
**KENYA NATIONAL EXAMINATION COUNCIL
REVISION MOCK EXAMS 2016
TOP NATIONAL SCHOOLS**

PRECIOUS BLOOD HIGH SCHOOL

GEOGRAPHY

Paper 1

MARKING SCHEME

SCHOOLS NET KENYA

Osiligi House, Opposite KCB, Ground Floor

Off Magadi Road, Ongata Rongai | Tel: 0711 88 22 27

E-mail: infosnkenya@gmail.com | Website: www.schoolsnetkenya.co

PRECIOUS BLOOD KCSE TRIAL AND PRACTICE EXAM 2016

312/1
GEOGRAPHY
PAPER I
MARKING SCHEME

SECTION A

1. (i) **Differentiate between weather and climate. (2 marks)**

Weather is the atmospheric condition of a place which has been observed for a short period of time e.g. 1 hr 1 day. Climate is the atmospheric condition which has been observed, measured and recorded for along period of time usually over 30-35 years.

(ii) **Outline any three factors that are considered in locating a weather (3 marks)**

- It should be in an open space away from buildings/trees or objects.
- It should be free from flooding.
- The area should have a wide view/open space.
- The area should be secure.
- The ground should be gently sloping.

(iii) **Give any three importance of weather focusing. (3 marks)**

- It enables farmers to plan their farming activities.
- It helps the people to chose suitable clothes for the day.
- It influences the design of the houses. It guides the tourist activities/sporting activities.
- It helped in averting natural disasters related to weather.
- It guides in Landing and taking off of air crafts.
- It helps in planning military activities.
- It helps in guiding fishing activities.

2. (i) **Define the term equinox (2 marks)**

The time of the year when the sun is overhead along the equator.

The time of the year when the length of the day is the same/equal to the length of the night.

(ii) **What is the time at Hola on 40°E when the time at Tema on 0° longitude is 12.00 Noon?**

(2 marks)

$$\frac{40 \times 4}{60} = 2.40 \text{ min}$$

Time at hola is ahead

Therefore 1200

$$+ \frac{2.40}{}$$

14.40 hrs

or

2.40 pm

3. (i) **Name two types of earth movements that take place on the earth crust. (2 marks)**

- Lateral/horizontal/orogenic movement
- Vertical/Expenogenic movement.

(ii) **Describe the origins of the continents according to the theory of continent (3 marks)**

- Originally, there was one large land mass/super continent called Pangea
- Pangea was surrounded by a large/super water body/sea called pantharasa.

- Pangea split into two sub-continent to form two other land masses called Laurasia and Gondwanaland.
- The two land masses were separated by a sea called Tethys
- Further split occurred on the two land masses.
- Laurasia broke to form the continents in the northern hemisphere e.g. Asia Europe .
- N. America Gondwanaland broke to form the continents in the southern hemisphere e.g. Africa, Australia, New Zealand and S. America.
- The continents gradually drifted to their present positions.

Any 3 x 1 = 3 marks

4. (i) **Name two types of clouds that give rise to rainfall in tropical regions. (2 marks)**

- Cumulonimbus
- Cumulus
- Nimbostratus

(ii) **Define the term hydrological cycle. (2 marks)**

- Hydrological cycle is the endless exchange of water between the sea/ocean, the atmosphere and the land.

5. a)

Month	J	F	M	A	M	J	J	A	S	O	N	D
Temperature °C	9	28	30	30	29	29	29	27	29	30	30	28
Rainfall in mm	10	9	22	48	26	9	24	10	5	10	18	11

- (i) Calculate the mean annual rainfall. (1 mark) 16.83mm
- (ii) What is the annual range of temperature? (1 mark) $30^{\circ} - 27^{\circ} = 3^{\circ}$
- (iii) Give two reasons why the top of Mt. Kenya has got no vegetation. (2 marks)
 - Has very low temperatures, too cold.
 - It is covered by snow/frozen
 - There is no soil to support the growth/ bare rock

Study the map of Karatina 1:50,000 (sheet 121/3) provided and answer the following questions.

