KENYA NATIONAL EXAMINATION COUNCIL
REVISION MOCK EXAMS 2016
TOP NATIONAL SCHOOLS

STRATHMORE HIGH SCHOOL

GEOGRAPHY

Paper 1

MARKING SCHEME

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STRATHMORE SCHOOL KCSE TRIAL AND PRACTICE EXAM 2016

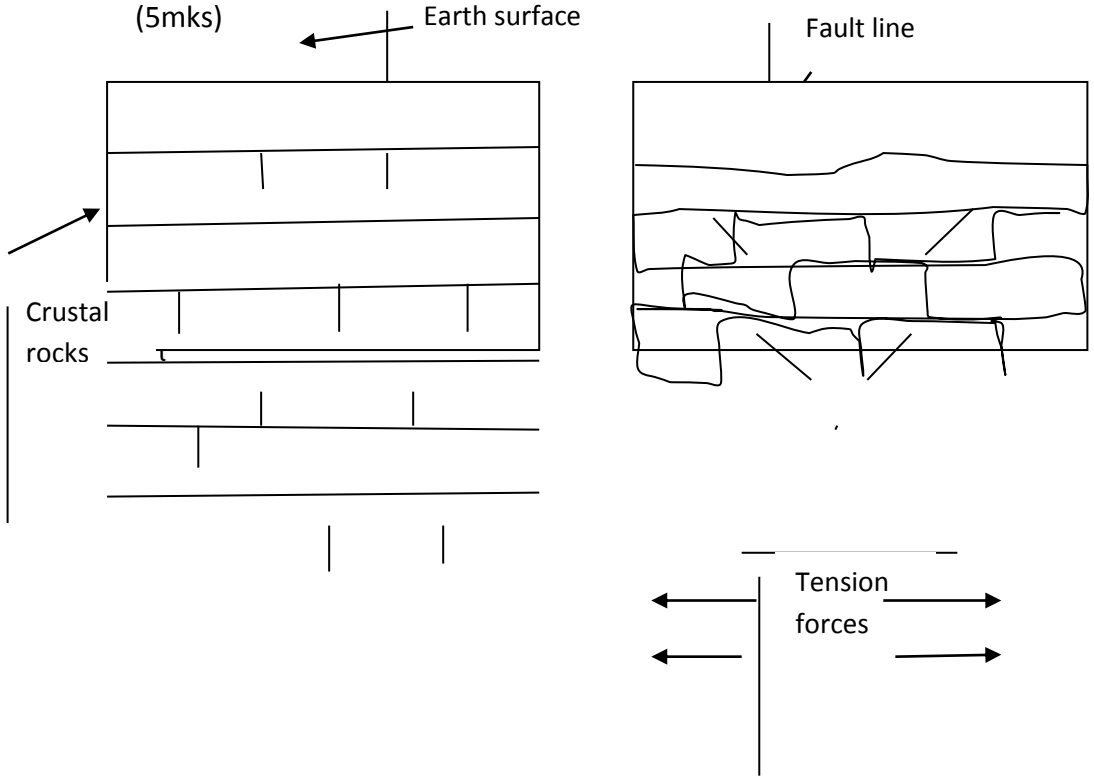
312/1

PAPER 1

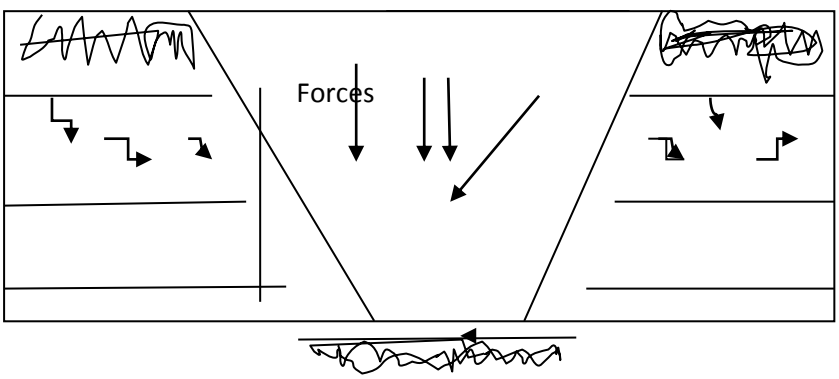
MARKING SCHEME

SECTION A (25MKS)
ANSWER ALL QUESTIONS.

