Grade : 11
Paper 1

HILLCREST HIGH SCHOOL
GEOGRAPHY PAPER I
JUNE 2018

TIME : 2 HOURS **MARKS :** 180
EXAMINER : CM Girvin Esq.

INSTRUCTIONS

1. There are **COMPULSORY** questions and **CHOICE** questions in Section A

2. In Section B **ALL** the questions are **COMPULSORY**

3. You need to note carefully the instructions given in each section. Do only the number of questions you are required to do

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SECTION A - THE ATMOSPHERE

1. MATCHING COLUMNS: COMPULSORY

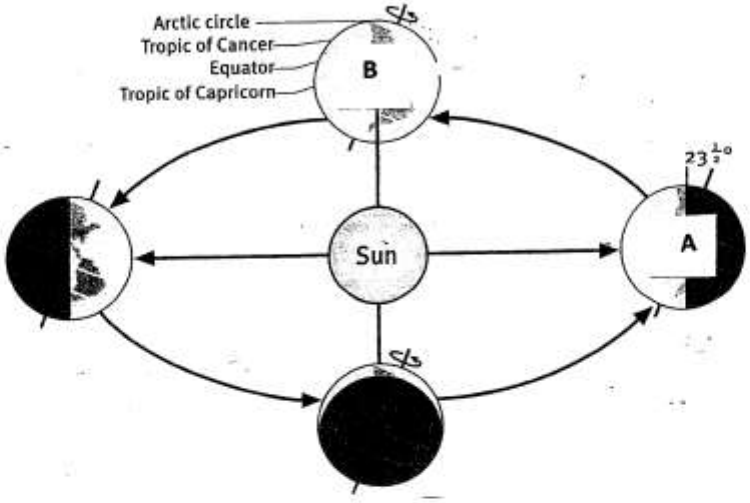
Match the term in Column A with its correct definition in Column B. Write down just the number and letter of the correct combinations

COLUMN A	COLUMN B
1.1 Pressure gradient	A Example of a Föhn wind
1.2 ITCZ	B An example of a secondary circulation
1.3 Coriolis effect	C Wind resulting from a balance between The pressure gradient and coriolis forces
1.4 Hadley cell	D A wind system that reverses direction with the seasons
1.5 Geostrophic wind	E Belt of low pressure around the equator
1.6 Chinook	F Tropical air mass convection cell
1.7 Ferrel cell	G High speed, high altitude wind
1.8 Monsoon	H Change in pressure over a given distance
1.9 Tropical cyclone	I Polar air mass convection cell
1.10 Jet stream	J Deflection of winds caused by the earth's rotation

10 X 2 = [20]

2. THE SEASONS : COMPULSORY

Refer to the diagram below and then answer the questions that follow



2.1 The diagram illustrates the two major causes of the seasons. What are they? (4)

2.2 Refer to the part of the diagram marked A

2.2.1 What term is used to describe what is happening on this day? (1)

2.2.2 What season is being experienced in the southern hemisphere? (1)

2.2.3 Why is the southern hemisphere experiencing this season? (2)

2.3 Refer to the part of the diagram marked B

2.3.1 What term is used to describe what is happening on this day? (1)

2.3.2 Where are the sun's vertical rays on this day? (1)

2.3.3 Describe what has happened to the lengths of day and night in the southern hemisphere between the parts of the diagram marked A and B (4)

[14]

3. PRIMARY CIRCULATIONS : COMPULSORY

Refer to diagram 1 on the attached diagram sheet. This sheet must be handed in with your answer script

