KZN DEPARTMENT OF EDUCATION
GREENBURY SECONDARY SCHOOL
JUNE EXAMINATION – 2017
GEOGRAPHY – GRADE 10

EXAMINER	: R. RANGANATHAN	**DATE**	: 15/06/17
MODERATOR	: S. SINGH	**DURATION**	: 2 HOURS
		MAX MARK	: 140

INSTRUCTIONS :

1. This paper consists of 2 Questions and 5 pages + a separate addendum.
2. Answer all questions – in black or blue pen.
3. Number the questions as per question paper.
4. Write neatly and legibly.

QUESTION 1

1.1 Choose the correct term from the list that matches the statements which follow.

PRECIPITATION, CRYSTALISATION, INSOLATION, COALESCENCE, EVAPORATION, PERMANENT GASES, VARIABLE GASES

1.1.1 Incoming solar radiation.

1.1.2 Gases that do not change in their composition.

1.1.3 Minute water droplets joining together.

1.1.4 Water changes directly from gas to ice.

1.1.5 Any form of water falling from the atmosphere.

5X1=[5]

1.2 Refer to Source 1A (Structure of the Atmosphere) and answer the following questions.

1.2.1 Define the term atmosphere. [2]

1.2.2 Name the 4 layers of the atmosphere. [4]

1.2.3 In which layer is the ozone found? [1]

1.2.4 Explain how important the ozone layer is to us. [2]

1.2.5 In a short paragraph, suggest 3 measures that you would put in place to reduce ozone depletion. 3X2=[6]

1.3 Refer to Source 1B and answer the following questions.

1.3.1 Name the factor represented in the diagram that affects temperature. [2]

1.3.2 Where would the temperature be higher, at A or B? Provide 2 reasons for your answer. 1+2+2=[5]

1.3.3 One of the other factors that affect temperature is ocean currents. With the aid of a diagram, explain how ocean currents affect temperature. (Diagram – 4 marks) (Explanation – 4 marks) [8]

1.4 Provide a term for each of the following descriptions by choosing from the list below. Write down only the term next to the number.

MANTLE, PLATE BOUNDARY, INTERNAL FORCES, ROCK-CYCLE, EXTERNAL FORCES, SEDIMENTARY, IGNEOUS

1.4.1 The edge of a crustal plate.

1.4.2 Forces that operate above the earth's surface.

1.4.3 Rocks that form in layers.

1.4.4 Layer of the earth that is soft and pliable.

1.4.5 The breakdown and recreation of rock.

1.5 Refer to Source 1C showing intrusive igneous features.

1.5.1 Define the term volcanism. [2]

1.5.2 Identify intrusive features A, B, D and E. 4X2=[8]

1.5.3 State one difference between features B and C. 1X2=[2]

1.6 Refer to Source 1D – (Case study of Earthquake and answer the following questions.

1.6.1 Define the term Earthquake. [2]

1.6.2 'The Epicentre of the earthquake was just 4.8km from the city'. Do you think this would have a devastating effect on the city? Explain your answer. 1+3=[4]

1.6.3 What, according to the source were the effects of this earthquake? (2 answers). 2x2=[4]

1.6.4 Suggest 2 measures that can be put in place to reduce the devastating effects of an earthquake. 2x2=[4]

TOTAL – QUESTION 1 = [70]

QUESTION 2

2.1 Match the statements in Column A with the concepts in Column B. Write down the numbers 3.1.1 – 2.1.5 and next to each, the letter of the correct answer from column B.

COLUMN A	COLUMN B
2.1.1 Longwave radiation that heats lower layers of the atmosphere.	a) Isotherm
2.1.2 Lines on a map that join places of equal temperature.	b) Terrestrial radiation
2.1.3 Change in temperature with height.	c) Albedo
2.1.4 Maximum temperature minus minimum temperature.	d) Lapse rate
2.1.5 Amount of radiation reflected from the surface.	e) Solar radiation
	f) Range
	g) Isohyets

