

GEOGRAPHY 312 /1 K.C.S.E 2001
MARKING SCHEME
SECTION A

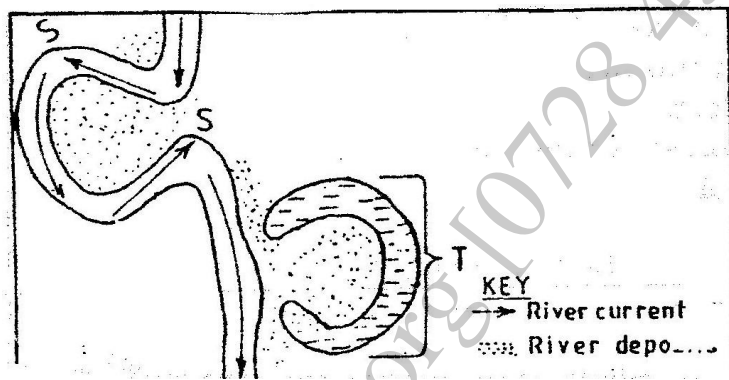
1. (a) (i) 21st March and 23rd September
(ii)
- Because earth is tilted on its axis
 - Because of the apparent movement of the sun within the tropics
 - Because of the regulation of the earth
- (iii) $= \frac{366}{4} \times 3 = 274 \frac{1}{2} \text{ days} / 274.5 \text{ days}$
- (iv) Summer
2. (a)
- 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
- (b) (i) R- Cumulus
(ii)
- Thunder and lightning
 - Hailstones
 - Heavy rainfall
 - Dark clouds
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
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
- (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 store 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

5. (a)

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

(b) (i)



Old stage / senile stage / plain stage

(ii) S. Erosion

(iii) T. Ox – bow/ Meander / Lake cut off

SECTION B

Answer question 6 and any other two questions in this section

6. (a) (i) Between 2660 and 2680 above sea level
(ii) 5.6 km (0.1) (5.5 – 5.7 Km)
(iii) Escarpment steep slopes / Kijabe hill

(b)

- The main drainage feature are rivers, and are many
- There are also hot springs
- Most of the rivers are permanent
- Rivers originating from Kijabe hill are short and disappear underground
- Rivers on Kijabe hill form parallel and radial drainage pattern
- Most rivers from dendrite patter
- Main rivers are upper Ewaso Kedong and Bathi which flow southwards while river Gatamaiyu and its tributaries flow South – Eastwards
- Most rivers are in Their youthful stage
- There are more rivers to the East of the escarpment

(c)

- Most of the settlement are found at the foot of the escarpment because the land is gently sloping
- The escarpment has no settlement because the land is steep
- Kijabe hill has a few settlement on the eastern side because the land is gently sloping/ the Western side of the hill has no settlement as the land is steep
- The land immediate to the east of the escarpment has many settlement because it is plateau/ gently sloping

(d) Economic activities

- Forestry / raw industry/ lumbering

- Cattle keeping/ livestock rearing / dairy

- Quarrying

-Transportation

-Trading/ commerce

- Processing/ manufacturing

- Farming/ Agriculture

Evidence

- Forest station/ forest guard post/
saw mills

- Dairy/ cattle dip

- Qua murram pit

- Road/ Railway/ Tracks/ foot path

- Shops/ stores/ petrol station/ post
office/ post house

- Kagwe carbacid plant

- Plantations

(c) (i)

- Assemble equipment
- Depart for the area of study
- Arrive at the area of study
- Report to the forest authorities
- Embark on data collection
- Report back to the forest authorities
- Report back to school

(ii) Save on time Save on energy

Teach the learners the art of swimming

- They will be able to identify the tree species that are suitable for the area
- They will be able to work out solutions to the problems affecting the forest
- The community will use the report to identify the importance of conserving forests
- People will be able to adopt appropriate methods of utilizing the forest sustainably

7. (a) (i) A rock is a substance made up of a mineral / combination of mineral particle cemented together and forms the solid part of the earth's crust.

