**GEOGRAPHY PAPER 312/2**

**EXAMINATION – 2021.**

**END OF TERM II NOV- DEC.**

**FORM IV**

**MARKING SCHEME**

1.a) Define the term overpopulation? (2marks)

* Overpopulation can be defined as a state wher the number of people living in a country or region exceed the available resources.

b). A part from rural – rural migration, list three other types of migrations in Kenya. (3marks)

* Rural-urban
* urban-Urban
* Urban-Rural
* International

**2a) Diamond mining areas in South Africa. ( 2marks).**

* + Kimberley.
  + Koffieforitein
  + Jaggersfontein
  + Pretoria.
  + Cullinan.
  + Finsch.
  + Bultfontein. 2x1=2mks

**b) Benefits of oil drilling to Kenya.**

* Self-sufficiency saving the country a lot of foreign exchange used to import oil from Middle East.
* Will help lower and control ever increasing oil prices making the economy stable.
* It will encourage industrialization.
* Products will be exported earning the country foreign exchange used to develop other sectors of the economy.
* It will lower fuel prices and hence lower the cost of transportation.
* Reduced oil prices with increased use of machinery/reduce cost of inputs improving agricultural production.
* Will lead to a general development of the area with social amenities/transport network.
* Increase employment opportunities to Kenyans hence enjoy high standards of living.

3a) (i)Name **two** natural environmental hazards apart from desertification and flooding. (2marks)

* Lightning and thunderstorms.
* Windstorms/dustorms.
* Earthquakes.
* Volcanicity/volcanic eruption.
* Pests and diseases.
* Hailstorms
* Heat waves.
* Land slides
* Soil erosion 2x1=2marks

(ii) State **three** ways in which noise pollution can be curbed in Kenya. (3 marks).

* Enact law to ensure that all motor vehicles are fitted with silencers.
* Disco halls be fitted with sound proof walls.
* Noisy industries/airports be constructed far away from residential areas.
* Legislation-Law set and enforced to curb playing loud music in towns/public transport vehicles/use of low speakers in public.
* Wear ear guards in noisy industries to prevent destruction of the ear drum.

(3 x 1) = 3 marks

4.(a). State **two** physical characteristics of areas where shifting cultivation is practiced. (2 marks)

* Covered by forests/natural vegetation.
* Expansive tracts of land available.
* Land is commonly communally owned/ communal land tenure. 2 x 1 = 2 marks

b) Give **four** characteristics of shifting cultivation. (4 marks)

* Small plots are cultivated
* Use simple tools
* Plots are left fallow for a long time to regain fertility naturally.
* Cultivated areas are scattered over wide areas.
* Fertilizers are rarely applied.
* Most of the farming work is manual. 4 x 1 = 4 marks

5 (a) Towns marked:

* P—Kampala
* Q — Kigoma
* R — Mandera 3 x 1= 2 mark

(b) Two ways in which the development of Kisumu town negatively affects the surrounding agricultural areas.

* The nearby agricultural lands are used as dumping grounds for waste thus polluting the

Land.

* Competition for labor as town center offer higher wages than agricultural areas.
* Conflict in land use as the urban center expand into the land would otherwise have been

used for agriculture

* Damping of wastes from towns is surrounding agricultural areas.

The first 2 x l = 2 marks

**Section B. Answer question six and any other two.**

6 Study the photograph provided to answer the questions that follow.

.(a)(i). Identify the type of photograph provided. (2 marks).

* Ground general view.

(ii). Identify three means of transport shown in the photograph. ( 3 marks)

* Air transport.
* Road transport
* Human transport

(iii) Give evidence to support your answers in (aii) above. ( 3 marks).