6. (i) What is the longitudinal extent of the map: (2 marks)

37° 00' E to 37° 15' E.

(ii) Name the two districts from where the map has been taken from. (2 marks)

- o Kirinyaga district
- o Nyeri district

(iii) What is the approximate height of the hill at grid reference 047507? (1 mark)

61 98m

B. (i) Give three types of natural vegetation found to the north of northings 60. (3 marks)

- Woodland
- Forest
- Scattered trees

(ii) What is the approximate area of Karatina town (municipality) (2 marks)

3.5KM² or 3.5 square kilometers

(iii) Measure the approximate distance of the district boundary not covered by the forest.

(2 marks)

12.75 – 13km^s

(iv) Citing evidence from the map, identify two main cash crops grown in the area covered by the map.

(2 marks)

Tea – evidenced by the Tea Centre
- Ndimba tea factory
Coffee – evidenced by Coffee factory
(No evidence no score)

C. (i) Citing evidence from the map, explain three factors that favours tea growing in the area covered by the map. (6 marks)

- There are experiences cool temperatures that favours tea farming as evidenced by contours that rises above 1600m above sea level.
- The area receives high rainfall that is adequate for tea growing as evidenced by many permanent rivers/presence of forest.
- The area has well drained soils, suitable for tea growing, due to the gently sloping terrain as indicated by moderately spaced contours.
- The areas has got adequate supply of labour as evidenced by density of settlements.
- The area has got well developed transport for transporting the tea to the factories as evidenced by main tracks/roads.
- Presence of tea factories e.g. Nduma for processing tea.

Any well explained points with evidence 2 x 3 = 6 marks

(ii) **Describe the drainage of the area covered by the map. (5 marks)**

- The main drainage features are rivers.
- There are many rivers.
- The rivers are permanent.
- Rivers forms diuretic drainage pattern.
- Most of the rivers originate from Mt. Kenya forest.
- The main river is Sagana.
- There is a reservoir at Kiamwangi.
- There is papyrus swamp to the south East of the map.
- Rivers flows south wards mostly

Max 5 marks

7. a) (i) Define the term faulting? (2 marks)

- It is the cracking, fracturing of the rocks of the earth crust.

(ii) State any two characteristics of lakes formed due to faulting. (2 marks)

- Most are narrow
- Most are steep sided.
- Most are deep
- Most of them are salty
- Most of them are long

(iii) With the help of a well labeled diagram, explain how the rift valleys is formed through tensional forces

(7 marks)

