**PAPER 312/2**

**GEOGRAPHY**

**FORM FOUR**

**AUGUST 2022**

**MARKING SCHEME**

**SECTION A: ANSWER ALL QUESTIONS FROM THIS SECTION**

**1. a) Differentiate renewable and non-renewable source of energy.**

Renewable sources of energy are those that can be regenerated and used for a very long time while non- renewable source of energy are those once used they became exhausted. **( 2 Marks)**

b) **State three problems experienced due to over-dependence on petroleum oil (3mks)**

* Importation of oil drains off foreign exchange leading to unfavorable balance of trade
* High cost of transportation when there are crisis
* Closure of some industries which depend on petroleum and petroleum product as a raw materialLeads to high cost of production which increases the prices of manufactured goods**. *( any 3 ×1= 3mks***

2. **a) Name two types of manufacturing industries in Kenya.**

* Agricultural food processing industries
* Agricultural non-food processing industries
* Non-agricultural processing industries. (any 2 ×1 =2mks)

**b) State three problems facing jua-kali industries in Kenya**

* Competition from well-established factory manufactured goods hence reduced sales
* Inadequate capital to invest
* Discrimination of goods due to negative attitude on the products leading to low demand.
* A rise in cost of materials resulting in increase in the prices of goods limiting the growth of industries
* Exploitation by middle men who offer low prices.

***( Any 3×1=3mks)***

3.a) **Give the relationship between Geography and Economics.**

* Geography uses the information from economics to study exploitation of natural resources, the methods of production, trade, tourism, and factors influencing such economic activities.
* Economics uses geography to show where economic activities are carried out, factors of production and consumption of goods and services.

**(2 MARKS)**

b**) State reasons for studying Geography in secondary schools.(3 marks**)

* Provides knowledge/understanding the environment
* Helps students to manage time well.
* Prepares students for career opportunities
* Promotes the development of practical skills and critical thinking.
* Creates awareness on social values
* Promotes awareness on the proper use of natural resources.

**(Any 3 x 1 =3Marks**

**4a).Reasons why wildlife conservation is encouraged in Kenya.**

- To protect/regenerate endangered animals/plants species.

- To promote tourism.

- To generate foreign exchange/revenue.

- To keep them for posterity/for future generation.

- To sustain raw materials for supply of drugs/medicinal value.

- For education/research purposes.

- For aesthetic value/beauty/recreation purposes.

**(Any2x1=2mks)**

b) **Measures the Kenyan government take to attract more tourists.**

- Improve infrastructure/roads/airports/communication to all

tourists sites.

- Improve security for safety of tourists.

- Guard against terrorism that scare away tourists/maintain peace in

the country.

* Improve the image of the country abroad/market Kenya’s tourism

more aggressive.

- Establish a diversity of tourism attraction/stop depending on

traditional attractions.

- Promote ecotourism for conservation and for developing new

attractions.

- Establish modern tourist facilities in areas of high potential.

- Intensity domestic marketing/promote domestic tourism to avoid

overreliance on foreign tourists.

- Improve and train more personnel to serve tourists better.

- Sensitize citizens on the need to be hospitable to tourists.

**( Any 3x1=3Marks )**

1. **(a ). Name three counties in Western highlands where tea is grown.**
2. **marks**)

Narok - Bomet - Kericho

* Nyamira - Kisii - Nandi
* Bungoma - Kakamega - West Pokot **(Any 3 x 1 =3Marks)**

**b) State four physical conditions that favour tea growing in the Kenya**

**highlands. (4 marks )**

* High rainfall annually/1000mm-2000mm annually.
* Well distributed rainfall throughout the year.
* Cool to warm conditions/moderate temperature/15° to 20°C
* Frost free conditions annually
* Deep, well drained soils/red volcanic soils
* Gentle/ sloping land
* Slightly acidic soils/volcanic
* High altitude/1500m-2400m above sea level.

