

**1996 GEOGRAPHY PAPER 1 MARKING SCHEME:**

**SECTION A:**

1. a) Two features resulting from extrusive volcanic activity  
Composite volcano                      Lava plateau/lava plains/tuff plateau  
Caldera/crater                              Ash and cinder cones  
Spine/volcanic plugs                      Hot spring                      (any 2 x 1 =2 mks)
- b) Four ways in which volcanicity has influenced human activities in Kenya
- i) The Volcanic rocks of the Kenya highlands have been weathered to produce fertile soil for agriculture.
- ii) Landforms resulting from activity are tourist attraction /scenic beauty e.g Mt Kenya.
- iii) Trachyte and phonolites/volcanic rocks are used for building
- iv) steams jets/gerious at Olkaria are used for generating geothermal power.
- v) Gases associated with volcanic activities are mined in Kenya e.g CO2 at Kereita and at Esageri in Baringo
- vi) steep slopes formed through volcanic activity discourages settlement/farming/development of transport. (4mks)
2. The block diagram below represents part of the earth's crust which has been subjected to tensional forces.
- a) (i) The slope marked A-Heave/Escarpment  
(ii) The angle marked B-hade (2mks)
- b) Three ways in which faulting can influence drainage system
- Vertical faulting across a river may cause waterfall
  - Rift faulting in an enclosed area may lead to formation of a lake if rivers drain into the basin/inland drainage
  - Some rivers flow along fault lines/fault guided drainage
  - Uplifting of landscape which leads to faulting may cause rivers to their direction of flow. (Any 2x1= 2mks)
- 3 a) What is an isobar?
- It is an imaginary line connecting places with the same air pressure.
  - It is a line on a map connecting places with the same atmospheric pressure. (2mks)
- b) Four characteristics of Modified equatorial climate (Lake V. Basic)
- Rainfall throughout the year
  - Rainfall total between 1000mm-1600mm/heavy/high/high rainfall
  - Rainfalls mainly in the afternoons
  - Rain is accompanied by thunder
  - Temperature range between 200-60c/moderate a temperatures
  - There is high humidity
  - Double maximum rainfall (any 4x1=4 mks)
- 3 c) Convectional type of rainfall
- ❖ Small annual range of temperature (only if the answer on rainfall award marks)
- 4.a) If the local time in Nairobi at longitude 37o E is 10.00a.m. What will the time be at Buchanan in Liberia at longitude 10°W  
1° = 4 Mins

$$47^\circ \times 4 = 188 \text{ mins} = 3 \text{ hrs } 8 \text{ mins}$$

Buchanani is 3 hrs. 8 mins behind Nairobi its time will be 6.52 am (2mks)

- b)** The effect of the international date line on time  
On crossing this longitude while going to west, a day is lost while a day is gained while crossing to the East. (2mks)
5. a) Three examples of mechanically formed sedimentary rocks  
- Sandstone - Clay stone, siltstone -shale -Mudstone
- b) Changes that occur in sedimentary rocks when they are subjected to intense heat and pressure.
- ❖ New Minerals are formed
  - ❖ Minerals recrystallize further
  - ❖ Rock particles become compacted
  - ❖ The physical appearance of the rock changes
  - ❖ Metamorphism without any details(Any 2x 1 = 2 marks)

### SECTION B:

1. Study the map of Ithanga (1:50,000 Sheet 135/4) provided and answer the following questions.
- a) i) The six – figured grid reference for the trigonometrical station to the south – east of the area covered by the map – 300906 (1mk)
- ii) The bearing of the school at Kamwiendei village from the church at Riakanau?  $029^\circ + 10^\circ$  (022 – 030°) (2mks) Accept this
- iii) The length of the dry weather road (E 625 ), from the junction at karaba shops to where it ends at Riakanau village in kms.  
- 10.7 km + 0.1 km (10c- - 10.8) (2mks)
- iv) The area of Tebere B in the northern part of the map.  
-  $13.5 \pm 1 \text{ km}^2$  (11.25 – 14.5)  $\text{km}^2$  (2 mks)
- b) Student from one of the schools in the area covered by the map carried out a field study on the physical features and economic activities found in the area.
- i) Two types of natural vegetation they are likely to have identification.  
- Scrub - Scattered trees -Woodland
- ii) Citing evidence from the map, name three economic activities the students are likely to have identified during their study.(3mks)

#### Activity:

#### Evidence

Agriculture / farming

Sisal estate / coffee plantation / coffee factory

Commerce / trading

Shop / markets

Mining / quarrying

Processing

Posho mills / coffee factory

Transportation

Roads / ferry \* No evidence no marks Any 3 x 1 = 3 mks

- (iii) Citing evidence from the map, name two methods the students are likely to have used to cross River Tana.

**Method**

Ferries

Barrage

Bridge points

\* No evidence no marks

**Evidence**

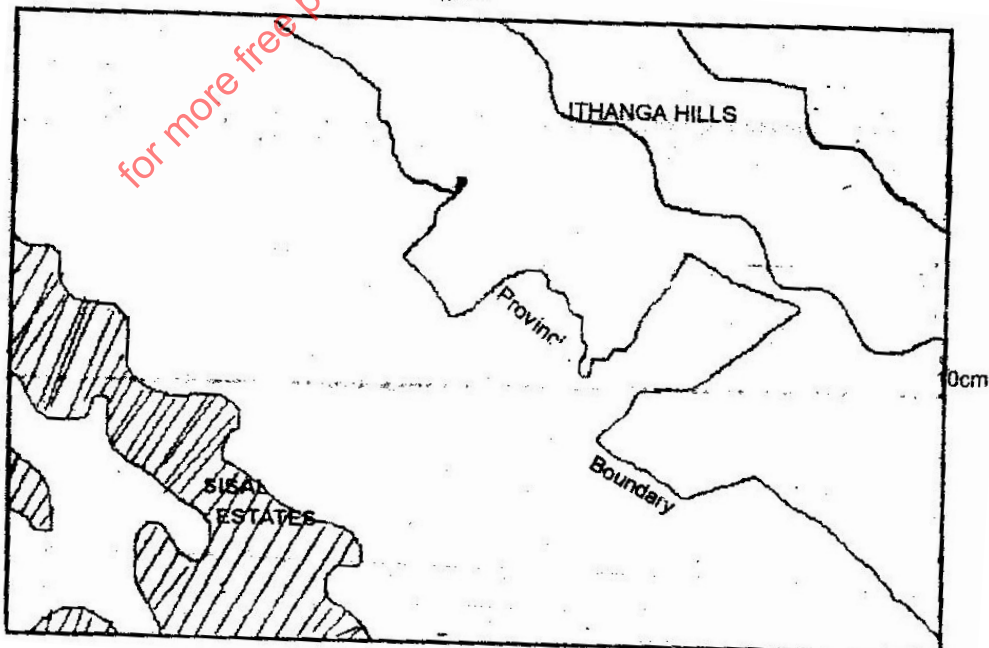
Ferries

Merila river Barrage

New Tana Bridge

Any 2 x 1 = (2 mks)

- (c) The drainage of the area covered by the map is as follows
- ❖ River Tana and its tributaries from the main drainage system in the area
  - ❖ The area has numerous, permanent, surface streams/ rivers
  - ❖ Most parts of the area covered by the map are well drained
  - ❖ There are some seasonal swamps found mainly along the valley of river Tana.
  - ❖ The main drainage pattern is dendritic with radia pattern noticeable in the South East.
  - ❖ There are man – made water features including dams water troughs and in the area covered by the map (4 x 1 = 4 Mks)
- \* If you get a specific point find the evidence from the river
- (d) The distribution of settlement in the area covered by the map is as follows:
- ❖ There are few settlements/labour lines within Ithanga estate and Kiamutunguru hills.
  - ❖ There are scattered settlements in the South West and the area immediately to the North of river Tana
  - ❖ There is nucleated settlements mainly in the market/shopping centres/ villages in the North and South Western part of the area covered by the map.
  - ❖ Some areas such as Mbondoni and the area between Kamwendei and Karabal have no settlements.
- (e) A rectangle 15cm by 10cm representing the area west of Easting 20 and south of Northing 00.on the rectangle the following are marked and named.
- i) The provincial boundary
  - ii) Ithanga hills
  - iii) The sisal plantation to the south west of the area.

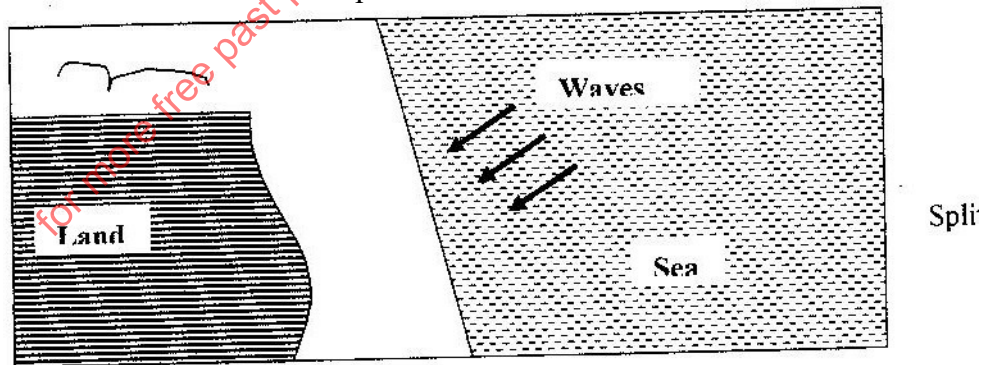


2. a) i) A river dived
- ❖ It is a ridge / high ground that separates two or more rivers basins
  - ❖ The highest line of an interflow (1mks)
- ii) Describe three ways by which a river transports its load
- ❖ Traction process / rolling / sliding – The large and heavy particles of the river load are rolled / dragged along the river bed.
  - ❖ Saltation process – particles that are not too heavy but cannot remain suspended in water are momentarily lifted by the water turbulence and at times dropped onto the river bed.
  - ❖ Solution – soluble minerals are dissolved in the river water and carried away in solution.
  - ❖ Suspension – light particles of the load are carried and maintained within the turbulence of flowing water. (any 3 x2 = (6 mks))
- NB: Correct description can earn marks without process.
- b) The characteristics of a river in its old stage
- ❖ The widening of the valley through lateral erosion creates an extensive area where the river deposits its load, the gradient of the plain is low.
  - ❖ The speed of flow is low, the gradient of the plain is low.
  - ❖ Due to the slow speed and the high rate of deposition, the river forms pronounced meanders.
  - ❖ Due to the slow speed, the main work of the river is deposition
  - ❖ Meanders become more pronounced with narrow neck which are eventually blocked by deposits to form meander cut off / ox –bow lakes.
  - ❖ Increased deposition along the channel raises the river bed may eventually form small islands / braided channel / river braids
  - ❖ Deposition along the banks of the river channel leads to formation of leaves.
  - ❖ The reduced speed and increased deposition blocks the river mouth forcing the river to form distributaries / delta.(any 7 points = 7 marks)
- c) Description of drainage patterns / systems.
- Superimposed**
- ❖ The drainage system develops on a rock structure that overlay a totally different one.
  - ❖ The river valley cuts through the surface rock layer onto the underlying rocks.
  - ❖ Gradually the surface rocks are removed and the underlying rocks now become exposed.
  - ❖ The superimposed drainage system bears no relationship to the existing rock structure / discordant with the rock structure (3mks)
- ii) **Centripetal**
- ❖ The pattern develops in an area with a central basin
  - ❖ River drain into the depression from different directions(2mks)
- d) You have planned to carry out a study of a river in its youthful stage preparation for the study.
- ❖ Carry out reconnaissance survey
  - ❖ Read from reference books / seek permission from the authority

- ❖ Prepare a sketch map
  - ❖ Formulate objectives from the study /Hypothesis of the study
  - ❖ Prepare relevant stationery (Any 2 x 1 =(2 mks)
- ii) Two features you are likely to study
- ❖ Interlocking spurs
  - ❖ Gorges
  - ❖ Water falls / rapids / cataracts
  - ❖ Potholes, plunge, slope river , slope pools(Any 2Mks)2 x 1
- iii) Two problems you are likely to experience during the study
- ❖ Steep slopes
  - ❖ Thick vegetation
  - ❖ Rocky contours
  - ❖ Poor communication / bad roads
  - ❖ Hostile weather conditions (to be specified)
  - ❖ Wild animals crossing river valley (Any 2 x 1 = 2 mks)
- 3.a) The four process things which are
- ❖ By hydraulic action
  - ❖ Abrasion / currasion
  - ❖ Solution / Currasion

**QUESTION 3:**

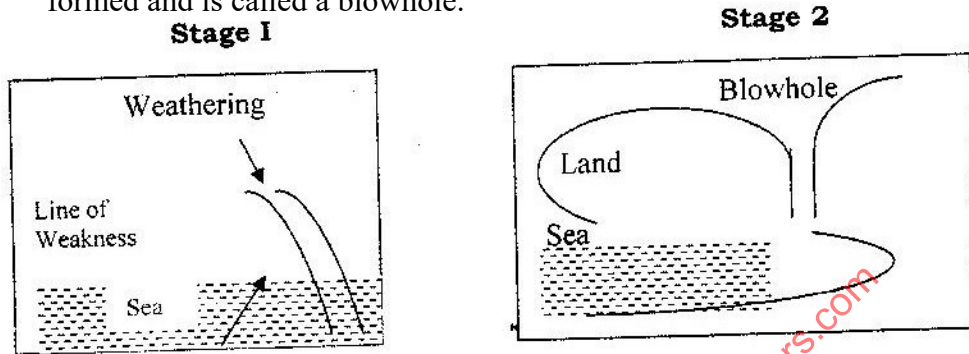
- b) i) Formation of a spit.
- ❖ It forms on a shallow shore at a point where there is a change in the angle of the coastline.
  - ❖ Sand or shingle is deposited by long shore drift / oblique waves
  - ❖ Deposition continues and materials accumulates seawards
  - ❖ With time, an elongated feature with one end attached to the mainland projects into the sea and it called a split.