(ii) – **Mechanically Formed**

These rocks are formed when eroded rock materials are transported by agents of erosion and deposited in layers either on land or in the sea

- Organically formed

These rocks are formed when remains of previously existing plants or animals organizations are accumulated over a period of time forming layers

- Chemically formed

These are formed when rocks are precipitated or when solutions of salt evaporate and particles accumulate in layers.

- (b) - when the weight of the overlying rock layers creates pressure on the lower layers it leads to change in structure/ grain alignment of the rocks. This process is known as dynamic
- During volcanic eruptions, hot magma/ liquids may intrude into a sedimentary rock. The rock grains will re-crystallize due to heat to form new minerals. This process is known as thermal/ contact metamorphisms
- In the mountain building process, sedimentary rocks are compressed and due to this pressure heat is generated. This heat modifies the structure of the original rocks. This process is known as thermal – dynamic metamorphism
- (c) (iv) Plutonic rocks
- Granite
 - Syenithe
 - Gabbro
 - Diorite
 - Poridatite
- (v) Hypabyssal Rocks
- Dolorite
 - Perplymite
 - Porphyry
 - Lamprophyre, biamphyre
- (vi)
- Volcanic rocks
- | | | | |
|-------------|---|--------|------------|
| - Andesite | - | Pumice | - Tephrite |
| - Trachite | - | Scoria | - Ryolite |
| - Phonolite | - | Basalt | - Obsidian |
- (d) (i)
- Textbooks/ pamphlets/ journals/ periodicals/ magazines/ newspapers/ hansouts
 - Maps/Geological maps
 - Photographs/ pictures/ video tapes/ slides/film
 - Tape recorded information
- (ii)
- Drawing of sketches
 - Observation

- Collecting rock samples
- Making notes
- Taking photographs
- Asking/ answering questions
- Study geological map

(iii)

- Inability to identify rocks
- Inability to access the rocks
- Accidents slipping
- Difficulties in climbing descending steep rocks
- Hindrance by poor weather conditions
- Attacks by wild animals

8. (a)

- Fjord/ fjard/ fyord
- Dalmattan / Longitudinal
- Estuarine
- Ria

(b) (iii)

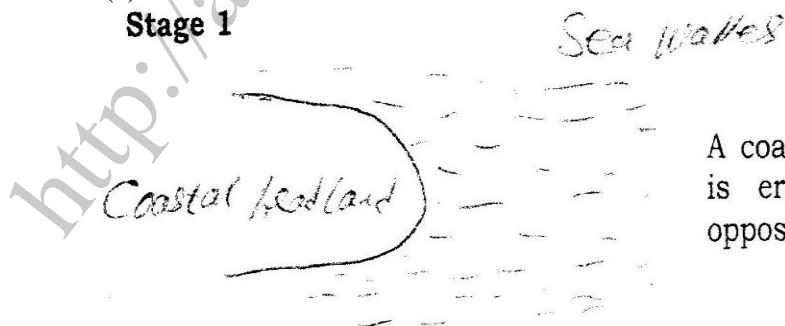
- Hard rocks carried by waves increase the erosive power of the waves as they hit against the coast
- Heavy pieces of rocks carried by waves hit against the cliffs thus weakening the wall making it susceptible to wave erosion

(iv)

- A coat made of soft rocks wears away easily when subjected to sea waves
- Well jointed / fractured/ unconsolidated rock enhances erosion by waves along the line of weakness
- Where rocks are soluble or made of limestone/ chalk they are easily eroded through solution process

(c)

Stage 1



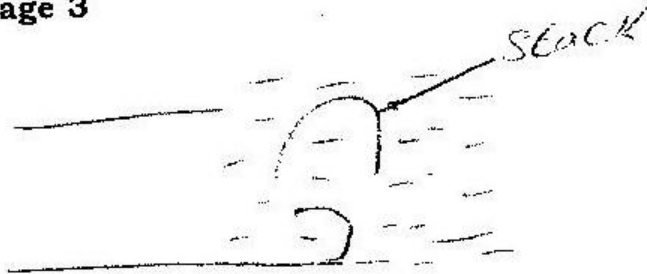
A coastal with a headland is eroded by waves on opposite