**( Any 4 x 1 = 4 marks)**

**SECTION B:**

***Answer question 6 and any other TWO questions from this section.***

6**. Study the photograph below and use it to answer question (a).**



(a) **(i) Identify the type of photograph shown above. (1 mark)**

***Ground general view***

**(ii) Using evidence from the photograph, give *two* indicators to show that the area is experiencing semi-arid conditions. (2 marks)**

* There are patches of bareground in the foreground/middle ground
* There are few short/stunted trees /plants
* There is an oasis/playa in the middle ground
* The grass is short and dry/brown on the photograph*.*

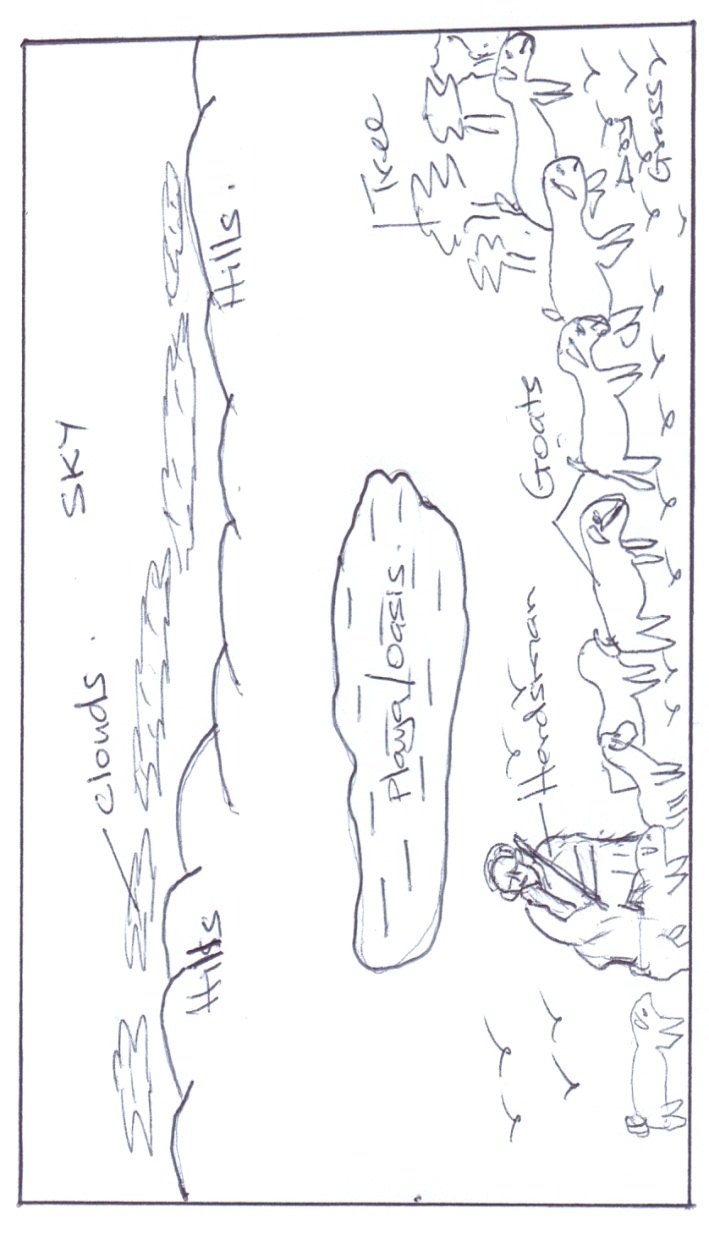
**( Any 2 x 1 = 2marks )**

**(iii) Describe the features shown on the photograph. (3 marks)**

* On the foreground there is a bare ground, a herdsman herding and the goats browsing/grazing.
* There is a playa/oasis in the middle ground.
* There are scattered clouds in the background.
* There are hills in the middle ground*.*

(**iv) Draw a rectangle measuring 15 cm by 10 cm to represent the area covered by the photograph. (1 mark)**

* On the rectangle, sketch and label four main features shown on the photograph. (4 marks)



**(b) (i) Name *two* pastoral communities in East Africa. (2 marks)**

* Maasai
* Rendile
* Samburu
* Somali
* Borana
* Turkana
* Pokot

**(ii)Outline three physical factors that favour pastoral farming in Kenya.**

* The grazing areas are free from tsetse fly due to dry and hot conditions.
* Large tracts of land due to sparse population in the Northern and North Eastern regions.
* Availability of natural pasture in the Wooded Savannah lands.
* The gentle sloping landscape enable easy movement of livestock from one place to another.

