, from acid rain to the introduction of alien species, from producing deserts to creating dead zones in the oceans, from poisoning rivers and drinking water to destroying coral reefs.

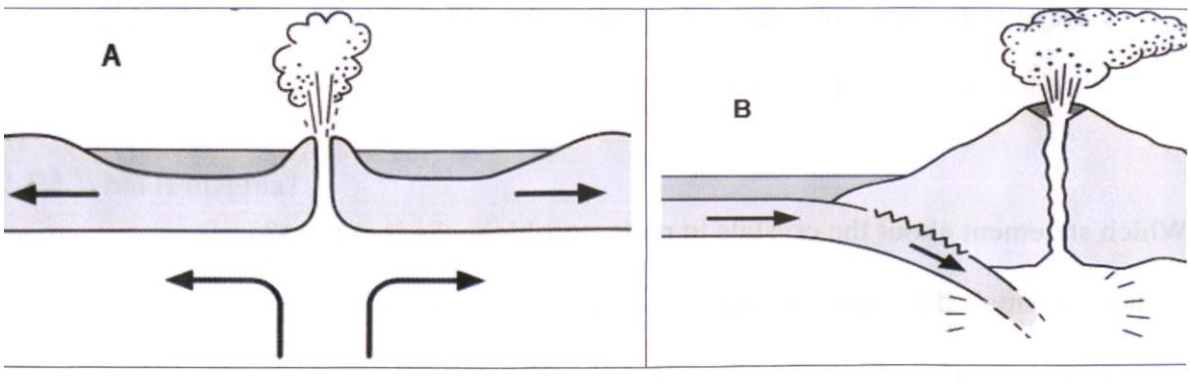
The 400-page report by the Food and Agricultural Organisation, entitled Livestock's Long Shadow, also surveys the damage done by sheep, chickens, pigs and goats. But in almost every case, the world's 1.5 billion cattle are most to blame. Livestock are responsible for 18 per cent of the greenhouse gases that cause global warming, more than cars, planes and all other forms of transport put together.

Burning fuel to produce fertiliser to grow feed, to produce meat and to transport it - and clearing vegetation for grazing - produces 9 per cent of all emissions of carbon dioxide, the most common greenhouse gas. And their wind and manure emit more than one third of emissions of another, methane, which warms the world 20 times faster than carbon dioxide.

Livestock also produces more than 100 other polluting gases, including more than two-thirds of the world's emissions of ammonia, one of the main causes of acid rain.

[Source: *Excel in Geography Grade 10*]

FIGURE 2.4 BOUNDARY MARGINS AND PLATE TECTONICS



[Source: *Excel in Geography grade 10*]

FIGURE 2.5 CLIMATE CHANGE

MELTDOWN!

The largest single block of ice in the Arctic, the Ward Hunt Ice Shelf in Canada, located at a latitude of 83°N and longitude of 74°W has always been the biggest, the farthest north and the one scientists thought might have been the most stable. It had been around for 3 000 years before it started cracking in the year 2 000.

Two years later, it split all the way through and in 2008, it further disintegrated into drifting ice masses leaving two separate ice shelves measuring 142 and 47 square kilometers respectively, reduced from 212 square kilometers the previous year. Fragments of ice continue to break away as can be seen in the picture below.

[Adapted from: *Excel in Geography grade 10*]

FIGURE 2.6(a) VOLCANOES

CASE STUDY: Chaos as Chile's Puyehue Volcano erupts

June 14, 2011

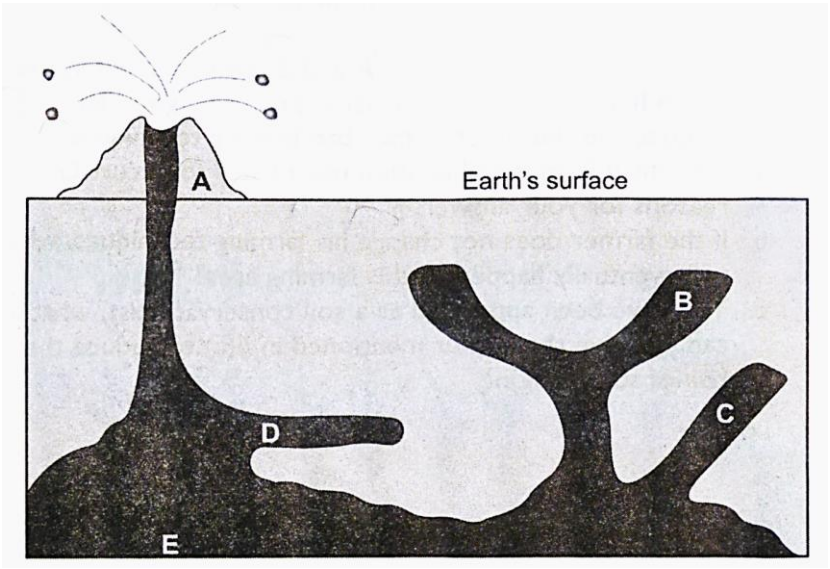
The Puyehue Volcano in Southern Chile erupted violently on June 5, 2011 billowing smoke and ash high into the sky, prompting the evacuation of 3 500 people and forcing cancellations of flights. Volcanologists say, the volacno which has erupted for the first time in half a century ejected an estimate one hundred million tons of ash, sand and pumice and produced a column of gas 10 kilometers high and 5 kilometers wide. The eruption blew ash more than halfway across the world, disrupting flights in two continents.

Several Latin American countries in the path of volcanic ash unleashed from the eruption are facing critical shortages of water, agricultural collapse, disruptions in transport and growing risks to human and animal health. Toxic ash clouds, dispersing toward Australia, have dumped the powdery substance across vast swathes of territory in Chile, Argentina, Brazil and Uruguay. The ski season in Argentina faced cancellations as volcanic ash affected airport opperations, and clogged waterways. Several thousand inhabitants of nearby towns and villages in Chile and Argentina remained displaced, though some were allowed to return to their damaged homes. Argentina siad it faced an agricultural emergency in its Patagonian region as the blanket of ash left thousands of farm animals without pasture and water. An estimated 750 000 sheep have been affected in Argentina alone which will result in a lower wool yield as a result of the ash contamination.

