KENYA NATIONAL EXAMINATION COUNCIL

KCSE 2007

GEOGRAPHY
PAPER 1
MARKING SCHEME

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Geography Paper 1

1. (a)
   - It causes the occurrence of day and night.
   - It leads to the rising and falling of tides/high and low tides.
   - It causes differences in time over the earth's surface/time difference at different longitudes.
   - It causes deflation of winds and ocean currents. ***(Any 2 x 1 = 2 marks)***

   (b) (i) Revolution. ***(1 mark)***

   (ii)
   - It causes seasons.
   - It causes changes in the position of the mid-day sun.
   - It causes varying lengths of days and nights at different times of the year.

   (Any 2 x 1 = 2 marks)

2. (a)
   - Arcuate.
   - Bird's Foot.
   - Estuarine.
   - Cuspate. ***(Any 2 x 1 = 2 marks)***

   (b)
   - Presence of large load/ample supply of silt.
   - Absence of strong waves or currents in the sea/lake.
   - Decrease in the velocity/speed of a river.
   - Presence of gentle gradient. ***(Any 2 x 1 = 2 marks)***

3 (a) (i) The feature marked **X**: Horn. ***(1 mark)***
(ii) The air current marked **Y**: Eddy current. ***(1 mark)***
(iii)The slope marked **Z:** Concave/slip face. ***(1 mark)***

(b)
- By suspension.
- By saltation.
- By surface creep. ***(Any 2 x 1 = 2 marks)***

4. (a) (i)
   - **P** – Atmosphere. ***(1 mark)***
   - **Q** – Barysphere. ***(1 mark)***
   - **R** – Moho Discontinuity. ***(1 mark)***

   (b)
   - It is divided into two parts namely the upper mantle and the lower mantle.
   - The upper mantle has lower temperatures than the lower mantle.
   - The upper mantle is an elastic solid/semi-molten.
   - The lower mantle is viscous liquid.
   - On average the mantle is about 2,900 km thick.
   - The mantle has an average density of 3.0 to 3.3 gms/cc. ***(Any 3 x 1 = 3 marks)***

5. (a)
   - Lateral/horizontal/orogenic movement.
   - Vertical/ epeirogenic movement. ***(2 marks)***

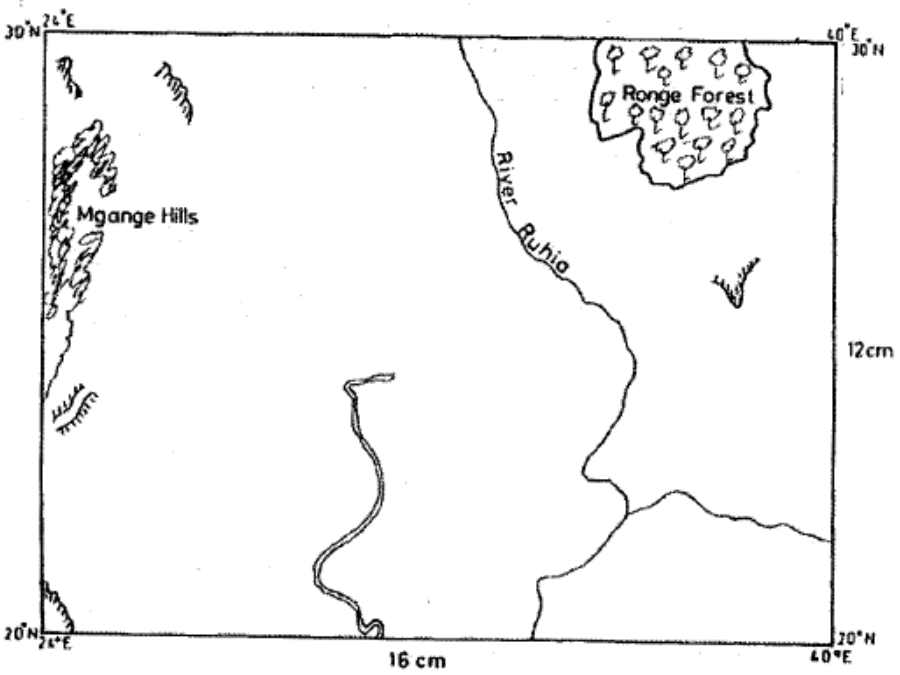
   (b)
   - The earth was originally one huge land mass/pangea/super continent
   - Pangea was surrounded by a large super water body/sea called panthalassa.

