

FORM FOUR

GEOGRAPHY **FORM 4 PAPER 2** **MARKING SCHEME**

SECTION A

1. (a) Definition of the environment. (2marks)

- Refers to all external conditions that surround an organism in its natural habitat which influence its behavior and activities.

(2x1=2marks)

(b) Aspects studied under population Geography

- Size of population
- Population distribution
- Age and sexes in a population
- Births and deaths in a population

(3x1=3marks)

2. (a) Areas in Brazil where coffee is grown

- Sao – Paulo
- Minas
- Gerais
- Matto
- Grasso-do-sul

(any 2x1=2marks)

(b) Physical conditions that favour coffee growing in Kenya

- Cool to hot temperature, 150C – 300 C
- Altitude rising from 1000-23000 above sea level
- Deep well drained and fertile volcanic soils
- Undulating or hilly topography
- High rainfall (100-2000mm)

(any 3x1=3marks)

3. (a) Environmental hazards

- Landslides
- Earthquakes
- Soil erosion
- Overgrazing/overstocking
- Fires
- Pests and diseases
- Volcanic eruptions

(any 2x1=2marks)

(b) Ways of controlling land pollution

- Burning waste materials using incinerators
- Digging pits for disposing rubbish to avoid careless littering of waste.
- Create public awareness of the dangers of land pollution
- Provision of garbage bins or receptacles to hold waste especially in residential areas/hotels.
- Setting up proper garbage collection and management programmes.
- Recycling of waste to reduce the volume or turnover of plastics, scrapmetals and papers.

(any 3x1=3marks)

4. (a) Reafforestation (2marks)

- Is the planting of trees in an area where they have been cut down.

(b) Exotic species of trees planted in Kenya

- Pine
- Cypress
- Bluegum/eucalyptus
- Wattle
- Kei-apple
- Jacaranda
- Bambax
- Grevilea
- Cedar

(any 3x1=3marks)

5. (a) Forms of communication

- Radio and television
- Electronic mail or e-mail
- Fax-facsimile
- Paging
- Mobile phone.

(any 2x1=2marks)

(b) Reasons for tea decline in the use of letters as a mode of communication in Kenya

- The high cost of postage
- Loss of letters sent
- Tampering with letters
- Competition from cheaper and faster means of communication e.g. cell phones, email
- Licensing of more private radio and television stations.

(3x1=3marks)

SECTION B: 75MARKS)

6. (a) Calculations

Isiolo

$$\frac{42500}{100800} \times 15 = 6.3cm$$

Wajir

$$\frac{22600}{100800} \times 15 = 3.4cm$$

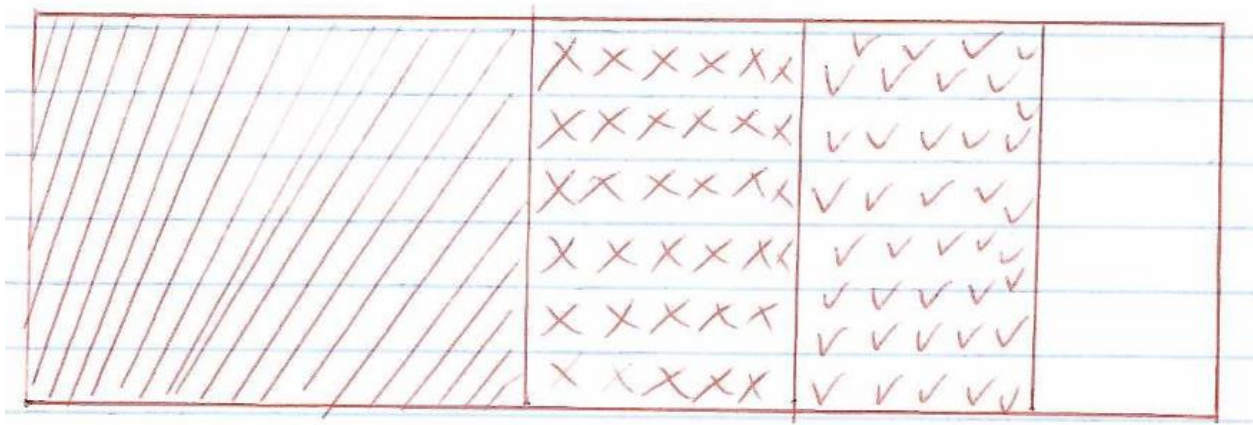
Marsabit

$$\frac{20300}{100800} \times 15 = 3.0cm$$

Mandera

$$\frac{15400}{100800} \times 15 = 2.3cm$$

Divided rectangle showing the number of zebu cattles in four different counties in Kenya zebu



Key



Calculations – 2marks

Title – 1mark

Rectangle – 2marks

Key – 1mark

Measurement – 1mark

(b) Calculate the range of the above data (2marks)

$$42,500 - 15,400 = 27,100$$

(c) **Advantages of divided rectangle**

- Easy to draw and construct
- Easy to compare components
- Gives a clear visual impression
- Takes less space to represent data
- Easy to read and interpret.