Infrastructural damage from the ash has added to disruptions. Ash, landslides snd snow blocked major trucking routes which left vehicles carrying cargo to and from Argentina, Brazil, Chile, Paraguay and Uruguay stranded in the border region.

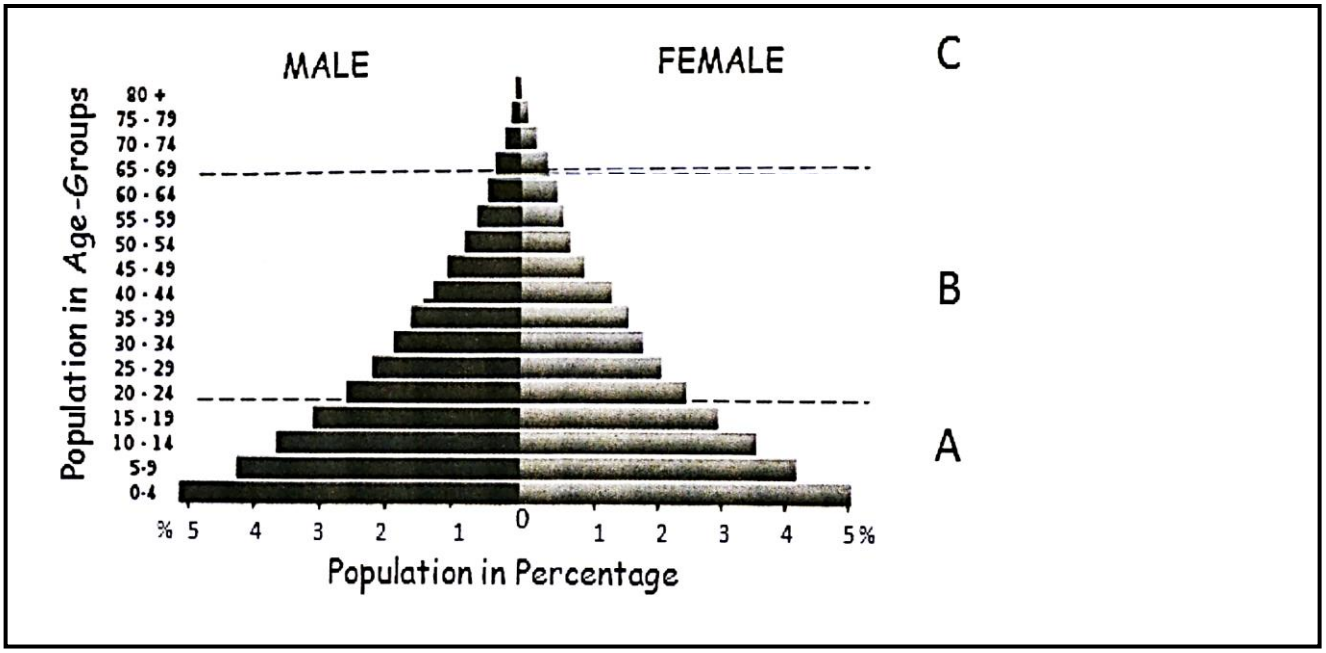
[Adapted from: *theextinctprotocol.wordpress.com*]

FIGURE 2.6(b) VOLCANOES



[Source: *Understanding Geography Grade 10*]

FIGURE 3.3 POPULATION PYRAMID



[Source: *Excel in Geography grade 10*]

FIGURE 3.4 WATER MANAGEMENT

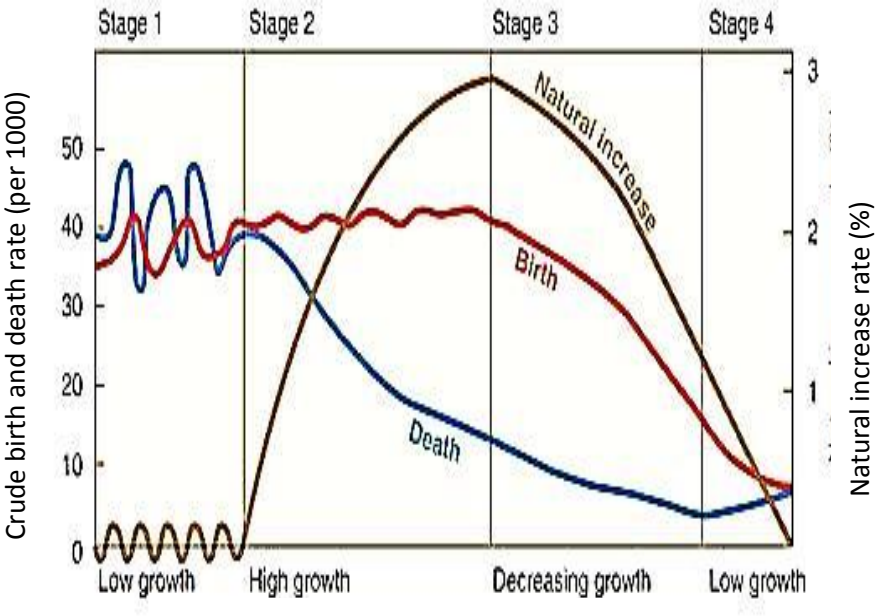
South Africa faces a water crisis and could start having shortages as early as 2020; experts told the South African Water and Energy Forum. Mike Muller told delegates that 'a crisis is looming ... if we don't panic now and take action we will be in a crisis by 2020'. The shortages will largely be due to water demand outstripping supply and to a lesser extent by poor water quality due to infrastructure deteriorating.

Other factors that will contribute include leaking pipes and the theft of water by farmers along the Vaal River. Governments and municipalities are urged to build water infrastructure immediately. It is also important that companies understand their water footprint. Companies in Europe are thinking of detailing the water footprint of every item they sell.