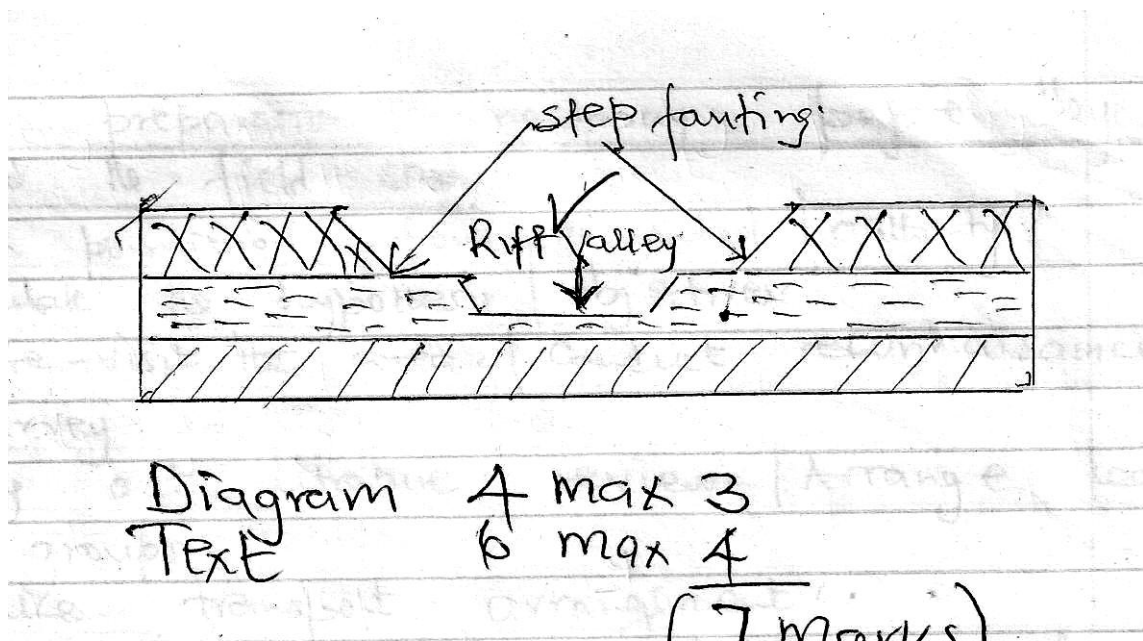
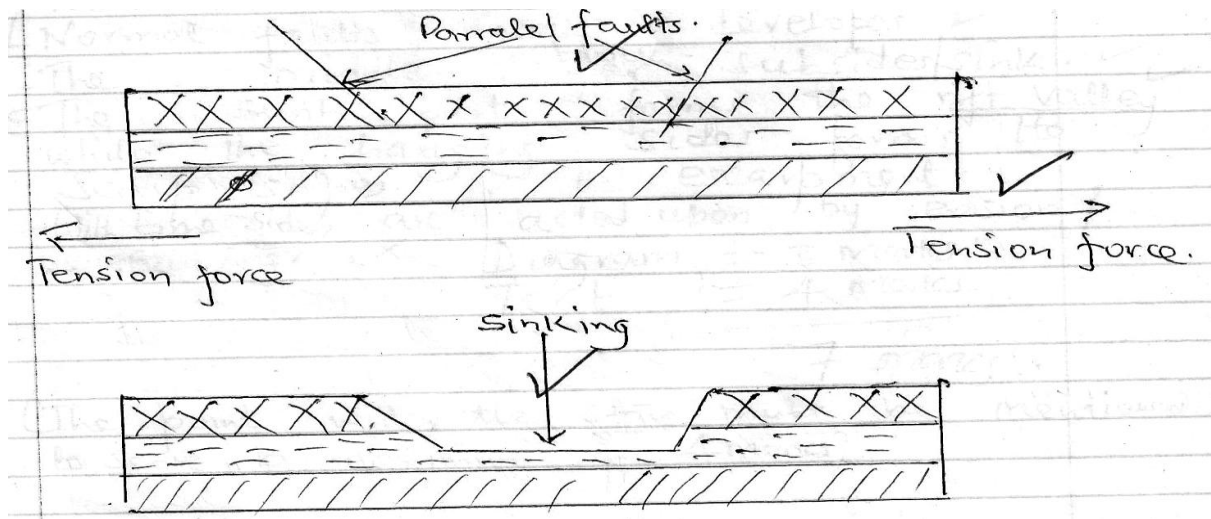


Diagram 4 max 3
 Text 6 max 4
 (7 marks)

Process of Rift Valley formation through tension

- Movements within the earth crust causes instability
- The layers of the rocks are subjected to tensional forces.
- Parallel/Normal faults/cracks develop.
- The middle block subsides/sink.
- * - The sunk part forms the rift valley while the hanging sides forms the scarp slopes or the escarpment.
- with time sides are acted upon by erosion/weathering

Diagram = 3 marks

Text = 4 marks

7 marks

(The point with the star must be mentioned to score a maximum of 4 marks)

b) A group of students carried field work in the rift valley around Naivasha.

(i) Give any four preparations that they undertook. (4 marks)

- Seek permission from the school/authority.
- Formulate the hypothesis/objectives.

- Pre-visit the area/conduct reconnaissance survey
- Carry out literature review/arrange learners into groups.
- Make transport arrangements.
- Prepare the necessary stationery and other equipments.
- Prepare a working schedule.

