Hillcrest High School | Geography | Marks: 200
November 2013 | Grade 11 | Time: 2 hours
Examiner: CR Madeley

Instructions: 1. Answer all the questions in this paper- there are no choices.
2. Write neatly- rule off or leave a line between each separate question eg: between question 1 and 2.
3. Write your name and your geography teachers name clearly on your answer booklet.

Question One **River systems and environmental problems**

Study the figures 1 and 2 provided.

1.1 Give definitions or explanations of:

a. drainage divide
b. interfluves
c. drainage basin
d. sheet flow
e. groundwater flow
f. water table (12)

1.2 Identify and explain three factors that can affect the amount of overland flow /surface run-off in a drainage basin. (6)

1.3 Identify the environmental process/problem evident in figure 3. (2)

1.4 Describe three human activities undertaken in drainage basins that can cause this problem. (6)

1.5 Describe in a paragraph of no more than 10 lines, some strategies that can be used to combat this problem. (8)

FIGURE (1)

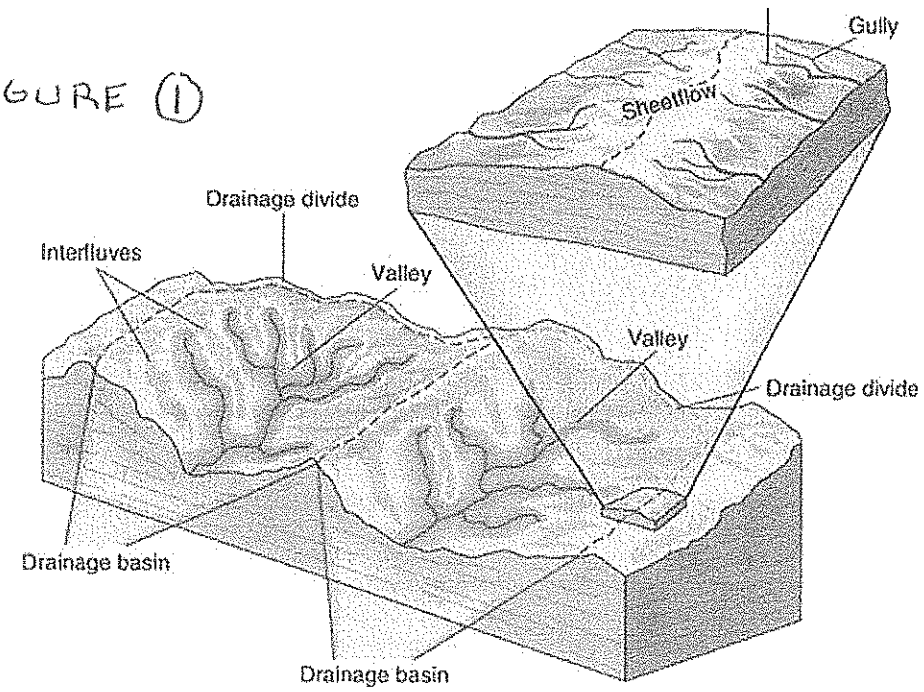


FIGURE (2)

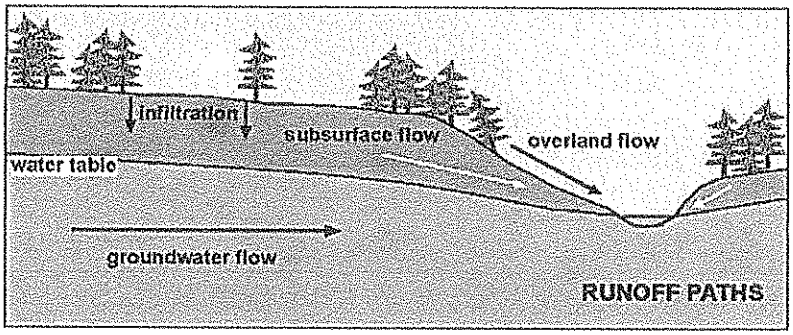
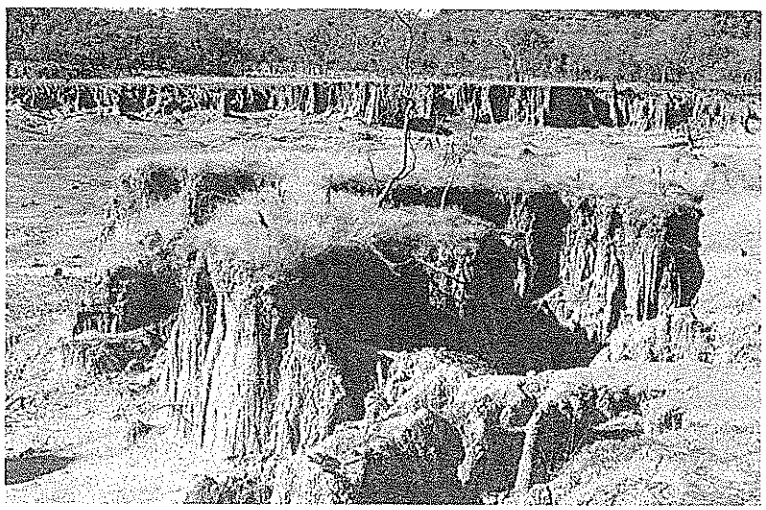