[Adapted from: *Times,* 15 February 2011]

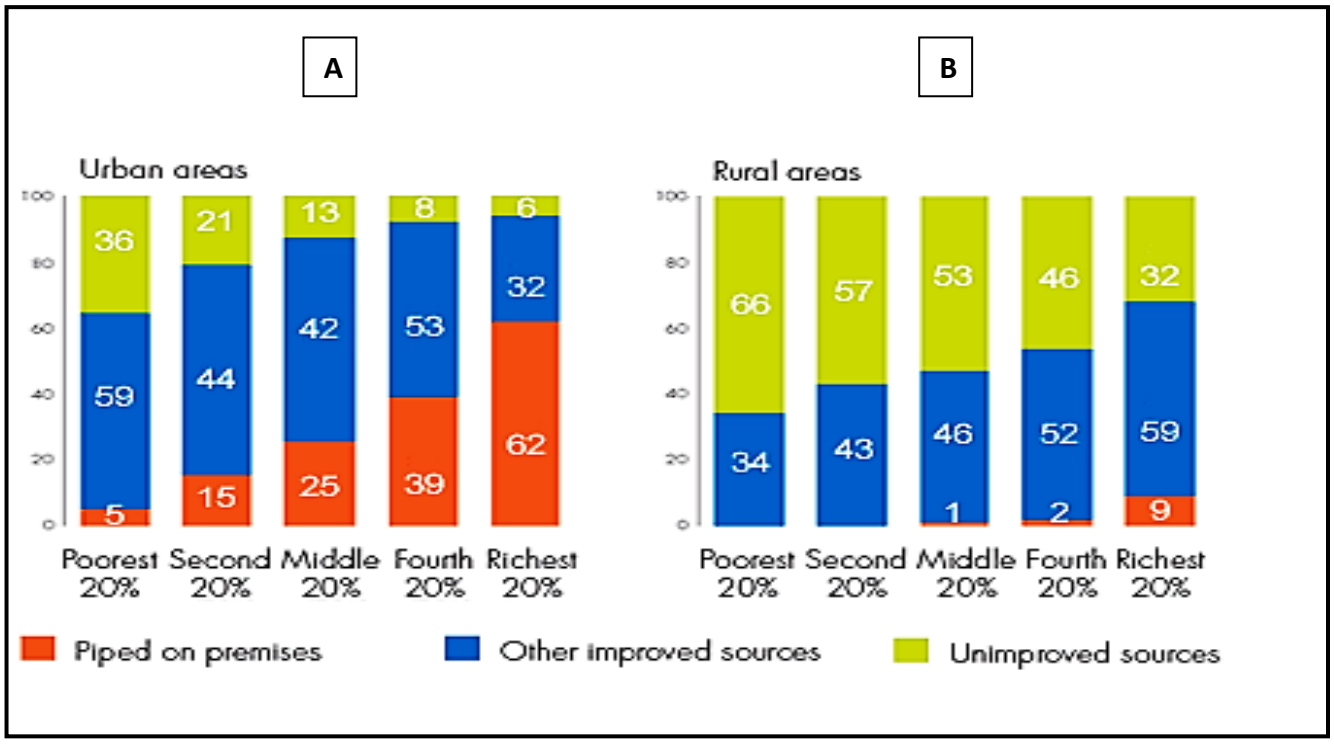
FIGURE 3.5 POPULATION GROWTH

Norway -
The minister of Home Affairs in addressing the media highlighted the problem of decreasing birth rates facing developed countries in general, and Norway in particular.
He stated that if the trend continues, within the next 8 years there will be a negative natural growth rate. The current figures do not look so bad because of the immigration of foreigners into the country. This helps boost the figures. He continued to say that the immigrant population could only be part of the population solution.



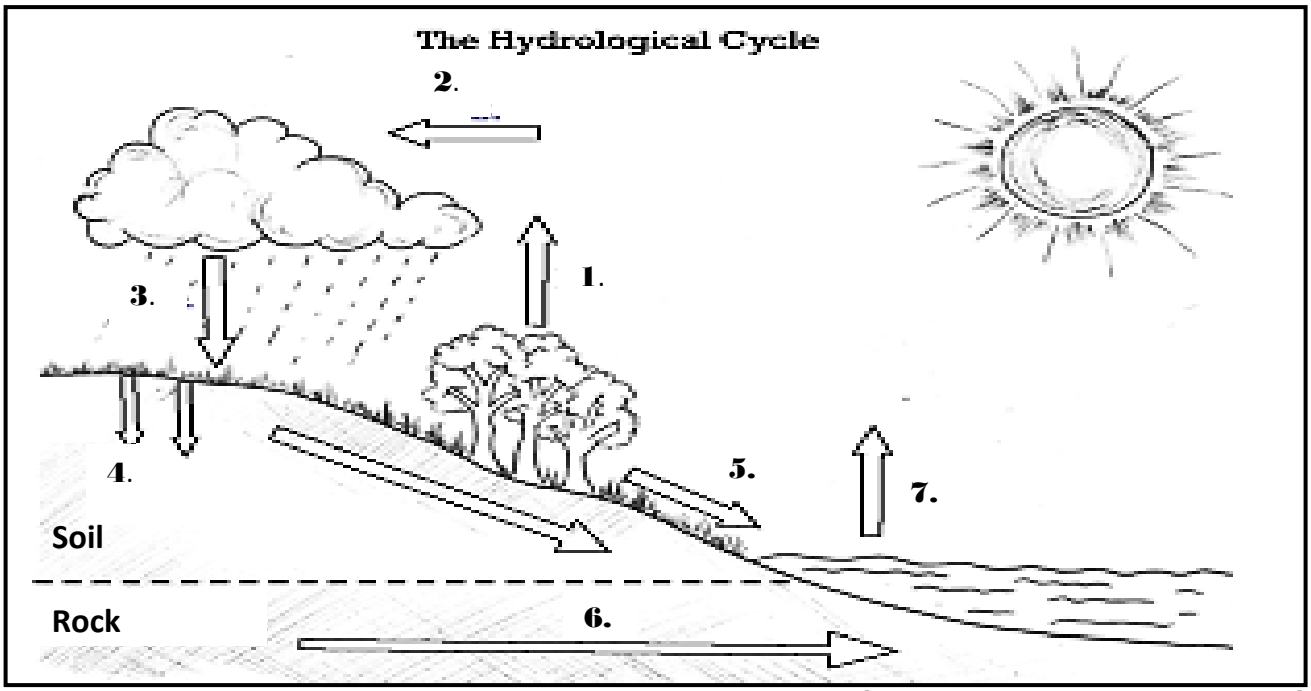
[Source: *Mind Action Series Grade 10*]

FIGURE 3.6 WATER SUPPLY IN SOUTH AFRICA FOR 2008



[SOURCE: *Google*]

FIGURE 4.2 HYDROLOGICAL CYCLE



[Source: *geobytesgcse.blogspot.com*]

FIGURE 4.3 ECONOMIC MIGRANTS

Economic migrants

These are people who normally leave their homes and countries voluntarily to seek a better life elsewhere.