1. (a). What is practical Geography. (1mk)
   It is the branch of Geography that deals with the study of natural physical environment e.g. Soil, climate landforms e.t.c.
   (b). Explain briefly the centrality of Geography. (2mks)
   Geography's center of study or subject matter is about the study of the Earths Physical and human phenomena, their distribution and interrelation on the surface of the earth and how they influence human a activities.
   (c). Differentiate between a planet and a comet. (2mks)
   A planet is a heavenly body that revolves around the Sun own its own orbit, while a comet is a heavenly body that revolves around a planet.
2. (a). Using a well labeled diagram outline the formation of a rift valley by **tension theory**. (5mks)



=1mk



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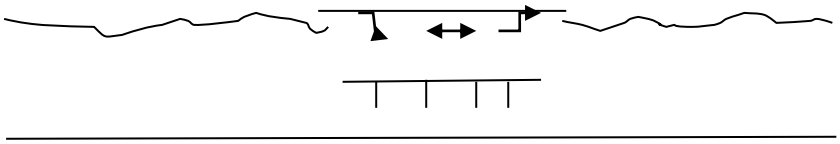


3. (a). What is climate change? (1mk)

It is the change of pre-existing climatic conditions of a place.

(b) List two natural causes of climate change.

- Volcanic eruptions.
- Variations in solar output.
- Variation in atmospheric carbon dioxide Any 2 x 1 = 2mks.

(c). Outline two characteristics of the **Inter Tropical Convergence Zone**. (2mks)

- A zone of low pressure and doldrums.
- A zone of high temperatures
- A zone within tropics 23.5^0 North and 23.5^0 South.
- A zone where SE and NE trade winds converge.
- A zone associated with convectional rainfall and thunderstorms.
- A zone that migrates to the north and to the south of the equator with apparent movement of the sun. Any 6 x1 =2mks.

4. (a). Define a Catchment area. (1mk).

This is an area or land from which a river draws its waters from.

(b). List two stages of hydrological cycle. (2mks).

i. Surface runoff or overland flow.

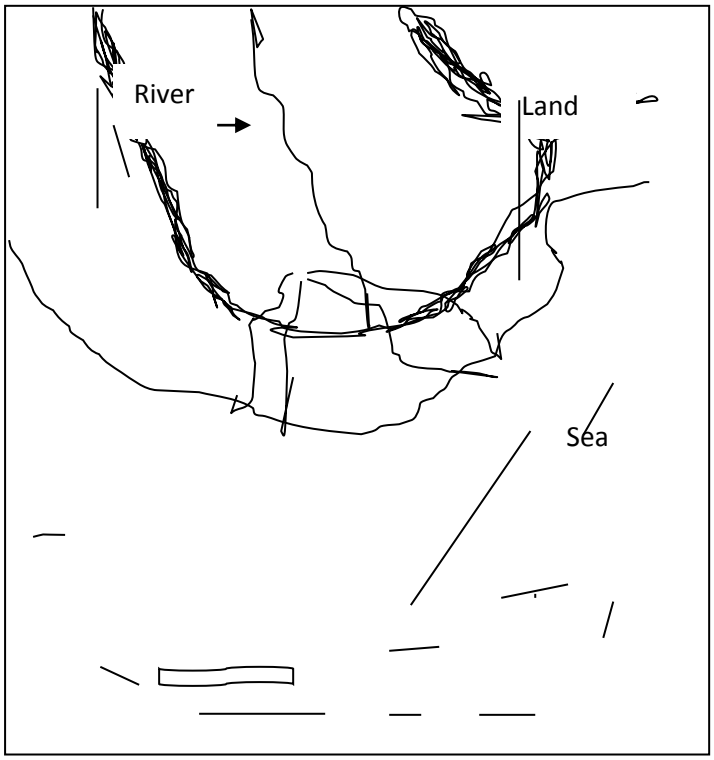
ii. Evaporation.

iii. Condensation level..

(c). Name two importance of water vapour in the atmosphere. (2mks).

- Formation of clouds.
- Cooling of the atmosphere by absorbing extra sun radiations.
- Heating of the atmosphere and earth surface during cold seasons by emitting the absorbed radiation.
- Responsible for the formation of dew at night.
- Trapping of dust particles.
- Storing energy for formation of thunderstorms and lightening.

5. (a). Study the diagram below and answer the questions that follow.