Text max 3 = 4  
Diagram 1

## FORMATION OF BLOWHOLES

- ❖ Wave erosion acts on a line of weakness at the back part of the roof of a sea cave
- ❖ At the same time weathering especially by solution acts on the line of weakness from the surface downwards.
- ❖ Eventually, a vertical shaft / hole, which connects the surface to the cave below, is formed and is called a blowhole.



Wave action

NB\*\* Point must be mentioned to score full marks for text.

Wave action at the base of a cliff attacks the zone of weaknesses.

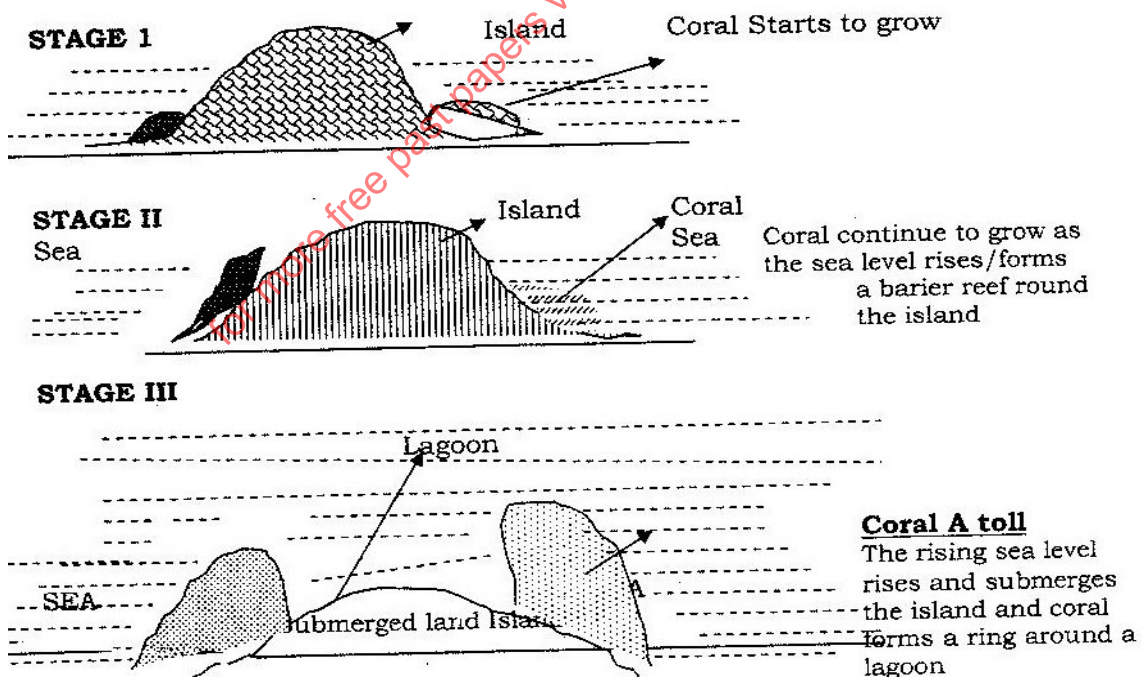
The cave develops and gradually enlarge following the lines of weaknesses.

The cave eventually opens up further inland through a vertical shaft/line of weakness to form a blowhole group. (2x1= 2mks) Diagram 2 marks.)

An atoll

Stage 1

Formation of a toll



\* Must be mentioned to score 3 marks

Diagram max - 2marks

Text - 1 max

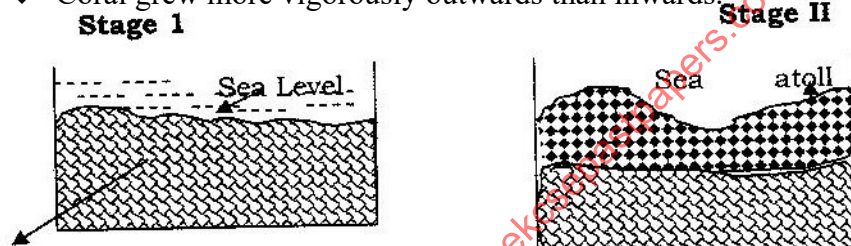
3Marks

Total

5mks

3

- a) (iii) Formation of an Atoll(Hurray's theory)
- ❖ Coral grow on submarine hills or plateaus.
  - ❖ These hills/plateaus consist of either volcanic material or accumulated pelagic material
  - ❖ They rise/accumulate to within 60 meters of depth.
  - ❖ Coral grows more vigorously outwards
  - ❖ The coral on the inner side is slowly dissolved to form a deep lagoon.
- b) (iii) formulation of an Atoll (Dely's theory)
- ❖ During the last ice age, coral islands in the ocean were flattened by marine erosion.
  - ❖ At the end or the ice age, the meltoutous caused a global rise in sea level.
  - ❖ The warmer temperature encouraged growth of coral reefs, which kept pace with the rising sea level
  - ❖ Coral grew more vigorously outwards than inwards.



Flattened coral island

Text max 3 diagram 2.

- c) Some student carried out a field study on the coastal features found along the coast of Kenya.
- (i) These features formed as a result of coastal emergence that they are likely to have studied
- ❖ Raised beaches
  - ❖ Raised wave-cut platforms
  - ❖ Raised coral/exposed coral rocks
  - ❖ Cliffs
  - ❖ Mud flats (any 3x1 = 3mks)
- (ii) Three methods the student may have used to record their data
- ❖ Taking photographs
  - ❖ Drawing sketches/maps/ Diagrams
  - ❖ Tabulating/tallying
  - ❖ Labels samples
  - ❖ Making notes/taking notes (Any 3x1 = 3mks)
- (iii) Two ways in which features resulting from coastal emergence are of significance of Kenya
- ❖ Some are tourist attraction
  - ❖ Coral provides raw materials for cement manufacturing
  - ❖ Coral rocks are used as building materials
  - ❖ They provide an environment for education/research activities (2x1= 2mks)

4

- a) (i) Four characteristics of desert soil

- ❖ They are thin/shallow
- ❖ They are stony/sandy
- ❖ They are saline
- ❖ They are loose in texture
- ❖ They are rich in calcium
- ❖ Low moisture content (4x1=4 marks)

(ii) Two factors that contribute to soil leaching  
 Nature of the soil / Solubility of the minerals  
 Topography

b) How each of the following factors influences the formation of soil;

(i) Parent rock

- ❖ The nature of the rock influences the rate of weathering/hard rock weather slowly while soft rock weathers fast
- ❖ The rock determine the soil texture/large grained soils.
- ❖ The type of minerals in the parent rock are transferred to the soil during formation. (2x1= 2mks)

ii) Living organisms

- ❖ They assist in the breaking down of rocks through burrowing / ploughing / root penetration.
- ❖ They influence the chemical composition of soil by adding / removing organic acid solution / minerals.
- ❖ Burrowing / digging influences soil aeration. (2 x 1 = 2 mks)

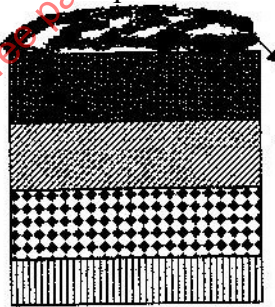
### Topography

- ❖ It determines the rate of weathering / steep slopes encourage high rate of weathering and removal of soil particles.
- ❖ It influences soil depth / gentle slopes have deep soil while steep slopes have thin soils
- ❖ It influences soil drainage / where land is flat, soil are poorly drained.

(2 x 1 = 2 mks)

c) Draw a well – labeled profile of mature soil

A soil profile



Humus  
 Horizon A ( top soil)  
 Horizon B (Sub soil)  
 Horizon C (Partly weathered soil with large rock particles)  
 Horizon D (Parent rock/ Bed rock)

d) Four ways in which human activities contribute to soil erosion

- ❖ Monocultural / farming activities leads to soil exhaustion thus making the soil vulnerable to erosion.
- ❖ Overstocking reduces vegetation cover, exposing soil to agents of erosion.
- ❖ Ploughing up and down a slope provides channels for surface run off. These are enlarged to become gullies.
- ❖ Deforestation / clearing of vegetation cover exposes soil to agent of erosion.



- ❖ Mining / quarrying / road construction loosen / exposes the soil making it susceptible to erosion.
- ❖ Human settlement and cultivation on steep slope / river frontage increases soil erosion processes.
- ❖ Continues cultivation without replenishment of soil exhaustion making the soil vulnerable to erosion.
- ❖ Shifting cultivation / bush fallowing leaves land unprotected against erosion.

(Ant 4 x 2 = 8 mks)

NB: Double tick at the end of the whole explanation = (25)

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## GEOGRAPHY PAPER 2 1996 MARKING SCHEME

### SECTION A

1. a) Vegetable / tomatoes / onions / carrots.(allow any correct vegetable)  
(max 1mk)  
Fruits / oranges , pineapples, plums, mangoes (allow any correct fruit)  
flowers, roses (max 1 mk)
- b) Netherlands has a higher urban population than Kenya / there is high demand both local and foreign for horticultural crops products in Netherlands than in Kenya.
  - ❖ Farmers in Netherlands have more access to the capital needed for horticultural farming than in Kenya.
  - ❖ There is more advanced and appropriate technology in Netherlands which has enhanced horticulture farming than in Kenya.
  - ❖ Netherlands unlike Kenya has highly skilled labour for production and handling of agricultural products.
  - ❖ There is more advanced horticultural farming related research in the Netherlands than in Kenya.
  - ❖ Netherlands unlike Kenya has well organized marketing procedures / co-operatives / auction markets which are conducive for horticultural farming.  
(any 3 well compared points 3x1(3mks)
2. To create employment opportunities / solve unemployment problem make use of locally available materials.
  - ❖ To produce cheap consumer goods /to substitute the expensive imported goods.
  - ❖ To reduce importation / save foreign exchange
  - ❖ To cater for local needs.
  - ❖ To diversify the export goods
  - ❖ Jua kali industries requires little capital investment.
  - ❖ Establishment for jua kali industries is a way decentralizing industries which reduces rural – urban migration
3. a) X – Amboseli N.P      Y – Marsabit G.R  
Z – malindi / watamu marine Reserve
- b) Setting up the Kenya wildlife services which is responsible for conserving wildlife.
  - ❖ Banning of game hunting
  - ❖ Banning of game hunting
  - ❖ Banning of trade in wildlife products
  - ❖ Establishing the Kenya rangelands ecological monitoring Unit (KRMU)
  - ❖ Creating public awareness through mass media, wildlife clubs and wildlife education centres.  
(Any 2x 1 = 3mks)
4. a) Ndola, Kitwa, Mafulira Luashya, Chililabombwe, Chemezi
- b) Mining of copper has created employment opportunities.
  - ❖ It has led to development of manufacturing industries
  - ❖ It has facilitated the development of transport network.
  - ❖ It has promotes agricultural production near the mining areas.
  - ❖ It has facilitated local and foreign trade.
  - ❖ It has led to expansion of hydro- electric power production.

(Any 3x1 = 3mks)

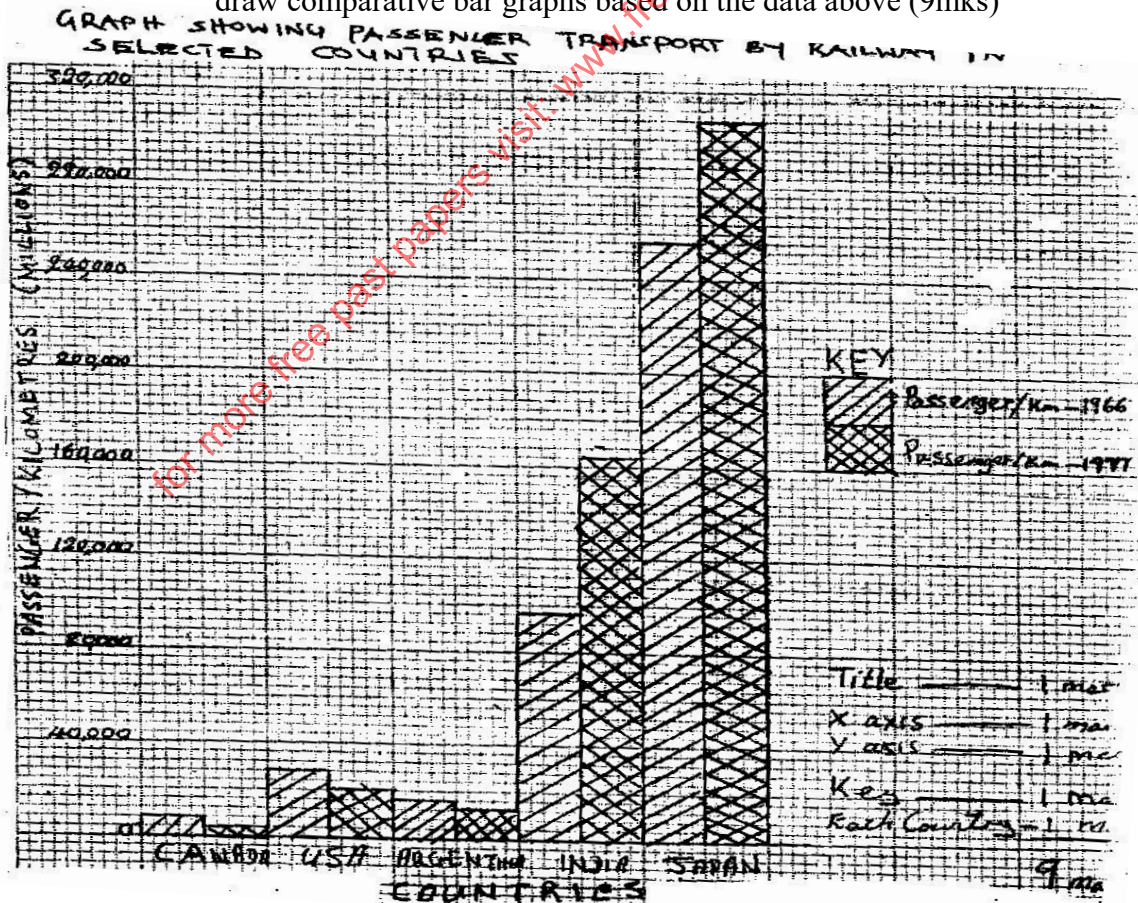
5. a) High demand for hard wood has led to over – exploitation.
- ❖ Population pressure on land has led to increased cutting of trees to provide land for farming and settlement.
  - ❖ The time taken for the hardwood trees to mature does not match the rate at which they are being exploited.
  - ❖ Softwood forest in Canada are more extensive than those in Kenya
  - ❖ Softwood trees species in Kenya are Exotic while those in Canada are indigenous.
  - ❖ There is a wider variety of softwood tree species in Canada than is in Kenya.

