OPENER EXAMINATION: TERM 1 2024

Name:……..Class:……Adm No……..
TIME: 2 ¾ HOURS
FORM 4
PAPER 1

INSTRUCTIONS.

a) **The paper has two sections A and B.**
b) **Answer all questions in section A.**
c) **In section B answer number 6 and any other two questions.**

Section A (25mks)
Answer all questions in this section.

1) a) Name the first two planets of the solar system. (2mks)
   - ***Mercury***
   - ***Venus***

   b) State three effects of the rotation of the earth on its axis. (3mks)
   - ***Causes day and night***
   - ***Causes deflection of winds and ocean currents.***
   - ***Causes falling and rising of ocean tides.***
   - ***Causes difference of speed of air masses***

2) a) Define the term weather. (2mks)
   - ***Weather is atmospheric condition of a place observed over a short period of time.***

   b) State the significance of humidity in the atmosphere. (2mks)
   - ***Determine the amount of precipitation received in an area.***
   - ***Regulate temperature in the atmosphere.***
   - ***It determine the amount of energy stored in the atmosphere for the development of storm.***

3) a) Name the three theories which have been put forth to explain the origin of the fold mountain. (3mks)
   - ***The contraction theory***
   - ***The conventional current theory***
   - ***Plate tectonic theory***

   b) Name the fold mountains found in North America. (2mks)
   - ***The rock/mountain***
   - ***The Appalachian mountain***

4) a) Mention three processes through which wind erodes desert surface. (3mks)
   - ***Abrasion***
   - ***Deflation***
   - ***Attrition***

   b) Name two features of water erosion in desert. (2mks)
   - ***Wadis***
   - ***Mesas***

- ***Butter***
- ***Inserbergs***
- ***Pediments***
- ***Pediplains***

5) The diagram below shows a process of slow mass wasting. Study it and answer the questions that follow.
   a) Identify the process. (1mk)
      - ***Solifluction***

   ii) Name the feature marked Y. (1mk)
      - ***Saturated soil/rock debris***

   b) State three conditions which may influence occurrences of landslide. (3mks)
      - ***Nature of the material on a slope.***
      - ***Extend of saturation of amount of precipitation***
      - ***Angel of the slope/gradient***
      - ***Human activities such as mining***
      - ***Occurrence of earthquakes***

Section B.

