312/1

GEOGRAPHY PAPER ONE

SIJET Term 1 2018 MARKING SCHEME

---

1. (a) (i) 21st March and 23rd September (2mks)

ii)
- Because earth is titled on its axis
- Because of the apparent movement of the sun within the tropics
- Because of the regulation of the earth

Any 1*1=1mk

(iii) $= \frac{366}{4} \times 3 = 274\ ½$ days / 274.5 days (1mk)

(iv) Summer (1mk)

2. (a)
- There must be clear sky/ absence of clouds (to permit free terrestrial radiation)
- There must be sufficient moisture in the air
- The air must be cooled below dew point
- The wind must be light/ calm

Any 2*1=2mks

(b) (i) R- Cumulus (1mk)

(ii)
- Thunder and lighting
- Hailstones
- Heavy rainfall
- Dark clouds

Any 2*1=2mks

3. (a) It is the breaking down/ disintegration of rocks into smaller particles without altering the minerals composition of the rock/ breaking down or rocks by physical force (2mks)

4. (a)
- Rainfall is low/ below 250mm per year / dry climate
- Rainfall is erratic/ flash floods and sporadic rain/ unreliable
- Temperature are high throughout the year/ over 300C/ hot climate
- Intense solar radiation
- The diurnal range of temperature is very large/ very hot days and cool and nights
- High rate of evaporation
- Skies are always cloudless/ clear sunny days/ high terrestrial/ radiation

Any 3*1=3mks

(b)

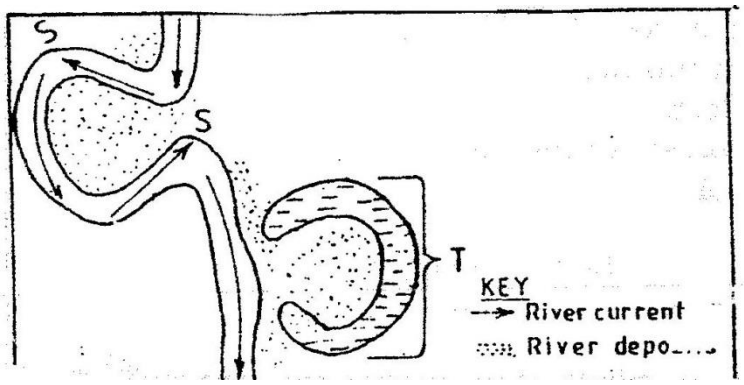
- Some have long roots to tap underground water
- Some have small waxy leaves to reduce transpiration
- Some trees shed their leaves during dry seasons
- Some plants have thick barks stems/ leaves to sore water
- Some plants produce seeds that lie dormant awaiting rains
- Some trees are umbrella- shaped to produce shade to the stem roots
- Some plants have quick recovery ability after wilting
- Some are halophytic/ salt tolerant to survive in areas of poor drainage

Any 3*1=3mks

5. (a)

- They are river embankments/ raised rivers banks made of alluvial deposits (on the sides of a river channel within the flood plain) (1mk)

(b) (i)



Old stage / plain stage (1mk)

(ii) S. Erosion (1mk)

(iii) T. Ox – bow lake (1mk)

SECTION B

6 a i) 130/2 Kisii (1mk)

ii) 0 52 (2mks)

iii) A school
Settlement (2mks)

b) i) Commercial centre –presence of shops
Religious centre- presence of a church
Health centre- presence of a dispensary/ health centre
Transport and communication centre- presence of converging roads, all weather road bound surface.

Educational centre- presence of a school
Administrative centre- presence of District headquarters/ police post
Any 3*1= 3mks

ii) - Presence of market as shown by the dense settlement which provide a high demand
- Presence of a well developed transport network which facilitate the movement of goods / services as shown by all weather road bound surface to Kisii
- Availability of raw materials e.g sugarcane, coffee, livestock products which act as trading items as shown by coffee factory sugar research station and cattle dip

Any 3X2=6mks

NB Factor,explanation and evidence must be mentioned to score

c) i and ii Refer to the attached graph paper

d) There are ridges to the North West of the area
There are numerous hills to the North of the area e.g God Puro
The Eastern ,South Eastern ,North Easter and North West are steep sloping
The area between Kajwang Konyango and Koluoch is gently sloping
The highest point is about 6000ft above sea level
Land generally slopes from South East to North, and North West