2.2 Refer to Source 2A (Synoptic Weather Map) and then answer the following questions.

2.2.1 Name the high pressure systems labelled A, C and E. 3X2=[6]

2.2.2 Give a reason why this is a winter map. [2]

2.2.3 Name the fronts labelled X and Y. [4]

2.2.4 Identify the low pressure system at B. [2]

2.2.5 Refer to the weather station at Durban.

Describe the weather being experienced under the following headings :

Air temperature –

Dew point temperature –

Cloud cover –

Wind direction – 4X1=[4]

2.3 Refer to Source 2B (Case Study – Consequences of global warming) and answer the following questions.

2.3.1 Explain your understanding of 'GLOBAL WARMING'. [2]

2.3.2 Suggest 2 impacts of global warming on the vast majority of people. 2X2=[4]

2.3.3 Explain why poor countries, such as those in Africa, will be affected worst by global warming. [2]

2.3.4 If you were on the panel to decide how to address the issue of climate change, suggest 2 recommendations that you would make. 2X2=[4]

2.4 Refer to Source 2C (Types of folds).

2.4.1 Identify the types of folds labelled A, B, C, D and E. 5X1=[5]

2.4.2 Define the term folding. [2]

2.4.3 What type of rock does folding commonly occur in? [2]

2.4.4 Give 2 examples of fold mountains around the world. [2]

2.5 Refer to Source 2D and answer the following questions.

2.5.1 Name the theory illustrated in the source. [2]

2.5.2 Suggest 2 pieces of evidences in support of this theory. 2X2=[4]

2.5.3 What was the name of the supercontinent that existed approximately 250 million years ago? [1]

2.6 Refer to Source 2E (Case Study – Volcano) and answer the following questions.

2.6.1 What is an active volcano? [2]

2.6.2 Who is a volcanologist? [2]

2.6.3 Why were the refugees warned not to return to their homes? [2]

2.6.4 Even though volcanic emptions cause much destruction and loss of lives, there are many positive impacts of volcanoes. Briefly outline 3 positive impacts of volcanoes. 3X2=[6]

TOTAL – QUESTION 2 = [70]

