INSTRUCTIONS TO CANDIDATES

* This paper consists of two sections A and B.
* Answer ALL the questions in section A. In section B answer question 6 and any other two questions.
SECTION A

**Answer all the questions in this section.**

1. i) Differentiate between revolution and rotation. (2 marks)
   
   ii) State three effects of revolution of the earth. (3 marks)

2. a) i) What is an isohyet (1 mark)
   
   ii) Name the instrument used to collect data needed in question a (i) above for the isohyets. (1 mark)

   b) i) Define the term weather forecasting. (1 mark)
   
   ii) State two importance of weather forecasting. (... marks)

3. a) Differentiate between natural vegetation and derived vegetation. (2 marks)
   
   b) Give three uses of Savanna vegetation. (3 marks)

4. a) Identify two reasons why the action of wind is more effective in hot deserts. (2 marks)
   
   b) i) State one condition necessary for the formation of Karst scenery. (1 mark)

   ii) The diagram below represents zones of saturation below the surface.

   ![Diagram](Image)

   Name the zones marked X and Z. (2 marks)

5. a) List two factors influencing soil formation. (2 marks)
   
   b) i) Distinguish between soil porosity and soil permeability. (2 marks)

   ii) Give one factor that contribute to soil degeneration. (1 mark)

SECTION B

**Answer question 6 and any other two questions.**

6. Study the map of Nkubu 1:50000 sheet 122/1 provided and answer the questions that follow.

   a) i) Measure distance along the dry weather road from junction at grid 427976 to the road junction at 495961. (2 marks)

   ii) Name two man – made features in grid square 5682. (2 marks)

   b) i) Calculate the bearing of the trigonometrical station in the grid square 5686 from the trigonometrical station in grid square 6087. (2 marks)

   ii) Calculate the area of the forest to the South of Northing 86 and North of Northing 82. (2 marks)
c) i) Draw a cross-section along Northing 92 from grid reference 520920 to 600920 using a scale of 1cm represents 50metres. (4marks)

   On the section mark and name:
   - All weather road loose surface.
   - Dry weather road
   - Main river
   - Seasonal swamp.

ii) Calculate the vertical exaggeration of the cross-section you have drawn in c (i) above. (2marks)

d) Describe how the following have influenced settlement in the area covered by the map.

i) Relief (2marks)

ii) Drainage (3marks)

e) If the students from the school Nkando were to carry out a field study on mining in this area covered by the map. Giving evidence identify the type of mining they would observe. (2marks)

7.a) i) Differentiae between glacial till and fluvioglacial deposits. (2marks)

ii) Name three features resulting from glacial erosion in lowlands. (3marks)

b) Explain how the following factors influence glacial deposition.

i) Weight of the glacier. (2marks)

ii) Climatic changes

iii) Slope of the land (6marks)

c) Describe how the following features are formed.

i) Outwash plain (4marks)

ii) Moraine – dammed lake

d) Explain five benefits of glaciated landscapes to the human environment. (10marks)

8. a) Name two types of submerged coasts. (2marks)

b) Explain how the following factors determine the effectiveness of wave erosion along a coast.

i) Nature of material transported by waves. (2marks)

ii) Nature of the coast rock. (2marks)

iii) With the aid of labeled diagrams describe the process through which a stack is formed. (6marks)

c) State four conditions that favour the growth of coral. (4marks)

d) i) Explain three ways in which coral contributes to the economic development of Kenya. (6marks)

ii) Students from a school went for a field study at the coast of Kenya. What methods do you think they used to record their data. (3marks)
9.a) i) What is a lake. (2marks)
    ii) Name three ways through which lakes are formed. (3marks)
    iii) List three sources of lake water. (3marks)

b) By use of a diagram describe how lake Victoria was formed. (5marks)

c) Briefly explain two reason why some lakes in the Rift valley have fresh water. (4marks)

d) State three economic significances of lakes. (3marks)

e) Students from your school intends to carry out a field study on lakes,
   i) State one objectives for their study. (1mark)
   ii) Identify two methods they will use to record the data collected. (2marks)
   iii) Which human activity might they have found to be affecting the lakes. (2marks)

10.a) i) What is the definition of ground water. (2marks)
    ii) Name two of the sources of ground water. (2marks)

b) The diagram below shows the underground features in karst landscape. Use it to answer question (i)

![Diagram of karst landscape features]

   i) Name the features marked A, B and C. (3marks)
   ii) Describe how feature B is formed. (3marks)

c) Explain four ways in which groundwater is of significance to human activities. (8marks)

d) Students went for a field study in a limestone area.
   i) What problems are they likely to face while in the field. (3marks)
   ii) State two of the surface features they identified. (2marks)
   iii) The two features you have stated in d (ii) above explain how they were identified. (2marks)