KENYA NATIONAL EXAMINATION COUNCIL
REVISION MOCK EXAMS 2016
TOP NATIONAL SCHOOLS

KABARAK HIGH SCHOOL

GEOGRAPHY

Paper 1

MARKING SCHEME

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KABARAK HIGH SCHOOL KCSE TRIAL AND PRACTICE EXAM 2016

312/1

PAPER 1

MARKING SCHEME

1. (a) - High pressure released by the earth's movement.
   - High temperatures cause solid rock to change to molten material.
   - Faulting causes cracks and fissures through which minerals under high temperature and pressure moves or escapes. (3x1 = 3mks)

   (b) P - Crater
   Q – Conclet / Paristitic core (2 x 1 = 2mks)
2. (a) Weathering is the breakdown of rocks in site while mass wasting is the movement of material down the slope under the influence of gravity. (1 x 2 = 2mks)

   (b) - The weight and nature of material.
   - The amount of water within the material.
   - The angle of slope / gradient.
   - Vegetation.
   - Tectonic movement. (3 x 1 = 3mks)
3. (a) - Plutonic are formed from magma while volcanic rocks are formed from magma.
4. Plutonic rocks form deep in the earth crust while volcanic rocks form on the surface of the earth's crust.
5. Plutonic rock form large crystals / they are coarse grained / coarse textured while volcanic rocks form small crystals / fine grained. (1 x 2 = 3mks)

(b) Examples:

a.	Plutonic	-	Granite
		-	Diorite
		-	Peridotite
		-	Gabro (1x1 = 1mk)
b.	Hypabyssal	-	Diorite
		-	Porpherite
		-	Diabase (1x1 = 1mk)
c.	Volcanic	-	Obsidian
		-	Pumice
		-	Rhyolite
		-	Basalt
		-	Andesite (1x1 = 1mk)

2. (a) S - Hade
   T - Heave
   U - Downthrow

   (b) - Mau Escarpment
   - Nandi Escarpment
   - Elgeyo Escarpment
   - Nguruman Escarpment
   - Nyandarua / Aberdares (2x1 = 2mks)

3. (a) An Estuary is a drowned river valley. (1 x 1 = 1mk)