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GEOGRAPHY P1

GRADE 10

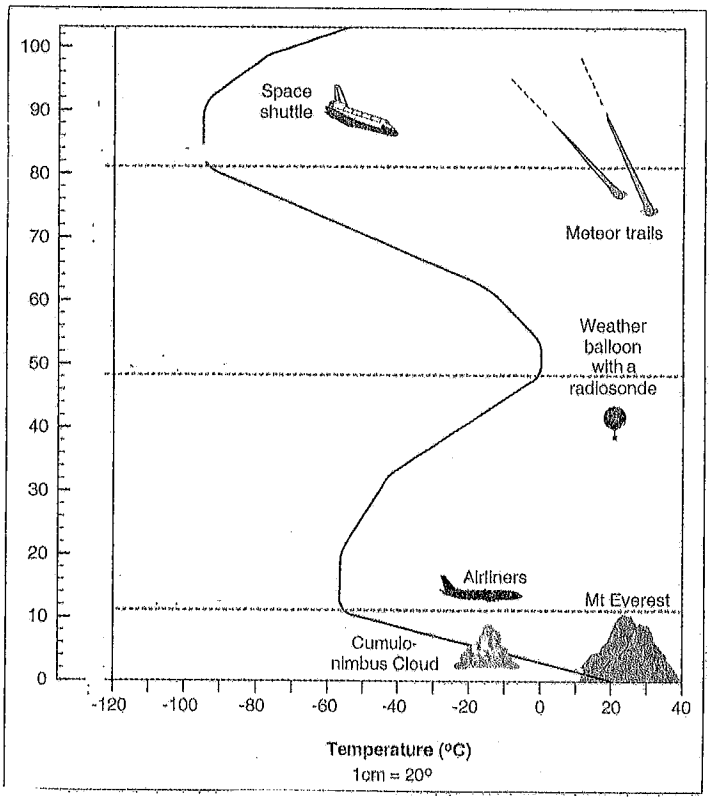
ADDENDUM

JUNE EXAMINATION

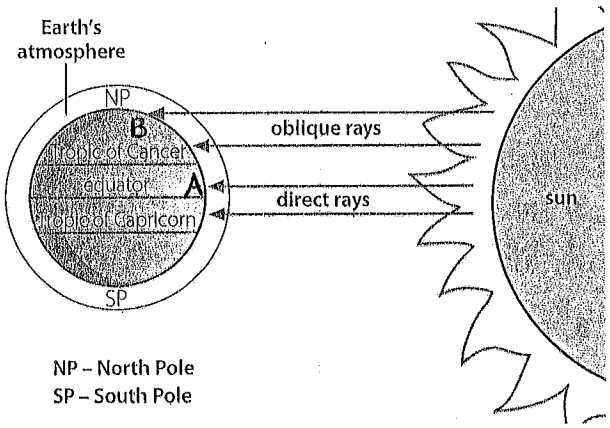
2017

THIS ADDENDUM CONSISTS OF 4 PAGES.

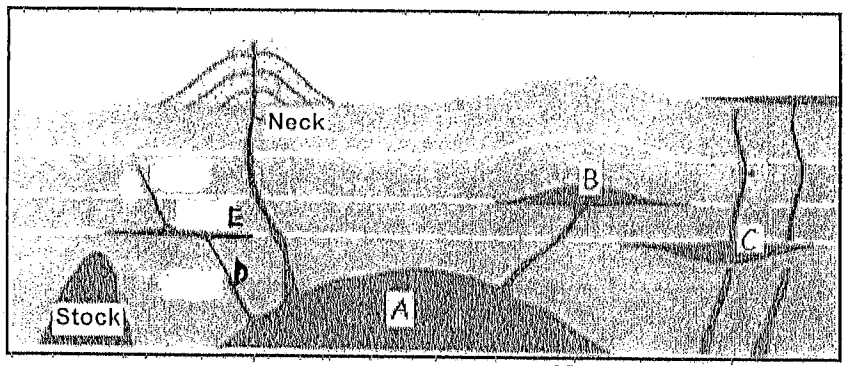
SOURCE 1A



SOURCE 1B



SOURCE 1C



[Source: Google Image]