(Any 2 x 1 = 2 mks)

**SECTION B.**

Country	Passengers in millions	
	1996	1997
Canada	4,200	3,000
U.S.A	27,700	16,600
Argentina	14,100	12,000
India	96,800	163,800
Japan	258,400	311,900

1. a) i) Using a scale 1cm to represent 20,000 millions passengers, draw comparative bar graphs based on the data above (9mks)



- ii) They are easy to construct
  - ❖ They are easy to compare
  - ❖ They depict data more accurately
  - ❖ They give clear visual impression
  - ❖ They are easy to interpret
  - ❖ Easy to reach

(Any 2 x 1 = 2mks)\_

b) 
$$\frac{4,200}{3,000} \times 100 = \frac{1,200 \times 100}{4,200}$$

= 28.5% (2mks)

- c) Africa countries were administered by different colonial government who constructed rail lines only with the areas of their jurisdiction.
- ❖ Many African countries have political differences, which lead to mistrust and hostility. This works against any efforts undertaken railway construction jointly.
  - ❖ African countries have railways of different gauges, which makes it difficult for them to be connected.
  - ❖ There is little inter- state trade among African countries. This does not warrant construction of railways to transport bulky goods.
  - ❖ African countries lack sufficient capital to establish railways which rely mainly of imported raw materials / mountains landscape / swampy terrain have hindered the development of rails to link the countries.
- d) Establishment of airport has created employment opportunities thus solving the problem of unemployment/ improving the standards of the employees.
- ❖ It has promoted tourism by providing direct links with the countries of origin.
  - ❖ It has promoted Horticultural products by providing efficient means of transport to the foreign markets.
  - ❖ It helps generate revenue through taxation of goods and passengers at the airport./ foreign exchange earning.
  - ❖ It has promoted international understanding by enabling Kenyans to interact with people from other part of the world.

2.

- a) Kisumu grew as the terminus of Uganda railways.
- ❖ It grew as large port handling the regional lake trade.
  - ❖ The high population in the surrounding areas provided the required labour force.
  - ❖ Early Asian settlement in the area led to commercial development
  - ❖ It was a regional headquarters for colonial administration.
  - ❖ Water for domestic and industrial use was readily available in the area.
  - ❖ It has rich agricultural hinterland providing food and industrial raw material.
  - ❖ The development of industries has attracted people to the tow.(Fishing industry)

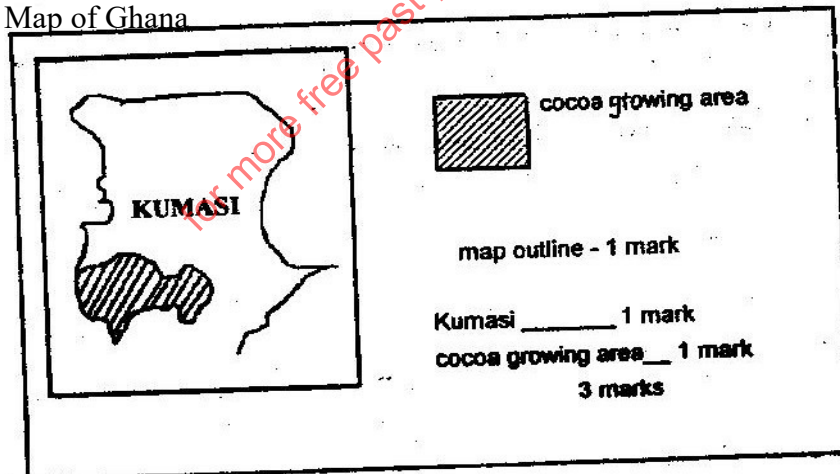
(Any 4 x1 mk 9max 4 mks)

- b) Banking / Financial center.  
 Industrial center  
 Fashion center  
 Transport and communication center  
 Headquarters of U.N  
 Leading trade center/stock exchange center  
 Educational center  
 Cultural center

(Max. 5mks)

- c) The rapid growth of population has led acute shortage of houses.
- ❖ There is serious traffic congestion during rush hours especially in Nairobi. This leads to lose of time congestion
  - ❖ The heaps of uncollected garbage cause a health hazard as they can lead to epidemics.
  - ❖ The town a large unemployed population which is idle and encourages crime and immoral practices.
  - ❖ The urban centers suffer from perennial water shortages due to increased
  - ❖ Number of consumers
  - ❖ There is poor sewage system in some parts of the towns. This causes a health hazard.
  - ❖ The rapid growth of population has lead to inadequate provision of health hazard.
  - ❖ The rapid growth of population has lead to inadequate provision of health, education services and social services.
  - ❖ Pollution of the air sound pollution caused by vehicles causes health hazard.
- d) Urbanization encourages national unity as people of all nationalities/ethnic background comes together.
- ❖ It promotes links between countries as communication network tends to focus into urban centres.
  - ❖ It creates employment opportunities through the establishment of commercial and industrial activities.
  - ❖ It leads to development of infrastructure both within the urban centres and the surrounding rural areas.
  - ❖ It provide market for agricultural and industrial goods produced in the country.
  - ❖ Urban centers attract large population that labour for manufacturing industries and the other commercial activities.
- Any 3x2=6mks)

Map of Ghana



- b) Pods are harvested using long knives
- ❖ Pods are collected and piled at a central place.
  - ❖ Pods are split open with a sharp knife and beans scooped out by hands.
  - ❖ Beans are put in heaps on mat and covered with banana leave
  - ❖ Beans are allowed to ferment for 5-6 days during which the juicy pulp drains away.

- ❖ Fermented beans are washed and cleaned
  - ❖ Beans are spread on tables covered with mats to dry in the hot sun.
  - ❖ Beans are turned frequently as they dry and slowly turns brown.
  - ❖ Dry beans are put in sacks and sent to the harvest-buying center.
  - ❖ At the center, the dry beans are weighted and graded ready for export
- NB: Sequence should be used some activities may be omitted.*
- (ii) Pest and disease which destroy the crop
- ❖ Fluctuation of prices in the world market which discouraged the farmers.
  - ❖ Low prices paid to the crop discourage the farmers.
  - ❖ The strong Hamattan wind destroys the crop.
  - ❖ Inadequate labour during harvest.
  - ❖ Poor means of transport make it difficult for farmers to deliver their crop in time. (4mks)
- c) High temperature throughout the years average temperature must be over 21<sup>0</sup>-30<sup>0</sup>
- ❖ High rainfall and evenly distributed throughout the year (1000-21000 mm per year.
  - ❖ Deep fertile well drained soils/can withstands a wide variety of soils.
  - ❖ Low altitude of up to 700m sea level.
  - ❖ Seedling must be sheltered from strong winds.
  - ❖ High relative humidity Any 4x2 =8mks)
- d) The leaves are used for roofing
- ❖ The shells and fiber are used for fuel
  - ❖ The leaves are used for making baskets and brooms.
  - ❖ The sap from the stem is used for making wine
  - ❖ The fruit is used for making oil/ cosmetics/soap.
  - ❖ Crushed nuts are used a animal feeds
- 4 a) It is suited where the number of people living in a country or region exceed the available resources.
- b) The population has lower life expectancy than that of Sweden has an ageing population..
- ❖ Most people live in urban centers
  - ❖ Kenya has a high population birth rate while in Sweden it is low
  - ❖ Kenya has high population death rate than Sweden.
  - ❖ Kenya's fertility rate is higher than that of Sweden. (Any 4x 1= 4mrks)
- c) Most people live in the central highlands and lake Victoria basins because these areas have suitable climate for human settlement and for agricultural production. Areas with fertile soil such as the central Highlands have dense population because the soil support agricultural production/ areas with poor soil have sparse population e.g most parts of Nyika plateau.
- ❖ Gently sloping and flats lands facilitate settlement and transportation while rugged slopes/steep landscapes have sparse population or nil higher and steeper slopes of Mt. Kenya and Elgon.
  - ❖ Transport and communication facilities have encouraged settlements. There are many market centres along the Kenya roads and centres such as Nairobi and Thika, which are, accommodate large population.
  - ❖ Development of industries is a major factor influencing population distribution in Kenya. There are many people in the industrial centers such as Nairobi, Nakuru, Mombasa and Eldoret.

- ❖ Disease and pest discourages or discourages settlement in given areas. In Kenya, the government discourages population settlement schemes such as Mwea.

Any 4 x 2 = 8mks)

- d) (i) Rural-urban                      urban-Urban  
           Urban-Rural                      International
- (ii) Population pressure which leads to landlessness in areas such as central province lead to migration of people to settlement schemes and to less populated rural areas in search of land.

Insecurity in areas such as North-Eastern and Northern Kenya which have frequent attacks from bandits and cattle rustler shapes made some people to migrate to more secure areas.

Establishment of large plantation near Thika town and rice irrigation schemes in Mwea and Ahero attract people from neighboring areas as they search for employment /mining/Lumbering/fishing.

Natural catastrophes such as floods in Kano plains and lower Tana Valley cause people to move to more secure higher grounds.

Pastoral communities such as the Maasai, Samburu and Boran migrate from one rural area to another in search of pasture and water for their livestock.

Drought and famine sometimes cause people to migrate in search of food e.g some people who live in semi-arid areas of Kenya temporarily migrate to those districts where they can get food during the time of droughts)

d) Explain four factors that influenced population distribution in Kenya.

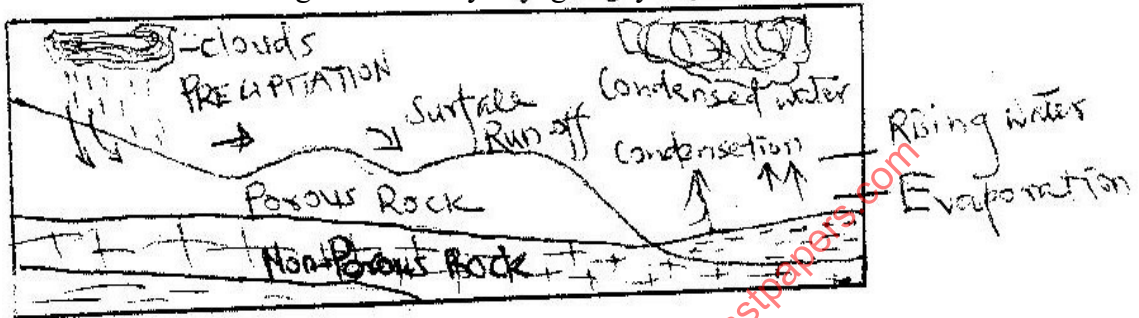
- ❖ Rainfall amount and distribution
- ❖ Soil fertility
- ❖ Colonial administration
- ❖ Government policy
- ❖ Vegetation
- ❖ Transport and communication network/social amenities
- ❖ Pests and diseases
- ❖ Development of industries
- ❖ Availability of water
- ❖ Drainage
- ❖ Temperature
- ❖ Relief

*NB: Explanation should be attached*

**GEOGRAPHY PAPER 312 / 1 K.C.S.E 1997**  
**MARKING SCHEME SECTIONS A**

1. a) P – Atmosphere  
Q – Crust / lithosphere  
R – Mantle / mesosphere  
- Silica  
- Magnesium

2. a) Draw a well labeled diagram of the hydrological cycle.