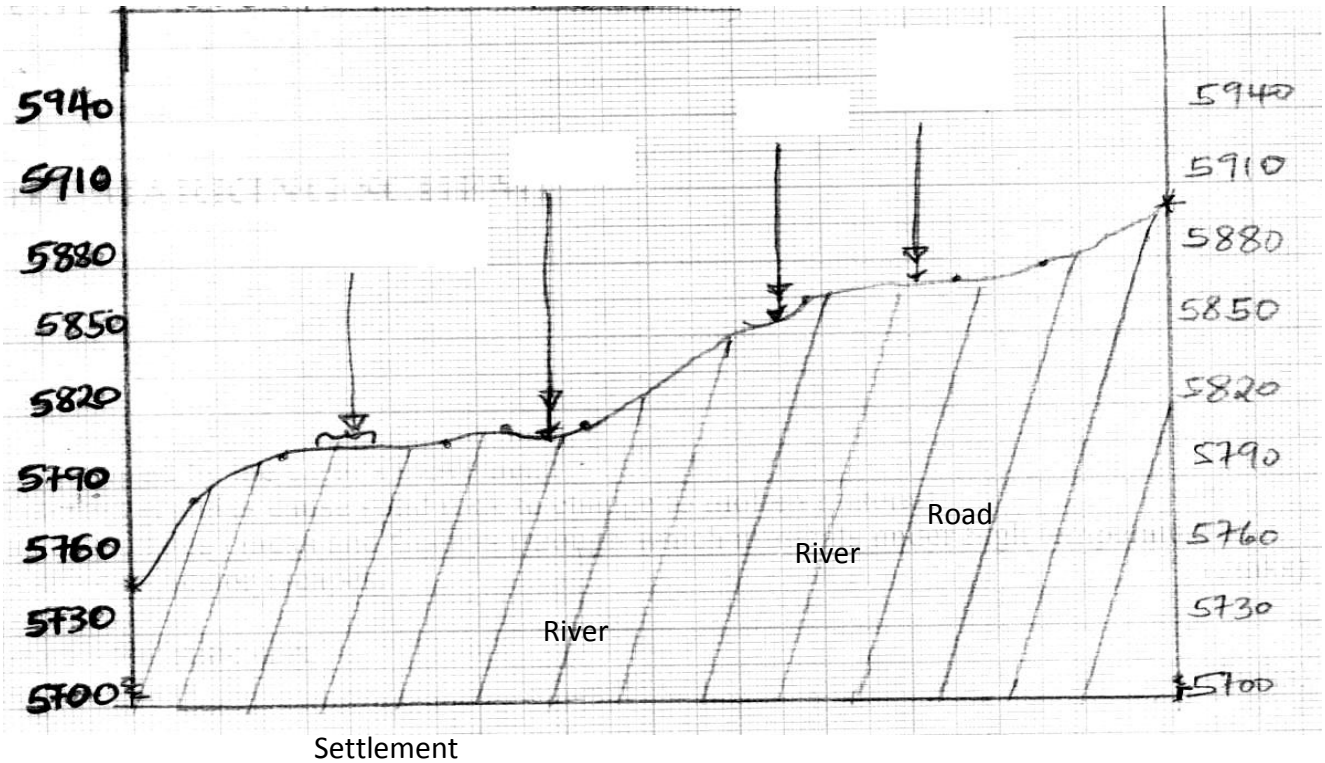
   (b) X - Distributary
   V - Lagoon

W - Spit (3 x 1 = 3mks)

4. (a) (i) 864506 (1 x 1 = 1mk)
(ii) 1 cm represents 0.5km (1 x 2 = 2mks)
(iii) 01^{0} 09^{1} (1 x 1 = 1mk)

(a) (i) **CROSS-SECTION OF THE AREA BETWEEN GRID 860490 AND 920490**

(6mks)



S – 1mk
T – 1mk
Correct S.P & E.P – 1mk (3mks)

(ii) Nyeri District (1mk)
Kirinyaga District (1mk)

(iii) - Transporting – Road networks
- Trading – Presence of markets.
- Livestock rearing – presence of cattle dips.
- Processing – coffee factory. (any 3x1 = 3mks)

(c) - The area covered by the map is generally a highland with an approximate height of 5600m above sea level.
- The highest point is around Mt. Kenya forest to NE part with a height of 8700m and the lowest is the SE with 5100m.
- The landscape is generally rugged as evident by the crooked contours.
- There are many river valleys. (any 3x1 = 3mks)

(d) (i) - Rivers
- Hills

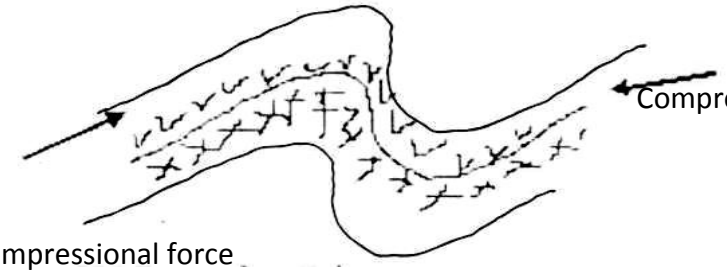
(ii) Writing reports:
- Class discussion
- Mounting and displaying collected specimens.
- Analyzing the photographs and tape recording work.

- Reading more about the topic.

5. (a) Folding is crustal distortation.

(b) (i) P – Cape ranges
Q – Atlas
R – Alps
S – Andes
T – Appalachian (5 x 1 = 5mks)

(ii) - Compressional forces act on crustal rocks.
- Intense forces compresses the rocks further until asymmetrical antidine is completely.
- More compressional forces push the lamb of the over fold to a nearly horizontal position to form a recumbent fold. (3mks)



References KLB Pg. 9 – Diagram a, c, e.
NB: each diagram 1 mark (3mks)

(c) - Intermontane basins.
- Intermontane Plateau
- Guestas
- Escarpments (3mks)

(d) - The slopes of Fold Mountains which face the sun are warmer than those which face away from the sun.
- The windward side slopes of Fold Mountains generally receive higher rainfall than the leeward slopes because of orographic effects.
- Mountain slopes cause the developments of anabatic winds which have a cooling effect on the slopes. The same effect occurs where katabatic winds descend the mountain slopes.
- The orographic effects of mountains lead to lower temperatures and at higher attitudes snow and ice.
- Fold Mountains have an effect on reduction of pressure with increasing altitude.
- In the mountains valleys as well as adjacent lowlands temperature inversions occur such that the lower slopes and valley remain cooler than higher slopes.

