KZN DEPARTMENT OF EDUCATION
GREENBURY SECONDARY SCHOOL
MARCH CONTROL TEST – 12/03/2019

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MAX MARK : 100
DURATION : 1 ½ HOURS

NAME : _____ GR/DIV. : _____

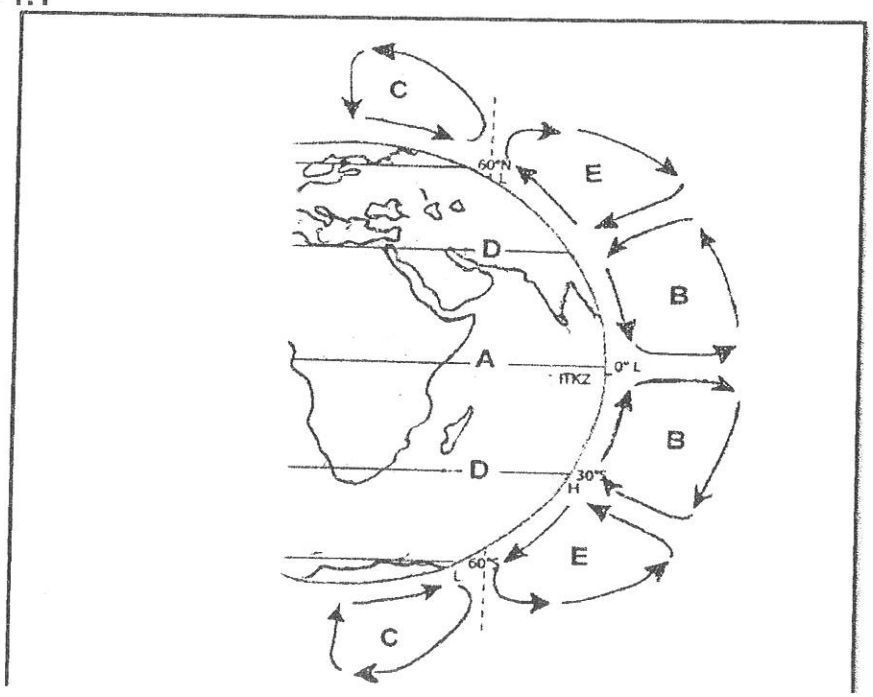
INSTRUCTIONS AND INFORMATION

1) This paper consists of :
   Section A - Theory [75 marks]
   Section B - Map-work [25 marks].
2) Answer all questions for 100 marks.
3) Write neatly and legibly.

QUESTION 1 : GLOBAL AIR CURCULATION

1.1 Study the figure below showing global circulation and answer the questions that follow.

Figure 1.1



P.T.O...

1.1.1 Identify surface winds at cell B and C. [2X1=2]

1.1.2 Re-draw the table below and compare the pressure system dominant at the area at 30° and 60° south of the equator. [6X1=6]

	At 30° SOUTH	At 60° SOUTH
Rotation of air		
Associated weather		
Rising or descending air		

