KENYA NATIONAL EXAMINATION COUNCIL
REVISION MOCK EXAMS 2016
TOP NATIONAL SCHOOLS

MOI GIRLS ELDORET 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

MOI GIRLS ELDORET KCSE TRIAL AND PRACTICE EXAM 2016

312/1

PAPER 1

Marking scheme

1. (a) What is desertification? (2marks)

- Desertification is the encroachment of large areas of barren land, uncultivatable and lacking vegetation to the more productive and habitable regions.

(b) State three human activities that lead to desertification. (3marks)

- Clearing of vegetation to create room for settlement, agriculture, industry and for fuel.
- Poor agriculture practices, ploughing down slope etc.
- Industrialization
- Population pressure leading to replacement of rangeland with cultivation
- Overgrazing *(3×1=3marks)*

2. (a) Give three examples of mechanically formed sedimentary rocks. (3marks)

- Sandstone . Clay stone/silt stone
- Mudstone *(3×1=3marks)*

(b) State two changes that occur in sedimentary rocks when they are subjected to intense heat and pressure (2marks)

- New minerals are formed
- Rock particles become compacted
- The physical appearance of the rock changes
- The rock is metamorphosed *(2×1=2marks)*
- Minerals recrystallise further

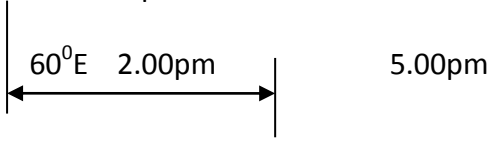
3. (a) Why is the ocean salinity higher in the tropical regions than at the equator .(2 marks)

- Heavy rainfall and high humidity along the equator dilutes the sea salt and the heavy cloud cover reduces evaporation of the sea water.
- In the tropics the temperatures are very high leading to increased evaporation of water and a higher concentration of the salts. *(2×1=2marks)*

(b) Name three types of ocean tides. (3 marks)

- Perigean
- Apogean
- Spring
- Neap *(3×1=3marks)*

4. (a) When local time is 2.00 p.m. at longitude 60^0E.what is the longitude of a place whose local time is 5.00 p.m. (3marks)



change in time:

5.00pm

2.00pm

3 hrs

3×60 mins=180 mins√1

Change in degrees

$180 \div 4 = 45^0$ √1

- since 5.00 p.m is on the eastside of 2.00pm.Add degrees

$60^0E + 45^0 = 105^0E$ √1 (3 marks)

(b) Give two effects of the oval shape of the orbit of the earth (2 marks)

- Change of tides
- Change of energy/heat
- Change of seasons *(2marks)*

5. (a) Apart from river and wave deposition state three ways in which lakes may be formed.

- Formed through tectonic movements
- Formed by glaciations
- Formed by wind erosion
- Formed by solution
- Formed through damage by landslides and other debris
- Meteorite lakes *(3×1=3marks)*

(b) Name two lakes in Kenya that have been formed through river deposition. (2marks)

- Lake Shakababu along Tana river
- Lake Gambi along Tana river
- Lake Bilisa along Tana river
- Lake Mukungunya along Tana river
- Lake Kamnarok in Baringo
- Lake Kanyaboli along River Nzoia *(2×1=2marks)*

SECTION B

(a) (i) Latitudinal and longitudinal extend of the area covered by the map. (2marks)

- Latitudinal $0^0 15'S - 0^0 30'S$
- Longitudinal $37^0 00'E - 37^0 15'E$ *(2×1=2marks)*

(ii) Give two methods used to represent relief on map. (2marks)

- Trigonometrical stations
- Use of contours (2×1=2marks)

(iii) Calculate the area enclosed by the forest boundary east of easting 97 and west of easting 05. (2 marks)

Number of full squares 89

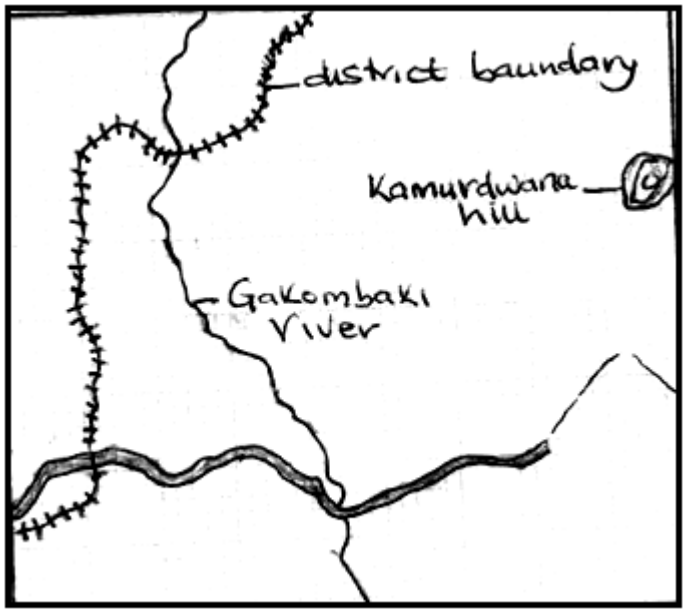
Number of half squares 13

89+13⁄2

$= (89+6.5)\ cm^2$

$=95.5cm^2$

(b) (i)