- Pangea split into two sub-continents to form two other land masses called Laurasia and Gondwanaland.
- The two landmasses were separated by a sea called Tethys.
- Further split occurred on the two landmasses.
- Laurasia broke to form the continents in the northern hemisphere.
- Gondwanaland formed the continents in the southern hemisphere.
- The continents gradually drifted to their present position. ***(Any 3 x 1 = 3 marks)***

6. (a) (i) 134° (133° – 135°). ***(2 marks)***

(ii) 14 km (13.9 – 14.1 km). ***(2 marks)***

(b)



(6 marks)

(c)

- The area receives low rainfall as evidenced by the presence of scrub vegetation. Low rainfall discourages growing of other cash crops.
- The area is sparsely populated as evidenced by scattered settlements especially to the eastern side from the Estate. This may have encouraged the establishment of the estate due to availability of land.
- The dense settlement near Mwatunge hill provides labour required in the Sisal Estate.
- The road and the railway line which pass close to the Sisal Estate provide transport for the sisal.
- The gently sloping land as evidenced by the widely spaced contours is ideal for establishing a large scale farm. ***(Any 3 x 2 = 6 marks)***

(d) (i)

- There are more settlements in the mid-western part of the map than in the other parts.
- There are clusters of settlements at shopping centres/markets.
- Gently sloping areas with scrub vegetation have few settlements.
- Escarpments/steep slopes/ridges have few or no settlements.
- There are many settlements along the roads and motorable tracks.
- There are few settlements along the rivers.
- Forested areas have no settlements.
- The Sisal Estate has no settlements. ***(Any 5 x 1 = 5 marks)***

(ii)

Economic activity		***Evidence***
▪ Trading/commerce	-	Shops/markets/Prison/Bank.
▪ Transportation	-	Roads/railway/main tracks.
▪ Cattle keeping	-	Cattle dips/scrub vegetation.
▪ Crop farming	-	Ministry of Agriculture office.

(Any 2 x 2 = 4 marks)

7. (a)

(i) ***Colour:*** Different minerals display different colours, for example: minerals that have iron have dark colours. ***(2 marks)***

(ii) ***Cleavage***: Minerals have patterns in which they break. Some minerals break into thin layers while others break along layers. ***(2 marks)***

(iii) ***Hardness***: This is the measure of resistance of a mineral to disintegration. Some minerals such as diamond have a high resistance while others such as talc are soft. ***(2 marks)***

(b) (i)

- Intrusive rocks/ plutonic rocks.
- Extrusive rocks/ volcanic rocks.
- Hypabyssal rocks/ intermediate rocks. ***(Any 2 x 1 = 2 marks)***

(ii)

- They require warm water/20-30°C in order to live.
- They require well oxygenated water for them to grow fast.
- They require water that is free from sediments because silt interferes with their ability to gather food.
- They require enough light in the water for the growth of plankton which is the food for polyps.
- They require saline water from which the polyps extract lime to construct their skeletons. *(Any 3 x 2 = 6 marks)*

(c)

- Rocks weather down to form soil which supports agriculture.
- Rocks are water reservoirs.
- Rocks provide raw materials for the building and construction industry.
- Rocks are sources of minerals.
- Some rocks act as Tourist attraction.
- Some rocks are used in sculpturing/carving industry to make ornaments.
- Study of rocks provides information about the past. ***(Any 4 x 1 = 4 marks)***