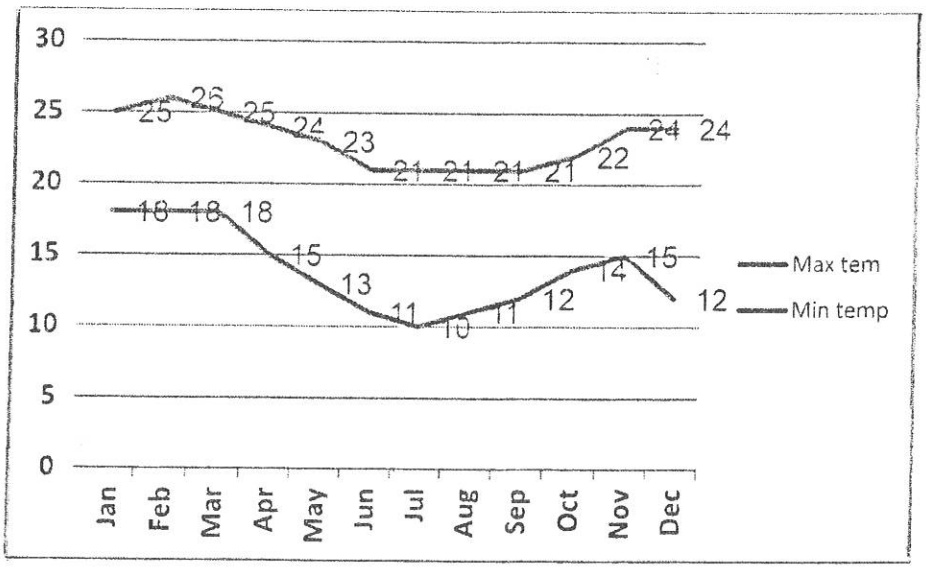
1.1.3 Draw a simple (freehand) cross section to illustrate the pressure system at 30° SOUTH. [2X1=2]

1.1.4 Write a paragraph of eight lines explaining how the cell at the area marked C is formed. [4X2=8]

[18]

QUESTION 2 : THE ROLE OF OCEANS IN CLIMATE CONTROL

2.1 Refer to graph (Fig 2.1) below on the maximum and minimum temperatures of East London in Eastern Cape in degrees Celsius (°C).



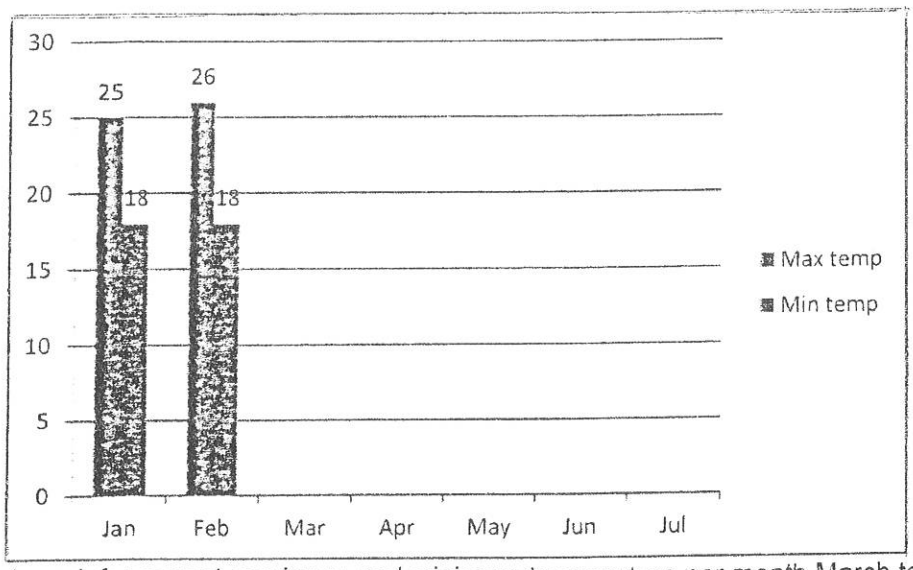
2.1.1 What is the difference in degrees between the maximum and minimum temperatures in January and in June? [2X1=2]

2.1.2 How do the temperature figures indicate that the sea has a moderating effect on the temperatures of East London? [1X1=1]

2.1.3 Name two processes that directly regulate the temperature of coastal areas between day and night. [2X1=2]

2.1.4 Draw a bar graph from **March to July** to illustrate the temperature in figure 2.1. [10X1=10]

NB. Use the **bar graph provided below**. January and February has been drawn for you.