Stage 2



Elongation of the cave through the headland forms an arch

Stage 3



The roof of the arch collapses Part of the headland on the seawards end is isolated to form a stack

(d) (i)

- The water should be warm about $20 - 30^{\circ}\text{C}$
- The water should be shallow to allow sunlight to penetrate/ depth up to 60m
- The water should be clear from silt / mud
- The water should be saline
- There should be plentiful supply of Plankton microscopic plant food
- The water should be well oxygenated

(ii)

- Coral reefs attract tourist who bring foreign exchange into the country
- Coral reefs provide breeding grounds for fish. This has promoted fishing industry at the coast.
- Coral reefs provided limestone which is used as raw material for cement making
- Coral rocks provided stones which are used in the building industry
- Coral stones are extracted and sold as ornaments/ for their aesthetic value

9. (a)

- Air/ gases
- Water/ moisture
- Organic matter minerals
- Inorganic matter/ minerals

(b)

(iii) Climate

- Rainfall provides water which make it possible for rocks to decay/ disintegrate to form soil
- Rainfall can affect the rate at which some soil forming processes can occur e.g leaching
- High temperature increase the rate of weathering/ accelerate the rate of bacterial activities which generates some of the organic matter in the soil
- Water, ice and winds, erode, transport and deposit soil particle in other area leading to the formation of new soil (e.g losses)

(iv) Topography

- Valley bottoms/ gentle slopes encourage the formation of deep and fertile soils due to deposition accumulation of materials
- Steep slopes encourages erosion of the top layer of soil that slowing down formation of soil / have a thin soils
- Flat plains/ flood plains are saturated with water therefore slows down forming process
- Slope influence arrangement/ sequence of soil
- Slopes slopes are more exposed to the sun/ rain which influence weathering of parents rock/ soil forms

(c) (i)

- Soils are sources of valuable minerals
- Soils are used as raw materials for pottery/ ceramics/ bricks
- Soils are used in building/ construction of industry
- Soils are used for agriculture
- Some soils are mixed with herbs for medicine purposes
- Used directly as cattle lick

(ii)

- Cutting down of trees/ deforestation exposes the soil to agents of erosion
- Continuous ploughing weakens the soil structure making it easy for agents of erosion to carry it away.
- Ploughing across the contour / up and down the slope creates channels which encourages easy removal of soil by running water/ agents of erosion
- Overstocking leads to tramping on the top soil by animals thereby loosening the particles and making them easy to carry away
- Overgrazing leads to removal of vegetation cover thus exposing soil to agents of erosion
- Continuous burning / cultivation without replenishing soil nutrients deprives the soil of the fertility which binds the particles together. This makes soils susceptible to erosion
- Road construction/ quarrying/ mining loosens the soils making them easily eroded.

- Monoculture / over cropping leads to soil exhaustion thus making the soil vulnerable to erosion
- Shifting cultivation/ bush fallowing may leave land unprotected against the agents resulting in wind erosion
- Cultivation on steep slopes/ river banks increases soil erosion processes

(a) Sheet erosion

- This occurs on gentle slopes which are bare
- When rainfalls, water spreads over a large area
- As water moves, it moves the top layer evenly over the area

(iv) Gully erosion

- It occurs on steep slopes
- Rain water cuts deep grooves channels/ rills on the slopes
- The channels are widened and deepened to form gullies through which soils are carried away

GEOGRAPHY PAPER 312/2 K.C.S.E 2001
MARKING SCHEME

SECTION A

1. (a) (i) – Comparative bar graph / group/ multiple/ Composite
(ii) – Exports $3.8 + 4.9 = 8.7$ k billion
- Imports $6.7 + 7.4 = 14.1$ k billion
- Difference $14.1 - 8.7 = 5.4$ k billion
Calculation 1

$$13.6 - 22.6 = -9.0$$

Correct answer 1

- (b)
- Kenya exports mainly agricultural raw materials which are a low value and imports manufactured goods which are of high value
 - The agricultural goods exported from Kenya face stiff competition in the world and imposed quota systems in the world market which leads to reduce sales and less earnings
 - Some of the goods exported are of low quality hence generate less earnings
 - Semi processed goods earn less