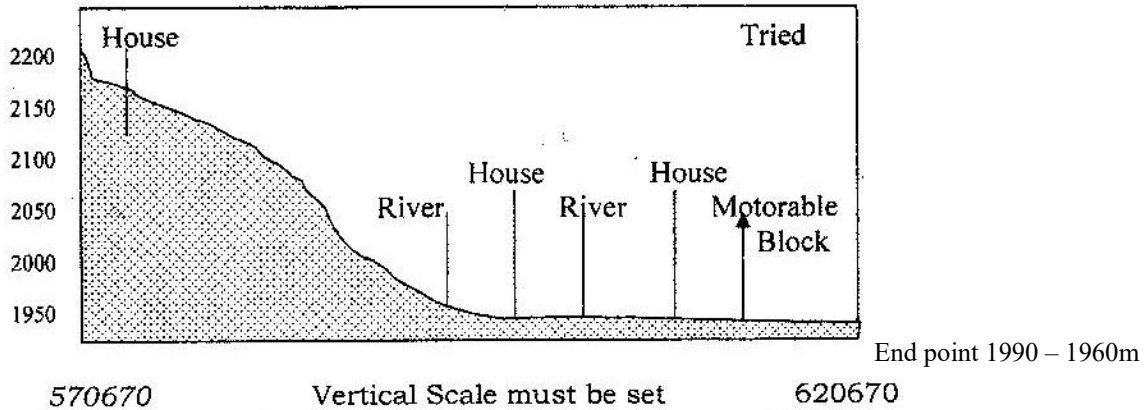
- b) Through springs / wells / see page  
Capillary action / transpiration
3. -X – Stalactite  
-Y – Stalagmite  
-Z – pillar / limestone pillar / limestone column
4. a) It is the creeping, flowing, sliding or falling of rocks and weathered material under the influence of gravity / Downward movement of the rock materials along slopes under influence of gravity.  
b) Angle of slope / gradient  
Nature of materials / nature of underlying rock  
Human activities  
Earth movement / Tectonic movement  
Climatic conditions  
Presence or absence of vegetation  
Amount of water in the material
5. a) Weather is the atmospheric conditions of a place over a short period of time, usually twenty-four hours, whereas climate is the average weather conditions of a given place over a long period of time, usually 30-35 yrs.  
b) From the graph  
i) The annual range of temperature is 15°C  
ii) Total amount of rainfall is 1300mm

**SECTION B**

6. a)i) Peak of a hill / trigonometric station  
ii) A school  
Main tracks / motorable track / foot path  
iii) 6.25km 0.1 (6.15 – 6.35)



b) Cross – section from 570670 to 620670



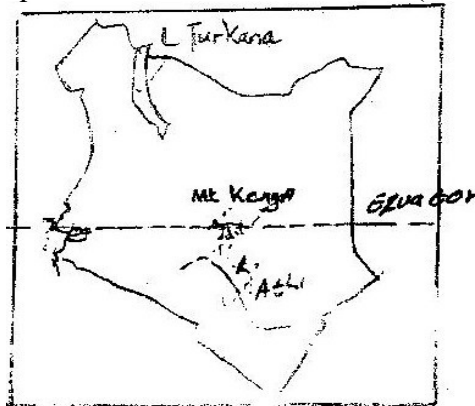
- c) Drainage comprises mainly of rivers that are permanent
- ❖ Peaks forming radial pattern
  - ❖ Specific rivers such as Turgenon and Kipswes from dendritic pattern
  - ❖ The rivers flowing from the Ainamoi hill (grid sq.5566) to the north – west from parallel drainage pattern.
  - ❖ There is a papyrus swamp south of Kipchimchim (grid sq.562)
  - ❖ There is a pond at 6470
  - ❖ There is a dam / reservoir in grid 6771 / 5661

- d)
- |          |        |                 |
|----------|--------|-----------------|
| Woodland | Scrub  | Scattered trees |
| Thickets | Bamboo | Papyrus         |
|          |        | Riverine trees. |

- e)
- |                            |   |
|----------------------------|---|
| <b>Condition</b>           | <b>Evidence</b>   |
| -High / heavy rainfall     | - Forest / rivers                                       |
| - Well – drained soils     | -Close contours /rivers                                 |
| - Cool temperature         | -Altitude of over 1900                                  |
| - Availability of labour   | - Dense settlement in the neighbourhood / labour lines. |
| -Availability of transport | -Network of roads / tracks                              |
| -Availability of factories | -Factories  |

- i)
- |                              |              |                             |
|------------------------------|--------------|-----------------------------|
| Observation                  | Interviewing | Administering questionnaire |
| Taking measurement / measure |              | Photographing               |
| Counting                     |              | Sampling                    |

7. a)(i) Lake Turkana      River Athi      Mount Kenya  
The Equator  
(1mk each)



- b) The region receives rainfall throughout the year.
- ❖ Total rainfall ranges between 1000mm to 1500mm
  - ❖ The region has double maximum rain fall regime in the East / Single maximum in the west.
  - ❖ The long rains are received between march and may and the short rain between September and December in the east / peak between may and August in the west.
  - ❖ Rain is mainly caused by the SE trade winds.
  - ❖ The area receives mainly relief rainfall / or graphic
  - ❖ The average temperature range between 17° and 24°C / warm temperature.
  - ❖ The lower slope are warmer than the high slopes / temperature are modified by altitude / surface relief.
  - ❖ The area experiences moderate humidity
  - ❖ The coolest months are between June and August while the rest of the year remains warm.
  - ❖ Days are warm while nights are cool / chilly
  - ❖ Mean annual range of temperature is low (3-5°C)
- c) Tree in the region have long root tap water from the water – table beneath
- ❖ Tree are umbrella – shaped to provide shade that reduces the rate of evaporation around the stem.
  - ❖ Some plants have thick leaves and barks for storing water
  - ❖ Some plants have waxy or needle –like leaves to reduce loss of water through transpiration.
  - ❖ Some plants produce seeds that lie dormant for along time and germinate when the rains fall.
- d) On shore winds, on crossing a cold current are cooled leading to premature condensation that causes the formation.
- ❖ On reaching the land they have a drying effect.
  - ❖ In temperature area in summer cold currents keep the coastlands cooler than places on the same latitude. If the winds are offshore.
- 8.a) The pressure pre-existing depression on the mountain side.
- ❖ Snow gets compacted into ice forming a cirque glacier.

- ❖ The snow accumulates in the depression
  - ❖ Frost action / alternating freeze – thaw action enlarges the hallow
  - ❖ Abrasion / scouring action at the bottom of the glacier deepens the hallow
  - ❖ Plucking process steepens the back wall
  - ❖ Eventually a deep armchair shaped depression known as a corrie fills up with melt water forms a corrie lake.
- b) Hanging valleys form waterfalls, which are harmless of the generation of hydroelectric power.
- ❖ Features found in glaciated landscape attract tourists.(This generate income for the country.
  - ❖ Melting glaciers are sources of rivers, which provide water for domestic/ industrial / agricultural use.
  - ❖ In glaciated highlands, U – shaped valley floors provide suitable areas for settlement and agricultural, communication routes.
  - ❖ Alluvial fans / outwash plains have fertile soils suitable for agriculture
  - ❖ Provide suitable sites for the development of deep harbours
  - ❖ Floors provide shelter water suitable for fish breeding. This promotes fishing.
- C)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
- ii) Terminal moraine
- ❖ Lateral moraine
  - ❖ Ground moraine
  - ❖ Medial moraine
- iii) Climbing / descending / steep slopes
- ❖ Cold weather
  - ❖ Wild animals
  - ❖ Adjusting to the low atmospheric pressure
  - ❖ Crossing through waterlogged ground
  - ❖ Poor visibility
  - ❖ Thick vegetation
  - ❖ Rain
9. a) Likmonite – chert (any 2 1mk)
- ❖ Travertine / tufa
  - ❖ Dolomite
  - ❖ Rock salt
  - ❖ Gypsum
  - ❖ Haemitite
  - ❖ Trona
- b) i) Temperature between 20 – 29 °C
- ❖ Warm water
  - ❖ Salty water
  - ❖ Shallow water
  - ❖ Clear water / silt free / mud free

- ❖ Well – oxygenated water
- ii) Tiny marine organism called coral polyps live in colonies in the sea.  
Polyps extract calcium from the sea water to make their shells.  
The spaces between the dead coral polyps are cemented by calcareous algae.
- c) Some rocks are exploited to provide building and construction materials.  
This promotes the industry.  
Some rocks formation e.g. granite are tourist attractions. This earns the country some foreign exchange.  
Rocks have contributed to the development of cement industry through the provision of lime – stone as raw materials.  
Through weathering, rocks provide soils which are used for agricultural production.  
Some rocks have valuable mineral ores which are exploited and sold to generate revenue  
Some rocks are mined for which are sold to generate revenue  
Some rocks such as rock salt are sources of food.
- d) i) Text books / pamphlets  
Maps / geological maps  
Journals  
Periodicals / Magazines / Newspaper  
Handouts teacher                      1 mk each max 3                      (3mks)
- e) A part from reading from secondary sources, state four other ways in which the students would prepare themselves for the field study
  - ❖ Setting up study objectives for the study
  - ❖ Identifying methods of data collection
  - ❖ Carrying out a reconnaissance survey
  - ❖ Seeking permission from the relevant authority
  - ❖ Identifying / sorting out relevant equipment, tools for the study
  - ❖ Drawing a route map
  - ❖ Identifying relevant stationery
  - ❖ Dividing themselves into groups
  - ❖ Discussion

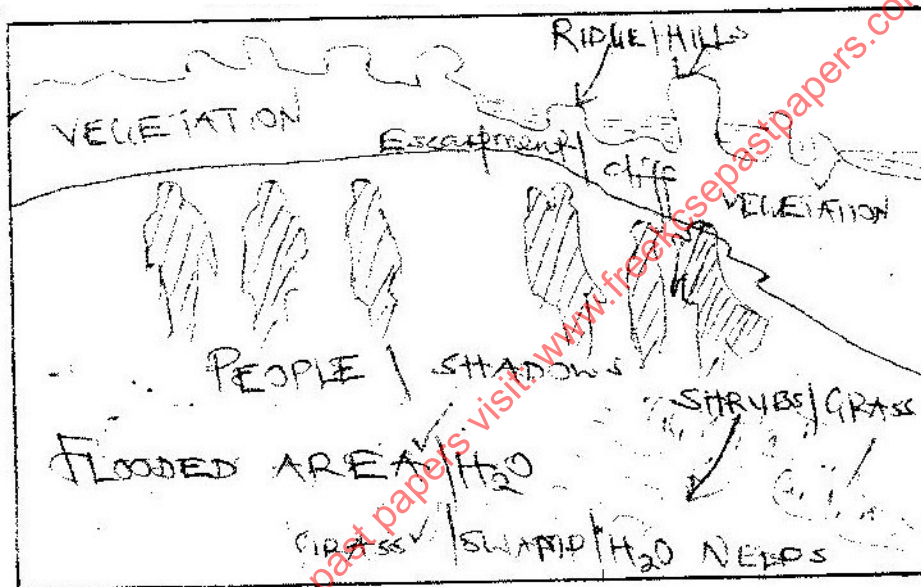
**GEOGRAPHY PAPER 312/2 K.C.S.E 1997**  
**MARKING SCHEME**  
**SECTION A**

1. a) Guernsey  
Jersey  
Friesian  
Ayrshire  
Zebu swiss brown
- b) well-developed co-operative movement
- ❖ Availability of market for dairy produce
  - ❖ Availability of extension services
  - ❖ Suitable climate/moderate temperature
  - ❖ Handy fodder/ pasture
  - ❖ Advanced technology/specialization
  - ❖ Mechanization
- 2 a) Availability of water supply/ good drainage
- ❖ Availability of land/space
  - ❖ Nature of relief
  - ❖ Suitability of climate/good rainfall
  - ❖ Absence of pest and diseases/health environment fertile soils
- b) Clustered/Nucleated  
Linear
- 3 a) The continental shelf is narrow
- ❖ Poor transport connections to the fisheries
  - ❖ Local fishermen do not have adequate capital
  - ❖ The coastline is fairly straight/has few indentations
  - ❖ The water is too warm for fish breeding/ lack of up welling of water/shallow continental shelf
  - ❖ There is low demand for fish
  - ❖ The fishermen lack modern equipment/preservation facilities/storage facilities
  - ❖ Inadequate skills/inadequate research/technology
  - ❖ Competition from developed countries
- b) Provides alternative sources of protein/save foreign exchange
- ❖ Encourages development of infrastructure
  - ❖ It is a source of income for the farmers/earns foreign exchange
  - ❖ It creates employment opportunities
  - ❖ It promotes industrial development
- 4 a) Presence of sedimentary rocks
- ❖ Presence of organic remains/fossils
  - ❖ Presence of pressure to compress or organic remains
  - ❖ Presence of porous rocks.
- b) It causes water, air pollution/noise pollution
- ❖ It leads to soil erosion
  - ❖ Dumping of heaps of rock waste litters the surface
  - ❖ Water collects in the open craters forming breeding ground for

- ❖ mosquitoes/pests
  - ❖ Destruction of biodiversity (plants and animals)
5. Availability of labour
- ❖ Availability of agricultural raw materials
  - ❖ Well developed transport links with other parts of the country
  - ❖ Availability of ready market
  - ❖ Availability of power
  - ❖ Government policy
  - ❖ Extensive plan for expansion

### SECTION B

- 6 a) (i) Ground general view ground photograph  
(ii) Rectangle measuring 17cm by 12cm



- (iii) The land rises from the ladle towards the ground
- ❖ The area in the ground is flat
  - ❖ The area is covered by vegetation I slightly raised
  - ❖ The area in the background has hills/ridges
  - ❖ There is a slight depression in the middle ground
- b) i) Nyando                      Nzoia  
Tana                              Kuja/Gucha  
Yalla                              Ewaso Nyiro
- ii) Flooding creates stagnant water in which diseases causing pests breed.
- ❖ Flooding leads to loss of property and lives while human life cannot be replaced.
  - ❖ Flooding causes soil water logging which lowers crop production
  - ❖ Floods disrupt farmers' calendar/wash away crops. This leads to food shortage/famine.
  - ❖ Floods wash away bridges and roads/ This disrupts transport and communication/air fields/ telephone lines.