**(Any 3 x 1 = 3 marks)**

**(c) State three problems facing pastoralists in Kenya. (3 marks)**

* + - * Prolonged drought which leads to shortage of water and pasture.
      * Low quality/less nutritious natural pasture.
      * Overstocking which leads to overgrazing hence poor pasture.
      * Pests e.g. ticks
      * Diseases e.g. Rinder pest/East coast fever/foot and mouth.
      * Low quality local breeds/Zebu/Boran which yields little milk/provide low quality meat.
      * Inadequate extension services.
      * Frequent livestock raids/cattle rustling.
      * Competition for range pastures with wildlife.
      * Poor transport connection hinders accessibility to potential markets.
      * Fire outbreaks destroy huge tracts of the grassland hindering their regeneration.

**(Any 3 x 1 = 3 marks)**

**(d.) Explain three ways in which the government of Kenya assists nomadic pastoralists to improve the quality of their livestock. (6 marks)**

* Establish demonstration ranches to sensitize pastoralists on better methods of animal husbandry.
* Cattle dips have been constructed to control pests.
* The government is encouraging group ranching to enable the pastoralist to view livestock keeping as a commercial undertaking.
* Boreholes have been sunk to provide water for livestock.
* Encouraging crossbreeding of indigenous breed with hybrid breeds to improve quality of livestock.
* Improvement of transport system in the areas for faster transportation of their livestock.
* Revival of Kenya Meat Commission to guarantee market for livestock.
* Establishment of anti-stock theft police to curb cattle raids.
* Research centres have been established for pest and disease control.
* Veterinary services have been provided to treat their animals.
* Extension services are being offered to educate/advice farmers.

**(Any 3 x 2 = 6 marks)**

**7. The table below shows the quantity of mineral produced in Kenya in tones between years 2001 and 2005**.

**Use it to answer questions a(i) and (ii).**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Mineral / Years** | **2001** | **2002** | **2003** | **2004** | **2005** |
| Soda ash | 297780 | 304110 | 352560 | 353835 | 360161 |
| Fluorspar | 11885 | 85015 | 80201 | 117986 | 109594 |
| Salt | 5664 | 18848 | 21199 | 31139 | 26595 |
| Others | 6093 | 7000 | 4971 | 6315 | 8972 |

**Source: Economic Survey, 2006.**

1. **Calculate the average production of soda ash over five year period. (2 Marks)**

297780+304110+352560+353835+360161=1,400,436√

1,400,436/5=280,087.2 tonnes√

1. **Calculate the total mineral production for the year 2003. (1 Mark)**

352560+80201+21199+4971=458,931tonnes

1. **Give three uses of soda ash. (3 Marks)**

* Used in manufacture of soap
* Used in manufacture of glass
* Used in manufacture of detergents
* Used in paper and pulp industry
* Used in oil refining
* Used in textile industry ***( any 3×1=3mks)***

b) i) **Name the main places in Kenya where the following minerals are mined: -**

a) **Flour spar**-Kerio valley

b) **Titanium-** Kwale county

c) **Gold-** Migori or Kakamega***.***  (3 Marks)

ii) **State two problems associated with shaft mining. (2 Marks)**

* Sometimes mines are flooded with water causing waterborne diseases
* The dust produced causes respiratory diseases
* Emission of poisonous gases causes death/ respiratory diseases
* Collapse of mines leading to death of miners

**( Any 2×1= 2mks)**

c**) Explain four ways in which gold mining has contributed to the economy of South Africa. (8 Marks)**

* When exported earns the country foreign exchange
* Gold has been used as a unit of exchange for paying international debt
* Has led to development of social amenties
* Has led to urbanization of towns such as witwatersland
* Has led to industrialization hence larger market for the goods
* Has created employment opportunities raising the standard of livings
* Has led to development of transport network.

***( any 4 ×2 = 8 mks)***

1. **Explain three negative effects of mining on the environment. (6 Marks)**

* Dumping of rock waste has led to loss of biodiversity
* Has led to land dereliction leading to wastage of of agricultural land
* Open pits that are left behind are breeding grounds for mosquitoes
* Causes environmental pollution e.g harmful gases released contaminates the air./mineral waste dumped into the rivers leading to death of aquatic life.
* Mining disrupts the water table leading to shortage of water
* Bare surfaces left due to clearing of the vegetation the landbecomes prone to soil erosion. ***( Any 3×2=6 mks)***

**8.a)i) Name four exotic softwood tree species planted in Kenya (4 marks**)

* Cypress
* Pines
* Grevillea
* Fir
* K-apple
* Wattle
* Jacaranda **(Any 4x1=4mks)**

1. **State five factors favoring the development of softwood forests in**

**Kenya (5 marks)**

* Cool climate experienced in the Kenya highland
* Heavy rainfall
* Rugged and steep landscape experienced in some parts of the Kenya highlands discourage settlement/agriculture leaving the forests to flourish.
* High demand for timber and wood products in the country
* Volcanic soils
* Government’s efforts to create forests through implementation of afforestation and re-afforestation programmes.