1. (a)
- Tea
 - Coffee
 - Pineapples
 - Flowers
 - Rice
 - Wheat
 - Barley

Any 2 x 1 = 2

- (b)
- Heavy rainfall between 1270 – 2500mm per year
 - Well distributed rainfall – throughout the year/ rainfall throughout the year
 - High temperatures between $28^{\circ} - 30^{\circ}\text{C}$
 - Deep soils
 - Well – drained soils
 - Light sandy soils
 - High humidity
 - Low altitude

2. (a)
- Incidences of water-borne diseases, bilharzias
 - Pest infestation which lowers production, quelea birds
 - Water weeds which compete with the rice for nutrients rhizomes
 - Silting in the canals reduces the amount of water
 - Low water levels in the rivers during the dry season

(b)

- Planting of trees/ afforestation/ deforestation
- Planting to cover crops/ grass
- Building dams/ reservoirs
- Filling up gullies with brushwood
- Introduction of modern methods of farming- Terracing/ contour ploughing/ use of fertilizer/ crop protection/ crop rotation/ strip cropping

4. (a)

- Nakuru Trans Nzoia Laikipia Narok
- Koibatek/ Baringo Uasin Gishu Marakwet

(b)

- In Kenya farming is done on small scale whereas in Australia it is on a large scale
- In Australia Sheep are reared to provide mutton/ wool mainly for export while in Kenya it is mainly for local consumption
- In Australia, Shearing is highly mechanized, while in Kenya it is mainly manual

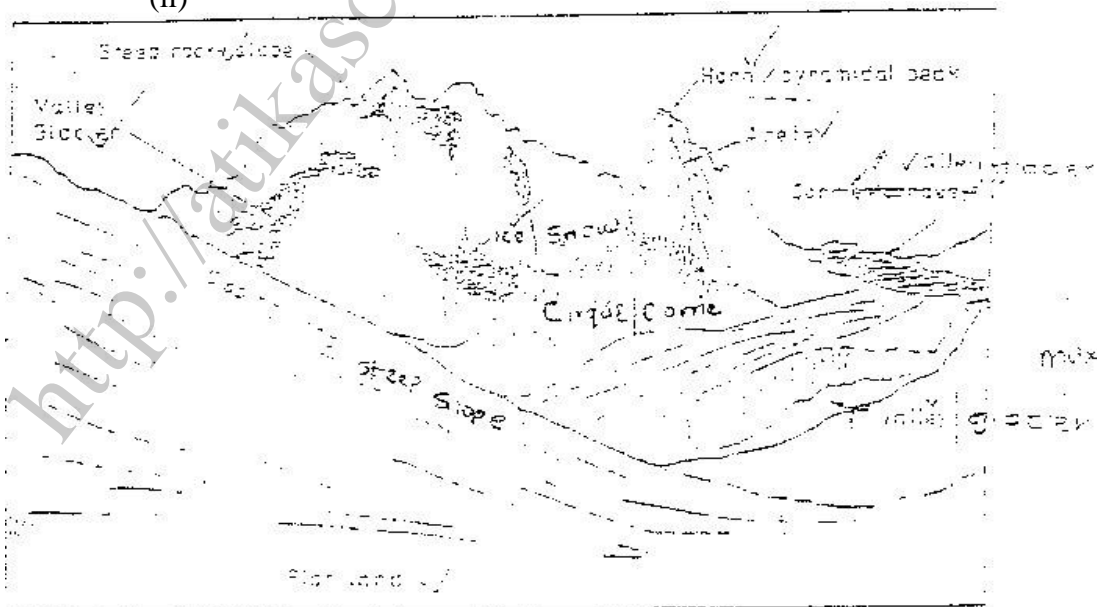
Any 3 fully compared points 2 (any 2 x 1(2mks) 2 = 4 marks)

5.