(d) (i)

- Text books.
- Magazines.
- Class notes.
- Internet/information recorded on CDs. ***(Any 2 x 1 = 2 marks)***

(ii)

- A fork jembe: for digging up the rocks. ***(1 mark)***
- A polythene bag: for carrying rock samples. ***(1 mark)***

(iii)

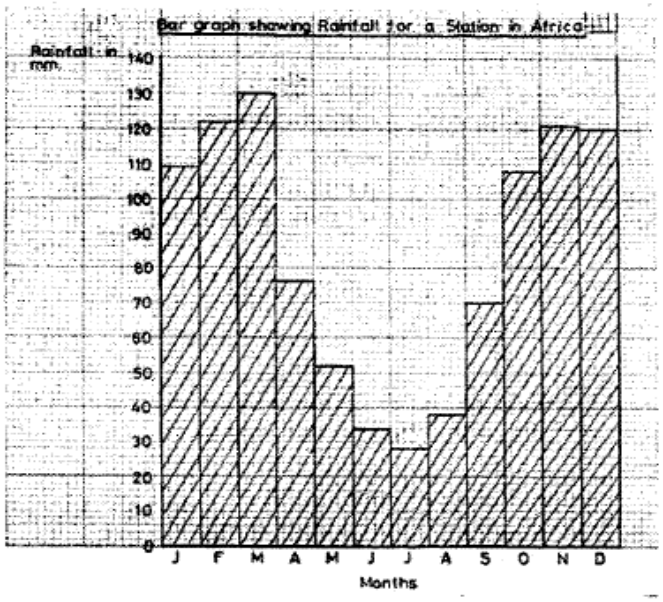
- ***Marble :*** Metamorphic rock.
- ***Sandstone:*** Sendimentary rock.
- ***Granite:*** Igneous rock. ***(3 marks)***

8. (a) (i) It is the average weather conditions of a place for a long period of time. ***(2 marks)***

(ii)

- Global warming/increased temperature may lead to increased evaporation of ocean water which may cause heavy rainfall in some areas.
- Increased temperature may lead to the melting of ice caps/ice sheets and glaciers leading to rising sea level.
- Increased temperature may lead to high evaporation causing drought.
- Climate change may cause changes in rainfall patterns in different parts of the world. ***(Any 2 x 2 = 4 marks)***

(b) (i)



(5 marks)

(ii)

- There is rain throughout the year/no dry month.
- The highest rainfall is received during the hot months/from October to March/ the lowest rainfall occurs during the coolest months/April to September.
- The wettest month is March with 130mm. The driest month is July with 28mm.
- The total annual rainfall is 1008mm. ***(Any 2 x 2 = 4 marks)***

(iii) 24 + 24 ---------248÷ 12 = 20.66°C ***(2 marks)***

(c) (i)

The hygrometer

- Taking the readings on the wet bulb thermometer.
- Taking the readings on the dry bulb thermometer.
- Working out the difference between the two readings.
- Interpreting the readings. ***(Any 3 x 1 = 3 marks)***

The rain gauge

- Remove the water collecting jar from the metal holder.

- Pour the water into the measuring cylinder.
- Take the readings on the measuring cylinder.
- Interpret the readings. ***(Any 3 x 1 = 3 marks)***

(ii)

- It can be used for making weather charts.
- The data can be used to plan for school activities.
- It can be used to plan for agricultural activities.
- It can be kept as a school record for future reference.
- It can be used to determine the type of uniform for the students.