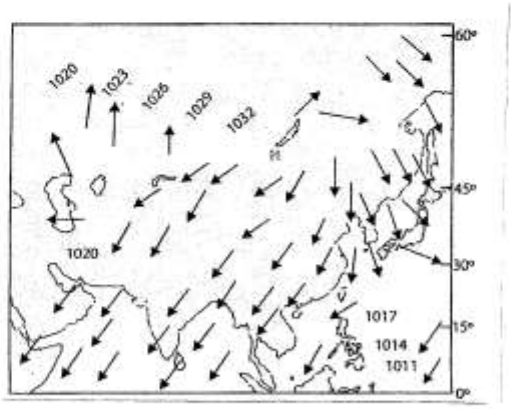
3.1	Name the pressure belts that occur at A and B	(2)
3.2	Give a brief explanation for the existence of **EACH** of these pressure belts	(4)
3.3	Complete this diagram by drawing in the missing middle circulation cell	(4)
3.4.1	What name is given to the area marked C?	(1)
3.4.2	What is the name given to the **PROCESS** happening at C?	(1)
3.5.1	Rain is occurring at A and at C. Why is this?	(2)
3.5.2	Name the **TYPE** of rain occurring at **EACH** of these places (A and C)	(4)
3.6	Describe and explain the circulation associated with the cell between A and B	(6)
		[24]

ANSWER QUESTION 4 OR QUESTION 5

EITHER

4. SECONDARY CIRCULATIONS

The diagram below shows the development of the monsoon over Asia in January



4.1	What is a **MONSOON**?	(2)

4.2 List **TWO CHARACTERISTICS** of the monsoon shown in this diagram (4)

4.3 Redraw a simplified version of this diagram to show the development of the monsoon over Asia in July (3)

4.4 Explain why the diagram you have drawn differs from the one above (4)

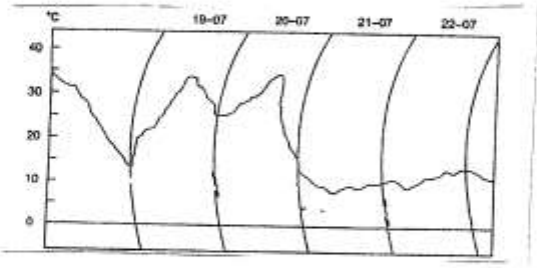
4.5 Describe **AND** explain one major difference between the monsoons in January and July (4)

4.6 Assess the effects of the July monsoon on the people of India (6)
[23]

OR

5. BERG WINDS

The diagram below is a temperature trace which shows the variations in temperature in the northern parts of KZN between 19 and 22 July



5.1 What is the **GENERAL** name for a berg wind? (1)

5.2 What was the maximum temperature recorded in the period shown on the thermograph? (2)

5.3 For approximately how long did the berg wind conditions last? (2)

5.4 Explain, **WITH THE AID OF A DIAGRAM**, how these berg winds form (6)

5.5 Describe and explain what happened to the temperature after the berg wind conditions had abated (4)

5.6 The following headlines were taken from the Mercury and the Witness at the time of the berg wind conditions

Veld fires devastate Berg

Runaway Berg fires

5.6.1 Who would be most affected by these fires? (2)

5.6.2 Describe the effects these fires would have had on the northern parts of KZN (6)
[23]

ANSWER QUESTION 6 OR QUESTION 7

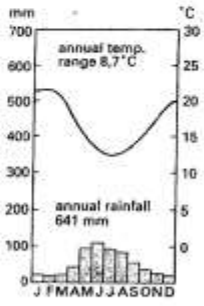
EITHER

6. THE CLIMATE OF AFRICA

Refer to the map of Africa on the attached diagram sheet and then answer the questions that follow