P I

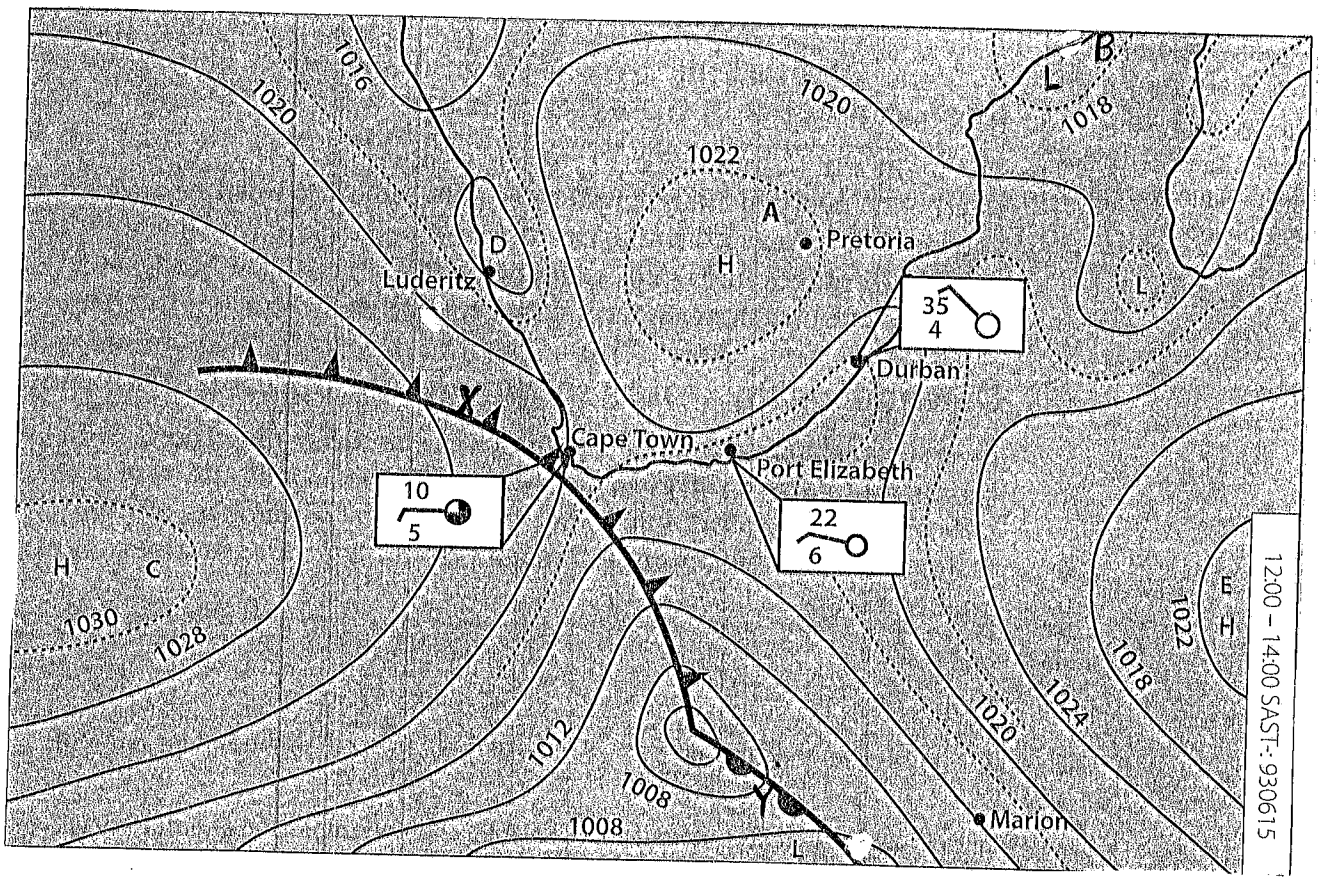
SOURCE 1D

Case study: New Zealand, 22 February 2011

The 6,3-magnitude quake struck at lunchtime, when streets and shops in New Zealand's second largest city were packed and offices were occupied. The mayor of Christchurch, Bob Parker, said, "There will be deaths, there will be a lot of injuries, there will be a lot of heartbreak in this city."

Hundreds of dazed, screaming and crying residents wandered through the streets as sirens blared throughout Christchurch after the quake. The epicentre of the earthquake was just 4.8 km from the city. The focus was only 5 km below the surface.
Daniel Tobin, multimedia editor at the Christchurch Press, was buying lunch when the quake struck. "I ran out of the shop and the building in front of me came down on top of people, and the building beside it came down on top of people, and the building the other side came down. It was horrific scenes, lots of people screaming," he told the *Guardian* (*New Zealand Herald* newspaper).

SOURCE 2A



P2

SOURCE 2B

Case study: Consequences of global warming

Climate change is with us now. We see the impacts all around us. For the vast majority of people the impact of climate change means an increased risk of losing their homes and livelihoods, more disease, less security and sometimes death. Children in the world's poorest communities are the most vulnerable. They are already seeing the impacts of climate change through malnutrition, disease, poverty, inequality and increasing risk of conflict – and ultimately an increase in child mortality rates.