(ii) **Give any two reasons why it would be appropriate to divide the students into groups.**

- It helps in encouraging co-operation.
- It helps the weak learners.
- It helps to cover the entire area of the field study.
- It ensures participation of all the learners.
- It helps to develop leadership abilities.

(iii) **Explain any four importance of faulting to human activities. (8 marks)**

- Faulting leads to formation of features that provides beautiful sceneries that attract tourists.
- Faulting leads to formation of Lakes that are important fishing grounds/tourist sites/mining sites/provides water for irrigation for domestic use/industrial use.
- Faulting causes displacement of rocks which exposes minerals that are mined.
- Faulting may lead to formation of mountains/horsts which attracts rainfall that gives rise to rivers which provide water for industrial/domestic/agricultural use.
- Blocks mountains formed through faulting leads to formation of relief rainfall on the windward side which favours agriculture/settlement/forestry.
- When faulting occurs across a ridge, it may provide a dip which could form a mountain pass where transport and communication lines can be constructed/may hinder development of transport.
- Subsidence of land as a result of faulting may lead to loss of life/property.
- Faulting may cause a river to change direction or disappear causing water shortage for the people downstream.
- Springs occurring at the foot of faults scarps attracts settlements.
- Faulting creates a deep fault which are passages of steam jets which may be utilized for geothermal projects.
- River flowing over fault scarps may form water falls which may be suitable site for H.E.P production.

8. a) **What is a lake. (2 marks)**

- A lake is a large mass of water in a depression/a large mass of water occupying a depression.

b) (i) **Name two types of lake formed due to volcanicity. (2 marks)**

- Crater lakes
- Lava dammed lakes

(ii) **Explain how Lake Victoria influences the climate of the surrounding area. (6 marks)**

- Lake Victoria modifies the climate of the surrounding area due to heavy convectional rainfall received.
- Lake Victoria causes cooling effect on the surrounding areas through Lake Breeze.
- Conventional rainfall experienced around the lake is occasionally accompanied by thunderstorms.
- Land breeze and sea breeze are due to low and high pressure systems.

Accept any other relevant answer (any 3 x 2 = 6 marks)

c) (i) **State three main reasons why lakes within the Rift Valley are salty. (3 marks)**

- Some lakes lack outlets
- Rocks over which lake water is in contact may contain mineral salt.
- Some lakes lack enough fresh water rivers to pour into them.

- Surface run-off and rivers may dissolve a lot of salt from rocks on which they flow
- (ii) Name any three fresh water lakes in Kenya which are within the Rift Valley. (3 marks)**

- Naivasha
- Baringo
- Turkana

d) (i) Explain any four economic significances of lakes to human activities. (8 marks)

- Some lakes provide water for both domestic and industrial uses. Some lake form tourist attraction sites thus earning the country foreign exchange.
- Some lakes provide building materials e.g. sand.
- Some lakes provide water for irrigation hence enhances agriculture.
- Some lakes provide transport routes.
- Some lakes are sources of minerals e.g. Lake Magadi – trona
- Some lakes provide water for the generation of H.E.P
- Some lakes are sources of fish (food) which is a source of protein for man.

Accept any other relevant answer – (any 4 x 2 = 8 marks)

(ii) Give one negative effect of lakes to man. (1 mark)

- Flooding
- Habitat for diseases vectors
- Transport barriers
- Habitat for dangerous animals

9. a) (i) Give two ways in which underground water may reach the earth's surface. (2 marks)

- Capillarity movement of water
- When the water table meets the surface.