* Air transport. --------- The presence of the plane.
* Road transport. -------- The presence of a car.
* Human transport. -------The presence of a man carrying a bag. 3 x 1 = 3 marks

b) (i). What is the approximate height of the plane tail? (1 mark)

* 3.5 m

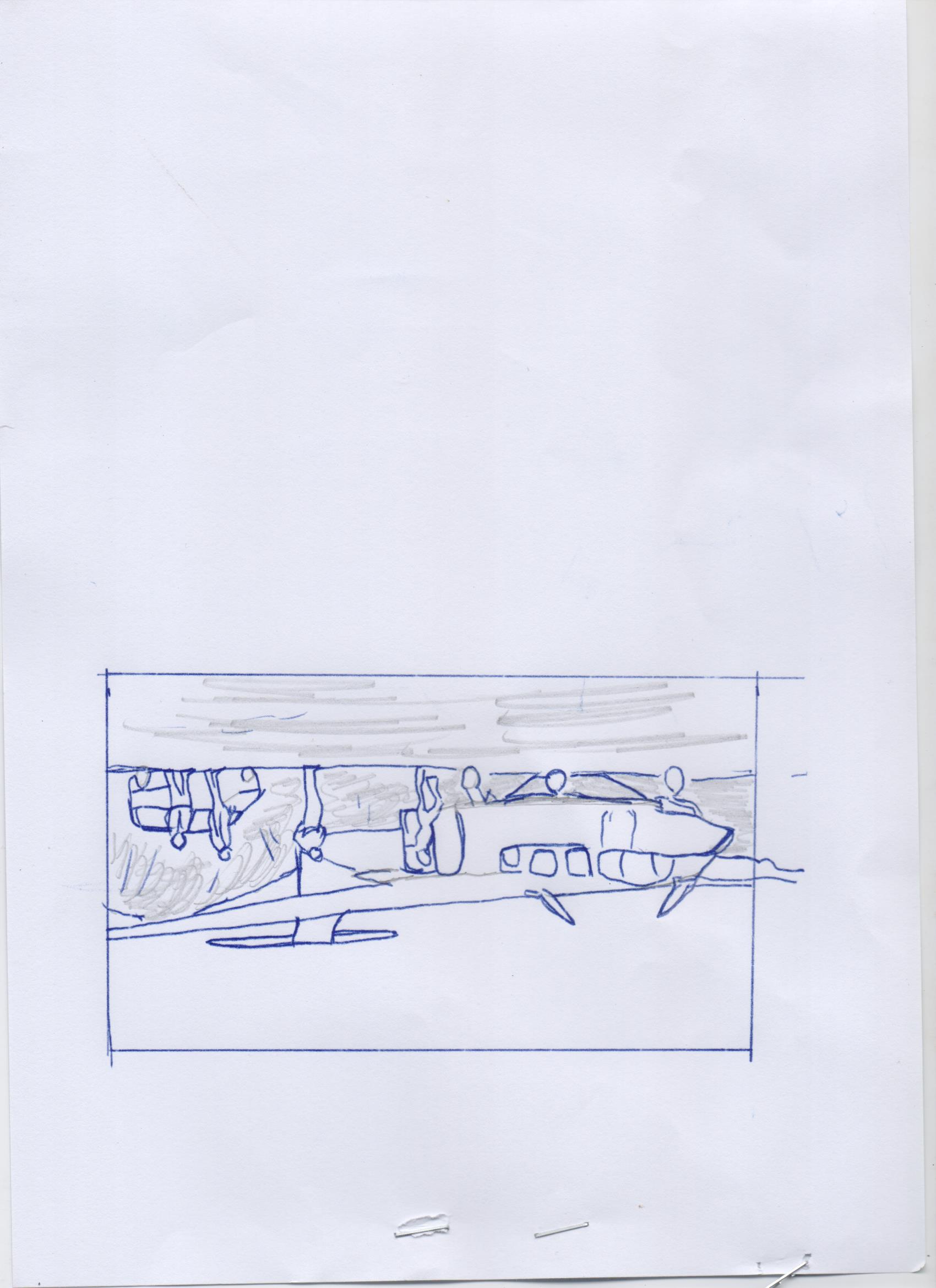
(ii) Support you answer in (bi). ( 1 mark).