6. (a) (i) Isothermal layer is a layer within the atmosphere within which the temperatures remains constant despite the increasing altitude. (1 x 2 = 2mks)

(ii) - Tropopause
- Statopause
- Mesopause (3 x 1 = 3mks)

(b) (i) $30^0C - 18^0C = 12^0C$

(ii) Annual total amount of rainfall

50 + 100 + 250 + 200 + 150 + 100 + 25 + 50 + 150 + 100 = 1300mm

(c) - The temperatures range between 17^0C and 24^0C.

i. The annual range of temperature is small between 3^0C and 5^0C.
ii. Days are generally warm while nights are cool and sometimes chilly.
iii. The coolest months are June and August while the rest of the year is generally warm.
iv. The region receives rainfall between 1000mm and 1500mm on average.
v. It rains throughout the year.
vi. The rainfall regime is double maxima in the highlands east of the Rift Valley and single maxima in the highlands west of the Rift Valley.
vii. The long rains are received between March and May and short rains between September and December in the east. In the highland west of the Rift Valley the peak is between May and August.
viii. The rainfall is mainly orographic type. It is caused by the south East trade winds.
ix. Rainfall is higher on the windward slopes than on the leeward slopes of highland.

(d) (i) P - Desert climate of Northern areas.
R - Tropical climate of Narok and Southern Taita / Kwale.
Q - Modified Equatorial climate of the Highlands.

b. - Nomadic pastoralists who move constantly in search of pasture and water for their animals should be settled.
2. Crop farming reclamation and afro-farming thus irrigation.
3. Oil mining or exploration for self sufficiency / saving of foreign exchange.
4. Chemical weapon lasting by government and military drill for national defence and security.
5. Commercial fishing in Lake Turkana. (any 4x1=4mks)

(iii) i. <u>Aspect</u>
6. Slopes exposed to sunlight have longer hours of sunshine hence the temperatures than of the slopes facing away.
7. Windward side has higher rainfall than leeward side.
8. South facing slopes of mountains in the Northern Hemisphere are warmer / have higher temperatures compared to North facing slopes (vise-versa).

(1 x 2 = 2mks)

ii. <u>Ocean Currents</u>
9. Ocean current sweeping along a coast bring cool the winds crossing over them bring cooling effects on adjacent land while the warm current bring the warming effect of adjacent land.
10. Cold current chill the rain bearing wind which eventually drop the moisture over the sea bring little rainfall on the coastal area.
11. The warm ocean currents warms water increasing humidity in the atmosphere bringing a lot of rainfall on adjacent land. (1 x 2 = 2mk

7. (a) (i) A lake is a body of water contained within a basin or hollow. (1 x 2 = 2mks)

(ii) - L. Turkana
1. L. Nakuru
2. L. Bogoria
3. L. Naivasha
4. L. Baringo
5. L. Magadi (any 2x1 = 2mks)

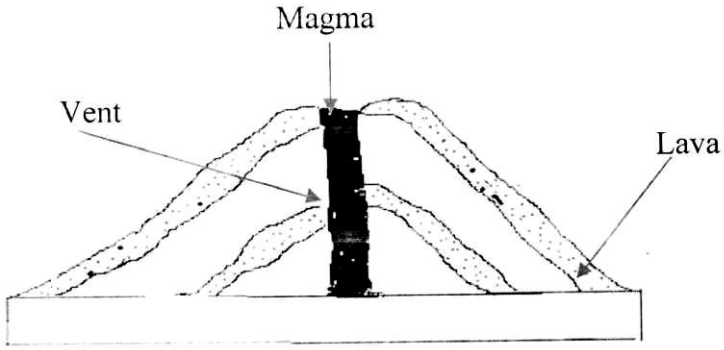
(b) (i) Formation of Crater Lake.

- When volcanic eruption takes place, it is followed by the outpouring of lava through a central vent.
- When lava outpouring stops, the lava cools. The magma in the vent also cools and contracts slowly.
- In doing so the magma withdraws into the vent.
- In the process a funnel-shaped depression forms on top of the volcano, this is called crater.
- A crater can also form when gases and water vapor which are in contact with magma escapes or as a result of huge explosion.
- Rainwater fills the depression to form the Crater Lake. (2 x 1 = 2mks)

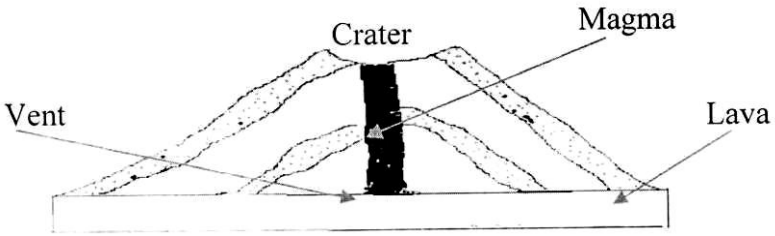
(ii)

- Lake Shala (Ethiopia)
- Lake Nyios, Oku, Wum (Cameroon)