(c) Explain three factors influencing the distribution of population in the area covered by the map. (6 marks)

- Vegetation. The population is low or absent in the forested area since it is reserved. In the area south of the forest the population is high since the area is clear of vegetation
- Urbanization - within and close to the major urban centre e.g (Karatina) the population is high than other populated areas. This is due to availability of employment, commercial and other services in the town.
- Relief/extremely steep areas like east of Karatina town have low population due to thin soils. Extremely flat areas to the North West of the area covered by the map have also a low population due to possible occurrence of floods/gentle and well-drained areas to the south have a high population.

(d) Students of Kianya Secondary School carried out a field study of the area around their school.

(i) Identify two ways in which they prepared for the study (2 marks)

- Seeking permission from the school and local authorities.
- Preparation of a work schedule.
- Formulation of study objectives
- Formulation of hypotheses
- Carrying out a reconnaissance *(2×1=2marks)*

(ii) Using evidence from the map give three economic activities which they were able to identify

Commercial due to the presence of markets like Kianga,Miiru,Kiriko etc.

- Crop farming e.g. tea farming evidenced by tea centers ,coffee farming evidenced by coffee factories ,at Kiaragana, Uramathi etc
- Transport due to presence of roads leading in and out of Karatina town.
- Industrial activities evidenced by coffee factories in Uramathi ,Kiaragana etc
- Livestock rearing due to the presence of cattle dip near Gatuya, near Kiriti etc.

(3×2=6marks)

7. (a) (i)Give three sources of underground water. (3marks)

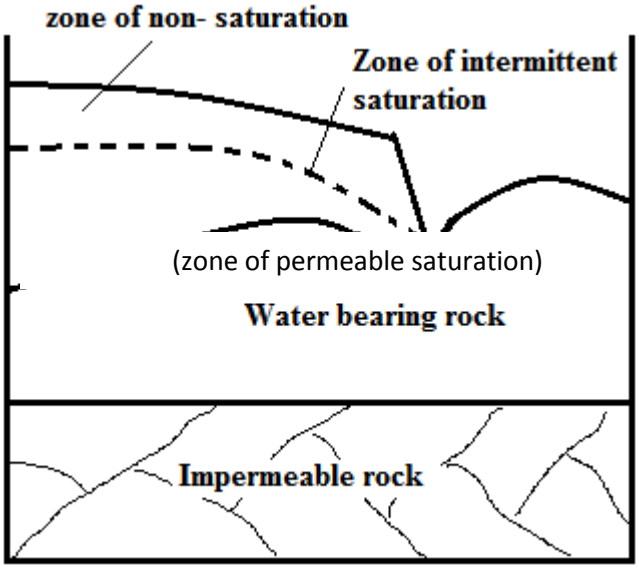
- Rain water
- melt water
- Lake and sea water (water bodies)
- Magmatic water. *(3×1=3marks)*

(ii) Identify three ways in which springs occur. (3marks)

- When a dyke cuts across a layer of permeable rock
- When limestone rocks over lie impermeable rocks
- When permeable rock lies on top of an impermeable rock
- Water enters a pervious rock and comes out where the water table meets the surface.

(3×1=3 marks)

(b) With the aid of a well labeled diagram show the three zones of underground wat (6marks)



(c) How the following factors influence the existence of underground water.

(i) Precipitation

- Light rain falling over a longer period infiltrates more than heavy down pour which is short
- Heavy down pour saturates the surface thus blocking the passage that the water would use to infiltrate.
- Too little rain does not get in to the rocks

(1×2=2marks)

(ii) Vegetation Cover

- Vegetation breaks the speed of rain drops falling .This enables water to reach the ground gently hence increasing infiltration.
- Vegetation reduces the speed of the surface run-off hence the water is retained more and given time to infiltrate.
- Vegetation increases retention of ground water by providing shade hence less evaporation. This increases infiltration *(1×2=2 marks)*

(d) (i) Name any three surface features of limestone areas. (3marks)

Clints

- Srikes
- Swallow holes/sink holes
- Dolines
- Uvalas
- Poljes ***(3×1=3 marks)***