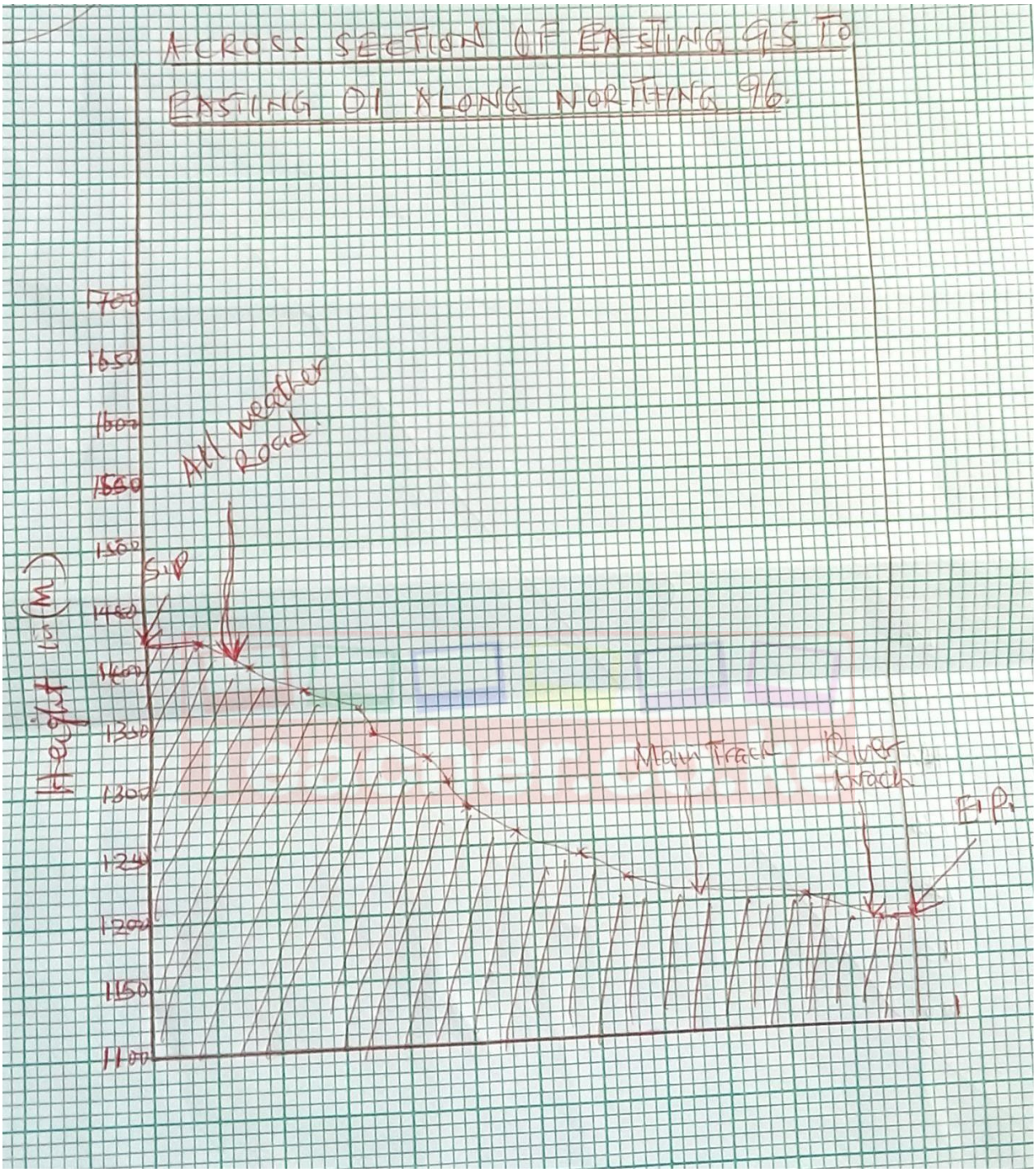
Answer No. 6 and any other questions.

6) Study the map of Kisumu East 1:50,000 provided and answer the following questions.
   a) i) Convert the scale 1:50,000 into statement scale. (2mks)
      - ***if 1km = 100,000***
        ? = 50,000
        50,000cm x 1
        100,000
        = 0.5km

   ii) Name four physical features in the area covered by the map. (4mks)
      - ***Escarpment – Nyando escarpment in N.E of the maps***
      - ***Rivers all over the maps***
      - ***Swamp in the Eastern part of the map***
      - ***Steep slopes valleys in N.W part of the map***

   b) i) Give the direction and bearing of Chiga market grid 0589 from Oronge school grid 9884. (2mks)
      - ***57NE***

   ii) Draw a cross section of Easting as to Easting 01 along Northing 96. (4mks)
   On the cross section name feature like use scale 1cm represent 50m
   - all weather road
   - river awach
   - main track



c) Describe the drainage of the area covered by the map. (4mks)

- ***There are many permanent rivers all over the map.***
- ***There are swamps in the East and South west part of the map.***
- ***There are ditches in all over the map.***
- ***There is a lake in south west part of the map.***

d) Citing evidence from the map identify any three economic activities carried out in the area. (6mks)

- ***Agriculture evidenced by sugar plantation in north east part of the map.***
- ***Trade evidence by markets and shops all over the map.***
- ***Transportation evidence by all weather road and railway line.***
- ***Quarrying evidenced by municipal stone quarry in western part of the map.***

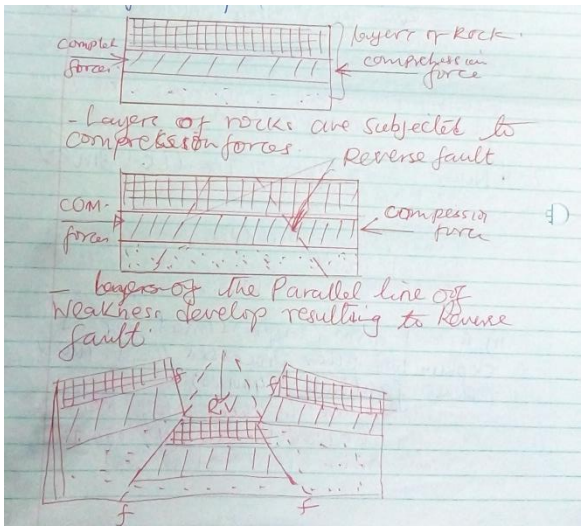
7) a) i) Name three types of faults. (3mks)