1 mark for correct maximum and minimum temperature per month March to June

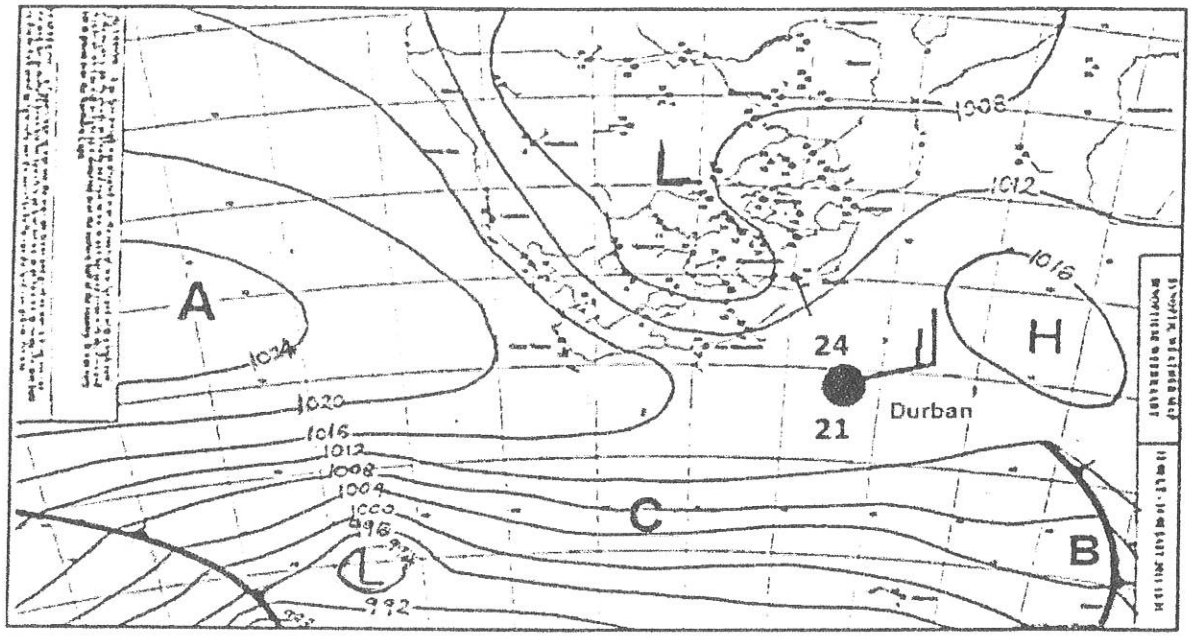
1 mark for correct maximum and minimum temperature per month March to June.

2.1.5 Explain the difference between a land and sea breeze. [2X1=2]

[17]

QUESTION 3 : READING AND INTERPRETING SYNOPTIC WEATHER MAP

3.1 Refer to figure 3.1 below and answer the questions that follow.



3.1.1 What season is indicated by the synoptic weather map? [1X1=1]

3.1.2 Provide three pieces of evidence from the synoptic weather map to support your answer. [3X2=6]

3.1.3 Give a full weather report of the weather station at Durban.
(NB. : The diagram has been expanded and placed in the sea). [5X1=5]

3.1.4 Determine the atmosphere pressure in the centre of high pressure east of Durban. [2X1=2]

3.1.5 The area marked (A/C) is experiencing high wind speed.
(Choose the correct answer in brackets). [1X1=1]

3.1.6 Give a reason for your answer in question 3.1.5 [2X2=4]

3.1.7 Suggest the reason why the letter A represents a high-pressure cell. [1X1=1]

[20]