- ❖ People are displaced /left home less
  - c) Construction of dams/check dams which help reduce velocity of river downstream
    - ❖ Construction of dykes/ artificial levees which restrict outflow of rivers
    - ❖ Construction of diversion channels/canals which helps realign meanders and restrict the flow of rivers/drai flooded areas
    - ❖ Planting of vegetation/forest in the river catchment areas to reduce the surface run-off and increase seepage.
    - ❖ Clearing drainage system to facilitate easy flow of water.
- 7
- a)
 

Ahero	Perkera	Galole/Hola/Bura	
West Kamu	Mitunguu	Kibwezi	
Daua	Katila	Bunyala	Taveta
  - b) The area was sparsely populated thus making it easy and cheap to resettle the people
    - ❖ Presence of river Thiba Nyamindi, which would provide water for irrigation.
    - ❖ The black cotton soil in the area which was suitable for irrigation because they retain water.
    - ❖ The fertile soil in the area which was suitable for crop production
    - ❖ Extensive land for future expansion
    - ❖ The gentle land would allow water to reach the farm through gravity
    - ❖ The unreliable/ inadequate rainfall received in the area made it necessary for irrigation to be practiced.
  - c) The people who live in the area were originally nomads but now they lead settled lives
    - ❖ Initially the people in the area had no regular sources of income, but nowadays, this is earned from sale of cotton and other crops
    - ❖ The establishment of the scheme led to the provision of social amenities .
    - ❖ Infrastructure which have improved people standard of living
    - ❖ Tenants are able to grow food crops besides cotton. This has improved their self sufficiency if food/has improved their diet.
    - ❖ The establishment of the scheme has created employment opportunities for the people in the area.
    - ❖ A forestation has provide firewood/building materials
    - ❖ Dairy farming has been introduced.
  - d) The stagnant water in the scheme encourages breeding of snails and mosquitoes which spread diseases
    - ❖ silting of canals/weeds growing in the canals reduce the flow of water into the fields. The farmers spend extra time and money dredging the canal
    - ❖ Delayed low payment discourages the farmers
    - ❖ Fluctuation cotton prices in the world market
    - ❖ Competition from synthetic fibers discourages/demoralize the farmers
    - ❖ Diseases and pests that attack the crops lead to low yields
    - ❖ Weeds called seid compete with cotton for nutrients lowering crop yields
    - ❖ Salination lowers quality of soils hence lower yields
    - ❖ Shortage of labour leading to use of hired labour which is very expensive
- 8
- a)
    - i)
 

P-	Cameroon
Q-	Zaire (Democratic Republic of Congo).

- ii) Political differences/hostilities between the countries through which the highway passes
- ❖ There are civil wars in the region
  - ❖ There are civil wars in the region
  - ❖ Tarrifs charged at the border posts increase transportation costs
  - ❖ Parts of highway are incomplete/impassable during wet seasons/are similar goods
  - ❖ Different currencies are used
  - ❖ Long distance covered
  - ❖ Language barrier
- b) There is competition from other forms of transport road pipeline which are faster and flexible/ sometimes cheaper
- ❖ Maintenance expansions costs of rail network in high thus some of the wagons used are old there has been little expansion of rails lines
  - ❖ There has been mismanagement of rail services leading to deteriorating conditions and lower income
  - ❖ Inadequate servicing of rail equipment wagons/lines has lead to frequent accidents derailments
- c) The government has provided the necessary infrastructure such as roads and telecommunication which make it possible for the business community to easily market their products
- ❖ The government facilities the organization of Trade Fairs/Exhibition/shows, to enable the business community to advertise their products
  - ❖ Removal of restriction of movement of goods produce/fixing air market days
  - ❖ Removal of price controls
  - ❖ Imposition of tariffs on imported goods to produce locally manufactured
  - ❖ The government facilities the organization of conferences/seminars, to enable the business community to exchange ideas on trade
  - ❖ The government through KBS maintains the quality of goods that are produced and sold through Kenya Bureau of standards (KBs).
  - ❖ The government provides credit facilities to the business community through institutions such as state banks
  - ❖ The government facilitates easy distribution of goods through organization such as Kenya national corporation.(KNTC).
- d) There is likely to be improved transport links between Kenya and other two countries (Uganda and Tanzania), which will facilitate faster movement of goods and passengers.
- ❖ Trade in Kenya will likely to increase because expanded hinterland market / strong bargaining power.
  - ❖ There is likely to be more tourists visiting Kenya as a result of opening of boarders
  - ❖ There is likely to increase employment opportunities because of free movement of people
  - ❖ Expanded market will attract foreign investment which will lead to expansion of industries.
  - ❖ Exchange or research finding / training.
- 9.a)i) Tourism is the visiting of places of interest for e recreational purposes
- ii) The varied relief features.
- ❖ Wild animals
  - ❖ Birds / flamingos



- ❖ Hot springs / Geysers / Fumaroles /Geothermal
  - ❖ Vegetation
  - ❖ People culture
  - ❖ Pre- historic sites /Historical sites e.g. Kapenguria
  - ❖ Mining sites
  - ❖ Sports tourism e.g. fishing
- b) The roads leading tourist sites are poorly maintained. Discourages people from visiting such sites.
- ❖ Inadequate local comparing and advertisement of tourist attractions/ special packages leads to low public awareness.
  - ❖ Familiarity with the tourist attraction among the local people makes them fail to appreciate their beauty and value
  - ❖ Negative attitude towards local tourism limits the number of people who engage in tourism.
  - ❖ Insecurity from gangsters/ poachers in national parks and game reserves scare people away from visiting them.
  - ❖ The high cost of accommodation in the game lodges discourages local tourism / the high cost of hiring tourism vehicles discourages people from touring / low income.
- c) Illegal hunting / poaching of wild game threatens the conservation efforts leads to the extinction of some species of animals.
- ❖ Overstocking of some wild animals leads to destruction of natural environment through over-grazing.
  - ❖ Frequent drought experienced in some of the nation parks and reserves leads to loss of animals through starvation and death.
  - ❖ Staying wild animals from the parks to settlement leads to destruction / high cost of fencing.
  - ❖ Inadequate capital limits government conservation efforts / over reliance on foreign donor.
  - ❖ Rapid human population growth leads to the encroachment of games parks and reserve.
  - ❖ Pollution of the environment leads to death of wild animals.
  - ❖ Fire outbreaks destroy wildlife.
- d) Favourable climate; with warm sunny summer which allow swimming and sun bathing and cold winters which encourages winter sports such as skiing.
- ❖ The varied scenery consisting of snow – capped mountains, cascading waterfall and glaciated landscape provides varied tourist attraction which are lacking in other parts of Europe make the country easily accessible from the other European countries.
  - ❖ Political neutrality of Switzerland removes any travel restrictions to the country as a tourist destination.
  - ❖ Diversity of languages spoken in Switzerland makes it possible for tourist to communicate and move around the area.
  - ❖ Well- developed transport network tourist sites provide easy accessibility.
  - ❖ Advanced training in tourist industry enables Switzerland to provide the necessary services to tourist thus attracting more to the country / package tours services offered e.g. hotels.
  - ❖ Availability of health resorts.
  - ❖ Inherent hospitality of Swiss people encourage tourist to visit Switzerland.

- ❖ Well-developed financial institutions (Banks) have promoted easy transaction, hence encouraging tourist to Switzerland.
- ❖ Switzerland is HQ of several international agencies; this has lead to the influx of delegates to the country later turn to tourist.

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**GEOGRAPHY PAPER 312/1 K.C.S.E 1998**

**MARKING SCHEME SECTION A**

1. (a) The diagram below represents the earth on its axis. Use it to answer question a
- (i) Tropic of cancer (1mk)
- (ii)  $66\frac{1}{2}^{\circ}$  (1mk)
- (b) It causes days and nights apparent movement of the sun from East to west
- ❖ It causes differences in time at different longitudes
  - ❖ It causes deflection of winds/ deflection of ocean currents
  - ❖ It causes raising and falling of sea tides
  - ❖ It causes variation in atmospheric pressure is the extended service
2. (a) It is the molten rock under the earth's crust
- (b) A sill is a near horizontal/ tabular sheet of igneous rock formed from solidified magma intruded between bedding planes, while a dyke is a shrub of intrusive rock which cuts near vertical/ discordantly across the bedding planes. (no mark for one side only)
- (c) P – Conelet/ subsiding cone/ acidic presitic  
Q – Layer of lava  
R – Crater
3. (a) Collision between tectonic plates
- ❖ Faulting/ cracking rocks
  - ❖ Movement of magma within the crust/ violent and volcanic eruption
  - ❖ Adjustment of rocks as a result of stress e.g. caused by folding
  - ❖ Isostatic adjustment
  - ❖ Excessive energy release within the mantle which is explosive
  - ❖ Gravitative pressure
  - ❖ Explosions caused by man e.g. yest
- (b) Collapsing/ cracking buildings
- ❖ Loss of life ( human animal and plant)
  - ❖ Disruption of transport and communication lines
  - ❖ Outbreak of fires
  - ❖ Avalanches and landslides may cover the built up area
  - ❖ Tsunamis may drown coastal settlement *Any 3 x 1 ( 3 mks)*
4. (a) Arcuate delta  
Bird's foot/ digitate
- (b) Slow moving water at the mouth of a river/ gentle slope at the mouth
- ❖ Shallow shore
  - ❖ Absence of obstacles/ filters in the river cause
  - ❖ Large amounts of silt in the river
  - ❖ Calm sea/ absence of strong coastal waves/ deposition faster than removal *( any 3 x 1 = 3 mks)*
5. (a) Weathering solution in limestone area
- ❖ Deposition/ by water/ ice
  - ❖ Erosion / by wind/ ice
  - ❖ Meteorite falling
  - ❖ Human activities/ damming/ blowing up of land with explosives
  - ❖ Mass movement (3mks)

- (b) Are reservoirs in the water cycle
- ❖ Support bio- diversity/ support floras and fauna
  - ❖ Enable self – purification of water and air
  - ❖ Modify local weather and climate
  - ❖ Regulation of river flow/ controlling flooding ( 2mks)

### SECTION B

6. (a) Topographical map ( 1 mk)
- (ii) Kilifi and Kwale ( 2 mks)
- (iii) =  $39\text{km}^2 + 1$   
(38.0 – 40.0  $\text{km}^2$ ) ( 2 mks)
- (b) Availability of water for cattle from rivers, e.g. Ngoni (any one named receiver) from seasonal swamps e.g. around Kinangop / South Samburu, from piped water (water pipeline) from dams/ water reservoirs e.g. near Mariakani town/ from waterholes and water tanks e.g. around Mariakani town / wells
- ❖ Availability of suitable vegetation/ pasture for animals. The sqaub thicket.
  - ❖ Availability of veterinary services for improved animal husbandry e.g. veterinary investigation laboratory/ cattle dips/ animal research station around Mariakani.
  - ❖ Large tracts of land with sparse settlement providing extensive area for grazing, particularly in the central and western parts of the area.
  - ❖ Availability of transport evidence- roads/ railways, movable tracts gently sloping land
- | <b>(c) FUNCTION</b>                    | <b>EVIDENCE</b>                      |
|--|--------------------------------------|
| Administrative center                  | - Chiefs office                      |
| Religious centre                       | - Mosque/ church                     |
| Transport / communication centre       | - Post office/ railway station/ road |
| Collection centre/ trading/ commercial | - Store                              |
| Education centre                       | - school (any 3 x 2 = 6 mks)         |
- (d) Difficulties of transport
- ❖ Long distances from one settlement to another
  - ❖ High temperature
  - ❖ Insect / snake bites
- (ii) 8,0 km (7.95.- 8.05)
- (iii) 83 m
- 7 (a) (i) Weathering is the break down/ disintegration and decomposition of rocks in situ while weathered materials under the influence of gravity  
(Weathering 2 mks) (Mass wasting 2 mks)
- (ii) – Solution - Oxidation - Hydration  
Carbonation - Hydrolysis
- (b) **Due to temperatures changes, soil particles expand and contract hence shift position down slope.**
- ❖ Moisture/ rain water causes soil to become wet and compact. On drying the particles loosen and shift position down slope.

- ❖ Frost heaving beneath soil perpendicularly under gravity.
- ❖ Removal of soil on downhill side makes the rest of the soil to shift
- ❖ Water percolating within the mass regolith may drag individual grains of soil along with it.
- ❖ External forces ( animals, vehicles, earthquakes) have a trigger effect on soil particles causing a downslope movement ( Shaking of the ground
- ❖ Ploughing on slopes when soil is turned in one direction causes the soils to shift down slope.

**(c) Soil creep pushes posts and fences from their original position and become inclined/ breaking of stones**

- ❖ Displacement of fine soil particles down slope leaves the steep upper slopes bare and exposed
- ❖ It causes accumulation of particles at the base of a slope causing deep soils.
- ❖ Soil creep interferes with structure such as roads, railways, making maintenance expensive
- ❖ Terrace ( step patterned) develop across the slope
- ❖ The ends of the rock outcrop may be cambered ( bend) downslope.

**8. (a) (i) Temperature are higher between September and March/ relatively low during April to August**

- ❖ Most of the rainfall is received during the warmer season/ cool season relatively dry/ single maximum R/F regime
- ❖ The highest temperature are experienced in December (23<sup>0</sup>C) / the lowest temperature range is large / 14<sup>0</sup> C
- ❖ The highest rainfall is received in December (125mm) the lowest June to August ( 10mm)
- ❖ There is no distinct dry month
- ❖ Rainfall is low ( 6.55mm)

**(iii) Scrub/ thicket/bush/ Shrubs**

- ❖ Grass is tall in the wetter areas and short in drier areas
- ❖ The vegetation is mainly grass
- ❖ Trees are only found along water courses/ trees scattered
- ❖ Grass withers during the dry season/ winter but sprouts at the beginning of wet season
- ❖ Acacias
- ❖ Umbrella shaped trees/ thorny trees

**(b) Latitude**

Areas near the equator are hotter than those far away from the equator. This is due to a higher concentration of rays in rays per unit area at the equator. The amount of solar insolation decreases polewards since it passes through a longer distance of the atmosphere and therefore more interference.

**Altitude**

Lowlands are usually warmer than highlands because the atmosphere becomes thinner as the altitude increases where the ground loses heat to enter space faster. Atmosphere pressure decreases with increasing altitude. This is due to the weight of atmospheric air above highlands being less than in lowlands.

**Distance from the sea/ continentally**

During the hot season, coastal lands are relatively hotter than inland areas on the same latitude due to the existing effect of the sea breezes. By the time the sea breezes reach inland areas they have adapted to the temperature of the land for which are passing. During the cold season the effects is reversed.