(a). Give the specific name of the feature above. (1mk)

Arcuate delta. Any x1 =1mk.

(b). List two factors necessary for the above feature to be formed. (2mks)

- Deposition of materials at the mouth of the river.
- Absence of strong waves/ currents from the sea.
- A shallow shore at the mouth of the river.
- Gentle gradient at the mouth of the river.
- Decrease in the velocity/ speed of the river.

(c). Differentiate between Effluent rivers and Influent rivers. (2mks)

-Effluent rivers are underground rivers fed by a water table over their level, while

- Influent rivers are underground rivers fed by water table below their level.

Any 2x 1 = 2mks.

SECTION B

Answers question six (6) and any other two (2) questions from this section.

6. Study the map of karatina, 1:50000 sheet (121/3) provided and answer the following questions.

(a). i). Identify one human activity found at grid square carried out at grid squire 9252.

Farming activity/ Tea center. (1mk)

ii). Give six figure grid reference of Chieni settlement. (1mk).

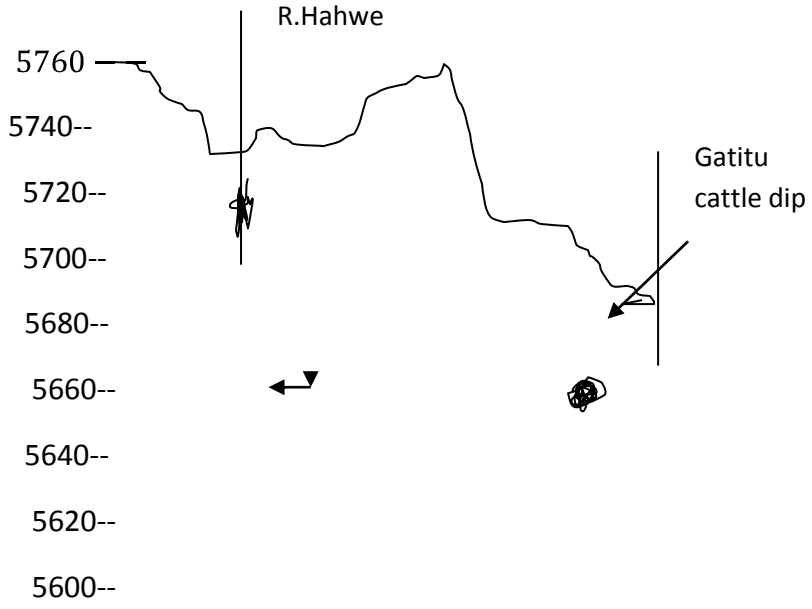
820573 Any x 1 = 1mk.

iii). Measure the distance of the dry weather road (T3851) from grid square **940519** to grid square **934554.**Give your answer in Kilometers. (2mks).

3.65KM /3.6KM / 3.7KM. Any 3 x1 = 2mks.

(b). i). Using a scale of 1cm to represent 20metres, draw a cross section from grid reference **860500** to grid reference **890460.** (4mks).

$Scale\ 1cm\ rep\ 20$



- Rectangle = 1mk
- Contour shape= 2mks
- Neatness and accuracy=1mk

Any x(1, 2,1) =4mks.

ii) On the cross section mark and name the following.(2mks)

- River Hahwe.
- Gatitu cattle dip. Any x 1 = 2mks.

iii) Calculate the vertical exaggeration (VE) of the section. (2mks)

Vertical exaggeration = vertical scale

Horizontal scale

$$\frac{VE}{HE} = \frac{1}{2000} \times \frac{50,000}{1} = 25$$

(c) (i) Describe the drainage of the area covered by the map (3mks)

- General flow of rivers is from NE to SW an South.
- Most rivers are permanent--- Continuous blue line.
- Parallel drainage pattern.
- Main water drainage features are Water intake 8757, Water reservoir 9853. There is no borehole and wells.
- Main rivers are: River Thego 8159 and R Sagana 8346.

(ii) What is the magnetic bearing of Kabiruini cattle dip at grid squire **8756**

From Ndunduini School at grid squire **8659** in the year 2014. (4mks)

- Grid bearing = 160^0
- Magnetic bearing = Grid bearing + Magnetic variation.
- Magnetic variation =2014-1992 =22yrs x$5^/$ = $110^/$ =$1^0\ 50^/$

MV 1992 = $02^0\ 4^/$

Current MV = $02^0\ 4^/ + 1^0\ 50^/ = 3^0$

Magnetic bearing =$160^0 + 3^0\ 54^/$ = **$\underline{163^0\ 54^/}$**

iii) Identify the type of settlement pattern between grid square 9050 and grid squire 9148. Linear pattern. Any x1 = 1mk.