**(Any 5 x 1 = 5 marks)**

**b) Explain four measures that the government of Kenya is taking to conserve forests in the country (8 marks)**

* The government is registering/recognizing the efforts of NGOs like the green belt movement which have mounted campaigns on planting of trees
* It’s also gazetting forested areas to reduce encroachment of the public
* Creating public awareness through mass media/baraza’s on the importance of conserving forest resources.
* Enacting laws to prohibit the cutting of trees without a license protecting indigenous tree species.
* Employing forest guards to protect forests from fires/other illegal human activities.
* Encouraging people to practice agro-forestry so as to avoid cutting tress from the forests.
* Enactment of laws e.g. that are meant to effectively manage the forests e.g. The Forest Bill 2000
* Carrying out research through KEFRI and ICRAF in order to come up with ways of controlling diseases/develop species suitable for different ecological regions.

**(Any 4 x 2 = 8 marks)**

**c)i) Give reasons why forests are more wide spread in Canada than Kenya.**

**(4 marks**)

* The cool to cold climate, which prevails across Canada, favours the growth of coniferous but discourage settlement and agriculture leaving large area under forest.
* Population in Canada is very low (3 persons per squae km) hence a lot of land is available for the establishment of forests unlike Kenya.
* In Kenya a lot of land has been converted to agriculture and settlement reducing areas under forest unlike in Canada.
* Unregulated human activities such as charcoal production is rampant in Kenya unlike in Canada which destroyed a large area under forest.
* Large tract of land is rugged and with thin soils discouraging agriculture leaving forest to thrive.

**(Any 4 x 1 = 4 marks)**

**ii) Compare forestry in Canada and Kenya under the following sub-headings;**

* **Tree species (2 marks)**
* In Kenya there are both exotic and indigenous softwoods while in Canada main trees are indigenous.
* Harvesting (2 marks)
* In Kenya harvesting is done throughout the year while in Canada it is done in winter and early spring.
* In Kenya harvesting is done selectively while in Canada clear cutting of trees is done. **(2 MARKS)**
* **Transportation (2 marks)**
* In Kenya transportation of logs is done by road while in Canada logs are transported using meltwater/rivers, mobile steel bars/skidded along ice covered ground.
* In Kenya, transportation is expensive while in Canada it is cheap. (**2MARKS)**

**9.) a.) i.) Differentiate between land reclamation and land rehabilitation (2 marks)**

* Land reclamation is the process of converting *wasteland* into farm land for growing of crops and keeping of animals while land rehabilitation is the process of *restoring land* to its former productive state. **( 2 MARKS)**

**b.) Identify three methods of land reclamation in Kenya (3 marks)**

* Irrigation
* Drainage of Swamps
* Control of Pests

**c.) i.) State four physical factors that influenced the location of Mwea Tabere**

**irrigation scheme (4 marks)**

* Availability of **extensive land** which made created room for future expansion.
* **Black cotton soils** with high water retention capacities suitable for rice growing.
* **Well drained clay loamy soils** suitable for growing of other cash and food crops.
* **Gently sloping land** which allows use of tractors and allows water to flow by gravity reducing the cost of pumping it to the fields.
* Availability of **plenty of water** from permanent rivers Thiba and Nyamindi draining the area.
* Experiences **warm climate**/**conditions** during the second part of the year suitable for rice growing.

**(Any 4 x 1 = 4 marks)**

**ii.) Explain four problems facing Mwea Tabere irrigation scheme (8 marks)**

* **Stagnant water** has become a breeding ground for mosquitoes and snails which transmit malaria and Bilharzia respectively
* **Shortage of water** due to excessive droughts and diversion of water into ‘Jua Kali’ rice farms.
* **Pests and diseases** e.g. case warm and leaf miner which attack crops lowering the yields and Quelea birds which feed on rice leading to a major loss of the crop.
* **Inadequate capital** on the part of farmers since the co-operatives collapse making them unable to acquire inputs forcing them to lease out all or part of their farms.
* **Shortage of labour** during the planting and harvesting season which forces the farmers to hire labour from outside at a high cost.