Economic migrants are therefore different from refugees who flee their homes and countries because of the threat of persecution. Economic migrants can normally return home when they choose to, will not face the threat of persecution and will continue to receive the protection of their government.

Refugees on the other hand are not able to return safely to their homes unless or until the situation forcing them to leave has been resolved. However, according to a number of reports, some of these people may in fact be environmental refugees, but because there is no international recognition of environmental refugees they end up being classified as economic migrants.

There is also the emigration of skilled citizens who seek a better life elsewhere. Several travel agencies and international removal companies said the increase in the number of well-educated people leaving the country is alarming.

The reasons which emigrants gave for leaving South Africa included the drop in the standard of education and health services, crime and the falling value of the rand. People leaving the country include members of all race groups. Young professionals with no children or financial burdens take the opportunity to start a new life somewhere else.

[Source: *www.globalfootprints.org*]

FIGURE 4.4(a) DESALINATION

Should desalination play a bigger role in South Africa's water future?

25TH MAY 2018
BY: NATASHA ODENDAAL

South Africa's prolonged drought conditions and arid environment are increasingly highlighting the country's existing water infrastructure weaknesses and demand that alternative and nonconventional sources of water beyond the traditional surface and groundwater resources be explored. Various methods to make up the current and future shortfall in available natural water resources are being considered. These range from reuse, rainwater and storm water harvesting to water demand management and seawater desalination.

However, the extreme drought situation in the Western Cape has seen seawater desalination as a solution to South Africa's water problems, following the example of Israel. Desalination is often identified as the 'ultimate endless resource' of fresh water.

This will be relevant in a future where demand will exceed supply by 17% in 2030, leaving a deficit of between 2.6-billion and 3.8-billion cubic metres as demand grows beyond 18-billion cubic metres.

Despite the deployment – and success – of several small-scale desalination plants across coastal towns such as Mossel Bay, Saldanha, Knysna and Plettenberg Bay in recent years, large-scale desalination operations may not be the sollution the country is seeking to solve its severe water challenges.

New temporary seawater desalination plants are being constructed at Monwabisi, Strandfontein and the V&A Waterfront, forming part of the first phase of the Western Cape's programme to deliver a 16-million-litre yield of water over the next two years.

[Source: *www.engineeringneews.co.za/article*]

FIGURE 4.4(b) WATER AVAILABILITY

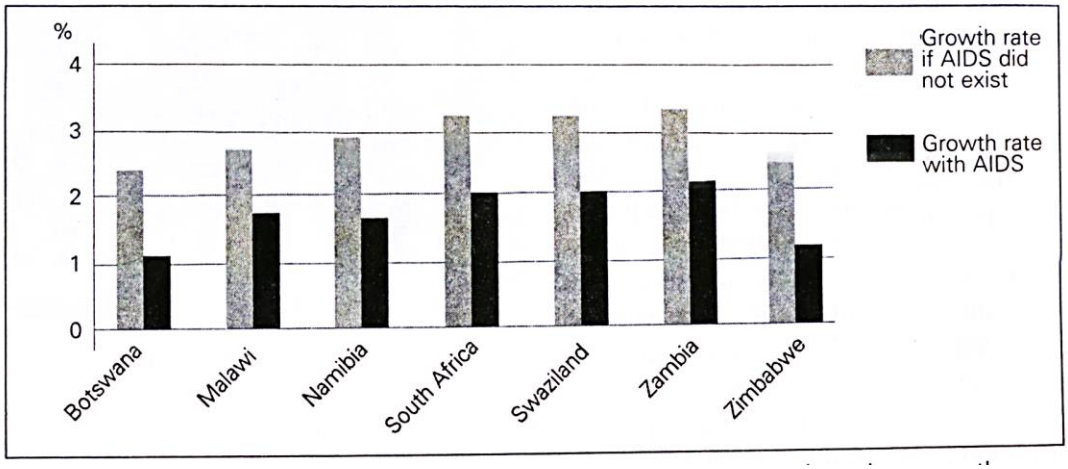
PREDICTED WATER AVAILABILITY FOR 2025 (MILLION m^3)

RIVERS	LOCAL AVAILABILITY	TRANSFER INTO	LOCAL REQUIREMENTS
Limpopo	295	23	379
Tugela/Thukela	776	0	420
Upper Vaal	1 486	1 630	?
Orange	4 755	2	1 122
Fish	452	653	1 053

[Source: *Department of Water Affairs and Forestry*]

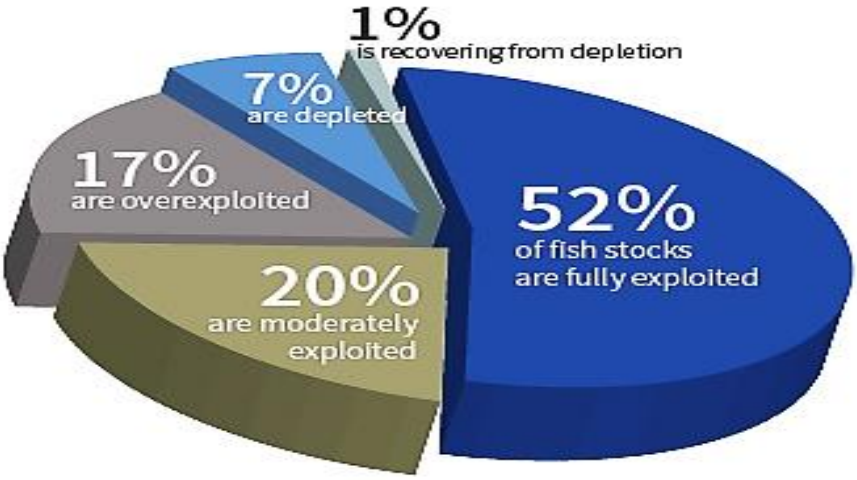
FIGURE 4.5 HIV AND AIDS

In 1996, life expectancy in Southern Africa was 66 years. In 2006, it was estimated at 43 years. The Development Bank of Southern Africa estimates that this figure will drop to about 40 years in 2010 and even 37 by 2020. Estimates of how AIDS affects population growth are shown in Figure 16.