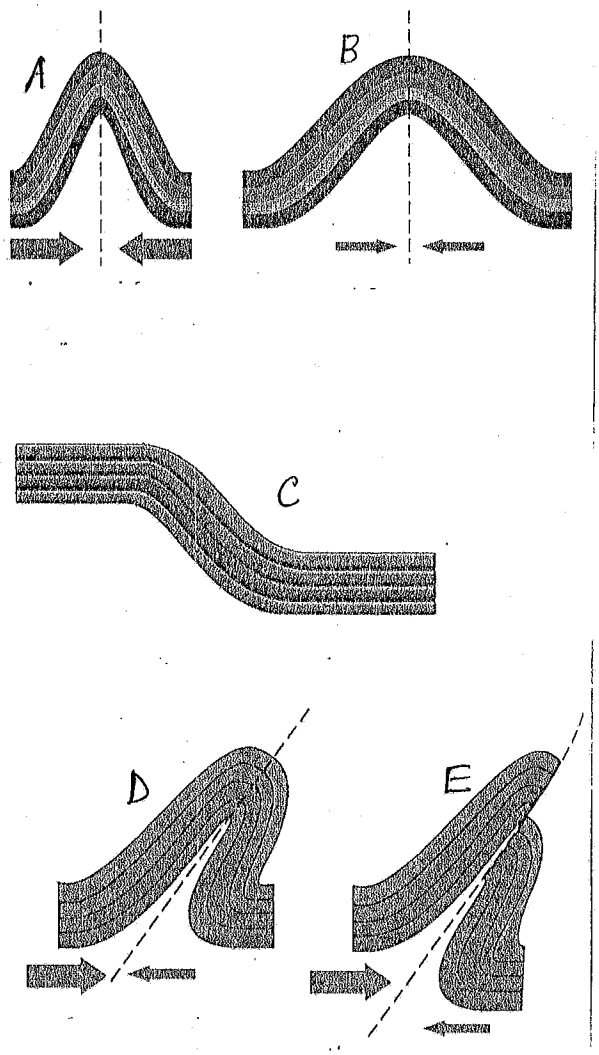
All the essential effects we are seeing now are associated with a temperature increase since 1850 of less than 1 °C. Past actions and the likely trend of emissions of greenhouse gasses over the next few years imply that another 1 or 2 °C will be hard to avoid, even with responsible action. It will be the young and the poor and developing countries, such as [in] Africa, that will suffer earliest and hardest.

Our children – particularly those in Africa and Asia – are already facing a future in which it appears likely that disasters will increase in number and become more intense, where economic growth will falter and incomes fall, where disease outbreaks will be more frequent, clean water and good sanitation harder to secure, and habitats and communities less stable. As a consequence, children may also have to cope with higher levels of conflict and other pressures which keep them out of school and force them into work too soon.

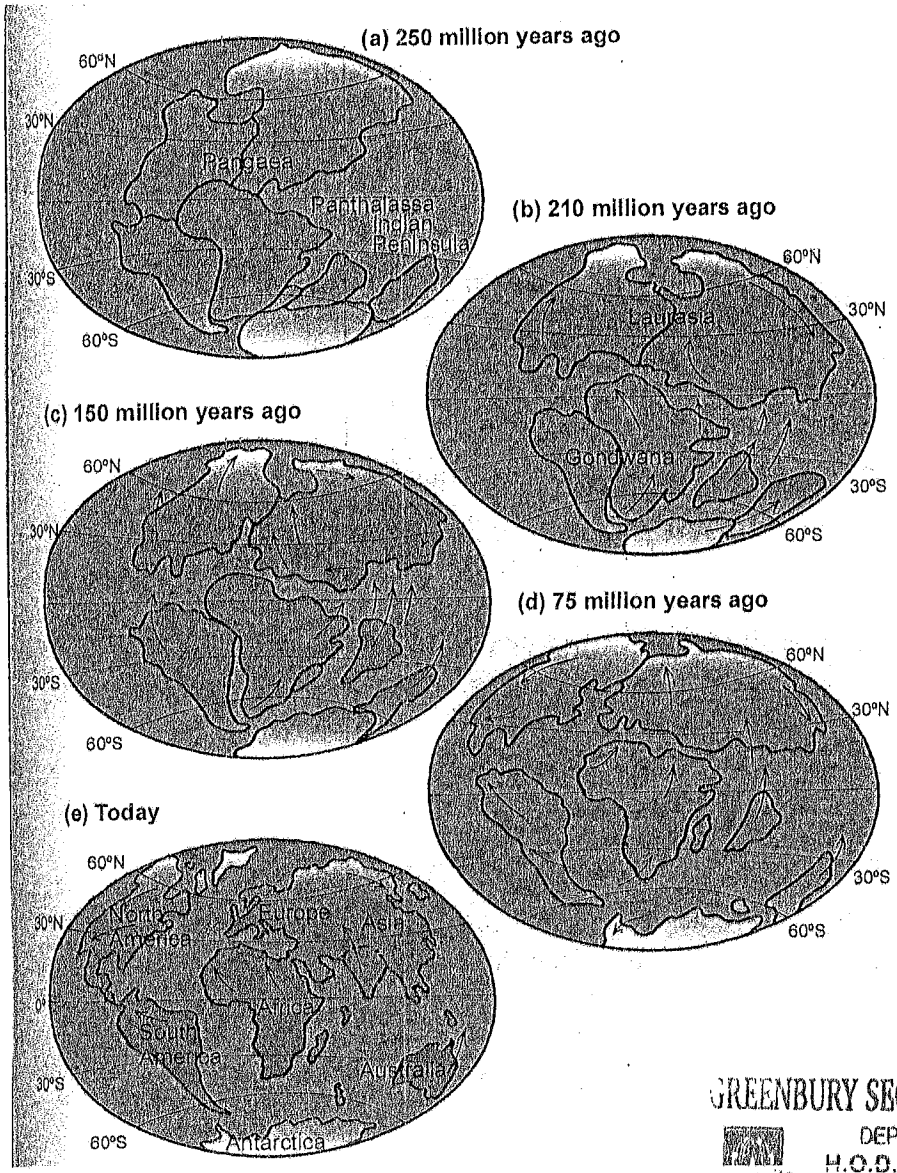
Many developing countries have poor infrastructure and lack the technologies that could help them cope with a changing climate, such as flood defences and early warning systems. They are thus more vulnerable to the impact of climate change and their children are the most vulnerable of all.