Any 5*1= 5mks

7 . a) i) X – Laccolith

Y -Batholith

Z –Vent /pipe

ii) Rocks beneath the crust are in a semi –solid state due to high temperature and high pressure.
- When pressure decreases the rocks become semi- fluid and are known as magma.
- Earth movements cause vertical or horizontal cracks in the rocks
The molten rock / magma forces itself through the cracks / fissures.
- When magma cools and solidifies in a horizontal crack or bedding plane
it forms a feature called a sill. (4mks)

b) It has a vertical vent or pipe
- It is composed of alternating layers of ash / and lave
- It is conical in shape / steep sided
- It has a side vents
- It has conelets / parasitic cones on the sides
- At the peak it may have a caldera / crater / plug (Any 4x1 = 4mks)

c) Volcanic mountains are sources of rivers which provide water from domestic, industrial, transport and irrigation.
- They influence the formation of relief rainfall that encourages agricultural activities.
- Volcanic soils are suitable for agriculture.
- Timber for construction / building industries

- The volcanic mountains form beautiful sceneries that attract tourists.
- Hot springs / geysers are used to generate geothermal
- The crater laters are fishing / breeding grounds for fish.
- Volcanic rocks provides materials for construction / buildings.(Any 4x2 = 8mks)

d) There is no field laboratory where the rock samples can be analyzed.

- Students do not have adequate skills to analyze the samples so there is need for expert opinion.
- There is no adequate time in the field
- To enable them build a collection of rock samples / future studies
- It would expose more students to their findings through display of their findings.
- To create interest / motivation and to deepen the understanding of the subject.(Any 4x1 = 4mks)

ii) Some students may have been cut / injured by the rocks

- There may have been harsh weather / weather change.
- Inability to collect the right samples.
- Inaccessibility of some sample sites
- The heavy weight of the rock samples (Any 2x2 = 4mks)

8. **a)** (i) Name the features marked X, V and W (3mks)

X - Stalactite
V - Stalagmite
W - Cave

(ii) **Describe how the features marked Y is formed (6mks)**

- Solution of calcium carbonate trickles down slowly through the roof of a cave/ cavern
- Solution droplets hang on the roof of the cave
- Water evaporates and calcium carbonate it is precipitated
- The precipitated calcium carbonate gradually builds downwards over a period of time as the solution continues to drip from the roof. This forms a stalactite
- The solution splashes on the floor and water evaporates
- The calcium carbonate in it precipitates and gradually builds upwards to form a stalagmite.
- Over time, the stalactite and the stalagmite join to form a pillar/ column

(b) (i) **What is an artesian basin (2mks)**

- It is a saucer – shaped depression consisting of layer of permeable rock lying between two layers of impermeable rocks, with part of permeable rock exposed to the surface along the edges of the basin.

(ii) **Explain three factors which influence the formation of features in limestone areas**

- The surface rock must be thick limestone to allow solubility by rainwater
- The rock should be hard and well jointed to allow water to percolate through the lines of weakness
- The climate should be hot and humid to facilitate chemical reaction/ weathering/ carbonation.
- The water table should far below the surface to allow for the formation of the features

(Any 3 x 2 = 6 mks)

(c)

(i) Give three reasons why you would need a map of the area of the study

- To show the extent/ delimit the area of the study
- To show the route to be followed during the study
- To show drainage features
- To be able to estimate distances
- To show the general nature of the terrain

Any 3*1=3mks

(ii**) Name two erosion features you are likely to identify the field study**

- Exposed rocks
- Ridges / clients
- Gullies/ wades/ grikes/ dry river bed
- Earth pillars

Any 2*1=2mks

(iii) **State three recommendations that you would make from your study to assist the local community to rehabilitated the recorded area.**

- Building of gabions
- Constructing of terraces
- Planting trees
- Adapting farming methods that allow conservation of soil. i.e. planting of over crops / mulding/ strip farming.