(Any 2 x 1 = 2 marks)

9. (a)

- Crustal warping.
- Volcanic activity.
- Erosion.
- Deposition.
- Human/organic activity. ***(Any 3 x 1 = 3 marks)***

(b) (i)

- Earth movements led to crustal down warping.
- A shallow depression was created.
- The areas around the depression underwent uplifting.
- The uplifting reversed the direction of rivers such as R. Kagera.
- Water from the rivers and from rain eventually filled the depression.
- The resulting feature became a lake. ***(Any 4 x 1 = 4 marks)***

(ii)

- Evaporation from the Lake increases moisture in the atmosphere. This moisture condenses to form conventional rainfall.
- Evaporation from the Lake leads to high relative humidity in the area.
- The Lake encourages formation of lake breezes which have a cooling effect on the shores of the Lake.
- Regular land and lake breezes modify the temperatures, keeping the diurnal range low. ***(Any 3 x 2 = 6 marks)***

(c) (i)

- Lake Nakuru.
- Lake Elmentaita.
- Lake Bogoria. ***(Any 2 x 1 = 2 marks)***

(ii)

- The Lake lacks an outlet to the sea, thus mineral salts accumulate in its water.
- Presence of salt-bearing rocks on the lake bed leads to mineral salts dissolving in the water in the lake.
- The high temperatures in the area lead to high evaporation from the lake resulting in high concentration of mineral salts in the water.
- Mineral salts are deposited into the lake by surface run-off increasing the concentration of salts in the water.
- Underground seepage of the water that is rich in mineral salts adds to the salt in the lake. ***(Any 3 x 2 = 6 marks)***

(d)

- Lakes are scenic sites which promote tourism/recreation.
- They provide water for irrigation/domestic use/industrial use.
- They are reservoirs for water used for generating HEP.
- They are used for transport.
- They are used as fisheries.
- Some lakes have sand that is harvested for building and construction.

(Any 4 x 1 = 4 marks)

10. (a) (i) ***Weathering*** is the breaking down and decomposition of rocks at or near the earth's surface by physical or chemical processes while ***Mass Wasting*** is the displacement or movement of weathered materials downslope under the influence of gravity. ***(2 marks)***

(ii)

- Nature of the rock.
- Climate.
- Human activities/animals.
- Time.

(Any 3 x 1 = 3 marks)

(iii)

- As plants grow, their roots penetrate into rock cracks/joints causing them to widen and eventually the rock disintegrates.
- Plants absorb minerals from rocks and this weakens the rocks causing them to disintegrate.
- As plants rot on rocks, they release organic acids which then react with some minerals in the rocks leading to disintegration of the rocks.

(Any 2 x 2 = 4 marks)

(b) (i)

- Earth flows.
- Mud flows.
- Land slides.
- Rainwash/downwash.

(Any 2 x 1 = 2 marks)

(ii)

- Temperature change causes soil particles to expand and contract, hence they shift position downslope. Moisture/ rainwater causes soils to become wet and compact. On drying, the particles loosen and may shift from the original position down the slope.
- Human activities and the action of barrowing animals may cause the removal of soil on the lower part of a slope. This has a trigger effect on soil particles on the upper part of a slope which may then shift downslope.
- Freezing of soil water expands the spaces between soil particles. Once the water thaws, the particles fall by gravity and may shift position downslope.
- Moisture acts as lubricant to soil particles causing their movement downslope.
- External forces such as moving vehicles and earth tremors have a trigger effect which causes downward movement of soil particles.

(Any 3 x 2 = 6 marks)

(c)

- Mass wasting leads to formation of derelict land. As a result scars are left on the landscape when rock materials break away from a hillside. This spoils the beauty of the land.
- As the materials move over the land they facilitate the loosening of the top soil thus increasing soil erosion.
- Materials from a landslide may create a barrier across a river valley thus leading to eventual formation of a lake.
- Landslides may cause rivers to change their causes reducing the volume of water downstream.
- Mass movement/landslides causes damage to property when materials cover structures such as roads, farms or homes. This obstructs normal life.
- Some form of mass movement lead to loss of life when people/animals are buried under large quantities of rock waste.
- Mass movement may create sceneries that may become tourist attractions.

(Any 4 x 2 = 8 marks)