FIGURE (3)



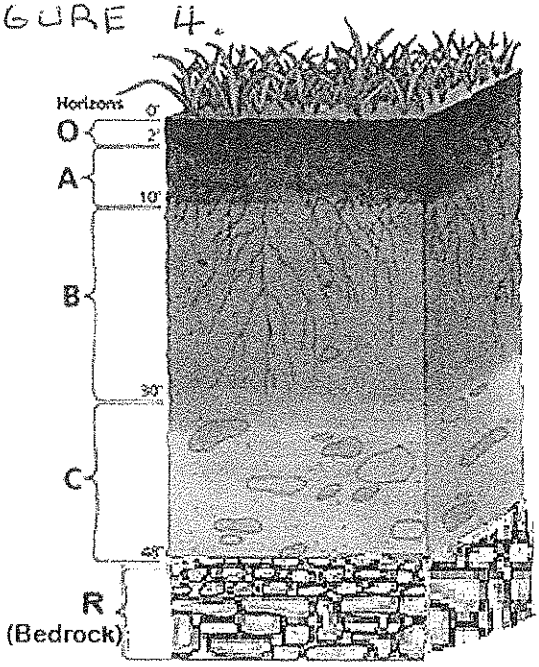
1.6 Refer to the figure 4 showing soil horizons.

1.6.1 Identify the horizon:

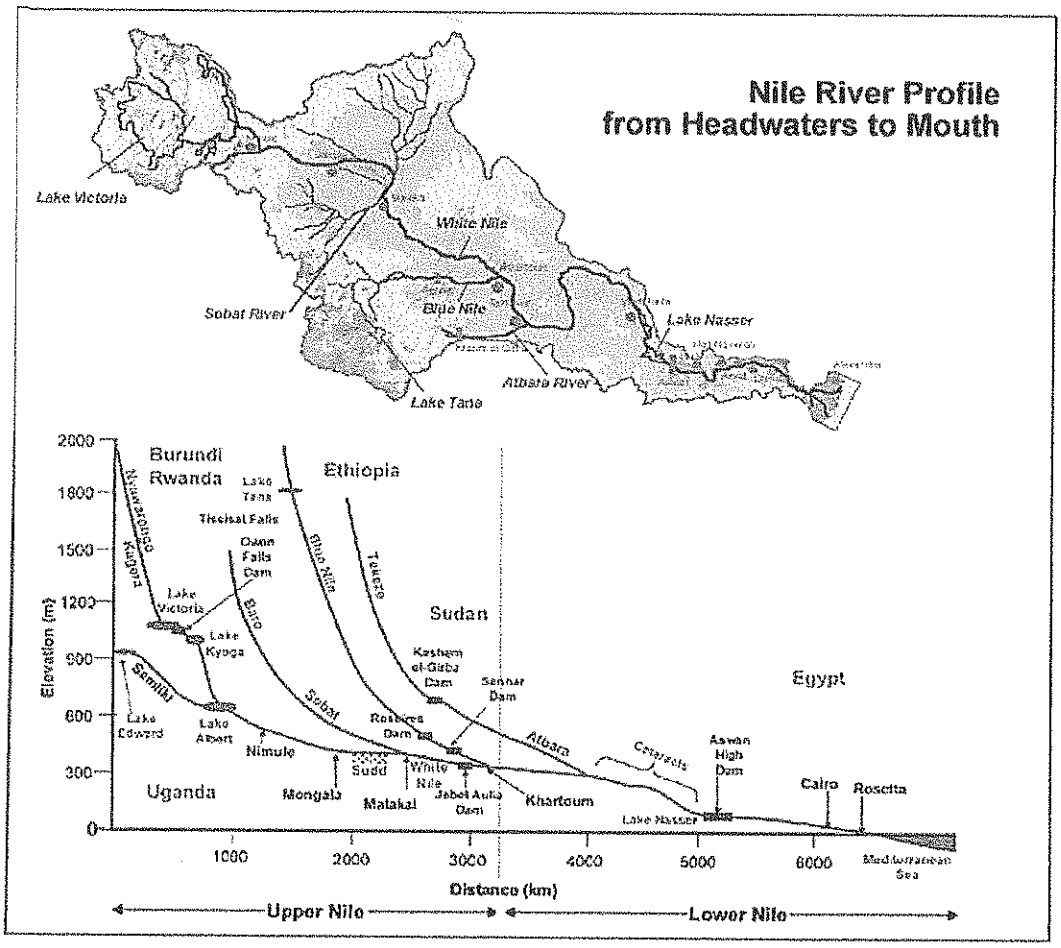
a. that is composed mainly of humus and other organic matter
b. where minerals and other compounds accumulate
c. that is made up of parent rock
d. is also called the zone of eluviation (4)