(ii) State three conditions necessary for the formation of artesian wells. (3 marks)

- Aquifer must be (lie) between impermeable rocks to retain water.
- Aquifer must outcrop in a region with water source like rainy area, or beneath a lake.
- Aquifer must dip from the region of water intake and form a broad syncline.
- Mouth of the well must be lower than the intake area to ensure water comes out of the well on its own.

b) Explain three importance of underground water. (6 marks)

- Source of rivers which provide water for domestic and industrial use.
- Underground water can be used for irrigating land increasing agricultural production.
- Hot springs, geysers and steam jets can be harvested to produce geothermal energy.
- Hot water from the ground is pumped into houses to heat them during winter.
- Hot springs (some) are health spas and a tourist attraction

c) (i) Give three factors which influences the development of Karst landscape. (3 marks)

- Surface rock and rock beneath should be thick limestone, dolomite or chalk.
- Rock should be hard and well joined
- Climate should be warm and hot with moderate to high rainfall.
- The water table should be deep below the surface.

(ii) Explain three reasons why Karst landscape discourages settlement. (6 marks)

- Surface rocky which is not conducive to settlements.
- Surface has thin soil which discourages agriculture.
- Vegetation and pasture (grass) is poor which would not support livestock rearing.
- Surface is rugged hindering construction of transport lines.
- Karst landscape experience inadequate water supply both on the surface and underground.

e) With aid of a well labeled diagram describe the formation of a limestone pillar. (5 marks)

- Rain water passing through the air dissolve carbon dioxide forming carbonic acid.
- Rain water dissolves calcium carbonate as it percolates through limestone joints.

- The solution in form of calcium hydrogen carbonate drips from the roof and the floor of limestone cave.
 - Some of the water and carbon dioxide are released leaving behind deposits of calcium carbonate on the roof and floor forming projections.
 - Further deposition leads to the two projection joining to form a pillar.
- 10 .a) Outline three processes through which ice moves. (3 marks)
- Plastic flowage/freeze-thaw action
 - Extrusion flow
 - Basal slip
 - Internal shearing
- 1 mark each max 3 mark
- b) Explain three factors that influence glacial erosion. (6 marks)
- (i) - The thickness and weight of the ice
- Glaciations erosion is greater when ice is thicker and heavier.
 - The weight exerts pressure which makes the rock debris to be more effective in scrapping and abrasion.
 - The more the debris in a glacier the more effective it will be in eroding through abrasion.
- (ii) Nature of underlying rock
- There is more erosion where the rocks are soft jointed and faulted
 - Joints allow water into the rock leading to erosion by plucking
- (iii) Speed of the glacier
- A fast moving glacier erodes more.
 - This is because the high velocity gives it more energy hence more erosive power.
- c) Study the diagram below which shows a glaciated highland and answer questions c (i) and (ii)
- i) Name the features marked A, B, C and D. (4 marks)
- A – Pyramidal peak
 - B – Arete
 - C – Waterfall
 - D – Glacial trough/glacial valley
- ii) Describe how features A and D were formed. (6 marks)
- A –Pyramidal peak
- Ice settles on several shallow hollows around the mountain side
 - Freeze-thaw action deepens the hollows.
 - Nivation, plucking and abrasion attack the sides and floor of the depression leading to the formation of many cirques.
 - The back walls of the cirques recede as a result of plucking leading to the formation of arêtes.
- The arêtes converge at the mountain top forming a steep-side pyramidal peak/horn surrounded by corries.
- D – Glacial trough
- As the glacier moves down the valley it is fed by several tributary glaciers.
 - Its erosive power increases causing it to deepen, straighten and widen its valley.
 - As a result a wide flat-bottomed valley with a u-shaped cross profile known as a glacier trough is formed.
- d) Suppose you were to carry out a field study of a glaciated highland:-
- (i) State two disadvantages of using observation as a method of data collection. (2 marks)

- The required information may have changed with time leading to wrong conclusions
- It involves a lot of traveling which makes it tiring and expensive.
- The choice of spots together data may not be possible.

(ii) State two problems you are likely to encounter. (2 marks)

- Difficult in climbing steep/jagged peaks.
- Extreme low temperature may lead to breathing problems
- Walking on snow covered highlands may not be possible.

(iii) Suggest two economic activities you would recommend to the Government in this area.

(2 marks)

- H.E.P generation
- Tourism