(ii) Formation of stalagmites (3marks)

- Water drips from end of a stalactite to the floor of a cave
- The drops of calcium bicarbonate crystallize and grow slowly and steadily towards the roof of the cave
- This results into a stumpy rock mass growing from the floor of the cave upwards and is known as thestalagmite. *(3×1=3marks)*

(e) State three significance of underground water to human activities (3marks)

- Sources of river e.g. the springs
- Sources of minerals as they are deposited at the mouths of springs
- Source of water through springs ,wells, boreholes etc which is used for industrial and domestic purposes
- Hot springs attract tourists
- Underground water can be used for irrigation
- Springs attract human settlements *(3×1=3marks)*

8. (a) (i)What is an ice sheet? (2marks)

- An ice sheet is a continuous mass of ice covering a large area/surface

(ii) Give two reasons why there are no ice sheets in Kenya. (2marks)

- Kenya experiences high temperatures under which ice sheets cannot form.
- Most parts of Kenya are lowlands
- Kenya is found in low latitude (iii) State three factors that influence the movement of ice from the place where it has accumulated Gradient of the land –Ice moves faster when the slope is steep
- Temperature changes/high temperature result to melting leading to faster movement
- Nature of the surface - Rough surfaces cause friction lowering the speed of movement
- Size/thickness of glacier - Large masses exert pressure leading to melting of ice underneath

(3×1=3 (b) Describe the formation of the following features

(i) An Arete (4 marks)

- Two adjacent hollows exist on a mountain side
- The hollows are filled with ice
- The ice erodes the sides through plucking and deepens the hollows through abrasion
- The back walls recede slowly through erosion
- Eventually the hollows are separated by a knife edged ridge known as arête

(ii) Hanging valley (5 marks)

- As glacier moves downhill it erodes an already existing valley and its tributaries√
- More glacier occupies√ the main valley than the tributaries and the main valley is eroded into a u- shaped valley.√
- Since the tributary valley has less glacier it is therefore less eroded√
- The tributary valley is left hanging√ high above the glacial trough and is known as hanging valley *(5×1=5 marks*)

(c). a - lateral moraine
b- medial moraine
c- Terminal moraine ***(3×1=3marks)***

(d)

(i) Preparations for a field study. (3marks)

- state objectives
- Formulate hypothesis
- Read through relevant books
- Seek permission from the school authorities
- Preparation of questionnaires *(3×1=3marks)*

(ii) Possible land uses *(3marks)*

- Fishing
- Mining
- Sites for tourist attraction
- Agricultural use
- Transportation. *(3×1=3marks)*

9. (a) (i)Define faulting

- Faulting is the cracking or fracturing of the rocks of the earth's crust. *(1×1=1mark)*

(ii) Identify three types of faults. (3 marks)

- Normal fault
- Reversed fault
- Tear/shear fault
- Thrust fault
- Anti clinal fault. *(3×1=3marks)*

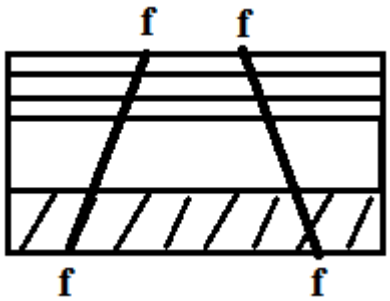
(b) Apart from compressional forces, explain two other processes that may cause faulting.(4marks)

- Faulting may be caused by forces acting horizontally away from each other which cause tension in the crustal rocks. Due to tensional forces the rocks stretch and fracture causing faults.
- Faulting may occur where horizontal forces act parallel to each other in the opposite direction resulting into shearing
- Faulting may also occur due to vertical movements which may exert a strain in the rocks making them to fracture *(2×2=4 marks)*

(c) Formation of the great Rift valley by compressional forces. *(8 marks)*

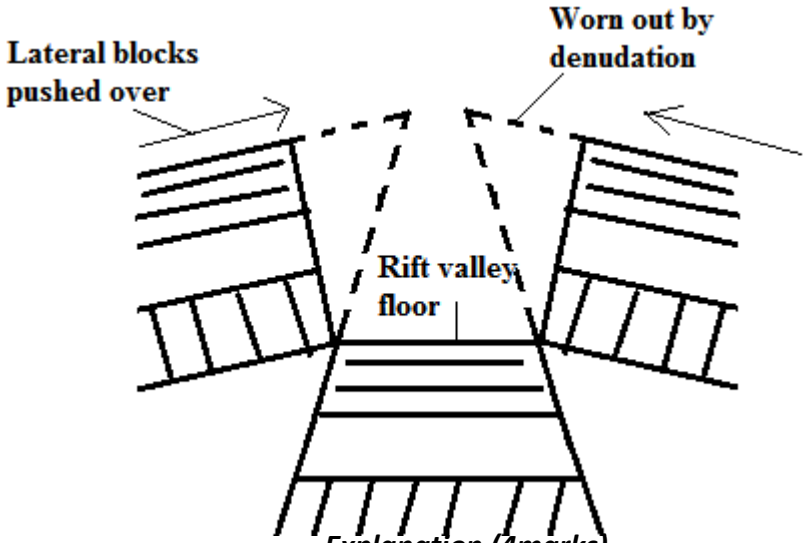
✓ layers of rocks are subjected to compression forces

- Lines of weakness occur leading to the development of adjacent reverse faults.