QUESTION 4 : EL NINO AND LA NINA

4.1 Refer to figure 4.1A and 4.1B.

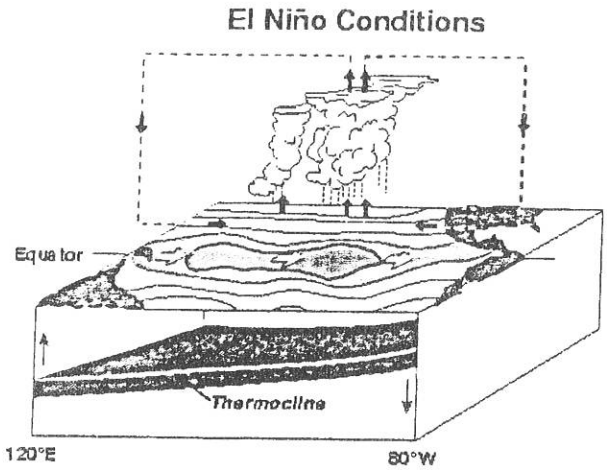


Figure 4.1 A - Source: Google images

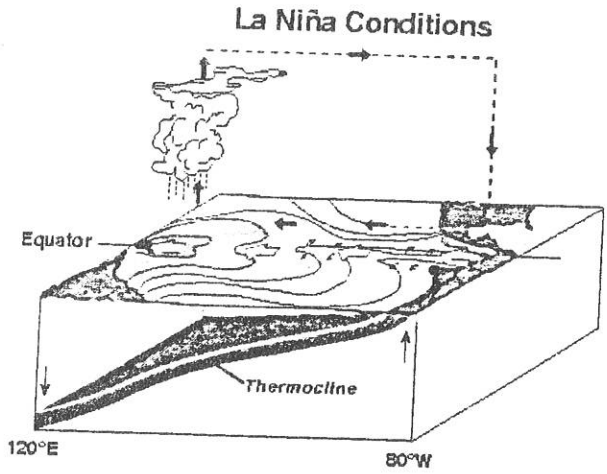


Figure 4.1 B - Source: Google images

4.1.1 What is the other name given to EL Nino. [1X1=1]

4.1.2 What is the other name given to La Nina. [1X1=1]

4.1.3 Name the ocean where the two processes occur. [1X2=2]

4.1.4 Explain how the high pressure and low pressure associated with EL Nino will affect the areas where they dominate. [2X2=4]

4.1.5 What is the main difference between EL Nino and La Nina. [2X2=4]

4.1.6 South Africa is currently (2016) experiencing EL Nino affects human activities. [4X2=8]

[20]

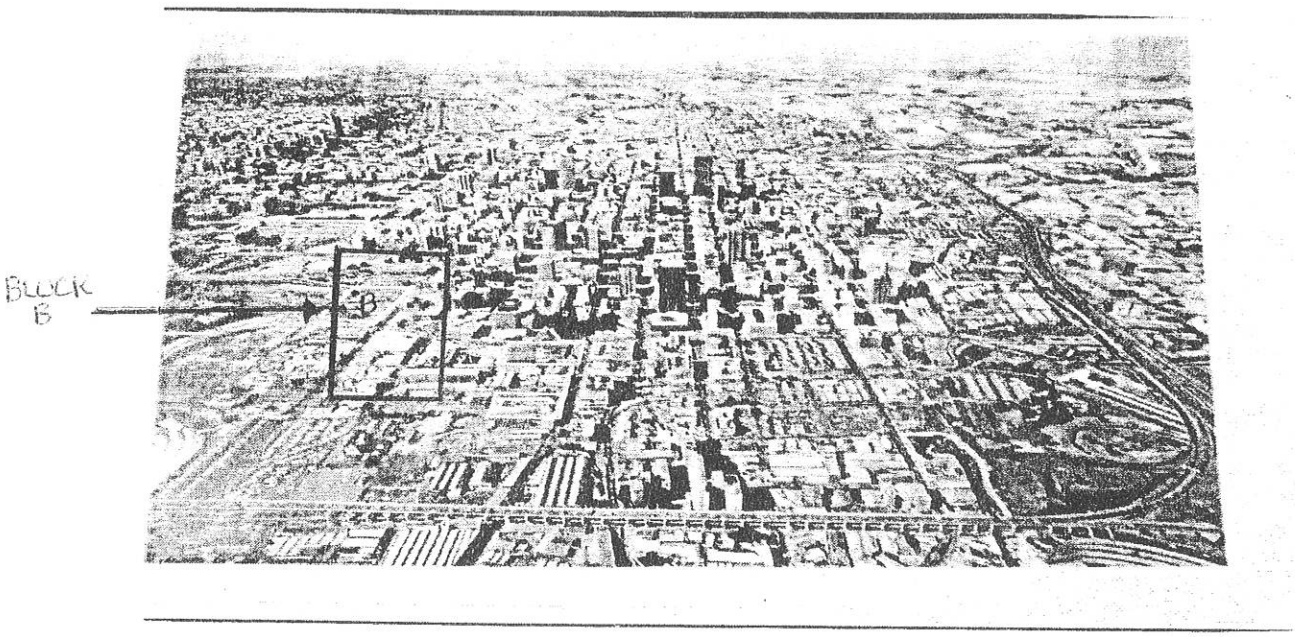
TOTAL – SECTION A : [75]