**Ocean currents**

When winds are on shore warm ocean currents have a warming effect on the adjacent coasts./ Lead to higher rainfall than inland areas/ cool ocean currents have a cooling effects/ drying effect on the adjacent coastlands.

**Wind/Air Masses**

Warm/ cool winds bring a warming/ cooling influences to a place if they come from a warm / cool zone. Areas under the influence of dry winds have little or no rainfall/ areas under moist winds are usually wet.

**Aspect**

In the northern hemisphere outside the tropics the non facing slopes are cooler than the south- facing slopes because they do not receive direct solar isolation. (The reverse is true for the southern hemisphere). Windward slopes are generally wetter than leeward slopes because the moisture- laden winds rise and drop their moisture on this side first.

- (b) (i) Formulate objectives of the study/ hypothesis
- ❖ Reading from secondary sources
  - ❖ Carry out a reconnaissance to ensure that the instruments are in a working conditions/ are in their right position
  - ❖ Seek permission from the relevant authority
  - ❖ Procure appropriate stationary
  - ❖ Prepare a table for recording data
  - ❖ Procure the instrument
- ( any 3 x 1 = 3 mks)

(ii) A rain gauge Used to collect rain water

- ❖ Take the rain water which has collected in the jar/ bottle
- ❖ Pour the water in the measuring / graduated cylinder
- ❖ Take the reading
- ❖ Record the reading in a book / or table ( 2 mks)

**Maximum and minimum thermometer**

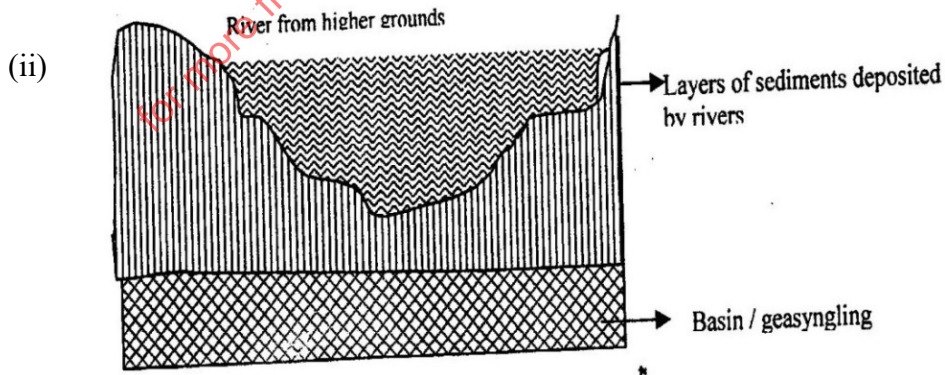
- ❖ Used to record/ measure maximum and minimum temperature in a day
- ❖ Be at the station at the convectional time for taking records
- ❖ Read the position of the metal indices for both maximum and minimum temperature
- ❖ Record the readings in a book or table
- ❖ Reset the thermometer using a magnet ( 3mks)

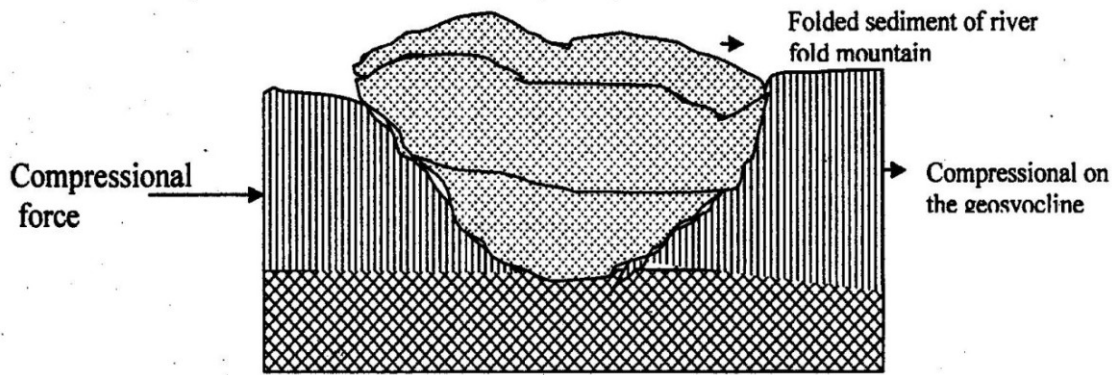
**(iii) It enables students collect first hand information**

- ❖ Students develop skills of weather observation
- ❖ Students are able to make their own records of weather
- ❖ Students are able to apply knowledge learned from books/ classrooms in the field
- ❖ They'll appreciate the usefulness of weather instruments

9. (a) **X- Atlas Mountains**
- ❖ Y- Cape ranges
  - ❖ Z- Ethiopian Highlands ( 3 mks)

- (b) (i) Simple fold/ symmetrical/ isoclinal
- ❖ Asymmetrical fold
  - ❖ Over fold
  - ❖ Recumbent fold
  - ❖ Overthrust/ fold thrust/ nappe
  - ❖ Anticlinorium/ synclinorium ( 4 mks)





- ❖ Geosynclines are formed on the earth's surface
- ❖ Prolonged and extensive erosion occurs on the surrounding higher grounds
- ❖ Sediments are deposited in the geosynclines forming thick layers
- ❖ The weight of the sediments causes subsidence of the geosyncline leading to accumulation of more sediments
- ❖ Further subsidence of geosyncline triggers off compressional forces, which draw the higher grounds closer
- ❖ As a result, the sediments are compressed and form folds which are also thrust upwards to form mountains
- ❖ The main Mt. features are formed at the edge of geosynclines due to closeness to the source of the forces.

(c) (Fold mountains are water catchments areas. They trap rainfall which feed rivers that provide water for domestic use/ for irrigation/ for industrial use/ for HEP generation/ rainfall for Africa

- ❖ (Fold mountains are often forested and provide valuable timber used in construction and building industry.
- ❖ Some fold mountains have valuable minerals deposits such as coal and petroleum
- ❖ Fold mountains attract tourists, thus earning the countries foreign exchange.
- ❖ Fold mountains influence transport systems either as barriers or as passes.

4 x 2 = 8 mks)



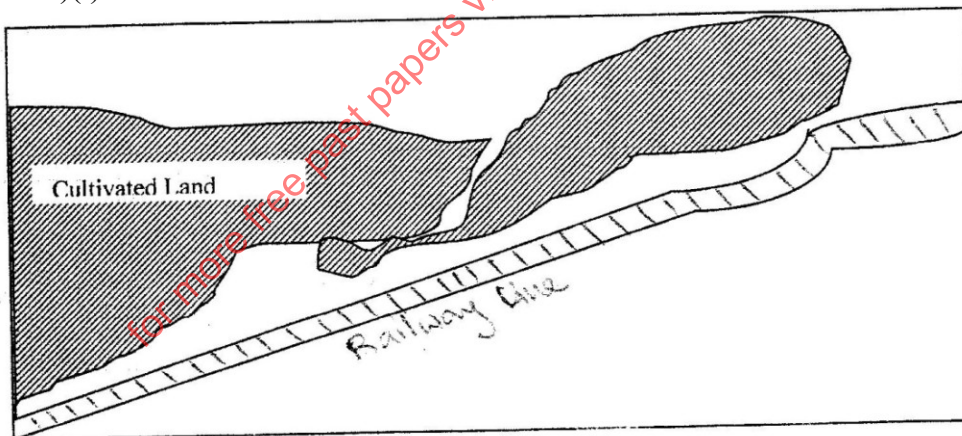
**GEOGRAPHY PAPER 312/ 2 K.C.S.E 1998**  
**MARKING SCHEME**  
**SECTION A**

1. **(a) It is the process whereby an increasing of the total population in a country settles in Towns**
- ❖ Changes from primary to secondary and tertiary production
  - ❖ Growth of town in number and size/ process by which population is transferred from rural based agricultural life style to urban based life styles.
- (b) It has deep sheltered harbour**
- ❖ It has fine weather throughout the year
  - ❖ It has larger hinter land
  - ❖ It is located at a straight point on the east
  - ❖ It is well linked to the interior by railway, road and air
  - ❖ Early settlement/ Early trade by Arabs/ Old port
2. **(a) The river should have:**
- ❖ A narrow valley/ gorge
  - ❖ Regular / reliable water supply
  - ❖ Large volume of water
  - ❖ A hard rock film foundation
  - ❖ Impervious rocks/ impermeable/ non – porous rocks
  - ❖ Water fall/ head of water/ steep gradient/ slope
- (b) Fish are caught for human consumption**
- ❖ The artificial lake for transportation/ road transport
  - ❖ The lake provides water for domestic use/ industrial use
  - ❖ The area is a tourist attraction/ provides recreation/ earns foreign exchange
  - ❖ Water for irrigation
  - ❖ Employment/ source of income
3. **(a) Motor vehicles are cheaper to buy and maintain than crafts**
- ❖ Road transport is more flexible than air transport/ road leads everywhere / carry people/ goods from one place to another
  - ❖ Construction of roads is cheaper than that of airports
  - ❖ Fares/ freight charges are lower than that of air transport
  - ❖ Skills require to operate aircrafts are higher and rare than those required to operate motor vehicles.
- (b) It encourages the growth of tourists industry**
- ❖ It promotes horticultural industry. Perishable goods can be transported easily.
  - ❖ It enables cultural exchange between Kenya and other countries
  - ❖ It encourages international trade
  - ❖ It promotes international cooperation/ facilitates emergency services
  - ❖ It earns foreign exchange from industries

4. **Expensive farm inputs/ inadequate capital/ insufficient capital fluctuating prices**
- ❖ Delayed payments
  - ❖ Prolonged droughts/ unfavourable weather conditions/ heavy rainfall/ frost/ hailstorm/ unreliable rainfall
  - ❖ Pests/ diseases
  - ❖ Pool payments based on pyrethrum content
  - ❖ Mismanagement of funds
5. **(a) It is a careful management/ protection of soil against erosion/ exhaustion**
- (b) Ploughing along the contour
- ❖ Controlling grazing
  - ❖ strip cropping
  - ❖ Making terraces
  - ❖ Digging cut off drains/ trenches/furrows across the slope
  - ❖ Planting cover crops
  - ❖ Mixed cropping/ intercropping
  - ❖ Agro- forestry
  - ❖ Following field rotation
  - ❖ Group rotation
  - ❖ Mulching
  - ❖ Adding fertilizer/ manure

**SECTION B**

6. a)(i)



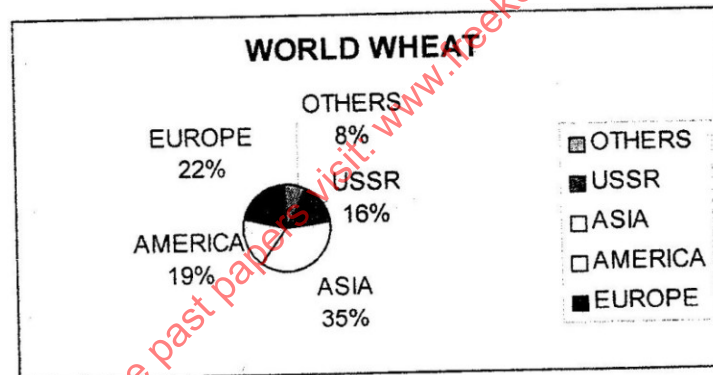
- (ii) On the railway line ( 1 mk)  
Cultivated land ( 1mk)
- (iii) Coffee
- ❖ There are shrubs in the right foreground
  - ❖ There are herbs/ grass along the railway line
  - ❖ There are shrubs/ tree hedges separating farms
  - ❖ There are patches of three/ forest in the centre middle ground
  - ❖ There is a stretch of forest in the background

- (b) The vegetation has a thick undergrowth/ dense forest which makes penetration/ development of roads difficult.  
❖ Uses of tropical hardwoods discourages exploitation. Any 5 x 2 = 10 mks)
- (c) Tree planting/ re- afforestation/ -NGO's planting of indigenous species is being encouraged to preserve the endangered species.  
❖ People are required to seek permits if they have to cut tree. This reduces the rate of tree felling/ unlicensed people do not cut down tree.  
❖ Forest reserves have been set aside to conserve indigenous species.  
❖ Forestry department of the Ministry of Natural Resources carry out research to produce and distribute seedlings/ to ensure the extension of forests.  
❖ People are being educated through mass media education on the importance of forest conservation  
❖ People are being encouraged to use alternative sources of energy saving jikos
7. (a) L- Iron Ore/ Iron  
❖ M- Bauxite/ Gold  
❖ N- Copper  
(ii) P – Johannesburg (3mks)
- (b) (i) Alluvial panning/ placer mining/ dredging (1mk)  
❖ Opencast methods/ quarrying/ Scrapping  
❖ Adit mining/ draft/ horizontal/ Hill slope Burring
- (ii) Vertical shafts are sunk/ dug  
❖ Horizontal tunnels are dug to reach the mineral  
❖ Props are erected to support the roof  
❖ The mineral is blasted/ dugout the roof  
❖ The mineral is blasted/ dugout/ drilled  
❖ It is transported on light rail tracts/ conveyer to the bottom of the surface  
❖ Cranes/gedges used to transport the ore to the surface  
❖ Gedges are used to transport miners and their equipment  
(6x1= 6 mks)