1.6.2 Describe the role of any two soil formation factors affect soil formation. (6)

FIGURE 4.



Question Two



2.1 Where is the source of the Nile River? (1)

2.2 Over what total distance does the Nile river flow? (1)

2.3 What do we call the type of profile shown in the diagram? (1)

2.4 Explain, giving two examples to support your answer whether the Nile rivers profile would be considered a graded profile. (4)

2.5 Where is the permanent base level of this river system? (2)

2.6 Briefly compare the characteristics of the Upper Nile to the lower Nile (6)

2.7 Describe two negative effects of the building of the Aswan high dam may have had on the river system. (4)

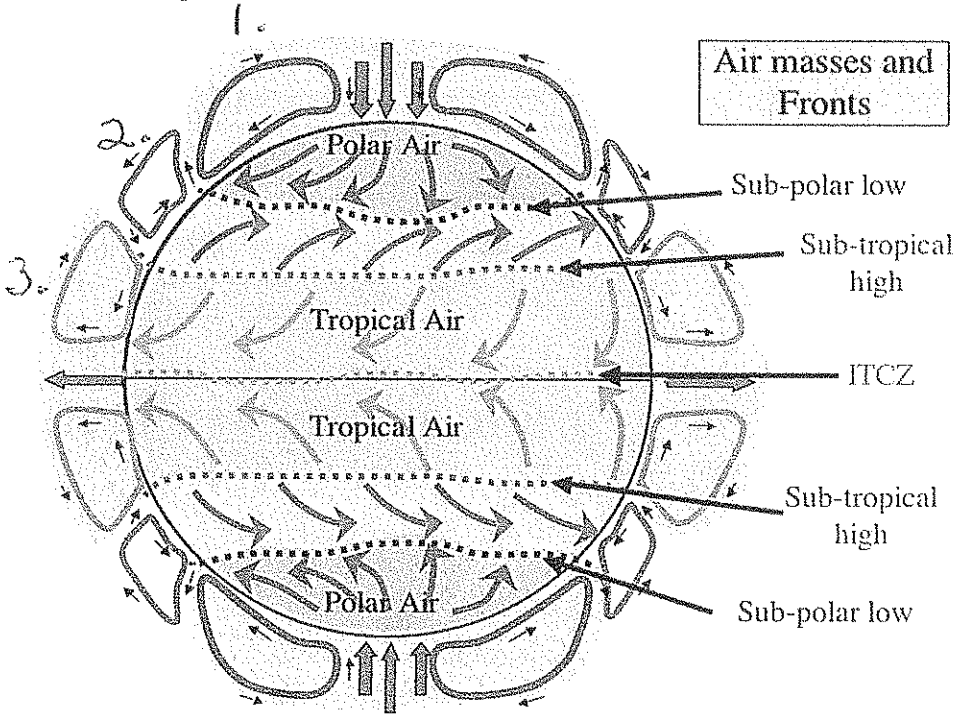
1. Choose the drainage pattern associated with the following landscapes from the list provided. Just write the letter and next to it the name of the drainage pattern.

A. Areas subjected to folding.
B. Areas with rock which is uniform in its resistance to erosion.
C. Flowing from elevated features such as mesas and buttes.