* The approximate height of an adult man is 1.75 m, then taking the position of the man next to the tail, then it will be estimated to be double.

c). Draw a rectangle measuring 14cm by 10 cm to represent the photograph provided.

(i). In the rectangle mark and name the main features present in the photograph (5 marks).

A Rectangle 14cm X 10 cm



Human beings

Clouds

10 cm

Car

U-Shaped valley

Areophane

Aerodrome/Airstrip

15cm

* The clouds
* Human beings
* The areophane.
* Mountains
* U-shaped valley.
* Car. /Vehicle.
* Aerodrome/Airstrip. Any five 5 x 1 =5 marks

Tittle 1 mark

Rectangle and labelling 1 mark

Total 7 marks.

d) Explain **four** problems facing air transport in Africa. (8 marks).

* Low number of passage and volume of cargo: The volume of cargo and passengers on air transport is small, this makes it expensive for some airlines to operate.
* Stiff competition: Africa airlines are faced with stiff competition from the well-developed airlines from the developed countries of the world.
* Inadequate capital: Most of African countries are third world economies with inadequate capital to put up modern airports and operate the national airlines.
* Poor management: A number of African national carriers are not well managed they incur heavy losses leading to their collapse.
* No direct flights. In Africa not all countries are served by direct routes, there are no direct route from East Africa to North Africa and one has to pass through Europe then connect back to North Africa.
* Insurance cost is high: The cost of insuring planes is extremely expensive this discourages the investment in air transport.
* Insecurity in many parts of Africa. There many cases of planes being attacked by terrorists, the suicide bombers, bandits or organized armed gangsters.
* Uneven distribution. Most of airports are located far from settlements and productive areas thus incurring extra costs to transport goods and other services to the people. More time is wasted in transporting people and goods to and from the airports.
* Inflexibility: Air transport is not flexible in terms of its scope of services. It is limited to areas where there are airports and airstrips. Unlike the roads it does not offer door-to door services.

Any first 4 x 2 = 8 marks.

Statement cannot score without explanation.

7. (a). Define the following terms

(i). Fishing 2 marks

* Fishing can be defined as mans’ pursuit of the aquatic animals in the sea and inland waters all over the world.
* Fishing is act of catching fish and other aquatic animals from their natural and artificial habitats.
* Fishing is the act of mans’ exploitation of water resources.

Mark. 1 x 2 = 2 marks.

(ii). Fisheries. 2 marks

* The term fisheries can be defined as the water bodies that contain fish and other marine resources.
* Fisheries are the fishing grounds or fishing areas in the world.

Mark 1 x 2 = 2 marks

(iii) Fish farming. 1 mark

* It is the process of rearing fish in a pond

Mark 1 x 1 = 1 mark

(b) (i). What are planktons? (2 marks).

* They are microscopic organisms found in sea waters, they are tiny water plants, animals, or bacteria.
* They are fish foods. Any 1 x 2 = 2 marks

(ii). Name three divisions of planktons. ( 3 marks).

* Phytoplankton. These are microscopic and bacteria
* Zooplanktons. Microscopic animals.
* Micro zooplanktons. Larger fish eggs, larvae and pelagic.

Mark any 3 x 1 = 3 marks

(c ). (i). **What are the challenges facing fishing in Lake Turkana? (6 marks)**

* **Poor market.** The population around the Lake is sparse populated thus poor market.
* The population around the lake does not have a culture of fish eating this affects the market.
* **Inaccessibility.** The roads leading into the lake are poor thus hindering the fish caught from reaching the wider market.
* **Poor methods of fishing**. Most of the communities prefer harpooning, the method is slow, and only fit for subsistence fishing.
* Overfishing. There has been overfishing in some parts of the lake thus causing exhaustion of some fish spices.
* Damming of river Omo in Ethiopia. The damming has led to low water level in the lake thus some fish have migrated into areas with plenty of water.
* Inadequate capital to establish modern fishing equipment.
* Rising lake water levels, making some fishing grounds inaccessible.