P.T.O...

SECTION B – MAP-WORK

QUESTION 5

Study **Figure 5**, a photo taken looking at the East Rand, and answer the questions that follow.



5.1.1 During what time of the day are orthophoto's taken? Give a reason for your answer. 2x1=[2]

5.1.2 During what time of the day was the photo in **Figure 5** taken (i.e. morning or afternoon). 1x1=[1]

5.1.3 Give a reason for your answer in (5.2.1). 1x2=[2]

5.1.4 Name the type of aerial photograph being used in **Figure 5**. Give a reason for your answer. 2x1=[2]

5.1.5 Name the five recognition skills used to identify or interpret objects on a photo. 5x1=[5]

5.1.6 Describe the resolution image of this photo. 1x2=[2]

5.1.7 Identify the following features on the Orthophoto map :
(a) A point
(b) A line
(c) A polygon 3x2=[6]

5.1.8 Calculate the area of block B (in km^2) on the Orthophoto map.
Show ALL your calculations. 5x1=[5]

TOTAL – SECTION B : [25]

GRAND TOTAL : [100]

GREENBURY SECONDARY SCHOOL
DEPARTMENT OF HSS
H.O.D. MR. O RAMASAMI
06/03/19

Grade 11 - Geography
Memorandum - March Cont. Test

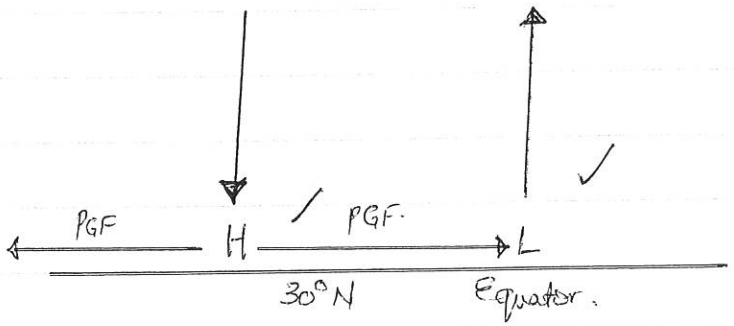
1.1.1 B - Tropical Easterlies
c - Polar easterly Wind

1.1.2.

Anticlockwise ✓	Clockwise ✓
calm, fair, hot, dry ✓	cloudy, rainy, stormy weather ✓
Descending ✓	Rising ✓

(6)

1.1.3



(2)

1.1.4. - Air sinks at the poles forming H.P. zones ✓
- Divergence of air on the surface ✓
- Divergence results in surface winds called polar easterlies ✓
- Polar easterlies moves towards low pressure zone around 60° ✓
- Rises and diverges in upper atmosphere - and flows back into polar pressure zone & the sub-tropical pressure zone.