Parallel; Radial; Dendritic; Trellis, Rectangular. (3)

Section B **Atmospheric circulations**

Study the diagram below:



1.1 Explain with reference to the diagram how unequal heating of the earth causes this primary circulation. (4)

1.2 What is the ITCZ? (Explain what causes it.) (4)

1.3 Name the pressure belt:

a. that occurs at 30 degrees North and South
b. where mid-latitude cyclones originate
c. caused by convection (3)

1.4 Name the **cells** labelled 1, 2 and 3. (3)

1.5 Name the winds that blow between the sub-tropical highs and the sub-polar lows. Account for the direction they are blowing in. (4)

1.6 State where on the diagram mid-latitude cyclones are likely to form. (2)

1.7. What characteristic of the surface air at 30 degrees north and south causes dry, low rainfall conditions at these latitudes? (2)

[25]

Question Two

2.1 Name the air circulations that are described by each of the statements below:

Choose your answer from the list B. (6)

A.

a. Warm off shore winds occurring in southern Africa
b. Seasonal changes in wind over continental areas
c. The unusual warming of sea surface temperatures in the Pacific Ocean
d. Unusually cold conditions over the Pacific Ocean.
e. Cool air blowing towards the land during the day
f. Caused by air warming as it descends over mountain ranges such as the Alps or the Rockies.

B.

- El Nino
- Fohn wind
- Berg winds
- Sea Breeze
- La Nino
- Monsoon

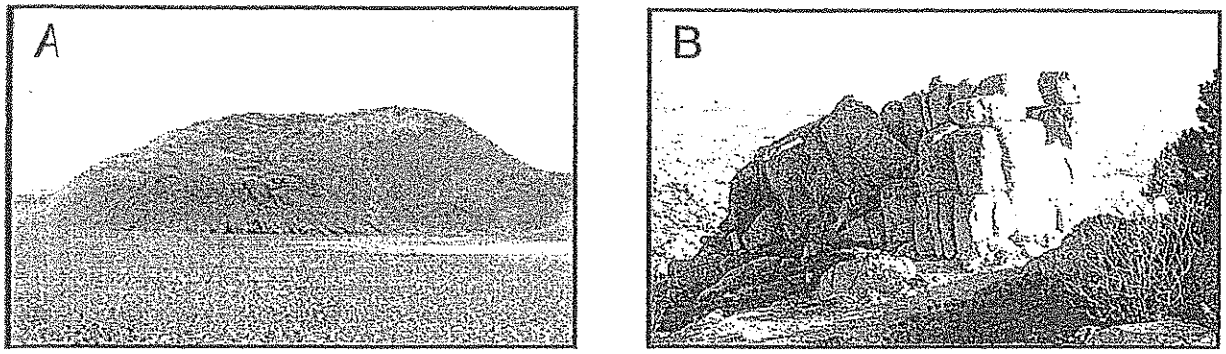
2.2 State two problems caused by **monsoons** in the regions in which they occur. (4)

-1(-18)

Question Three

Refer to the figure below showing a landform that occurs as a result of igneous intrusions.

FIGURE 2.5: LANDFORMS RESULTING FROM IGNEOUS FORMATIONS



3.1 Identify the landforms A and B. (4)

3.2 Name the underlying intrusion from which both these features developed. (1)

3.3 Name the rock type associated with these features. (1)

3.4 Briefly outline the formation of feature B. (6)

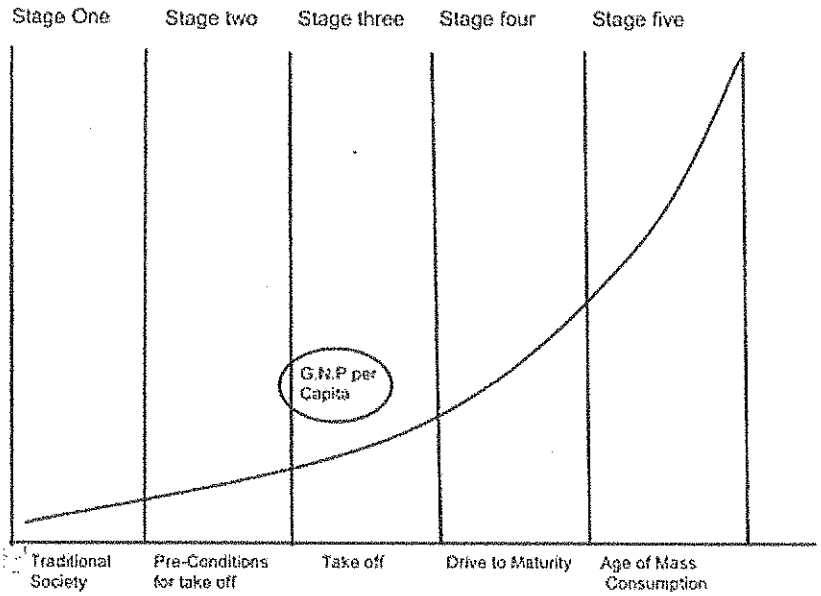
3.5 Draw a simple sketch in your answer book to illustrate the following features you may find in a landscape with horizontal layers of rock.

a. a mesa and butte
b. the crest, free face and pediment (6)

(-16)

Section B Development, resources and sustainability.