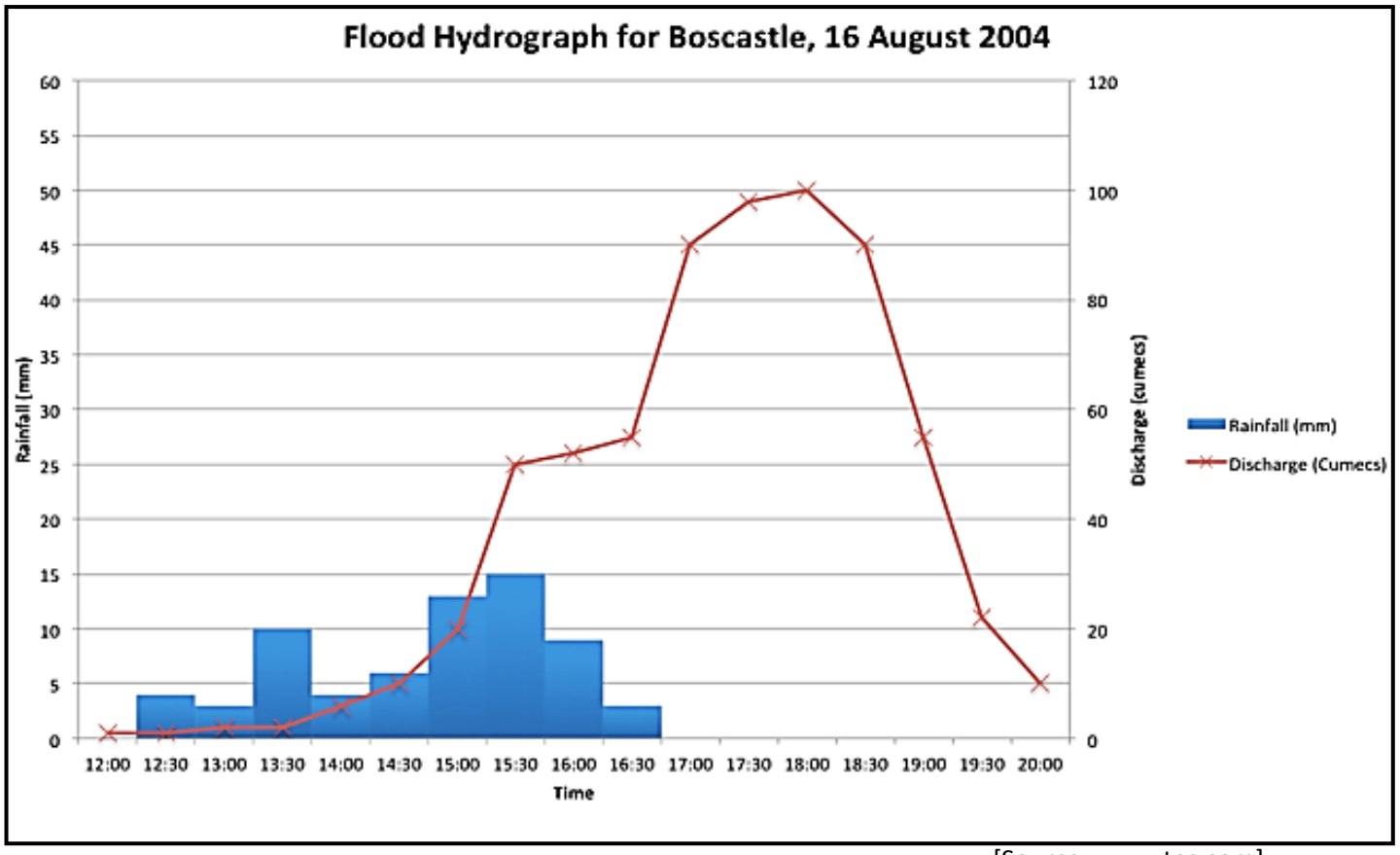
[Source: *Understanding Geography Grade 10*]

FIGURE 4.6(a) OVERFISHING



[Source: geobytesgcse.blogspot.com]

FIGURE 4.6(b) FLOOD HYDROGRAPH



[Source: www.tes.com]

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GEOGRAPHY P1

NOVEMBER 2019

MARKS: 225

TIME: 3 hours

This question paper consists of 17 pages and a 13-page annexure.

INSTRUCTIONS AND INFORMATION

Read the following instructions carefully before answering the questions.

1. This paper consists of FOUR questions.
2. Answer ANY THREE questions of 75 marks each.
3. All diagrams are included in the attached ANNEXURE.
4. Leave a line between the subsections of the questions answered.
5. Start EACH question at the top of a NEW page.
6. Number the answers correctly according to the numbering system used in this question paper.
7. Number the answers in the centre of the line.
8. Do NOT write in the margins of this ANSWER BOOK.
9. Draw fully labelled diagrams when instructed to do so.
10. Answer in FULL SENTENCES, except where you have to state, name identify or list.
11. Units of measurement MUST be indicated in your final answers, e.g. 1020 hPa, 14 C˚ or 45 m.
12. Write neatly and legibly.

SECTION A: ATMOSPHERE AND GEOMORPHOLOGY

Answer at least ONE question from this section. If you answer ONE question in SECTION A, you must answer TWO questions in SECTION B.

QUESTION 1

1.1 Various options are provided as possible answers to the following questions. Choose the correct answer and write only the letter (A–D) next to the question number (1.1.1–1.1.8) in the ANSWER BOOK, e.g. 1.1.9 D.

1.1.1 The boundary that is formed when two crustal plates move towards each other is known as the ... boundary.

A divergent
B constructive
C convergent
D normal

1.1.2 … refers to the heat of the sun.