- ***Normal fault***
- ***Reverse fault***
- ***Tear/Shear fault***
- ***Thrust fault***
- ***Anticline fault.***

ii) Apart from compressional forces explain two other processes that may cause faulting. (4mks)

- ***Faulting may be caused by forces acting horizontally away from each other (tensional forces)***
- ***Faulting may result when horizontal forces act parallel to each other in the same direction causing shearing (shear/tear)***
- ***Faulting may recur due to the vertical movement which may extent as rain.***

b) With a well labeled diagrams describe how compression forces, may have led to the formation of Rift Valley.



(8mks)

- ***Compresinal forces may push the outers blocks towards each other the outer side over the middle block.***
- ***The sunken middle blocks forms a depression known as a rift valley.***

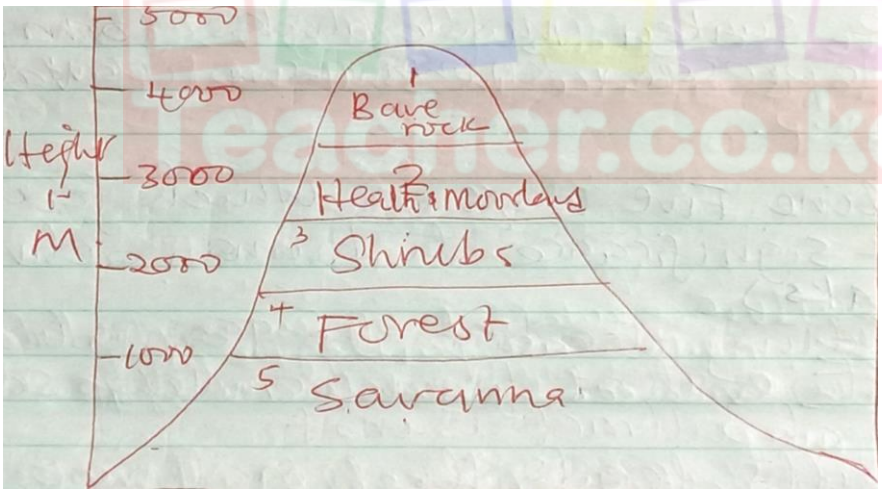
c) Outline five ways in which faulting is of significance to human activities. (10mks)

- ***Faulting leads to the formation of feature that form beautiful sceneries which attract tourist.***
- ***Faults leads to formation of lakes that are important fishing grounds/ tourist sites.***
- ***Faulting covers displacement of rocks which expose minerals that are mined.***
- ***Block mountain formed during faulting may lead to loss of life and property.***
- ***Subsidence of land as a result of faulting may lead to loss of life and property.***

8) a) Define vegetation. (2mks)

- ***This is plant cover growing in an area.***

b) Draw a well labeled diagram to show the distribution of vegetation on tropical mountain. (5mks)



c) Describe how the following factors influence vegetation:

i. Aspect (2mks)

- ***Affect sunlight, temperatue and rainfall.***
- ***Windward slop are weather than the leeward side.***
- ***The windward side has luxuriant vegetation while***

ii. Drainage (2mks)

- ***Vegetations grows luxurioantly in regions which are well drained.***
- ***There are fewer vegetation species adapted to water logged conditions.***

d) Give five characteristics of Tundra vegetation. (5mks)

- ***Isolated alphine plants grows among rock and screen.***

- ***Vegetation is adapted to excessive cold, strong winds, permanently frozen sub soils.***
- ***Plants growth is short 2 months or less.***
- ***Dwarf shallow rooted shrubs e.g.crow berry, bearberry, mosses and lichens***

e) You carried out a field study on vegetation in the area around your school.

i. Identify five characteristics of vegetation you are likely to study. (5mks)