6.1 Name the climate regions labelled A, B and C (3)

6.2 The climate graph below represents one of the regions



6.2.1 Which region does it represent? (2)

6.2.2 Give **TWO** reasons for your answer (4)

6.3 The areas marked D and E receive different amounts of rainfall

6.3.1 Which area, D or E, receives the **LEAST** rainfall and which one received the **MOST** rainfall? (2)

6.3.2 Explain why the amount of rainfall varies between places D and E (4)

6.4 The diagram below shows another factor that influences the amount of rainfall in some parts of Africa

6.4.1 What is the factor that is shown in the diagram? (2)

6.4.2 Draw a diagram to show how this situation differs from what would normally occur in the area (4)

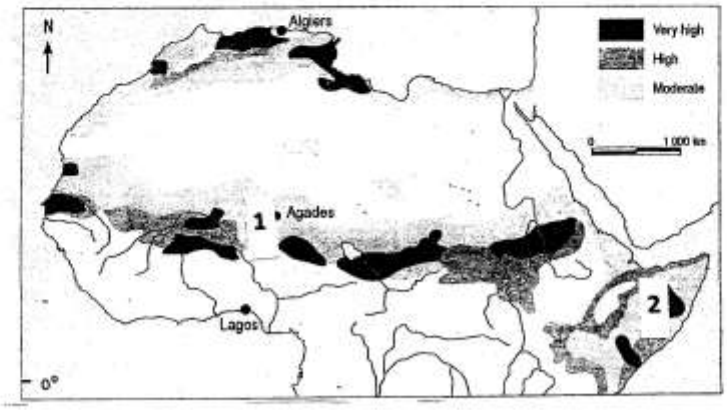
6.4.3 Describe briefly how this phenomenon affects rainfall in Africa (3)

[24]

OR

7. DROUGHTS AND DESERTIFICATION

Refer to the map of Africa and the case study below before answering the questions that follow



Case Study: Vulnerability in Chad

Figure 2.58 A Chad family homestead.

In good years, 300–600 mm of rain falls. But for several years now, no rain has come.

Families' food stores are empty; little food has been grown, there is none to store; each year food prices have risen, especially prices of millet, the staple food. Most people are subsistence farmers who live on less than R10 per day. They cannot afford to buy food.

The lack of rain has dried up rivers and wells. People are forced to dig for water. The new wells are not always hygienic, and the water is not clean.

Figure 2.59 Men digging a well.

Grazing is almost nonexistent. Ponds and watering holes are dry. Cattle produce little milk because they are hungry. Many cattle die, or are sold at a loss just so their owner can get some money for food.

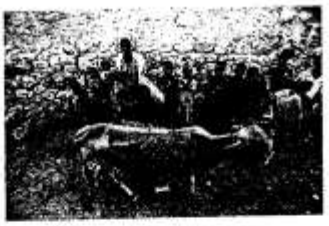


Figure 2.60 Cattle are hungry.

One in every four children under five years old is malnourished.

(Source: Oxfam UK)

Figure 2.61 "The last few years have been very difficult," says this mother, whose child is malnourished. "We've run out of food. My husband left to look for work. He occasionally sends us some money; but there are so many mouths to feed – seven children in all! Often all we have to eat is leftover millet porridge mixed with water."

7.1 What is meant by the terms
7.1.1 **DROUGHT**?
7.1.2 **DESERTIFICATION**? (4)

7.2 Name the areas marked 1 and 2 on the map that are most susceptible to drought in Africa (2)

7.3 Describe **THREE** causes of the drought in Chad (6)

7.4 Suggest **TWO** ways in which **PEOPLE** may have contributed to the drought in Chad (4)

7.5 How does drought eventually lead to desertification? (4)

7.6 Suggest **TWO** measures that could be introduced to reverse the effects of drought on Chad (4)
[24]

TOTAL SECTION A : 105

SECTION B - GEOMORPHOLOGY

1. LANDSCAPES : COMPULSORY

Refer to the map of Philipstown on the attached diagram sheet and then answer these these questions

1.1 Distinguish between the terms **TOPOGRAPHY** and **LANDSCAPE** (4)

1.2 Refer to the landscape feature Tafelberg

1.2.1 Draw a free hand cross section through this feature (3)

1.2.2 Identify the feature you have drawn (2)

1.2.3 Describe and explain the possible future development of this feature. You may use diagrams to enhance your explanation (6)

1.3.1 Using your knowledge of South African landscapes, state where in South Africa Philipstown is located (2)

1.3.2 Give **TWO** pieces of map evidence to support your answer (4)

[21]

2. LANDSCAPES : COMPULSORY

Refer to the diagram below and then answer the multiple choice questions that follow. Write down just the question number and the letter corresponding to the most correct answer