A Respiration
B Reflection
C Radiation
D Insolation

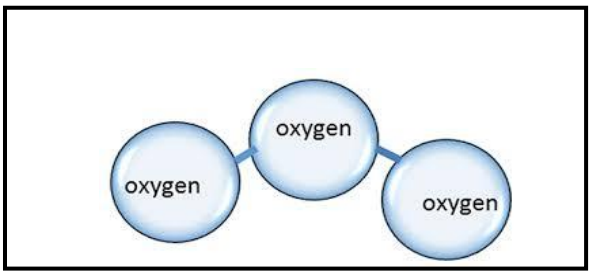
1.1.3 This part of the atmosphere shields the earth from the harsh UV rays.

A Ionosphere
B Troposphere
C Ozonosphere
D Atmosphere

1.1.4 A … has a cone that is formed by alternative layers of volcanic ash and lava.

A shield volcano
B cinder cone
C composite volcano
D caldeira

1.1.5 The diagram below shows…



A ozone.
B oxygen.
C water.
D helium.

1.1.6 A constant gas in the atmosphere.

A Helium
B Carbon dioxide
C Methane
D Nitrogen

1.1.7 A … is a very large igneous intrusion.

A batholith
B lopolith
C laccolith
D dyke

1.1.8 Loss of solar radiation as incoming sunlight bounces off clouds.

A Photosynthesis
B Absorption
C Reflection
D Insolation (8 x 1) (8)

1.2 Give the correct TERM for each of the following descriptions. Write only the term next to the question number (1.2.1 to1.2.7) in the ANSWER BOOK.

1.2.1 When heat is transferred from one molecule to another through contact.

1.2.2 The temperature at which condensation takes place.

1.2.3 Side of the mountain range where a rain shadow forms.

1.2.4 The molten material that is still below the earth's surface.

1.2.5 The outermost layer of the atmosphere, furthest away from the surface of the earth.

1.2.6 Rock built up in layers.

1.2.7 A downward fold in rock layers. (7 x 1) (7)

1.3 Refer to FIGURE 1.3(a) showing the condensation level of the clouds.

1.3.1 State the condensation level of Cloud 1 in kilometers. (1 x 1) (1)

1.3.2 Comment on the relation between humidity and condensation level. (1 x 1) (1)

1.3.3 Determine the temperature range below Cloud 2. (1 x 1) (1)

1.3.4 Name the high clouds that are wispy in appearance and that can precede bad weather. (1 x 1) (1)

1.3.5 Name the type of rain that will develop at Cloud 1. (1 x 2) (2)

1.3.6 Briefly discuss the climate conditions and the area where the type of rain mentioned in QUESTION 1.3.5 will occur in South Africa. (2 x 2) (4)

1.3.7 Label the cloud types A–E in FIGURE 1.3(b**)** (5 x 1) (5)

1.4 Study FIGURE 1.4 based on earthquakes.

1.4.1	Explain what the term *epicenter* means.	(1 x 1)	(1)
1.4.2	Give the magnitude of the earthquake that struck east-northeast of San Juan Raboso.	(1 x 1)	(1)
1.4.3	Name the instrument that is used to compare the strength of different earthquakes.	(1 x 1)	(1)
1.4.4	Name TWO strategies which the people of Mexico City could have used to reduce the impact of the earthquake.	(2 x 2)	(4)
1.4.5	In a paragraph of approximately EIGHT lines, explain the effects of and earthquake on the people of Mexico.	(4 x 2)	(8)

1.5 Study FIGURE 1.5 based on the heating of the atmosphere.

1.5.1	Define the term *insolation*.	(1 x 1)	(1)
1.5.2	Give the term that is used to describe the process at **A**.	(1 x 1)	(1)
1.5.3	Provide the natural direction of movement of warm air.	(1 x 2)	(2)
1.5.4	Some of the heat energy given off by the sun is lost before it reaches the earth's surface. Identify THREE processes associated with heat loss.	(3 x 1)	(3)
1.5.5	Name TWO greenhouse gasses that cause ozone depletion.	(2 x 2)	(4)
1.5.6	State TWO ways in which the loss of ozone affects humans.	(2 x 2)	(4)

1.6 Study FIGURE 1.6 based on the synoptic weather map.

1.6.1 Name the pressure cell at **A**. (1 x 1) (1)

1.6.2 Give the isobaric pressure reading of the cell at **A**. (1 x 1) (1)

1.6.3 Indicate the type of front labelled **C**. (1 x 1) (1)

1.6.4 Make use of the data on this synoptic map and determine the season depicted. (1 x 2) (2)

1.6.5 Describe the weather conditions at Port Elizabeth by making reference to:

(a) Air temperature
(b) Wind direction
(c) Cloud cover
(d) Wind speed
(e) Precipitation (5 x 2) (10)

[75]

QUESTION 2

2.1 Choose the correct term from those given in brackets to make the statements below TRUE. Write down ONLY the correct term in your ANSWER BOOK.

2.1.1 The (thermosphere/troposphere) is the most important layer of the atmosphere from a climatic point of view.

2.1.2 The (stratosphere/thermosphere) is found between the troposphere and mesosphere.

2.1.3 A low temperature of -90° is reached in the (mesosphere/stratosphere).

2.1.4 Carbon dioxide and (water vapour/hydrogen) in the atmosphere are responsible for the absorption of energy.

2.1.5 The ozone layer absorbs the (X-rays/ultraviolet rays) of the sun.

2.1.6 Ozone depletion occurs in the (thermosphere/stratosphere).

2.1.7 (Temperature inversion/positive lapse rate) means that temperature increases with height above the surface of the earth.