- (c) It provides raw materials for manufacturing industrial/chemical/ building and construction industries
- ❖ Mining stimulates development of transport/ infrastructure communication opening up remote minerals rich areas
  - ❖ The mining industry generates employment opportunities which raise the standards of living for the employees
  - ❖ Mining promotes agriculture by proving markets
  - ❖ Mining facilitates provision of social amenities
  - ❖ Mining encourages development of skills/ technology which can be applied in other sectors of the economy
  - ❖ It leads to settling up other related industry
  - ❖ It is a source of income which raises the standards of living of people selling minerals. *Any 4 x 2 = 8mks)*
- (d) Pollution of air/ water/ land noise
- ❖ Dereliction of land/ ugly surface/ land slide scars
  - ❖ Disruption/ lowering of the water table
  - ❖ Loss of biodiversity/ plants and animals
  - ❖ Leads to soil erosion/ degeneration of soils *Any 4 x 1 = 4 marks)*
8. (a) (i) It is the process of change from primary to secondary and tertiary production/settling up of more industries
- (ii) Oil refining - Mombasa
- ❖ Paper manufacturing – Webuye
  - ❖ Motor vehicle assemble – Nairobi / Mombasa/ Thika
- (b) Availability of coal from within the region. Iron ore from the Rhine valley and later imported/ limestone provided raw materials needed in the industry.
- ❖ Presence of navigable river Rhine which provided cheap transport for the bulky raw materials and finished products
  - ❖ Rich merchants and companies provided the capital required for the establishment of the industry
  - ❖ Presence of other industries in the region such as food and textile industries provided industrial inertia.
  - ❖ Coal/ imported petroleum provided power required in the industry
  - ❖ river Rhine/ its tributaries provided water required for the cooling in the industry.
  - ❖ The local population had acquired the skills on iron working. These formed the foundation of iron and steel industry.
  - ❖ Availability of ready market from Western Europe/ Local Market
  - ❖ Tributaries of Rhine e.g Lippe, Ra should be created *5 x 2 = 10 mks*
- (c) It requires less capital to establish since it is made up of small – scale units

- ❖ It creates employment for the growing labour force raise the standard of living of the people/ income
- ❖ It products mainly for the local market thus the country save foreign exchange / earns foreign exchange.
- ❖ It does not require expensive machinery since production is manual
- ❖ It facilitates decentralization of industries since it spreads easily thus checking rural urban migration
- ❖ It produces relatively cheap products that are affordable by many improving the quality migration
- ❖ It produces relatively cheap products that are affordable by many improving the quality of living
- ❖ It uses locally available/ scrap metals recycled raw materials thus reducing the cost of imports/ conserves the environment
- ❖ It imitates the products that are already in the market thus spreading technological skills/ innovations
- ❖ It operates at grassroots levels thus uses locally available skills
- ❖ It empowers the people to initiate projects thus reducing reliance/ dependence on the government, donors, self sufficiency.

9. (a)



- (b) Name - Alberta - Manitoba - Saskachewan (any 2 x 1 = 2 mks)
- (c) Wheat growing areas receives between 500mm and 1270m/ moderate rainfall which enhance growth of wheat
- ❖ The area experience a warm dry sunny spell which enhance ripening/ harvesting
  - ❖ The area experiences at least three months with temperatures ranging from 15<sup>0</sup>C to 20<sup>0</sup>C warm temperature which enhance ripening/ harvesting of wheat.
  - ❖ The areas have fertile/ Volcanic soils which sustain high production
  - ❖ The land where wheat is grown is gentle/ fairly undulating level which enables mechanization
- Any 3 x 2 ( 6 mks)
- (d) Wheat growing in Canada is more mechanized leading to higher production than in Kenya
- ❖ More capital is available in Canada enabling farmers to sustain production

- ❖ Farmers in Canada are more experienced Skilled/ Technology long history of wheat production than in Kenya
- ❖ Advanced scientific research in Canada enables the production of higher yielding seeds better farm inputs control of pests and disease/ overcome limitations of weather
- ❖ Wheat farmers in Canada specialize in wheat production while in Kenya farmers practice mixed farming
- ❖ Government policy incentive of subsidization in Canada which is not available in Kenya.

## GEOGRAPHY PAPER 312 /1 K.C.S.E 1999

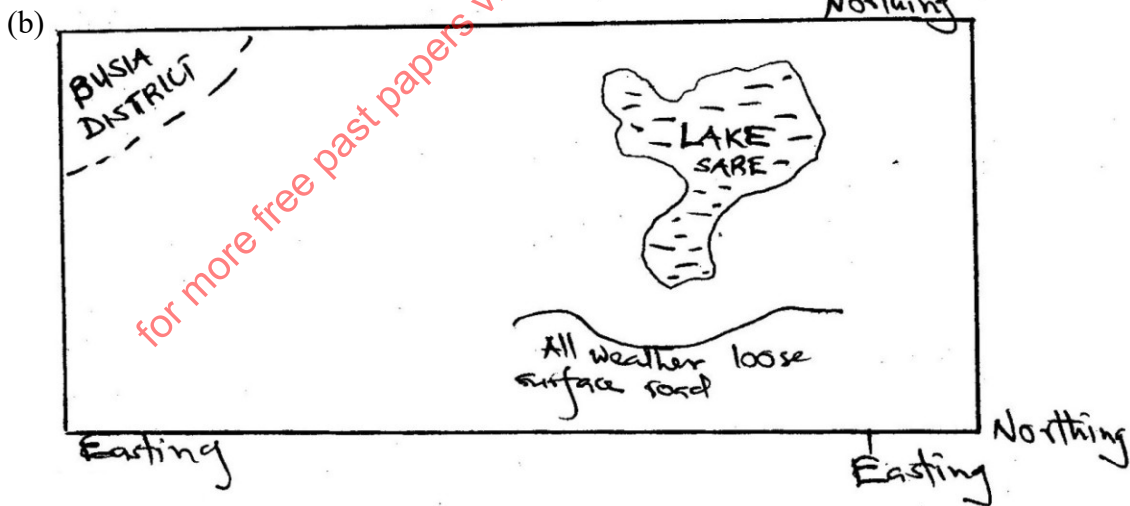
### MARKING SCHEME

1. Photographs taken from the outer spaces/ satellite show the curvature of earth
  - ❖ During the eclipse of the moon, the earth casts a spherical – shaped shadow on the moon
  - ❖ The earth's horizon is curved as evidence by approaching ships whose funnels and masts appear on the horizon before the rest of the ship is seen from the coast.
  - ❖ Circumnavigation of the earth along a straight path will spring one back to the same starting point from the opposite direction
  - ❖ All others planets including the moon are spherical, therefore the earth's being one in the solar system must be a similar shape.
  - ❖ The rising and setting of the sun earlier than those to the earths' rotation leads to places in the east seeing the sun earlier than those to the west. If the earth was flat all places would receive sunlight at the same time. Any 4x 1 = 4 mks)
  
2. (a) It should be na open space away from tall objects/ buildings/ trees
  - ❖ The ground should be level/ gently sloping
  - ❖ The area should be free from flooding
  - ❖ The area should have a wide view
  
- (b) A thermometer/ maximum and minimum/ six's thermometer  
A hygrometer / wet and dry bulb thermometer
  
- (c) To enables farmers to plan their farming activities
  - ❖ It helps people to plan on suitable clothing for the day
  - ❖ It influences the design of houses
  - ❖ It helps in guiding the landing and tacking off of air crafts/ ships
  - ❖ It helps in guiding tourists activities
  - ❖ It helps in planning military activities
  - ❖ It averts natural disasters related to weather ( accept any relevant reasons)
  
3. (a) (i) sea/ lake breeze  
(ii) Land losses heat faster than sea. Air upon the land becomes cooler and heavier than that upon the sea. The relatively warmer air upon the sea is lighter and therefore it rises while the cooler heavier air on the land flows towards the sea to replace the rising air.

- (b) As air rises, it expands thus spreading out its molecules over a wider area and hence becoming cooler.
4. (a) K The horn  
L Eddy current
- (b) A pre-existing depression/ localized fault is deepened by eddy action/deflation
- ❖ Gradually the depressions excavated through the removal of the unconsolidated materials/ wind abrasion
  - ❖ The surface is lowered until it reaches the water – bearing rock / aquifer
  - ❖ Water oozes out of the ground and collects in the depression to form an oasis
5. (a) X- a cave  
Y – a blowhole
- (b) Presence of ample materials to be deposited
- ❖ A (weak) long current/ drift
  - ❖ An indented coastline/ presence of a headland
  - ❖ A relatively weak backwash
  - ❖ A shallow continental shelf

**SECTION B**

6. (a) (i) 129 + 1                      128 to 130                      (ii) 0°00 – 0°15 (south) 15



- (i). Busia District  
(ii) Lake sare  
(iii) All weather loose surface road
- (c) Seasonal rivers
- ❖ Seasonal swamps
  - ❖ Scattered trees/ scrub vegetation

- ❖ Presence of water holes/ dams/ ponds
- |                               |                                    |
|-------------------------------|------------------------------------|
| (d) Economic activities       | Evidence                           |
| - Crop growing/ grain growing | - Posho mill (grid square 3280)    |
| - Mining                      | - Gold mine (grid square 3079)     |
| - Trading / Commerce          | - Market shops                     |
| - Transportation              | - all weather road/ Port/ ferry    |
| - Grain milling/ processing   | - Posho mill (No evidence no mark) |

(e) **The land is generally undulating/ gently sloping the lake basin**

- ❖ The lowest part of the area, below 1140 metres is the lake basin
- ❖ There are isolated islands in the lake
- ❖ There are some isolated hills, e.g. Usenge, Ramogi
- ❖ There are wider river valleys
- ❖ The shoreline is irregular/ has many bays
- ❖ The highest point in the area is 1318m/ the lowest parts are between 1120m and 1140

(f) **Formulate hypothesis/ objectives**

- ❖ Make a short/ reconnaissance survey of the area to be studied
- ❖ Prepare a route map
- ❖ Carrying out literature review/ secondary information
- ❖ Organize into groups
- ❖ Make transport arrangements
- ❖ Prepare the necessary stationery and equipment required
- ❖ Prepare a working schedule
- ❖ Seek permission from relevant authorities

7.

- (a) R- Esker
- ❖ S- Drumlin
  - ❖ V- Moraine – dammed lake
- (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 *Condition – 1 mk each max 3*  
*Explanation – 1 mk each max 3*
- (c) (i) Moraine dammed lake
- Widening of a valley through ice erosion/ melting of the ice at the snowline
  - ❖ Deposition of terminal moraine across the widened valley/ at the snowline



- ❖ Accumulation of the melt water behind the terminal moraine
- ❖ Continued melting of ice boots the amount of melt water behind the terminal moraine to a moraine – dammed lake (1mk each max 3mk)

8. (a) **Hydraulic action**

- ❖ Water is forced into cracks on the riverbanks/ water hits the banks
- ❖ Air in the crack is compressed
- ❖ As the water retreats, pressure in the cracks is suddenly released
- ❖ The compression and widening of the cracks repeatedly
- ❖ The retreating water carries away the loose particles
- ❖ The force of the moving water and the eddying effect
- ❖ Sweep away loose materials in the river channel

(ii) **Abrasion**

- ❖ River water carries sand, gravel and boulders
- ❖ The load is used as a tool for scouring
- ❖ The load is hurled by the river water against the banks and drafted along the riverbed
- ❖ The load chips off rock on the bank and the floor ( the size of the load determines the rate of erosion)
- ❖ The load being dragged smoothens the river bend
- ❖ Eddy currents rotate rock particles in hollow sand widen them into potholes

(b) (i) Local uplift of land (dynamic rejuvenation) lead to a change in the base level hence the river revives its erosive activities

- ❖ Lowering of the sea level (Eustatic rejuvenation) creates sharp breaks/ knick points at the river mouth. This leads to revived erosion
- ❖ Increase in discharge raises the volume of a river thus increasing its erosive power
- ❖ Presence of a hard rock out crop along the river causes breaks over which a river drops in falls and renews its erosive work.
- ❖ Presence of a lake in the course of a river causes of static rejuvenation as the river drops over the lower edge of the lake

(ii) River capture may occur by headward extension of the long profile

- ❖ This happens when rivers are sharing a watershed
- ❖ The actively eroding river gradually cuts back its slope head until it encroaches upon the divide or watershed of the other river
- ❖ Eventually the power river reaches the source of the weaker river and diverts its water into its channel
- ❖ River capture may also occur where there two adjacent rivers
- ❖ One of the rivers has more erosive power than the other

- ❖ The more powerful rivers erodes both vertically and laterally faster than the weaker river and diverts its water into its channel
  - ❖ River capture may also occur where there are two adjacent rivers
  - ❖ One of the rivers has more erosive power than the other
  - ❖ The more powerful river erodes away the ridge that separates the two by headward erosion
  - ❖ Eventually it encroaches into the valley of the weaker river diverting its waters into its valley.
- (c) (i) L- Centripetal  
M- Radial  
N- Dentritic
- (ii) It is formed in the middle or old stage of a river/ where the valley is wide and gently sloping
- ❖ The river must be carrying a large load
  - ❖ The river flows sluggish/ at a low velocity
  - ❖ The river deposits its load on the bed
  - ❖ The river bed is gradually raised blocking the flow
  - ❖ The river bed subdivides into channel/ distributaries/ braids across the deposits
9. (a) (i) X – Rainforest  
Y – Bamboo forest  
Z – Heath and moorland
- (ii) Acacia trees are common/ dominant species
- ❖ Savanna trees are common / dominant species
  - ❖ In the wetter areas the grass is tall and close together
  - ❖ The grass dominates the undergrowth ( in the woodlands)
  - ❖ In the drier areas, the grass is shorter and tufted
  - ❖ Grass dominates the vegetation
  - ❖ The trees are shorter more scattered
  - ❖ The trees are umbrella shaped
  - ❖ Some trees are stunted and have scaly barks/ drought resistance
  - ❖ River valleys have tall trees and thick bushes/ riverine vegetation
  - ❖ During the wet season, the grass withers away/ trees shed their leaves/trees are deciduous
  - ❖ During the dry season, the grass sprouts and the dormant seeds germinate.
  - ❖ Some trees/ shrub are deep rooted
  - ❖ Some trees i.e baobab have thick back/ trunks
- (iii) The temperatures are too low to support plant growth
- ❖ There is no soil to support plants/ bare rock
  - ❖ Water is always in a frozen state.
- (b) The frequent outbreak of bush fires destroys the grass retarding its regeneration