(*UNICEF UK Climate Change Report 2008*)

SOURCE 2C →



SOURCE 2D



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SOURCE 2E

Indonesia volcano deaths rise

13 November 2010

Kepuharjo – Indonesia's most active volcano has claimed the lives of 240 people since it began erupting last month, forcing 400 000 to flee into makeshift camps, an official said on Saturday.

The authorities have warned people living in the temporary shelters not to return to their homes as Mount Merapi, which lies at the centre of the island of Java, remained highly active and unpredictable.

"We don't know and cannot predict the next big eruptions, so refugees still have to stay in makeshift camps until further evaluations," government volcanologist Subandrio said.

"Merapi activity is high and has alert status."

Many of the dead were buried under fast-flowing torrents of boiling hot gas and rock that incinerated villages when the volcano exploded on 5 November in its biggest eruption in over a century.

Mount Merapi, a sacred landmark in Javanese tradition whose name translates as "Mountain of Fire", emitted more heat clouds late on Friday, reaching as far as 10 km away from the crater.

"It recently belched ash upward as high as 1 200 m. Then the ash blew to the south and southwest of the volcano," Subandrio said.

The government has declared a danger zone that stretches as far as 20 km from the volcano, which first started erupting in late October.

Subandrio said several Japanese volcanologists were in the area to monitor the activity and would instal several "infrasonic sensors" to monitor air pressure caused by the eruptions.

Merapi killed around 1 300 people in 1930 but experts say the current eruptions are its biggest convulsions since 1872.

(Source: http://www.news24.com/World/News/Indonesia-volcano-deaths-rise-20101113, accessed 2 April 2011)

Geography Grade 10
June Exams
Marking Memo & Model Answer

1.1.1. Insolation

1.1.2. Permanent Gases

1.1.3. coalescence

1.1.4. crystalisation

1.1.5. precipitation

1.2.1. Troposphere, Stratosphere, mesosphere, Thermosphere.

1.2.2. Gaseous layer that surrounds the earth

1.2.3. Stratosphere

1.2.4. Ozone protects us from dangerous UV Rays.

1.2.5. (i) Use ozone friendly products

(ii) Reduce pollution / Deforestation

(iii) Reduce industrialization

(Open Ended - accept any reasonable answer)