- ***The height of the trees.***
- ***Whether the vegetation is evergreen or deciduous.***
- ***The species of vegetation***
- ***The adaptation of the vegetation***
- ***Whether the vegetation is made up of soft or hardwood.***

ii. Give four methods you would use to collect data in the study. (4mks)

- ***Interviewing***
- ***Taking samples***
- ***Taking measurements***
- ***Taking photographs***
- ***Observations.***

9) a. i) Name two components of soil. (2mks)

- ***Soil air***
- ***Soil water***
- ***Organic matter/humus***
- ***Inorganic matter/minerals***

ii) State three characteristics of desert soil. (3mks)

- ***They are sandy***
- ***They are low humus***
- ***They are thin***
- ***They are rich in calcium***
- ***They are saline***

iii) State two factors that contribute to soil leaching. (2mks)

- ***The nature of the soil/solubility of the minerals***
- ***The topography of the land***
- ***High rainfall the amount of rainfall.***

b) Describe how lateralization occurs. (6mks)

- ***During the wet season, minerals salts in the top of the soil dissolve in rain water.***
- ***The dissolved minerals are deposited further downwards to the lower layer.***
- ***The mineral such as iron and aluminium accumulate in the top layer to form laterite soil***

c) Explain how the following process occurs:

i. Splash

- ***Rain drops of heavy sudden rainstorms hit and loosen unconsolidated soil particles there by throwing soil particles away.***

ii. Gulley erosion

- ***It occurs on steep slopes when rain water cuts deep grooves/channels on slope to form till.***
- ***The channel are deepened and widened to form gullies***

d) i) What is soil conservation? (2mks)

- ***Soil conservations are the measures taken to protect the soil from destruction.***

ii) Explain three ways of maintaining soil fertility. (6mks)

- ***Contour ploughing to form ridges and furrows that breaks the flow of the water down hill thus checking soil erosion.***
- ***Crop rotation in successive years allows the soil to replenish hence soil fertility is naturally maintained.***
- ***Planting trees help reduce the surface runoff, leaves reduce the force of falling rain drops while the roots hold soil particles together thus checking soil erosion.***

10) a) i) What is glaciation? (2mks)

- ***Is the process by which moving ice erodes, transport and deposits materials on the earth surface.***

ii) Outline three types of glacier. (3mks)

- ***Cirque glacier***
- ***Valley glacier***
- ***Pie dormant glacier***

b) State four factors that influence the movement of ice. (4mks)

- ***Angle of the slope***
- ***Variation in seasons***
- ***Friction with glacial valley***
- ***Thickness and weight of the ice***

ii) The diagram below shows types if moraine, label part marked A, B, C. (3mks)

- ***A – Terminal moraine***
- ***B – Medial moraine***
- ***C- Lateral moraine***

c) The diagram below show the glaciated upland. Use it to answer questions.

i. Name the feature marked A,B,C. (3mks)

- ***A – Arctes***
- ***B – cirque/tarm***
- ***C – pyramidal peak***

ii. Describe how a pyramidal peak is formed. (5mks)

- ***Ice collects on a shallow hollow around a mountain side.***
- ***Freeze and thaw action deepen the hollows.***
- ***Plucking and abrasion attack the sides and floor of the hollow.***
- ***The hollow enlarges and back wall steepens leading to formation of cirque***
- ***Further erosion cause the back wall of the cerque recedes as a result of plucking leads to the formation of Areles.***
- ***The cirque cuts back further hence the arêtes at the top of the mountain forming a sharp, steep peak surrounding by cirque called pyramidal peak.***

iii. Give two depositional featured in a glaciated lowlands. (2mks)

- ***Drumline***
- ***Kames***

- ***Eskers***
- ***Outwash plains***
- ***Till plain***
- ***Boulder train***

d) Explain three negative effects of glaciations. (6mks)

- ***Boulder clay deposits create marshy landscape due to poor drainage limiting agriculture.***
- ***Infertility sand deposited on outwash plains make the land unsuitable for agriculture.***
- ***Glaciations result in ruggedness landscape which make it difficult for settlement.***
- ***Glacial deposition leads to the formation of numerous lakes this reduce the amount of land available for human activities.***