(Mark any first correct 6 x 1 = 6 marks)

(ii). **State five solutions used to alleviate problems facing fishing in Lake Turkana. ( 5 marks).**

* Kitale- Kalokol road has been tarmacked hence opening the lake to the outside market.
* The Norwegian Agency for development (NORAD) has tried to popularize fish eating activities to the communities around the lake.
* People of Turkana have formed cooperative societies to assist them in buying of fishing equipment such as nets, boats and also to assist them in marketing.
* Cooperative societies have been formed to market fish.
* Middlemen with refrigerated Lorries now buy fish and transport it in urban centers markets Kenya wide.
* The government is educating fishermen to avoid overfishing for this would exhaust the fish in the lake.
* Better fishing methods have been introduced into the lake.
* Local people are being educated on commercialization of fishing as an alternative economic activity rather than pastoralism.

(d). Students of Ndugamano secondary school were planning to carry out field work on fishing in river Maragua.

State how they would use the following equipment.

(i). Fishing rod. 1 mark

* To tie the bait and the hock to lure the fish in water.

(ii). Floater. 1 mark

* To suspend the bait at a predetermined depth.
* To prevent drifting of the baited hook to inaccessible places in the river/ water.
* The float will help the students to keep **visual bite indicator or alert them over a catch.**

(iii). Plastic bucket. 1 mark

* To safely keep/store the fish caught

(iv). Bait. 1 mark

* To entice /attract the fish to the trap/hook.

8.(a)(i) Define the term “renewable sources of energy”? (2 marks).

* The term renewable sources of energy refer to resources that have natural ability to reappear after being used, through quick recycling.
* These are sources of energy which are inexhaustible and have natural ability to recycle.

2 x 1 = 2 marks

(ii). Apart from nuclear energy name three other non-renewable sources of energy. (3 marks)

* Petroleum.
* Natural gas
* Coal.
* Peat - Partially formed coal./Young coal Any first 3 x 1 = 3 marks)

(iii). State **three** disadvantages of using nuclear energy. (3 marks)

* It is very expensive to install.
* It requires high level of technology which is not available in third world countries.
* Any industrial nuclear plant leak is disastrous. The leak may cause death of all living things and its side effects be felt for many years.
* The industrial wastes from the nuclear industries are dangerous and harmful to all living things and remain being radioactive for many years.
* Nuclear power stations are built in the very remote areas due to their high risks of leakage hence increasing the cost of construction.

Mark any first 3 x 1 = 3 marks).

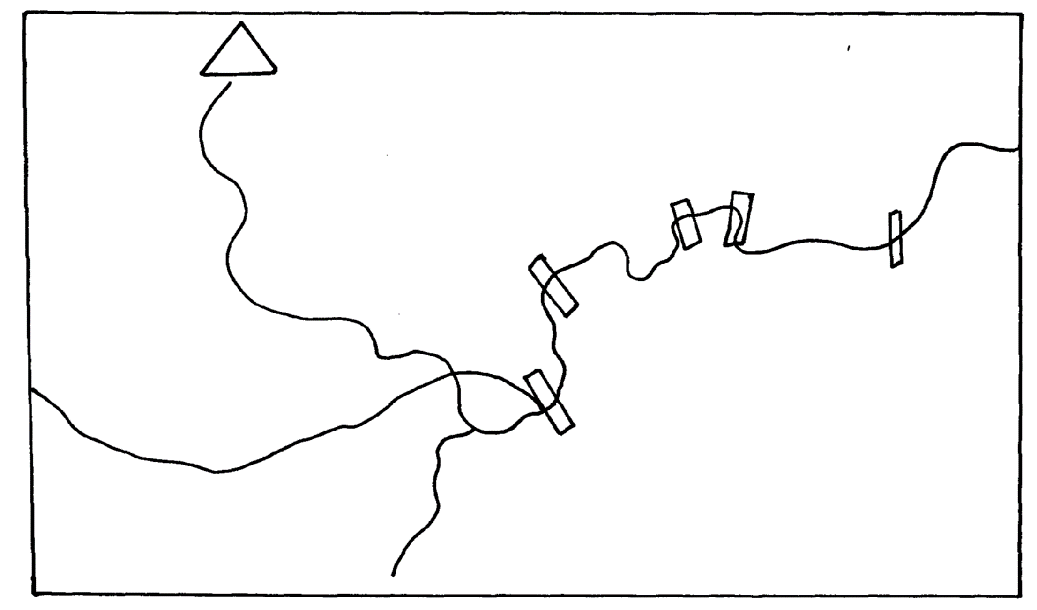
**(b).** Explain **four** factors that contributed to the development of hydro-electric power projects along river Tana. ( 8 marks).