2.1.8 Reflection at the snow-capped Polar regions. (Albedo/Aleno) (8 x 1) (8)

2.2 Refer to FIGURE 2.2 based on a cross section of the earth.

2.2.1 Name layer **B**, which is 2 900 km thick and consists of molten rock.

2.2.2 The core, labelled **E**, is solid and consists of nickel and …

2.2.3 Name ONE reason why layer **C** is important for humans.

2.2.4 Name the boundary between layers **C** and **D**.

2.2.5 Layer **C** is broken into smaller segments known as …

2.2.6 State the estimated temperature of layer **B**.

2.2.7 Name the layer that is composed of peridotite. (7 x 1) (7)

2.3 Read the article on global warming in FIGURE 2.3.

2.3.1 Define the term *global warming*. (1 x 1) (1)

2.3.2 Name the main contributor to greenhouse gasses, according to the report by the Food and Agricultural Organisation. (1 x 2) (2)

2.3.3 Quote from the article to explain why methane gas is a bigger threat to the environment than carbon dioxide. (1 x 2) (2)

2.3.4 Name ONE negative impact from the article that the growing herds of cattle have on the environment. (1 x 2) (2)

2.3.5 In a paragraph of approximately EIGHT lines, give sustainable ways in which global warming can be slowed down. (4 x 2) (8)

2.4 Refer to FIGURE 2.4 based on boundary margins and plate tectonics.

2.4.1	Name the meteorologist who first suggested that the continents were not fixed in one place.	(1 x 1)	(1)
2.4.2	State the difference between plate boundaries **A** and **B**.	(1 x 2)	(2)
2.4.3	Name the plate boundaries labelled **A** and **B**.	(2 x 2)	(4)
2.4.4	Refer to the theory of plate tectonics and explain why the broken pieces of the crust of the earth moves.	(2 x 2)	(4)
2.4.5	Provide TWO pieces of evidence that Africa and South America were once linked.	(2 x 2)	(4)

2.5 Study FIGURE 2.5 based on climate change.

2.5.1	Define the term *climate change*.	(1 x 1)	(1)
2.5.2	Name the reason why the Ward Hunt Ice Shelf started fragmenting.	(1 x 2)	(2)
2.5.3	Explain the effect of such fragmenting on the marine ecosystem.	(1 x 2)	(2)
2.5.4	Give the estimated age of the Ward Hunt Ice Shelf.	(1 x 2)	(2)
2.5.5	In a paragraph of approximately EIGHT lines outline the consequences of global warming.	(4 x 2)	(8)

2.6 Read the Case Study in FIGURE 2.6(a) as well as FIGURE 2.6(b) based on volcanic eruptions.

2.6.1	State the number of people that were evacuated after the Puyehue Volcano erupted in 2011.	(1 x 1)	(1)
2.6.2	Explain why there was an agricultural emergency in the Patagonian region.	(1 x 2)	(2)
2.6.3	Classify the Puyehue Volcano as either a composite or shied volcano.	(1 x 2)	(2)

2.6.4 Explain what the difference is between an active volcano and a dormant volcano. (1 x 2) (2)

2.6.5 Name the TWO continents that have been affected by the eruption. (2 x 2) (4)

2.6.6 FIGURE 2.6(b) illustrates intrusive landforms. Identify labels **A, C, D** and **E.** (4 x 1) (4)

[75]

SECTION B: POPULATION AND WATER RESOURCES

Answer at least ONE question from this section. If you answer ONE question in SECTION B, you must answer TWO questions in SECTION A.

QUESTION 3

3.1 Give ONE word/term for each of the following descriptions by choosing from the list below. Write only the word/term next to the question number in the ANSWER BOOK.

Depopulation;	Life expectancy;	Pull factors;
Emigration;	Population density;	Literacy rate;
Population distribution;	Marti culture;	Push factors;

3.1.1 The number of years a person can expect to live.

3.1.2 The movement of people from their home land to another country.

3.1.3 The farming of fish and shellfish in sheltered water.

3.1.4 Things in cities that attract people who live in the rural areas.

3.1.5 The number of people per unit area.

3.1.6 The percentage of the total population that can read and write.

3.1.7 Decline in the population of rural areas.

3.1.8 The way people are spread out across the surface of the world. (8 x 1) (8)

3.2 Select a word/term from COLUMN B to match the description in COLUMN A. Write ONLY the letter of your choice next to the question number in the ANSWER BOOK. E.g. 3.2.8 K

COLUMN A	COLUMN B
3.2.1 The depletion of the ocean's fish stocks.	A Warm current B Zero growth
3.2.2 The overflow of a river soon after heavy rains.	C Ecumene D Cold current
3.2.3 Pushing back of the sea with barrier walls.	E Reclamation F Negative growth
3.2.4 Benguela ocean current.	G Abiotic H Storm surge
3.2.5 People live where conditions are favourable.	I Overfishing J Flash flood
3.2.6 Human-made factors that affect where people settle.	
3.2.7 There are more deaths than births in a country.	(7 x 1) (7)

3.3 Study FIGURE 3.3 based on population pyramids.

3.3.1 Define the term *population pyramid*. (1 x 1) (1)

3.3.2 State the age-group interval for the pyramid. (1 x 1) (1)

3.3.3 Give the shape of the pyramid. (1 x 1) (1)

3.3.4 The base of the pyramid can be described as (wide/narrow) (1 x 2) (2)

3.3.5 The pyramid represents a LEDC (country). Provide TWO reasons for this statement. (2 x 2) (4)

3.3.6 Classify the age groups represented by labels A–C. (3 x 2) (6)

3.4 Study FIGURE 3.4 based on the water crisis in South Africa.

3.4.1	Identify ONE reason given in the article, as to why a water crisis is expected by the year 2020.	(1 x 1)	(1)
3.4.2	Name TWO water transfer schemes that has been developed to supplement the water in Gauteng.	(2 x 1)	(2)
3.4.3	State TWO disadvantages associated with the construction of dams in South Africa.	(2 x 2)	(4)
3.4.4	In a paragraph of approximately EIGHT lines suggest measures that can be implemented by the government to conserve and manage the water supply of South Africa.	(4 x 2)	(8)

3.5 Study FIGURE 3.5 based on population growth.

3.5.1	State the population problem that Norway is facing at the moment.	(1 x 1)	(1)
3.5.2	Give ONE reason why your answer in QUESTION 3.5.1. is a problem.	(1 x 2)	(2)
3.5.3	According to the article the current population figures do not look bad. Provide a reason why it does not look bad.	(1 x 2)	(2)
3.5.4	Provide ONE piece of evidence from the Demographic Transition Model in FIGURE 3.5 that Norway is a MEDC country.	(1 x 2)	(2)
3.5.5	Discuss the possible economic results of a low growth rate for a country such as Norway.	(2 x 2)	(4)
3.5.6	State ONE negative and ONE positive impact of the influx of foreigners on Norway.	(2 x 2)	(4)