FIGURE A

2.1 The feature in this diagram occurs in an area with

A horizontal layers B inclined layers

C massive igneous rocks D metamorphic rocks

2.2 A landform whose dip slope has an angle of 25° - 45° is called a

A cuesta B tor

C homoclinal ridge D mesa

2.3 Which of the following statements about the scarp slope is **FALSE?**

A The scarp slope is useful for forestry
B Hard rock is found on the scarp slope
C Scarp slopes have a steep gradient
D Rocks weather slowly on the scarp slope

2.4 Features such as the one in the diagram form as a result of

A tectonic activity
B erosion
C mass movements
D deposition

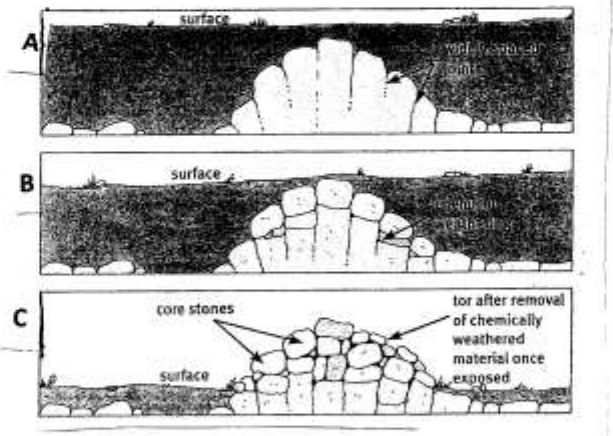
2.5 Cuesta landscapes are significant for humans because

A they don't cause obstacles to transport routes
B they can trap underground water
C cuesta plains contain fertile soil
D they have pleasant climates

5 X 2 = [10]

3. LANDSCAPES : COMPULSORY

Refer to the series of diagrams below and then answer the questions that follow



3.1 Identify the feature in Diagram A (2)

3.2 How did this feature form? (2)

3.3 Name **TWO** other features that could form as a result of the same process (3.2) (4)

3.4.1 Name the process occurring in Diagram B that causes this feature to break up whilst it is still below the surface (1)

3.4.2 What name is given to the individual stones that make up the feature in Diagram C? (1)

3.4.3 Hence name the feature shown in Diagram C (2)

3.5 One other feature **COULD** form as a result of the exposure of the feature in Diagram A

3.5.1 Name this feature (2)

3.5.2 Briefly explain how it would form (4)

3.5.3 Give one South African example of this feature (2)

[20]

4. SLOPES AND MASS WASTING : COMPULSORY

Refer to the diagram below and then answer the questions that follow

4.1 Name the slope elements that are visible on the feature on the extreme left of this diagram? (3)

4.2 What **TYPE** of slope is the element on which the lone tree stands on this feature? (1)

4.3 On which slope element is the road built? Give a reason for its construction on this slope element (4)

4.4 Explain the origins of the boulders in the vicinity of X (2)

4.5 Read the case study below and then answer the questions

Case study **China's giant landslide: Natural or human-made disaster?**

In August 2010, China's Gansu Province had the worst landslide in 60 years. Two days after the landslide 702 people were dead and another 1 042 were missing. Chinese authorities called it a 'rain-triggered' slide. For years officials had been warning that both heavy tree-felling and rapid hydro-development were making the area around Zhouqu vulnerable to mass movements.

Source: Adapted from: news.discovery.com

4.5.1 A landslide is a form of mass movement. Name two **OTHER** forms of mass movement (2)

4.5.2 This was described as a 'rain - triggered' slide. In what **TWO** ways can rain trigger a landslide? (4)

4.5.3 Suggest **TWO** ways in which human activity contributed to this landslide (4)

4.5.4 How could the Chinese authorities have avoided this disaster? (4)
[24]

TOTAL SECTION B : 75

EXAMINATION TOTAL : 180

DIAGRAM SHEET

NAME : _____

DIAGRAM 1 (SECTION A - QUESTION 3)