Refer to the figure below:



1.1 Name the model of development shown here. (1)

1.2 Suggest two reasons why this model has been criticized. (4)

1.3 What is GNP? (4)

1.4 Mention two other models of development which you studied. (2)

1.5 Outline briefly how one of the models you mentioned in 1.4 above, describes the process of development. (4)

1.6 State two demographic or social development indicators that could be applied instead of GNP. (2)

1.7 What does HDI stand for? (2)

1.8 Discuss the role that world trade can play in helping a country reach stage 4 of this model (8)

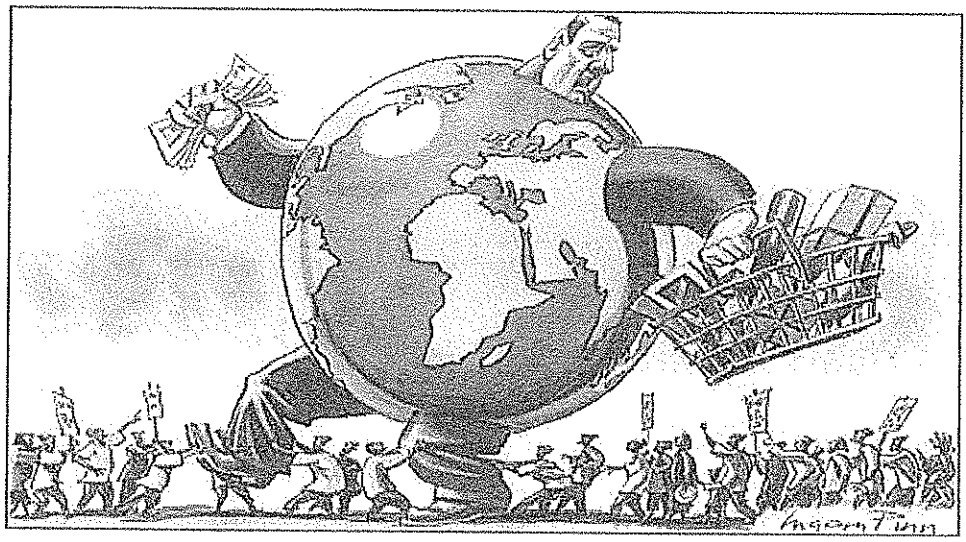
Question Two

2.1 Write a suitable definition of each of the following:

a. Gross domestic product.
b. Renewable resource
c. Balance of payments
d. Multinationals
e. Trade quotas
f. Trade bloc
g. development aid (14).

Question Three

Study the cartoon image below commenting on globalization.



3.1 What comment is being made about globalization here? (4)

3.2 What do you understand by the term globalization? (2)

3.3 Mention two reasons why multinationals invest in LEDC countries? (4)

3.4 Do you agree with the cartoonist about the effect of globalization and multinationals on developing regions? Respond, using your knowledge of the effects multinationals may have on developing countries. (10)

Question Four

4. Read the attached newspaper article extract and answer the questions that follow:

NUCLEAR POWER IN SOUTH AFRICA

While the likely cost of South Africa's planned nuclear power stations has been grabbing headlines, a more pertinent question is: When will they actually be built?

The IRP2010 plan – released in April 2010 – called for the construction of six nuclear stations generating 9,6 GW of energy by 2030, with a new 1 600 MW nuclear power plant to be built every year between 2023 and 2026, and the last two in 2028 and 2029.

In practical terms, a decision needed to be made within a year to go ahead with the first two of those planned six new nuclear stations. That has not happened. It was announced in mid-September that South Africa was postponing a decision by one year for safety reasons after the tsunami incident at Japan's Fukushima nuclear plant in March 2012.

It was stressed that, globally, coal was 'here to stay' as an energy source until at least 2035, despite intense environmental opposition.

– Brendan Ryan (adapted)

4.1 Where is South Africa's only nuclear power plant? (1)

4.2 Despite the many advantages of other sources of power, South Africa relies heavily on conventional energy resources such as coal. Why is this? (4)

4.3 Suggest possible reasons for the "intense environmental opposition to coal as an energy resource. (6)

4.4 Do you agree with the government's decision to build more nuclear power plants? Respond with reference to the advantages and disadvantages of nuclear power. (10)

4.5 Name one renewable energy source planned for South Africa. Suggest one disadvantage of its application in South Africa. (2)