(d) (i) Give the latitudinal extent of the area covered by the map. (2mks)

$0^0\ 30^/_S - 0^0\ 15^/_S = 0^0\ 15^/_S$

ii) Identify two types of scales on the map (2mks)

- Linear scale- mile and KMs.
- Representative fraction/ Ratio Scale__-1:50.000

iii) What type map is Karatina sheet (1mk)

Topographical map.

7. (a). i). Distinguish between **Underground water** and **Magmatic water.** (3mks)

Underground water is the water that percolates through the soil and permeable rocks to the bedrocks while Magmatic water is the water trapped in the rock underground during vulcanicity.

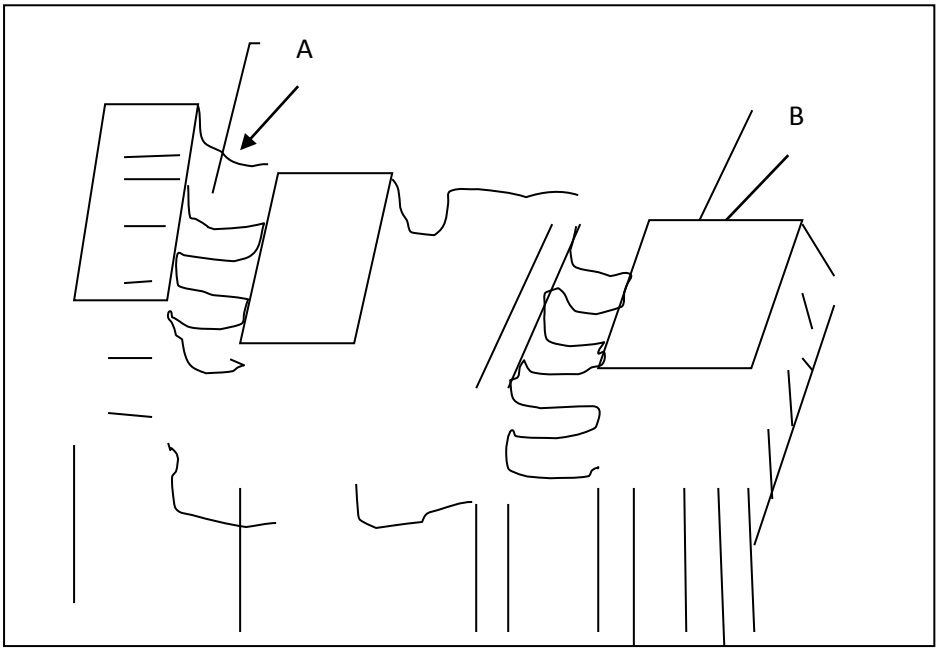
ii). List three factors that influence the occurrence of underground water. (3mks)

- Slope.
- Nature of rocks.
- Rate of precipitation.
- Rate of evaporation.
- Level of saturation in the ground.
- Amount of vegetation cover.

iii). Identify two (2) sources of underground (2mks)

- Magmatic water.
- Rain water.
- Melting water.
- Lake and sea water.
- Rivers and streams.

(a) Study the diagram below and answer the questions that follow.



i) Name the features labeled A and B. (2mks)

A =---Grike B =---Clint. Any 2 x1 = 2mks.

ii) List two factors that influence the formation of the above features. (2mks)

- The nature of the underlying rocks.
- Climate.
- A deep water table. Any 3 x 1= 2mks.

iii) Briefly describe how feature A is formed. (3mks).

It is a grike formed in well jointed area when carbonic acid dissolves calcium carbonate in rocks leaving behind deep grooves and gullies called grikes

(c). Students of Subukia Secondary Schools made a field study of underground features in Karst Scenery.

(i). Suggest a suitable title for their study. (2mks)

A study of underground features in a Karst scenery

(ii). Apart from ***Karst bridge, Karst windows, Stalagmites*** and s***talactites***, name other Two features they may have come across. (2mks)

- Gorges.
- Hums.
- Caves.
- Underground streams

(iii). List two characteristics of the Karst scenery they identified. (2mks)

- Many solution depressions.
- Surface drainage is intermitted or absent.
- Bare rugged surface rock outcrops and steep sided river valleys.
- Network of caves and underground water streams.