- The compressional forces push the outer blocks towards each other and over the middle block.
- The middle block remains stable and forms the floor of the Rift valley

- The overhanging sides caused by reversed faulting eventually collapse through denudation.



- Explanation (4marks)

- Diagram (4marks)

(d)

- block moutain /falt block s/horst
- fault scarp
- ridge *(3×1=3 marks)*

(e) Significance of faulting to the physical and human environment. (6 marks)

- Faulting leads to formation of features e.g. scarpsv that form beautiful scenery which attracts tourists.v
- Faulting leads to formation of lakesv that are important fishing grounds, tourist sites, mining sites and also provide water for irrigation domestic and industrial use.v
- Faulting causes displacement of rocksv which exposes minerals that are minedv
- Faulting may lead to formation of mountains/horstsv which modify climate that give rise to rivers which provide water for industrial, domestic and irrigation usev
- Block Mountains formed through faultingv lead to formation of relief rainfall on the windward side which favours agriculture, settlement and forestry.v
- Faulting creates deep faults which are passages of steam jetsv may be utilized for geothermal power production.v
- Rivers flowing over faults carps form waterfalls that are used for H.E.P generation
- When faulting occurs across a ridgevit may provide a dip which could form a mountain pass where transport and communication lines can be constructedv.
- Springsv occurring at the base of fault scarps attract settlements.v
- Subsidence of landv as a result of faulting may lead to loss of life vand property*(3×2=6marks)*

10. (a) climatic regions marked a, b and c. (3marks)

- A-Equitorial climate
- B-Tropical desert climate
- C-Mediterenean climate

b) climatic characteristics of

(i) A **(4marks)**

- High temperatures throughout the year 24-27^{0}c with a small annual range of 3^{0}c
- Diurnal mean temperatures of approximate 26^{0}c all year with diurnal range of below 8^{0}c

- Mean annual rainfall 1500mm well distributed throughout the year
- Receives double maxima of rainfall
- High relative humidity over 80% throughout the year
- Plenty of sunshine
- Thick cloud cover all the year around
- Low atmospheric pressure all the year around
- Rainfall is mainly conventional accompanied by thunderstorms

(4×1=4marks)

(ii) C **(4 marks)**

- Hot summers with temperatures of approximately 21^0c and mild winters of temperatures approximately 10^0c
- Moderate annual range of temperatures approximately 10^0c
- Mean annual rainfall of between 500-900-mm
- Cyclonic rainfall caused by depressions falls in showers in winter
- Offshore trade winds in summer causes a dry season
- Hot and cold local winds are common ***(4×1=4marks)***

(c) **Explain how the following factors influence climate**

(i) **Altitude** **(4marks)**

- Lowlands are usually warmer than highlands because the atmosphere becomes thinner as the ground looses heat faster
- Atmospheric pressure decreases with increases in altitude. This is due to the weight of the atmospheric air which is less above highlands than in lowlands
- Highlands tend to be wetter than lowlands

(2×2=4marks)

(ii) **Distance from the sea** **(4marks)**

- During hot seasons coastal lowlands are relatively colder than inland areas on the same latitude due to effect of sea breezes which bring cold air to the land.
- In winter land loses heat gained in summer faster than the sea. Sea breezes carry warmer air to the land making areas closer to the sea warmer than inland areas.
- Coastal lands receive more rainfall than the interior of continents .This is because the coasts receive moist winds from the sea and by the time the winds reach inland areas they are usually dry.***2×2=4***

(d) (i) suitable site for a weather station. **(2marks)**

- The site should be flat and free from flooding
- It should be open with a free flow of air
- It should not be near obstacles such as tall trees ,buildings or other structures
- It should be secure and free from intruders. ***(2×1=2marks)***

(ii) Why a Stevenson's screen is:

Painted white (2marks)

- To help in reflecting heat from the sun to avoid interfering with temperature readings

(1×2=2marks)

Has louvers (2marks)

- To allow free circulation of air and keep the screen well ventilated. *(1×2=2marks)*