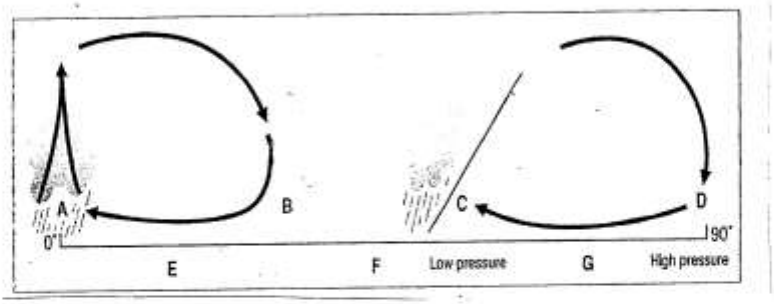


DIAGRAM 2 (SECTION A - QUESTION 6)

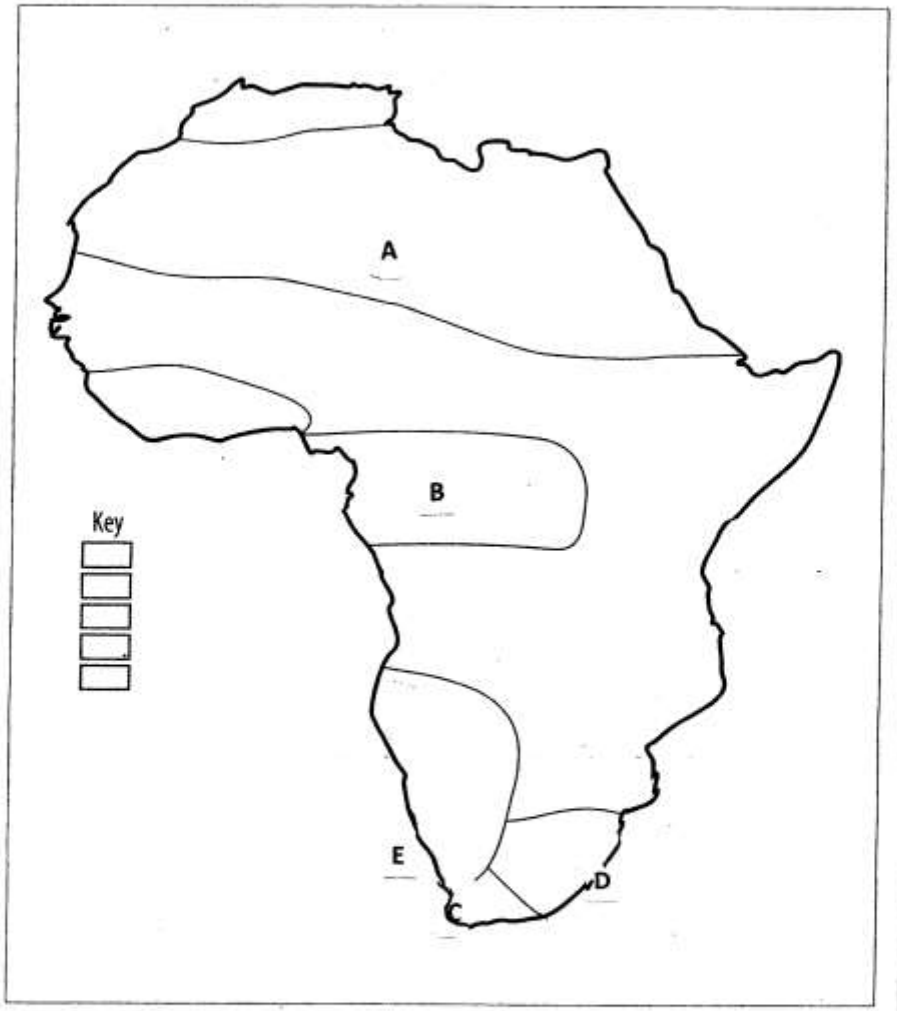


DIAGRAM 3 (SECTION B - QUESTION 1)