INSTRUCTIONS TO CANDIDATES

a) This paper has two sections; A and B

b) Answer the all questions in section A.

c) Answer questions 6 and any other two questions from section B.

d) All answers must be written in the answer booklet provided.

e) This paper consists of 5 printed pages.

f) Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.
1. a) Differentiate between negative and Zero lapse rate. (2mks)
    b) State three effects of earth’s rotation. (3mks)
2. a) Define Absolute humidity. (2mks)
    b) State three factors that influence atmospheric pressure. (3mks)
3. The diagram above shows some types of folds.

   a) Name the types of fold marked A and B (2mks)
   b) With the aid of a well labeled diagram, explain how Block Mountains are formed using convectional theory. (3mks)
4. a) Differentiate between the process of the formation of plutonic rocks and volcanic rocks. (2mks)
    b) For each of the following sedimentary rocks, name the resultant rock that forms after metamorphism.
       i) Sand stone (1mk)
       ii) Lime stone (1mk)
       iii) Clay (1mk)

   Study the diagram below and use it to answer the questions that follow.
5.  a) Name the features marked X, Y and Z.  (3mks)
    b) Name any two conditions necessary for the development of a Karst landscape. (2mks)

SECTION B

Answer question 6 and any other two questions in this section

6. Study the map of Kitale (1:50,000) sheet 75/3 provided and answer the following questions
   a) i) Give the six figure grid reference for the trigonometrical station (2358) at Kaipos. (2mks)
   ii) Measure the length of the loose surface road (B 10/2) from grid reference 230206 to the junction near knights corner. Give your answer in kilometers. (2mks)
   b) i) Give the sheet number of the map to the south of Kitale. (2mks)
   ii) Name two man made features in grid square 3019. (2mks)
   iii) What is the direction of the dam in grid square 3124 from the air photo principal point in grid square 3426. (2mks)
   c) i) Give the altitude of the lowest point in the area covered by the map. (2mks)
   ii) Calculate the area of Kapolet forest as bounded by the district and nature reserve/ forest area boundaries. (2mks)
   d) Describe the drainage of the area covered by the map. (4mks)
   e) Students of the school near Crofts Bridge carried out a field study at Saiwa farm.
      i) Formulate one hypothesis for their study. (2mks)
      ii) State two objectives of their study. (2mks)
      iii) Name three methods they are likely to have used to record their findings. (3mks)

7. a) Distinguish between lava and magma. (2mks)
    b) Name any two extrusive features resulting from vulcanicity. (2mks)
C i) Using a well labeled diagram, explain the formation of an inclined sill. (6mks)

ii) Give any one example of a sill in Africa. (1mk)

d) State and explain four constructive effects of vulcanicity on the economic growth. (8mks)

e) i) Discuss briefly how vulcanicity triggers shock waves that cause earthquakes. (3mks)

ii) Other than vulcanicity name three other factors that trigger shock waves which causes earthquakes. (3mks)

8. The diagram below shows the distribution of vegetation in Africa. Use it to answer the questions below.

a) i) Name the parts labeled X, Y and Z. (3mks)

ii) Describe the characteristics of tropical grasslands (Savanna) vegetation. (6mks)

b) How do the following factors influence distribution of vegetation in Kenya.

i) Variation in rainfall (2mks)

ii) Variation in temperature (2mks)

iii) Variation in Altitude/Relief (2mks)

iv) Soil (2mks)

v) Human activities (2mks)
c) Explain three measures that the Kenyan government has taken to reduce the decline of natural vegetation cover. (6mks)

9. a) i) What is a desert? (2mks)

ii) Highlight three physical factors that contribute to the development of deserts. (3mks)

b) Below is a map of the world, study it and use it to answer the questions that follow.

![Map of the world]

Name the deserts marked

i) K (1mk)
ii) L (1mk)
iii) M (1mk)
iv) i) List three ways through which wind erosion takes place in deserts. (3mks)

v) State two factors which enable wind to be an effective agent of erosion in hot desert. (2mks)

vi) Describe how the following features are formed.

i) Oasis (5mks)
ii) Loess (3mks)

vii) Students from Goshen Secondary carried out a field study on desert features resulting from water action.

i) Name two inland drainage features they may have identified. (2mks)

ii) Give two reasons why they needed a route map. (2mks)

10. a) Define the following terms.

i) Ice sheet (2mks)
ii) Ice bergs (2mks)
iii) Snowline (2mks)

b) Name two processes involved in ice erosion. (2mks)

c) Explain four factors that influence glacial erosion. (8mks)
d) Name three types of Moraines. (3mks)

e) Explain any three factors that make Lake Naivasha to be fresh water a Lake. (6mks)