- It has created variation in prices of petroleum products
- It has led to mushrooming of many petroleum products dealers
- It has encouraged importation of refined petroleum products
- It has caused frequent price adjustments by oil dealers
- It has created widespread availability of petroleum products

SECTION B

6. (a) (i) – Ground photograph/ ground general view
(ii)



(iv)

- The area lacks sufficient vegetation that would provide food for wildlife/ the area lacks vegetation to provide shelter/ hiding habitation for wild animals
- The area is high above sea level where the atmospheric pressure may be too low to allow some living things to survive
- The high altitude/ presence of snow indicate low temperature unsuitable for survival of living things
- The area is a mountaintop which sometimes 3 experiences snowfall which would discourage wildlife
- The steep slope/ rugged terrain hinders movements of animals in the game parks.

(b)

- Encouraging individuals to set up game ranches
- Banning of trade in wildlife products
- Encouraging wildlife conservation education
- Employing anti- poaching unit/ Forest rangers in the game park
- Protecting the endangered species in orphanages/ sanctuaries/ arboretum / Natural reserves
- Promotion peaceful co- existence between wildlife and human beings
- Setting up game / forest reserves

(c)

- To make use of tourist facilities during the low tourist seasons
- In order for Kenyans to be exposed to move about their own country
- To facilitate interaction / cultural exchange among different communities and thus enhance national unity/ patriotism
- To expose people locally to produce artifacts
- To expose Kenyans to a wider variety of recreational facilities
- To create employment/ income to government or individuals

(d)

- Switzerland is located in central Europe making it easily accessible to tourists of European origin while Kenya is far from Europe
- Some of the tourist attractions in the two countries are similar, hence tourists prefer to visit those that are nearer home
- The peaceful atmosphere / political neutrality in Switzerland encourages tourists as opposed to Kenya where there are reports of insecurity which scare away tourists.
- Switzerland mounts more effective marketing promotions than Kenya
- The well- developed transport network in Switzerland provides easy access to tourists sites while in Kenya many roads are poorly maintained.
- In Switzerland tourists are charged fairly for services while in Kenya charges are relatively high
- In Switzerland there is more encouragement on package tours which lowers the rates charged for tourists facilities while Kenya this is not common

7. (a) P – Kampala
Q – Nakuru
R- Dar – el- Salaam
- (b) (i)
- Its strategic position of the East coast of Africa was an ideal calling point for traders to and from the far East
 - The island provides a good defensive site against external threats
 - The flat land was ideal for construction of buildings
 - The deep water on Mombasa and Kilindini channels provided a natural harbour for traders
 - Rivers Mwachi / Kombeni provided fresh water for domestic use
 - The coral limestone found in the area was used as building stones for houses
- (ii)
- There is an acute shortage of water as the population has outgrown the available supply
 - The growing population has outstripped/ educational facilities/ health/ sanitation creating pressure and scarcity
 - Inadequate housing facilities has led to growth of slums/ informal structures for dwelling
 - The narrow streets causes delays/ congestion on roads
 - The narrow streets cause delays/ congestion on roads
 - There is limited space for expansion on the island which has resulted into expansion of the town towards the mainland.
 - Due to high rate of unemployment, crime and social evils are common
 - Industrial / domestic wastes has caused pollution
- (c) (v) Mombasa relies on road, railway, air and pipeline while Rotterdam has a river canals in addition
- (vi) Rotterdam uses advanced technology in providing services at the port while Mombasa port has had very limited expansion in technology
- (vii) Rotterdam has expanded to a new outer port known as Euro port while Mombasa port has had very limited expansion
- (viii) Mombasa experiences tropic climate/ modified equatorial while Rotterdam experiences cool temperature climate/ cool temperature. Western margin climate
8. (a) (i) Lake Superior
(ii) Niagara falls
(iii) Quebec port
- (b)
- It provides cheap mean of transport for both imports and exports, thus encouraging internal/ international trade

- It has led to growth of ports and towns along its course. These have become focal points for various economic activities
- Due to accessibility to raw materials, there has been extensive industrial development in the area.
- The dams found along the route provide hydroelectric power for domestic and industrial use.
- The sea way is a tourists attraction which generates income in the region
- The sea way has created employment opportunities in the transport industry raising the standards of living of the people in the area
- Tarrifs charged earn the countries income