* **Low population in the surrounding** the area, hence there was enough space to construct the dams and lakes behind the dams.
* **There were several water**falls eg Adamson’s fall on River Tana which provided ideal sites for construction of hydroelectric power station.
* **The area has hard basement rock** which is essential for providing firm foundation for the construction of the dams.
* The **upstream of river Tana** is a good water catchment area. There is constant water supply all the year around.
* **There are narrow gorges which allows** water to build high pressure which is essential for turning turbines in power plants.
* The government of Kenya and other foreign countries such as Britain and Germany contributed **money for the construction work.**
* **Need to provide water for irrigation.** The government had the need to use the water of river Tana to grow crops in various irrigation schemes.
* **Employment**. The government wanted to create employment to the youths as a way of improving the living standards of the people in the surrounding.
* **Self-sufficiency with power.** There was acute need of producing HEP in the country in order to reduce the bills of importing oil.
* **Reduce the over exploitation of forests.** The government was concern in reducing the overexploitation of the trees and its forests for wood fuel for domestic use.
* **Rural electrification.** The government was interested in electrifying the rural areas as a way of decentralization of industries from urban centers to the rural areas.

**Any first 4 well explained.** 4 x 2 = 8 marks.

(c)Study the map below and answer the (c i) below.

(i) Identify the hydro-power stations marked **P, Q** and **R** in the diagram. (3 marks)



Mt.Kenya

Gitaru

Grand falls

**R**

R. Thika

R. Mathioya

R. Sagana

**Q**

**P**

P Masinga

Q Kamburu

R. Kindaruma 3 x 1 = 3 marks

(ii) Suggest any **six** ways Kenyan government is educating its citizens to minimize energy wastage. (6 marks)

* Put off gadgets not in use.
* Keep gadgets in good working condition.
* Use of public transport.
* Increase capacity of public vehicles.
* Better roads – avoid traffic jams etc.
* Use fewer lighting bulbs. /The led bulbs.
* Minimize outdoor advertising i.e. bill boards.
* Energy saving jikos/ stoves
* Use low capacity cars.
* Encourage the use of solar power especially in lighting and heating
* Zero rating solar energy equipment.

Any first 6 x1= 6 marks.

9.(a) (i) Cool to hot temps between (15 -30)0c✓

* High✓ and well distributed rainfall✓ between (1000 – 2000) mm throughout the year.
* Deep, fertile and well drained volcanic soils✓
* Frost free environment✓
* Two- months dry period allow flowering✓✓
* Shelter from direct sunlight especially when the plant id young.
* An altitude of between (1000 – 2500) m above sea level. Any 3x1= (3marks)

(ii)

* Arabica
* Robusta 2x1 =2marks

(b) (i)

* Coffee seeds are planted in a nursery for about six months where they are watered and shaded.
* The farm is cleared, ploughed and harrowed.
* Rows of holes three meters apart are dug. / pits 3m wide x 3m deep x 2.5 between plants.
* Fertilizer is put into the holes and holes left for some time to weather.
* Seedlings are transplanted into the holes in the main field and watered regularly.
* They are sheltered from strong sunlight.
* Dry leaves are laid around the stem of the seedling to provide mulching.
* The plant is weeded, pruned and sprayed as it grows to maturity.
* Between (3 -5) th year, the plant attains maturity and coffee berries are ready for harvesting
* At age of (8-15) years the plants harvest is at the maximum.
* Harvesting goes on to the age of 30 years when the yield starts to decline
* Harvesting is done manually by picking the red ripe berries while leaving the green ones Any 5x1 =5marks

(c)(i)

* Foreign exchange earners
* Coffee accounts for over 25% of the total marketed agricultural products in Kenya.
* Source of employment and semi- skilled labour force leads to industrialization e.g. coffee crushing factories beverage factories.
* Coffee that is exported has boosted trade between Kenya and other countries.
* Coffee has led to development of infrastructure e.g. roads which have opened up farming areas in Kenya.