(d). Discuss two significance of resultant features in limestone areas to human activities. (4mks)

- Limestone is law material for cement manufacturing.
- Settlement is discouraged by the rugged landscape in limestone areas.
- Attraction of tourists by features like stalactites e.t.c
- limestone rocks are used in building an d construction.
- Karst scenery is characterized by absence of streams leading to water scarcity.
- Limestone is used as a flux in the iron and steel industry during smelting of Iron ore limestone combines with the impurities allowing separation iron content.

8. (a). i) Differentiate between an ocean and a sea. (2mks)

An ocean is a large and extensive body of saline water occupying a basin between continents. while a sea is a large body of saline water on the margins/fringes of continents

ii) Identify two forms in which oceanic water moves horizontally. (2mks)

- As waves.
- As ocean currents.

iii) List two types of tides. (2mks)

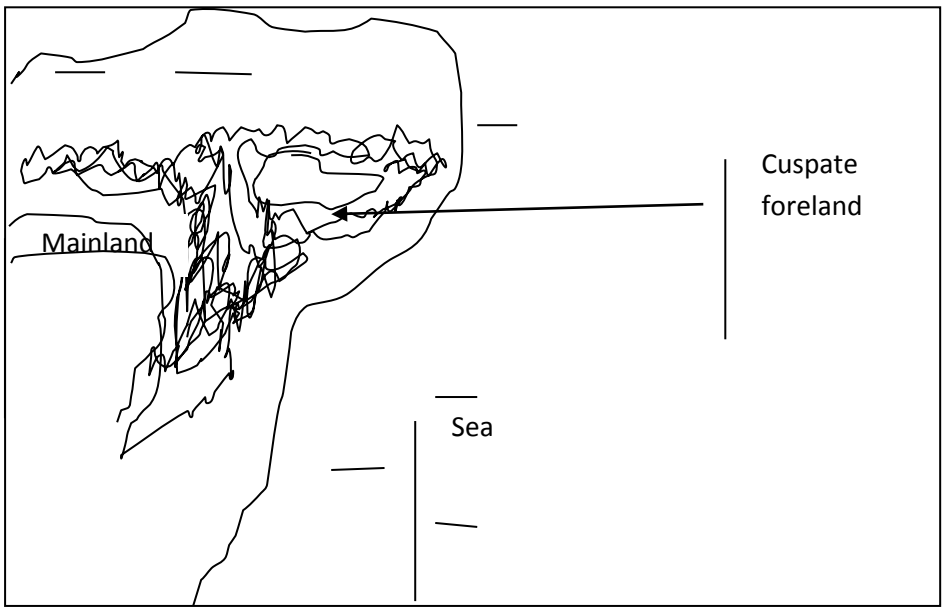
- Apogian tides.
- Perigian tides.
- Neap tides.
- Spring tides.

(b). i) Identify **One** factor that influence the development of coasts. (1mk)

- Climate of an area.
- Nature of coastal rocks,.
- The gradient of the coast
- Alignment of the coast in relation to prevailing winds.
- The change of sea level.

- The nature of waves.
- Human activities.

ii) Draw a well labeled feature of a **cuspate foreland.** (3mks)



iii) Explain how the feature is formed. (2mks)

It is formed when two spits grow towards each other at an angle.

(c).(i) Briefly distinguish between **Submerged Coasts** and **Emerged Coasts**. (4mks)

Submerged coasts are coasts formed when part of the coastal land lies under sea Water. They occur due to changes in sea level in relation to the land. Emerged coasts are coasts that that emerge from the sea when part of the land which was formerly under water becomes permanently e4xposead due to fall in sea level.

(ii) Discus **Darwin's** theory on the origin of Barrier reefs. (4mks)

It suggests that barer reefs form from Fringing reefs which develop around an Island. The island begins to subside but the coral continues to grow upward to keep pace with the rising sea level. The reef grows faster towards the sea due to more food and clear water. Finally the reef extends a great distance away from the land into deep waters to become a barrier reef.

Any x 4 = 4 mks.