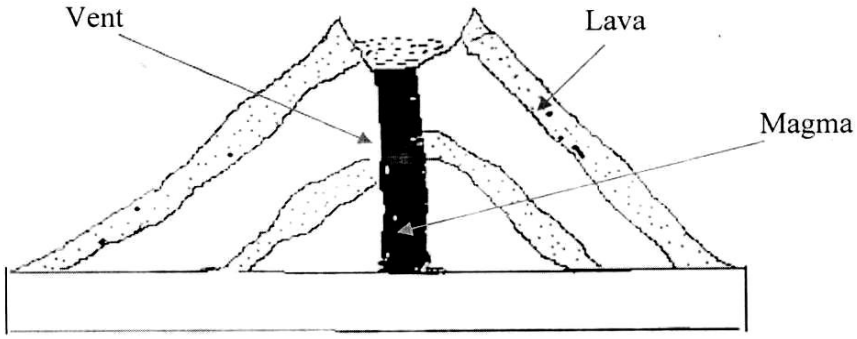
i) **Volcanic cone**



ii) **Crater is formed**



iii) **Crater Lake is formed**



(c) <u>Negative effects of human activities on lakes.</u>

-Deforestation and poor agricultural practices cause soil erosion. The eroded soils are deposited in lakes leading to siltation. This reduces the depth of the lake resulting in reduced volume of water.

-Destruction of vegetation in water catchments areas interferes with the hydrological cycle which eventually can lead to the drying up of lakes.

-Agrochemicals which are washed from the land may accumulate in the Lake. This promotes weed blooms and eventually colonizes parts of the lake (weeds).
-Disposal of industrial effluents, sewage and other wastes pollutes the lakes. This has negative effects on aquatic life. Also this contaminates water making it unsuitable for human and animal use.
-Damming of Feeder Rivers for irrigation and hydroelectric power production leads to lowering of the volume of water reaching the lake. This causes the lake to shrink. It also blocks the flow of nutrients into the lake which results in the reduction of food for aquatic life.

(d) (i) - There is pollution in the lake.
-The lake has a lot of water weeds.
-The lake is not used as a mode of transport.
-The lake has modified the climate of the surrounding area. (any relevant point).
(2x1 = 2mks)

(ii) - Observing.
-Administering questionnaires.
-Measurements.
-Content analysis.
-Photographing / filming.
-Counting. (3x1 = 3mks)

8. (a) (i) - Ice eroded plains.
-Depressions
-Roche mountonnee
-Crag and tail (any 3x1 = 3mks)

(ii) - Formed when ice accumulates in the pre-existing hollows on mountain side.
1. Frost action / alternating freeze – thaw action enlarges the hollow.
2. Abrasion / scouring action in the bottom of the glacier deepens the hollow forming depressions.
3. Plucking process steepens the back wall of the depression.
4. Eventually a deep armchair shaped depression known as a corrie fills up with melt water forms a corrie lake. (5 x 1 = 5mks)

(b) - Gradient / relief of the area should be relatively flat to allow for the accumulation of large sheets of ice and subsequent deposition of fluvio-glacial material.
- Seasonal melting of ice during alternating warm and cold periods allow materials embedded in the ice to be released for deposition.
- Stagnation of glacier leads to pressure being exerted at the base of glacier which in turn leads to melting of the base of the ice. The melt water then carries and deposits materials underneath the ice mass.
- Friction between the moving ice and the surface leads to deposition of the heavy materials beneath the ice mass.
- Climatic changes / rising temperatures lead to melting of the ice thereby releasing all its load in the lowland. (1mk each max. 3mks)

(c) - Hanging valleys form waterfalls, which are harmless for the generation of hydroelectric power.
i) Features found in glaciated landscape attract tourists. This generates income for the country.
ii) Melting glaciers are source of rivers, which provide water for domestic / industrial / agricultural use.

iii) In glaciated highlands, U-shaped valley floors provide suitable areas for settlement and agricultural, communication routes.
iv) Alluvial fans / outwash plains have fertile soils suitable for agriculture.
v) Provide suitable sites for the development of deep harbours.
vi) Floors provide shelter water suitable for fish breeding. This promotes fishing.

(any 4x2 = 8mks)

(d) (i) - Identifying the direction they would take.
-Identifying the feature they are likely to encounter.
-Estimating the time they are likely to take.
-Estimating the distance they would cover.
-Planning the schedule of activities. (2 x 1 = 2mks)

(ii) - Terminal moraine
-Lateral moraine
-Ground moraine
-Medical moraine (2 x 1 = 2mks

(iii) - Climbing / descending steep slopes.
-Cold weather
-Wild animals.
-Adjusting to the low atmospheric pressure.
-Crossing through waterlogged ground.
-Poor visibility.
-Thick vegetation.
-Rain. (any 2x1 = 2mks)