3.6 Study FIGURE 3.6 based on access to clean water.

3.6.1 Based on graph **B**, give the percentage of unimproved water sources for the second poorest community in 2008. (1 x 1) (1)

3.6.2 Based on graph **A**, state the difference between the poorest population percentage and richest population percentage that had access to piped water on the premises in 2008. (1 x 2) (2)

3.6.3 Discuss the importance of piped water rather than unimproved water from dams, rivers and lakes to South African communities. (2 x 2) (4)

3.6.4 Briefly explain the consequences of unsafe levels of bacteria for people that drink unimproved river water. (2 x 2) (4)

3.6.5 Suggest TWO sustainable strategies the government should put in place to solve the problem of water pollution in dams. (2 x 2) (4)
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QUESTION 4

4.1 Various options are provided as possible answers to the following questions. Choose the answer and write ONLY the letter (A–D) next to the question number (4.1.1 to 4.1.8) in the ANSWER BOOK, for example 4.1.9 D.

4.1.1 The graphical representation of the percentage of males and females in different age groups.

A population pyramid
B population bar graph
C population line graph
D population pie graph

4.1.2 Choose the correct statement to fit with the following sentence. Life choices that can help to increase life expectancy.

A Healthy meals and alcohol abuse.
B Fast foods and good medical care.
C Good medical care and exercise.
D Smoking and regular exercise.

4.1.3 The human immune-deficiency virus is better known as …

A TB
B HIV
C AIDS
D STD

4.1.4 A fear of foreigners resulting in unwarranted attacks to scare them into leaving.

A Xenophobia
B Xeroderma
C Xylography
D Xerothermic

4.1.5 High birth rate and high death rate results in … population growth.

A high
B zero
C rising
D low

4.1.6 The … of a country refers to the total number of babies that are born per 1000 of the population per year.

A population growth
B death rate
C fertility rate
D demography

4.1.7 When skilled and highly educated people leave a country to work in another it is called …

A talent recycling.
B brain drain.
C skills migration.
D brain loss.

4.1.8 Unregistered and informal entry into a country.

A Refugee immigration
B Asylum seeking
C Illegal immigration
D Alien migration (8 x 1) (8)

4.2 Refer to FIGURE 4.2 which illustrates the hydrological cycle. Provide the CORRECT GEOGRAPHICAL TERMS for EACH of the following statements, which correspond with the labels on the diagram.

4.2.1 The process whereby moisture is released from plants into the atmosphere.

4.2.2 The process whereby water vapour changes to water.

4.2.3 Any form of moisture released from the atmosphere to the earth's surface.

4.2.4 The process whereby water reaches the permeable rock.

4.2.5 Water that flows on the surface of the earth after it has rained.

4.2.6 The water deep underneath the surface of the earth.

4.2.7 The process whereby water turns into vapour. (7x 1) (7)

4.3 Study FIGURE 4.3 based on economic migrants.

4.3.1 Define the term *migrant.* (1 x 1) (1)

4.3.2 State what is meant by the term '*brain drain*'. (1 x 1) (1)

4.3.3 Describe ONE effect emigration has on South Africa. (1 x 1) (1)

4.3.4 Explain why unskilled people lose their jobs as a result of skilled people emigrating. (1 x 2) (2)

4.3.5 Give TWO reasons for professionals leaving South Africa. (2 x 2) (4)

4.3.6 Transhumance is a way of movement.

(a) Fully explain the term *trancehumance*. (2 x 2) (4)

(b) Provide ONE example of a country where trancehumance still takes place. (1 x 2) (2)

4.4 Study FIGURE 4.4(a) based on desalination in South Africa and FIGURE 4.4(b) based on water availability in South Africa.

4.4.1 State what the term *desalination* means. (1 x 1) (1)

4.4.2 Provide ONE other country, mentioned in the article, which is very successful with desalination. (1 x 1) (1)

4.4.3 Give ONE negative fact that makes desalination difficult in South Africa. (1 x 1) (1)

4.4.4 According to the article, what lead to desalination being seen as a solution to South Africa's water problems? (1 x 2) (2)

4.4.5 Using your own knowledge, describe the purification process currently used in towns like Mossel Bay and Saldanha. (1 x 2) (2)

4.4.6 According to FIGURE 4.4(b), which river will have the highest availability level by 2025? (1 x 2) (2)

4.4.7 Refer to the table in FIGURE 4.4(b) and give ONE reason why so much water needs to be transferred into the Upper Vaal river. (1 x 2) (2)

4.4.8 Use your own knowledge to explain why South Africa experiences water shortages. (2 x 2) (4)

4.5 Study FIGURE 4.5 based on HIV and AIDS.

4.5.1 State what the following acronyms stand for:

(a) HIV
(b) AIDS (2 x 1) (2)

4.5.2 According to the graph, how has AIDS affected the population growth rate in Africa? (1 x 1) (1)

4.5.3 State what the annual growth rate for South Africa would be if AIDS did not exist. (1 x 2) (2)

4.5.4 Provide ONE other country which has exactly the same statistics as South Africa. (1 x 2) (2)

4.5.5 In a paragraph of not more than EIGHT lines describe the social and economic effects of HIV and AIDS on a country. (4 x 2) (8)

4.6 Study FIGURE 4.6(a) based on overfishing.

4.6.1 Explain the term *fish quota*. (1 x 1) (1)

4.6.2 Give the combined percentage of overexploited and depleted fish stocks. (1 x 1) (1)

4.6.3 Provide a reason for overfishing leading to job losses. (1 x 2) (2)

4.6.4 SASSI is a South African organization that aims to regulate fish population in South African waters.

(a) Use your own knowledge and explain the acronym SASSI. (1 x 2) (2)

(b) Describe TWO management strategies of SASSI with which they try to improve the stock levels of fish in South Africa. (2 x 2) (4)

4.6.5 FIGURE 4.6(b) shows the flood hydrograph for Boscastle. Provide the following readings from the graph:

(a) The highest rainfall (in mm) recorded.

(b) The time the highest rainfall was recorded.

(c) The highest discharge (in cumecs) recorded.

(d) The time that (c) was recorded.

(e) Calculate the lag time between (a) and (c). (5 x 1) (5)

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GRAND TOTAL: 225