(d).(i) What is a wave? (1mk)

It is a ridge of moving water caused by movements/oscillations of water particles in the sea or ocean

ii) Explain two types of waves responsible for sculpturing the coastal features. (4mks)

<u>Constructive waves.</u>

These are waves responsible for building of coastal depositional features like beeches, because their swash is stronger than their backwash resulting to deposition of materials at the shore.

<u>Destructive waves.</u>

These are waves responsible for destruction and modification of coastal deposition features through erosion because their backwash is stronger than their swash. Any x 4 = 4 mks.

9. a) i) Define desertification. (1mks)

Desertification – this refers to the encroachment of fertile and productive lands due to various factors like: Human activities, Natural calamities and climate change turning them into barren and unproductive land.

Any x 1 = 1mk.

ii) Name two types of hot deserts. (2mks)

- Rocky deserts.
- Sandy deserts.
- Stony.
- Bad Lands.

iii) Explain three ways in which wind erodes in the desert. (6mks)

(i) Abrasion

This is the process by which the wind picks loose or weathered materials especially grains of sand on the bare surface and uses them as tools of erosion.

ii). Deflation

This is the process by which wind removes sand and dust from bare landscape through rolling them on ground and lifting them in the air.

iii)Attrition

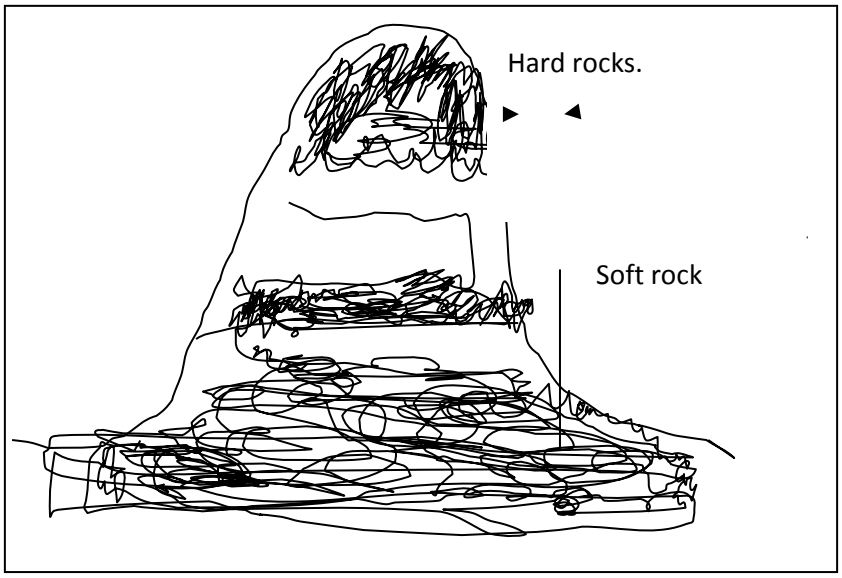
This is the process by which sand grains are transported by wind, collides and grind against each other and progressively reduce in size.

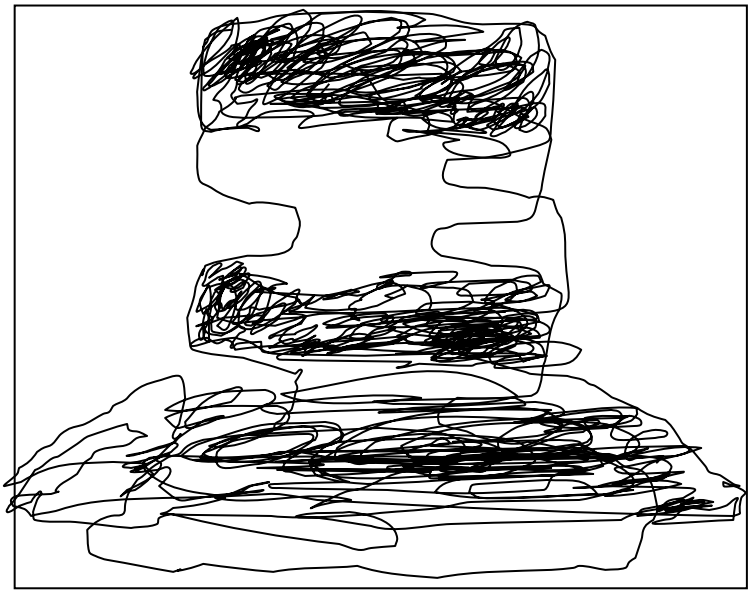
Any 3 x 2 = 6mks.

b) With well labeled diagrams describe how the following desert features are formed.

i) Rock pedestal. (5mks)

These are irregular pillars of rocks formed by wind erosion through abrasion. They are formed when a mass of rock with alternation layers of hard and soft rocks lie in path of wind. The soft layers are eroded it as materials knock on against them by wind abrasion leaving an irregular rock with protruding layers that alternate with hollows..