- ❖ The increasing human population is encroaching into the grasslands replacing them with settlements and cultivated land
  - ❖ Pests such as armyworms/ locusts destroy the grass reducing the rate of growth and regeneration
  - ❖ Frequent droughts experienced in the country destroy the grass and the vegetation degenerates into a semi – desert type.
  - ❖ Wild and domestic animals over graze and cause stunted growth of grass
- (c)
- (i) To find the types of vegetation at different altitudes
- ❖ To find out the changing characteristics of vegetation at different altitudes
  - ❖ To find out the species of trees/ grass at different heights
  - ❖ To find out other factors influencing vegetation distribution other than altitude
  - ❖ Accept other relevant objections
- (ii) Taking photographs
- |                             |                        |
|-----------------------------|------------------------|
| - Tallying                  | - Field sketching      |
| - Tape recording            | - Note taking          |
| - Tabulation                | - Labeling samples     |
| - Filling in questionnaires | - ( Any 3 x 1 = 3 mks) |
- (iii) Density maps/ chlopleth      Distribution map (1 mk each) 2mks)

## GEOGRAPHY PAPER 312/2 K.C.S.E 1999

### MARKING SCHEME

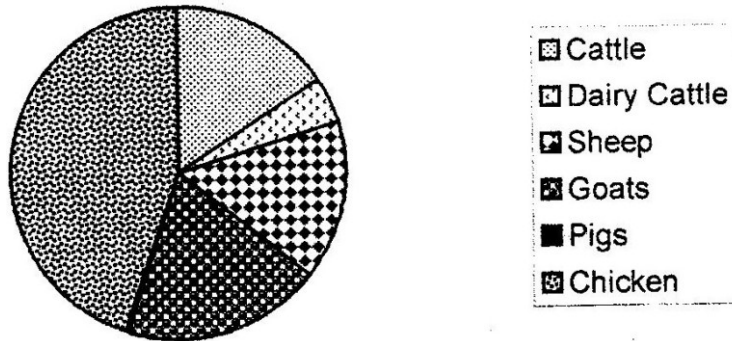
#### SECTION A

1. To protect the endangered animals/ Plant species
  - ❖ To promote tourism/ tourist
  - ❖ To generate foreign exchange/ revenue
  - ❖ To keep them from posterity/ future generations
  - ❖ To sustain the raw materials for supply of drugs
  - ❖ For education/ research purposes
  - ❖ For aesthetic value/ beauty
  
2. Poor marketing strategies
  - ❖ High prices of poultry feeds/ other farm inputs of vaccines
  - ❖ Competition from other sources of protein and competition among farmers/ countries
  - ❖ The intensive care requirement
  - ❖ Diseases/ pests/ new cattle/ fowl pox/ fowl typhoid/ avian leucosis/ coccidiosis/ fleas/worms
  - ❖ Inadequate initial capital
  - ❖ Inadequate knowledge about poultry keeping
  
3. (a) (i) Provision of water for domestic use

- ❖ Provision for water for irrigation
  - ❖ The dams serves as bridge across the river
  - ❖ The dams and the reservoirs are tourists attractions
  - ❖ The reservoirs have modified the local climate
  - ❖ Control of floods
- (ii) Changes in the river regime/ fluctuation/ seasonality
- ❖ Poor maintenance of the machinery at the powerhouses
  - ❖ Sitting of reservoirs
  - ❖ Inadequate capital to purchases spare parts
- (b) Limited number of suitable sites
- ❖ Inadequate capital investment
  - ❖ Scarcity of skilled labour
4. (a) Railways can carry more goods over long distances at once
- ❖ Railway are cheaper than roads
  - ❖ Railways are less susceptible to traffic jams
  - ❖ Once built, railways do not require frequent relaying unlike roads, which are frequently resurfaced
  - ❖ Railways are more efficient because they operate on rigid timetable
  - ❖ Railways are free to accidents
- (b) (i) X - Nakuru  
Y – Eldoret
- (ii) They are expensive to maintain
- ❖ They are not flexible
  - ❖ They do not serve intermediate locations
  - ❖ They can cause excessive loss incase of leakages
  - ❖ A pipe can be used only for one type of oil product at a time.
5. (a) Lightening
- ❖ Strong winds
  - ❖ Hailstorms
  - ❖ Dust storms
  - ❖ Pest/ diseases/ cholera/ typhoid/ malaria
  - ❖ Floods
  - ❖ Landslide
  - ❖ Pollution Garbage
  - ❖ Soil erosion
  - ❖ Fire ( any 2 x 1 = 2mks)
- (b) Population pressure/ clearing of forests for farming/ settlement
- ❖ Climatic changes/ Global warming/ direction of Ozone layer
  - ❖ Accidental fires
  - ❖ Poor methods of farming/ overgrazing

## SECTION B

6. (a)



(b) Sheep survive in a variety of climatic conditions while dairy cattle are restricted to cool and wet climate

- ❖ The farm inputs required for dairy cattle are more expensive than those for sheep
- ❖ Some breeds of sheep are more resistant to diseases than dairy cattle thus they are more widespread.
- ❖ The management of dairy cattle is more demanding than that of sheep

(c) The government has set up demonstration ranches to educate the pastoralists on better ways of keeping livestock cattle dips have been constructed to control pests

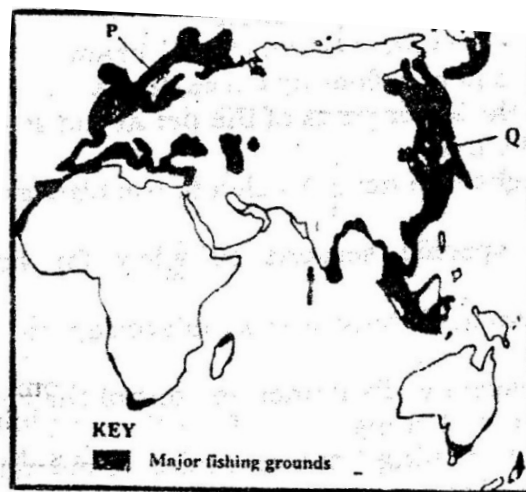
- Extension services are provided to give advice to the pastoralists
- Boreholes and dams have been constructed to provide water for their livestock
- Roads have been constructed to enable the pastoralists to transport their produce to markets
- Through formal education, the pastoralists have learnt the advantage of keeping manageable sizes of herds
- The government encourages ranching to enable the pastoralists to view livestock keeping as a commercial undertaking
- Replacement of coarse grasses with alfalfa and corn has improved the quality of pastures of the beef cattle.
- Crossbreeding of traditional with higher quality breeds/ Hereford Aberdeen
- Angus shorthorn has improved the quality of the yields
- The maritime climate of the area makes grazing of cattle possible throughout the Year
- Availability of water supplied using wind pumps ensures constant supply of water for cattle
- Availability of vast lands suitable for cattle grazing encourages beef ranching
- Availability of market both local and external encourages the farmers to expand the beef industry/ sustains the industry.
- Availability of refrigeration facilities enables beef to reach far off markets in good condition.

7. (a) Describe the characteristics of the population represented by the pyramid

- The number of male and female population is almost equal at all levels
- From 0- 14 years, the population is low
- From 14 -44 the population is high

- The ageing population is low
  - The population has high life expectancy
  - The dependency ration is low
  - The population has a low birthrate
  - The population has a low death rates
- (b) There is likely to be unemployment rate/ job opportunities do not increase at a rate that can cope with the increasing number of job seekers/ low standard living.
- The government is not able to provide adequate social amenities
  - It may lead to a high dependency ratio which will show down the economic growth
  - Strain on natural resources/ scarcity of land which would lead to landlessness and land fragmentation
  - There would be food production/ food shortages
- (c) Improving medical facilities/ immunization of children to control diseases  
This has created a healthy/ environment for child survival
- Providing more education opportunities for parents ensures better care for their children e.g. in providing balanced diet
  - Introduction of family planning programs has led to emergence of manageable sizes of families which promotes higher chances of child survival
  - Carrying out research on infant related diseases to cope up with ways of controlling then ensures higher chances of survival
- (d) Presence of large towns with industries has attracted large numbers of job seekers
- High rainfall which influences production of a wide variety of crops hence sufficient food.
  - Fertile and which attracts settlements / farming
  - High fertility rate leads to a high natural increase
  - The fairly level land encourages agriculture/ settlement
  - Increased commercial activities e.g. trade attract a large number of population
  - Early settlement in the region encouraged growth of towns which formed a focus for migration
  - Developed communication has enhanced movement in the area.

8. (a) (i)



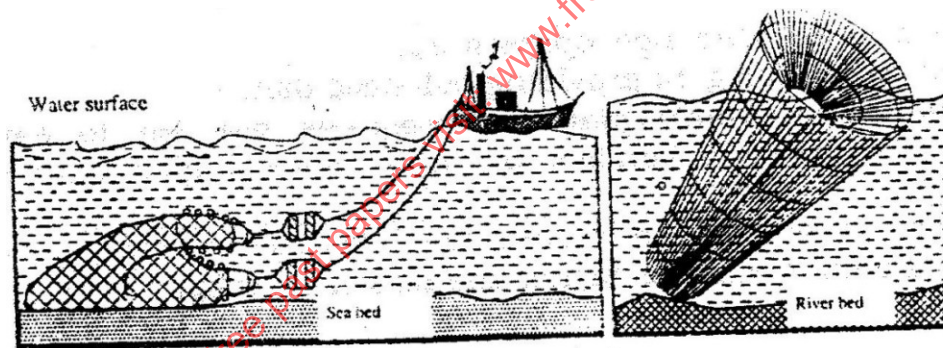
P- Norway

Q- Japan

(ii) The area has cool waters which have abundant supply of plantation which is the main food for fish

- The areas have shallow continental shelves which allow light to penetrate to the sea below encouraging the growth of micro- organisms used as food by fish
- The areas experience convergence of warm and cool currents which result in upwelling of ocean waters thus bringing minerals for fish and plankton from the sea bed to the surface
- Most of the coast are indented/ have numerous sheltered bays which provide secure breeding grounds for fish.
- The shelters bays provide suitable sites for building fishing ports/ fish landing sites
- The large population in these area limits agricultural activities thus people turn to fishing as an alternative economic activity/ cold climate also limit agriculture
- Cold climate provides natural preservation of fish

(b)



(iii) R – Trawling

S – Basket fishing

(IV)

Basket fishing

- The basket funnel shaped to allow easy entry for fish
- At the mouth there is a non- return valve which restricts the outward/ escape movement of fish once inside the basket it is held in position with tropes/ stones/ sticks to prevent it from being swept downstream
- The basket is left in that position for sometime/ overnight then removed for landing the fish

Trawling

- A bag – shaped net is attracted to a ship – trawler
- The nets mouth is kept open by otter boards/ head beam
- The upper part of the net is kept a float by corks/ floats
- Weights are used to keep the lower parts of the net at the seabed

- The trawler drags along the net
  - After sufficient fish is caught, the net is hauled to the trawler
- (c) Fishing is restricted to specific seasons to allow for breeding and maturing of fish
- The size of the nets used in fishing are standardized to ensure that fingerlings are not caught
  - Licenses are issued to prospective fishermen to control their number and to ensure that there is no over fishing
  - The law of the sea restricts fishing in the exclusive economic zones/ this ensure the protection of marines fisheries from external exploitation
  - Fish farming is being encouraged to ensure that there is sufficient supply of fish from other sources other than the natural fisheries
  - There is restriction of the water remain artificial fertilization is carried out is special hatcheries to sustain the supply of fish/ restocking of over fished waters

9. (a)

(i)

W- Kapenguria/ Kitale/Cherangani/ Mt. Elgon

X-Kericho/ Kisii /Nyamira/ Bomet / Gucha / Buret

Y – Meru / Embu / Nyeri / Kirinyaga / Mt. Kenya region / Nyambene

(ii)

- Cool/ warm temperatures throughout the years during the growing period
- High rainfall 1000 – 2000 mm of rain
- Well distributed rainfall throughout the year
- The areas are frost free
- The tea growing areas have deep soils
- The areas have well drained/ soil have gently sloping land

(b)

(i)

136,000

56,000

81,000

= 144.6% increase 145%

81,000 x 100

56,000

(ii)

- Expansion of tea growing areas and the establishment of the Nyayo tea zones
- Increase in the number of small – scale tea farms in the country
- Improved marketing strategies through KTDA
- Expansion / increase in the number of tea factories

(c) When the business are ready only the two top eaves and a bud/ flush are picked

- The green leaves are transported in airy baskets to a collecting centre/ for weighing
- The weighed leaves are transported by lorries fitted with bags to the processing factories and the tea leaves are again weighed in factory
- The tea leaves are again weighed in factory



- The leaves are then dried by blasts of warm air from beneath the trays
- The dry leaves are passed through a set of rollers to chop stem/ the leaves are crushed
- The leaves are placed in containers for fermenting, reducing tannic acid and changing the colour to grey – brown
- The leaves are passed through a conveyor belt which takes them to a tunnel which is at a temperature of 100°C roasting/ dry based after which they turn black
- The leaves are sifted grading tasted for classification
- The graded tea is packed tea chest for export and small packages for a local market.

(d)

- Poor feeder roads in the growing areas lead to delays in collection delivery of the green leaf hence causing wastage
- Delayed payments for the tea delivered mismanagement of funds lowers the morale of the farmers]
- Long droughts/ hailstorms lead to destruction of the crop/ lower the quality and the quantity of the yield
- Fluctuation of prices in the world market makes it difficult for the farmers to plan a head  
High prices of farm inputs/ reduce the farmers profit margin/ leads to low yields as some farmers cannot afford

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