(c)

- African countries have railways of different gauges, which make it difficult for them to join
- The countries were colonized by different European powers who constructed railways to transport raw materials from the interior to the ports within their own colonies
- Political differences/ differences/ different political ideologies/ political instability among African countries hinder efforts to construct railway line to link them
- African countries produce similar goods hence there is limited trade between them. (this does not warrant construction of railway lines)
- Railways are expensive to construct/ most African countries are poor/ inadequate capital and hence expensive to construct/ expand
- Parts of Africa are unproductive so it would be uneconomical to construct railway lines
- Variation in terrain has hindered the development of various lines

Any 4 x 2 = 8 mks

(d) (i)

- Liberalization of airways/ licensing of more private radio/ T.V stations
- Introduction of E- mail internet/ fax (telefax)
- Introduction of mobile phones/ cell phones/ pagers
- Liberalization of the press
- Expansion of telephone facilities
- Liberalization of postal services

Any 2 x 1 = 2 mks)

(ii)

- Development of other and more efficient means of communication e.g. electronic mail has led to reduced use of telephones
- High cost of installation and maintenance of telephone lines limits the number of subscribers
- Vandalism of telephone equipment renders most telephone services would be unavailable to users

- Mismanagement in the organization that provides telephone services has made it difficult to expand the services to many areas of the country
- Poor reception/ disruption of natural hazards/ overlapping of telephone lines discourages the use of the facility.
- Lack of modernization of telephones in some areas causes delay and discourages the use of telephones

Any 3 x 2 = 6 mks)

9. (a) (i) Land pollution/ soil. Ground

- Noise pollution/ sound
- Thermal pollution
- Radiation

Any 2 x 1 = 2 mks)

(ii)

- Discharge of industrial waste/ oil spillage/ radioactive waste into water bodies
- Disposal of domestic waste into water bodies
- Discharge of agriculture chemicals into rivers/ lakes by rain water
- Discharge of raw sewage into water bodies
- Abuse of water bodies by human beings
- Natural causes e.g. soil erosion/ terrestrial gas

Any 3 x 1 = 3 mks)

(iii)

- Gases emitted from some factories contain substances which corrode roofs of houses and metal structures
- Some gases from factories contain substances which dissolve in water to form acid which make plants maim or kill animals
- Inhalation for smoke and soot particles / bad smell lead to discomfort / irritation of the respiratory system / discolouring of vegetable / building.
- Gases emitted from factories may contain poisonous substance which can lead to poor health / death when inhaled /plant leaves turn yellow.
- Gases / excess carbon dioxide increases the temperature affecting the climate of the affected areas / depletion of O – Zone layer.
- Smoke / dust / smog reduces visibility which way lead to motor accidents.
- Dust particles that settles on leaves inhibits photosynthesis

Any 3 x 2 = 6 mks.

b(i)

- Most of the land is low lying which causes the rain water of spread over wide area.
- The adjacent highlands receive torrential rainfall which releases large volumes of water resulting to rivers overflowing their banks.
- Silt has filled the river beds making them shallow thus spilling their water over banks

- The rivers are at their old stage, thus they have wide flood plains which allows water to spread over large areas.
- The area has black cotton soil which is non-porous and when soaked allows water to flow and spread on the surface.
- The heavy rainfall received in the area is discharged into Lake Victoria making its level rise thus flooding the adjacent lowlands.

(Any 3 x 6 = 18 mks)

ii)

- Dams have been constructed across the rivers to check their velocity thus reducing the incident of flooding.
Several dykes have been constructed / artificial levees to restrict the rivers within their channels / diversion channels have been constructed in the flood plain and water used for irrigation thus reducing the effect of the excess water.

(Any 2 x 2 = 4mks)

c)

- Strong winds destroy trees
- Winds blow off roofs of houses
- Winds cause strong sea storms and lead to boats capsizing / communication lines are destroyed / destruction of transport line.
- Winds cause soil erosion
- Winds spread air-borne diseases
- Winds spread bush fires

(any 4 x 1 = 4mks)