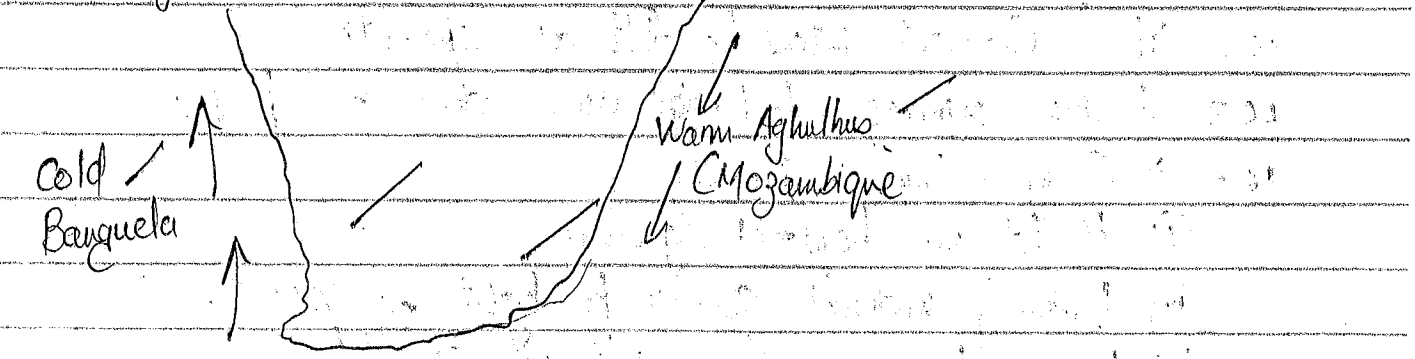
1.3.1 Latitude / Distance from Equator

1.3.2. A - (i) A - Receives direct rays

B - Oblique rays

(ii) Atmosphere thicker at poles - difficult for Suns Rays to penetrate - hence colder.

1.3.3. Diagram



1.3.3. Explanation

Along east coast - W. Moz. Current flowing from Equator will raise the temp. along East (Dbn). ✓✓

Along west coast - Cold Benq. Current will reduce temp → Coming from poleo. ✓✓ ↑

(Allocate marks if learners use Dbn & Port Nolloth as eg's)

1.4.1. Plate boundary

1.4.2. External forces

1.4.3. Sedimentary.

1.4.4. Mantle

1.4.5. Rock-cycle

1.5.1. Transfer of molten material from 1 part of the earth to another.

1.5.2. A - Batholith

B - Laccolith

D - Dyke

E - Sill

1.5.3. B - Mushroom shaped

C - Saucer shaped

1.6.1. Earthquake - Violent vibration of the earths crust / sudden slippage

1.6.2. YES - Greatest intensity felt at epicentre.

1.6.3. Deaths, injuries - buildings came down on people.

1.6.4. (i) Early warning signals

(ii) Build on hardrock / ground.

(iii) Building material should be light eg Wood.

(iv) Rescue teams - first aid → stand by.

(v) Reduce running activities / buildings etc.

Question 2.

2.1.1. B

2.1.2. A

2.1.3. D

2.1.4. F

2.1.5. C

2.2.1. A - Kalahari high
C - South Atlantic high
E - South Indian high

2.2.2. Date / cold front close to continent / H.P. dominates continent / land

2.2.3. X - cold front
Y - Warm front

2.2.4. Coastal low

2.2.5. Air T° - 35°
D.P. T - 4°
C/C - clear skies
W/Direction - N-Westerly.

2.3.1 The average increase in world temperatures.

2.3.2. Loss of Homes / livelihood / More diseases
less security / Death.

2.3.3. Poorer countries - less economic growth - cannot cope with diseases / No running water / improper sanitation - Cannot cope with the impacts - No money.

2.3.4. (Open Ended)

2.4.1. A – Isoclinal / closed fold.
B – open fold
C – Monocline
D – overfold / overturned fold
E – overthrust fold.

2.4.2. The bending of rock strata into arches / Ridges
2.4.3. Sedimentary
2.4.4. Cape Fold / Rockies / Andes / Himalayas / Alps

2.5.1. Theory of Continental Drift
2.5.2. PANGEA
2.5.3 (i) Shapes of Continents – fit like a jig-saw puzzle
(ii) Similar types of fossils
(iii) Similar types of Rock type / Vegetation etc.

2.6.1. Volcano – hole through which hot ash, lava, gas are emitted through the earth's surface.
2.6.2. A scientist who Studies Volcanoes
2.6.3. Because the volcano is highly active and unpredictable Authorities could not predict the next big eruption
2.6.4. (i) Islands are formed – New land / living Space
(ii) Fertile Soil
(iii) Precious Metals
(iv) Springs / Geysers
(v) Tourist Attraction