**(Any 4 x 2 = 8 marks)**

**d.) i.) Outline the stages that were involved in reclamation of land from the sea in Netherlands (5 marks)**

* Dykes were constructed to protect the land from getting flooded during high tide.
* Ring canals were constructed to carry water from the area to be reclaimed into the sea.
* Pumps were installed to pump out water from the area enclosed by dykes.
* Reeds were sowed to use up excess water.
* Drainage pipes were laid in ditches to drain water from the water table.
* The soil was treated with chemicals to lower salinity.
* Drained land was flushed with fresh water to remove salt from the soil.

**(5 x 1 = 5Marks)**

**ii.) State three benefits of irrigation farming in Kenya (3 marks)**

* Resettlement of landless people e.g. in Mwea.
* It has made barren land reproductive.
* Enables farmers to earn an income when they sell farm produce.
* Provision of employment opportunities which has alleviated poverty and improved the standard of living.
* Creation of settlement for landless.
* Earning of foreign exchange by the country after exportation chillies, flowers, peas, fruits, etc.
* Promoted industrial development through providing raw materials e.g. rice mills, pineapple processing, sugarcane factories, etc.
* Has assisted in the control of environmental hazards such as droughts and floods.
* Has enhanced food security in the country by encouraging growing of food crops such as maize, beans, rice, etc

**(ANY 3 X 1 = 3MARKS**)

**10 a) (i) Name two types of fishing. (2mks**)

* + -Pelagic fishing.
  + . Demersal fishing.
  + . Anadromous fishing.
  + . Inshore fishing.
  + . Fresh water fishing

**(Any 2 X 1 = 2Marks**

**(ii) State three physical factors that influencing fishing. (3mks)**

* -Presence of planktons.
* Nature of the coastline.
* Climate conditions of the region.
* Relief of the adjacent land.
* - Meeting of cold and warm ocean currents. **( 3 x 1 = 3Marks)**

**b) Explain three reasons why the North East Atlantic fishing ground is extensively and highly developed. (6mks)**

* The coast has numerous inlets/bays estuaries that provide shelter for fish breeding/anchoring of fishing vessels/fishing villages.
* The adjacent landscape is highly rugged hence unfavourable for agriculture making fishing an alternative economic activity.
* The Warm Atlantic drift current raises the ocean temperature providing ideal condition for plankton growth / the coast remain ice free making fishing possible throughout the year.
* Presence of shallow, extensive continental shelf which is suitable for plankton growth attracting large shoals of fish.
* Presence of land derived minerals brought by icebergs from the land providing nutrients for planktons to thrive on.
* High capital outlay by countries like Norway,Britain,Germany which is used to purchase modern equipment's to carry out deep sea fishing/highly developed technology allowing fishing throughout the year.
* Presence of high, affluent/wealthy population among western European countries providing a ready market for fish.

**(ANY 3 X 3 = 6MARKS**

**c) (i) What is fish farming? (2mks**)

Fish farming is the rearing of fish in ponds and reservoirs

**(ii) Describe harpooning as a method of fishing. (4mks)**

* A harpoon is a sharpened spear/arrow/stick utilised to strike a fish by spearing it
* A sharpened spear/arrow/stick is used.
* Its used in very clear waters.
* The fisherman strikes the fish in water and extract it out.
* N.B can only catch one fish at a time.

**d) (i) State two problems facing fishing in Japan. (4mks)**

* High pollution of Japanese waters by industrial effluent sand oil spillage which has interfered with aquatic life.
* Overfishing along coastal waters as a result of increase in the fishing fleet which has resulted into depletion of some fish species.
* Restriction of Japanese fleet from other nations territories e.g. to the west where they are kept away by the Korean government

(**ii) Explain two similarities between fishing in Kenya and Japan. (4mks)**

* Both countries carry out inland and marine fishing activities.
* There is overexploitation of fish resources in both countries.
* There is fish farming in both countries to supplement natural fisheries.
* Both countries experience the problem of pollution whereby in Kenya it’s by industrial effluents and agricultural chemicals and in Japan by industries dumping mercury into the sea.
* Modern methods of preserving and processing fish such as refrigerated vessels and fish filleting are used in both countries.
* Fish is consumed locally and exported in both countries.
* In both countries fishermen have organised themselves into co-operatives.
* In both countries fishing faces the problem of restriction e.g. in japan by Korean Government while in Kenya they are restricted from Ugandan and Tanzanian waters

**(Any 2 X 2 = 4Marks)**