Any 3 x 1 = 3 mks)

9. (a) H - bay
J- sand bar
K – Tombolo
L- Headland
M- Estuary (5 mks)

(b) (i)
- The shore should be gentle for deposition to take place
- The wave breaking must have a strong swash and weak backwash / be constructive wave
- The sea should be shallow towards the coastline/ shone
- The sea water should have a large load

Any 4x1=4mks

(ii) Hydraulic action- the power of waves remove lose rock particles from the cliff/ rocks. The waves also enter cracks / crevices of the rocks enlarging the crevices/ joints/ cracks by creating shock waves
Abrasion- the materials/ load carried by the waves scour coastal rocks making them smooth as they erode.
Attrition- the materials carried by waves constantly collide against each other and coastal rocks, thus, reducing in size.
Solution – the sea water dissolves and removes soluble materials. This is common along limestone coasts (any 3 x 2 = 6 mks)

(c) i Objectives
- To find out the type of depositional features along the Kenya coast
- To find out the factors influencing the formation of depositional features
- To find out the economic significance of coastal features of deposition
- To find out the process involved with formation of coastal features of deposition
- To find out the location of depositional features along the coast of Kenya

(Any 5 x 1 = 5 mks)

(ii)
- Making notes
- Taking photographs/ videos
- Filling in tables/ tallying
- Field sketching
- Drawing maps (sketch) mapping

10 (a) (i) What is an ice sheet?

It is a continuous mass of ice covering a large area/ surface (2mks)

(ii) Give two reasons why there are no ice sheets in Kenya
- Kenya experience high temperatures under which ice- sheets cannot form
- Most parts of Kenya have low altitudes
- Kenya is found at low latitudes (Any 2 x 1 = 2 mks)

(iii) Explain three factors that influence the movement of ice from the place of accumulation
- Gradient of the land- Ice moves faster when the slope is steep
- Temperatures/ seasonal changes-Higher temperatures result into thawing, leading to faster movement of ice
- Nature of the surface – when the surface on which ice is moving is rough, it causes friction lowering the speed of the movement of ice
- Size/ thickness of glacier – large masses of ice exert pressure which lead to melting of ice underneath. This increases the speed of ice movement (Any 3x2 = 6mks)

(b) Describe how an arête is formed
- Two adjacent cracks/ hollows exists on a mountain side
- The two hollows/ cracks are filled with ice
- The ice erodes the sides through plucking and deepens the hollow through abrasion
- Through erosion, the back walls of the hollows slowly recede
- Eventually the hollows/ cirques are separated by a knife- edged ridge
- The ridges called an arête (Any 4 x 1 = 4 mks)

(c) (i) Name the types of moraines marked S, T and V

S - Medial (1 mk)
T - Lateral (1 mk)
V - Terminal (1mk)

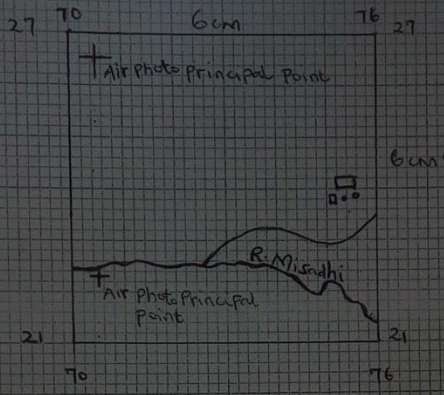
(ii) Explain four positive effects of glaciations in lowland area

- Glacial till provides fertile soils for arable farming
- Ice sheets, in their scouring effect reduce the land surface and depth to expose mineral seams which become easy to extract
- Outwash plains comprises of sands and gravel which are used as materials for building and construction
- Lakes formed through glaciation can be exploited for various economic uses such as fishing, transportation or as tourist attraction.
- Ice melts into rivers exploited for domestic use
- Glaciated features are tourists attractions
- Glaciated lowlands are generally flat due to erosion and deposition and are ideal for construction of buildings and communication lines

  - (Any 4 x 2 = 8 mks)

SIJET TERM

6 c i) A REDUCED MAP OF THE AREA BOUNDED BY EASTINGS 70 AND 76, NORTHINGS 21 AND 27.



Distribution of Marks

• Accurate dimensions	1MK
• Air Photo Principal Point	1MK
• River Misadhi	1MK
• Nyangao School	1MK
Total	4MKS

ii) Scale of the new Map

The Map was reduced by ½

$\therefore \frac{1}{50,000} \div 2$ ✓

$\frac{1}{50,000} \times \frac{1}{2} = \frac{1}{100,000}$ or 1:50,000 ✓ (2MKS)