Any 3 x 2 =6marks

(ii)

* it arranges for marketing of coffee through coffee Board of Kenya.
* provision of finances in advance to farmers through KPCU
* Conducting research to establish the type of coffee that is best suited for different areas,
* Conducting training workshops to update farmers on current development of coffee farming
* Encouraging setting up of cooperatives to pool resources together.
* Employment of extension officers to advice farmers
* Improvement of feeder roads to ensure quick transportation of coffee collection centers.
* Developing new varieties that are more disease and drought resistant and faster maturity.

Any 4x1 =4marks)

(d)(i)

* In both Kenya and Brazil, Coffee farming is an important foreign exchange earner.
* There is large scale coffee farming in both countries.
* in both Kenya and Brazil, Arabica and Robusta coffee varieties are grown.
* In both Kenya and Brazil, coffee farming has led to development of infrastructure.
* In both Kenya and Brazil, the government is supporting coffee farming.
* In both Kenya and Brazil, coffee farming faces soil exhaustion problem.
* In both Kenya and Brazil coffee marketing faces price fluctuations.
* In both countries, coffee farming has generated employment. (3x1=3mks)

(ii)

* Sao Paulo
* Minas Gerais
* Matto Grosso 2x1 =2mks

**10.(a) Define the term environmental Management. (2marks)**

* Environmental management is the measure and control that are geared towards improving resources within a given area.

(2x1= 2marks)

**(b)(i) Explain four reasons which make environmental management and conservation necessary. (8marks)**

* To ensure adequate food supply increasing human population since food shortage stagnates economic growth.
* Aesthetic value: The natural resources like landscape and wildlife beautiful sceneries for recreation and tourist attraction
* Protection of endangered plant and animal species so that they don’t suffer extinction.
* Economic value once exploited natural resource is sold to earn income
* Protection of water catchment areas ensure a regular supply of water for domestic and industrial use
* To reduce pollution and its diseases and death of effects which lead to disease and death of population
* Proper utilization of resources without wastage or destruction. (4x2 =8marks)

**(ii) List down five problems which are a product of flooding. (5marks)**

* Destruction of habitat e.g sprawling grounds for fish
* Delayed traffic and interference without drainage in urban areas
* High financial losses when carrying out repair work on damaged structures
* Displacement of people thus disrupting their day to day activities and lowering their productivity.
* Pests i.e Mosquitoes and diseases i.e malaria brought about by stagnant water.

(5x1= 5marks)

**(c)(i) Explain three ways through which harmful effects of lightning can be controlled. (6marks)**

* Avoid sheltering under trees.
* Installing lightening arrestors on building to discharge lightening
* Rockets connected to trigger off lightening
* Educating people on dangers and precautions to reduce damage.
* Use of high altitude air planes which spray carbon (IV) oxide or silver Iodine that disperses the cloud by making tiny droplets to fall down.

(3x2 = 6marks)

**(ii) State causes of noise pollution. (2marks)**

* Motor vehicles through hooting and roaring of engines without silencers
* Riveting of machines in steel rolling mills and welding metals
* Banging of metal / containers by Jua kali artisans
* Air crafts as they land and take off
* High pitched music in discos, homes, vehicles. E.t.c (2x1) (2mks)

**(iii) Give two effects of noise pollution. (2marks)**

* Hearing disabilities
* Stress
* High blood pressure
* Loss of sleep
* Distraction from a form of concentration (2 x 1 = 2marks)