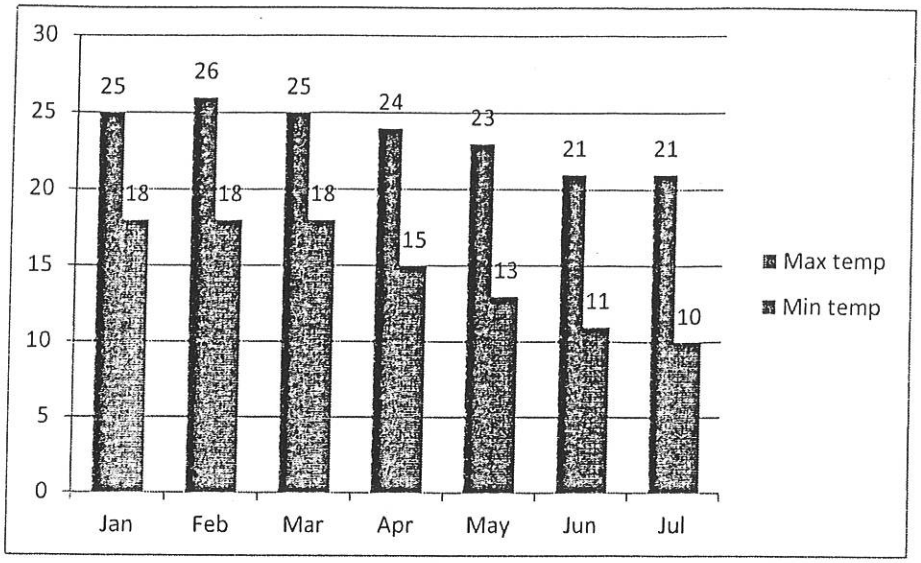
2.1.1. Jan - 7°C ✓
June - 10°C ✓

2.1.2. The temp. differences is not big ✓

2.1.3. Land Breeze ✓
Sea Breeze ✓

2.1.4.

BAR GRAPH



2.1.5 Sea Breeze - from Sea into land - during Day.
Land Breeze - From Land into the Sea - at night.

3.1.1 Summer
3.1.2 Presence of L.P. in interior
- H.P. Cells - migrated Southwards (Too far South)
- Weather Stations have cloud Cover
- Temp. relatively (generally) high
- Cold Front - passes South of Country

3.1.4 Above 1016 hPa / 1017 / 1018 =
3.1.5 C
3.1.6 - The Contour line are close to each other a c (Steep gradient)
- Indicates that there is a strong Wind.

3.1.7 The atmospheric pressure increases towards the centre of the Cell.

4.1.1. Boy Child

4.1.2 Girl Child

4.1.3. Pacific

4.1.4. - High Pressure - associated with Descending air - leads to dry conditions over Tasmania & Australia
- Low Pressure - associated with Rising Air - Heavy R/Fall over the Pacific

4.1.5. El Niño - Dry Weather conditions / drought / low R/Fall
La Niña - High R/Fall - floods

4.1.6. - Lack of Water for Domestic Use
- Decrease in fish supply.
- Water restrictions - imposed - due to water shortages
- Generation of HEP is threatened
- Industries that depend on farming products do not have adequate raw materials

(Accept any 4).

Section B.

Question 5

5.1.1. Between (12 00 & 14:00 pm)
The Sun is at its highest point

5.1.2. Afternoon

5.1.3. The shadows from the buildings are in a S.Easterly direction -
- implies that the Sun is in the West where it sets.

5.1.4 High Oblique
- Shows the surface, the horizon & part of the Sky.

5.1.5. Shape
Pattern
Size
Shadow
Tone & Texture

5.1.6. Visible objects or features and therefore high Resolution

5.1.7. Point - buildings
Line - roads/railway lines/River
Polygons - Sportsground/golf course/recreational Areas.

5.1.8. Area = L X B
Length - 2cm X 0,1
= 0,2 km

Breadth = 1,5 X 0,1
= 0,15

0,2 X 0,15
= 0,03 km^2