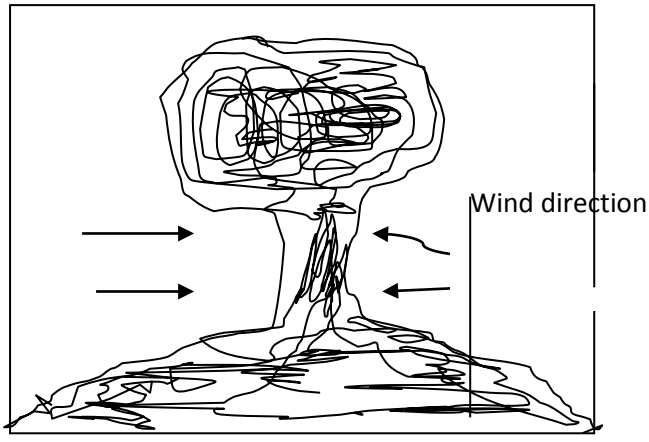




ii) Mushroom block. (5mks)

This is caused by action of wind through abrasion. It is formed when a rock with uniform resistance is eroded from the base then smoothen it and abolish by variety rates.

-the resultant feature is a rock with a broad head and a thin bottom.



c) Explain three importance of desert features to man. (6mks)

-Oasis provides water for domestic purposes or even used for irrigation

-Landforms resulting from desert are used for military training, testing for weapons and experimentation of space aircraft.

-loess provides fertile alluvial soils which provide a good place for farming

-desert features e.g. Zeugen, yardangs forms a major tourism attraction

-loess, soils provides habitats to residence especially in China, Europe during winter season.

-basins or blow-outs provide permanent water for domestic use

Question 10

(a) **Man-made lakes in Kenya:**

- ✓ L. Masinga.
- ✓ L. Kamburu.
- ✓ L. Gitaru.
- ✓ L. Kindaruma.
- ✓ L. Kiambere.
- ✓ L. Kenyatta. ***Any 3 x 1 = 3mks)***

(b) **Reasons as to why some Rift Valley lakes in Kenya are salty:**

- ✓ Some lakes lack outlets such as rivers to drain away some salts.
  - ✓ Some are located in hot and dry areas with high rates of evaporation which increases concentration and accumulation of dissolved mineral salts.
- ✓ Other lakes do not have enough fresh water rivers emptying into them.
- ✓ Other lakes drain surface run-off water that has passed over / dissolved salt from rocks.
- ✓ Other lakes have their underlying rocks that contain a lot of mineral salts.

Any 3 x 2 = 6 marks

(c) **How the following types of lakes are formed:**

(i) **Crater lakes:**

- ✓ They are formed on mountain craters.
  - ✓ After a volcanic mountain forms, the top part may sink due to subsiding pressure at the vent.
- ✓ It may also be due to blowing of the top part of a volcanic mountain.
- ✓ The crater fills with water to form a lake. ***Any 4 x 1 = 4 marks***

(ii) **Ox-bow lakes:**

- ✓ Formed when a river forms meanders.
  - ✓ Erosion on the outward bank of the meander and deposition on the inward bank leads to pronounciation of the meander.
- ✓ Continued erosion and deposition leads to cutting-off of the meander.
- ✓ The river flows through the shorter distances isolating the cut-off meander.
- ✓ The isolated crescent –like feature is filled with water forming a lake. ***Any 4 x 1 = 4 marks***

(d) **Advantages of lakes to human activities:**

- ✓ Provides water for domestic and industrial use.
- ✓ Provides water for irrigation thus boosting agriculture.
- ✓ Generates hydroelectric power which is important in production.
- ✓ Offers/ supports transport and communication which is cheap and links inland areas.
- ✓ Some lakes are a source of minerals.
- ✓ They provide building materials such as sand and pebbles.
- ✓ They are a source of food- animal proteins.

- ✓ They attract tourists.
- ✓ They form regular supply of water to rivers. ***Any 4 x 2 = 8 marks***