(3x1=3marks)

(d) (i) **Reasons why nomadic pastoralists keep large herds of animals.**

- It is a form of insurance against natural calamities, diseases and draught that kill many animals.
- Animals are kept as a sign of wealth, prestige or social status.
- Animals kept are used to pay dowry.
- Animals are used as a source of food, milk, meal or blood.
- Source of income from animals sold.

(3x1=3marks)

(ii) **Maasai**

Turkana

Samburu

(iii) Ways in which the government of Kenya assist nomadic pastoralists to improve the quality of their livestock.

- Setting up demonstration ranches to educate pastoralists or beef farmers on better ways of keeping livestock or new trends of livestock management.
- Cattle dips are constructed to control ticks and treat pests.
- Provision of extension or veterinary services to advice farmers or treat animals hence improving quality of beef animals.
- Construction of roads for easier transportation of animals to markets and for easier access of services to farmers.
- Conducts research and encourages cross breeding of traditional cattle breeds with exotic ones to improve their quality and resistance to drought and diseases.
- The government occasionally sets a fund to buy livestock from farmers or pastoralists during drought.
- The government encourages group ranching or formation of co-operatives for easier provision of services, marketing and for pastoralists to view livestock keeping as a commercial activity.
- Encourages the replacement of coarse grass with nutritious pastures to feed and improve quality of animals.
- The government has revived Kenya Meat Commission (KMC) that buys animals from the farmers for slaughter and is in the process of constructing new abattoirs in livestock rearing areas e.g. West Pokot and North Eastern Kenya.

(4x2=8marks)

7. (a) - Types of human settlements

- Rural settlements
- Urban settlements

(2x1=2marks)

(b) X- Industrial zone

Y – Residential zone

Z – commuter zone or suburbs

(3x1= 3marks)

Functions of Thika Town

(c) Functions of Thika Town

- Transport and communication centre
- An industrious centre
- An administrative centre
- An educational centre
- A religious and cultural centre
- A commercial or trade centre
- A recreational centre or tourist centre

(any 3x1=3marks)

Comparison between the parts of Mombasa and Rotterdam

(d) (i) Transport links to the interior

- Mombasa relies on road, air, railway and pipeline to the interior while Rotterdam has canals and navigable rivers in addition. (2marks)

(ii) Mechanization of port.

- Mombasa port has less mechanization and has limited technology in providing services, while Rotterdam is highly mechanized and has high levels of technology. (2marks)

(iii) The hinterland

- Both parts have extensive hinterlands but Mombasa's hinterland extends to DRC Congo while Rotterdam serves continental Europe. (2marks)

(e) (i) Types of settlement patterns

- Linear settlement pattern
- Nucleated or clustered settlement pattern
- Radial settlement pattern or star shaped pattern
- Dispersed or scattered settlement pattern

(3x1=3marks)

(ii) How physical factors influence the location of human settlements

(a) Relief

- Steep slopes are sparsely settled as they have thin soils which are unsuitable for Agriculture, building houses and road construction.
- Gentle slopes and plateaus attract dense settlements as they are suitable for Agriculture, building houses and road construction.
- Windward slopes of mountains with high rainfall attract dense settlements as they encourage Agriculture and have plenty of water supplies.
- Leeward mountain sides are sparsely settled as they are dry which limits Agriculture due to inadequate water supply.
- Flat areas or flood plains are sparsely settled due to poor drainage and high incidences of water borne diseases.

(any 2x1=2marks)

(b) Climate

- Rainfall and temperature variations influence settlements
- Areas that receive low rainfall are sparsely settled as the climate limits Agricultural and other economic activities
- Very high temperatures and dry conditions discourage settlements as they are unsuitable for human activities and habitation.
- Areas that receive high rainfall attract dense settlements as they are suitable for a variety of Agricultural activities.
- Cool to warm conditions or moderate temperature areas attract dense settlements as they are suitable for human habitation and Agriculture activities.
- Warmer valley bottoms attract more settlements than cold higher mountain slopes.
- Areas prone to strong winds discourage settlements to avoid destruction of homes and property by the winds.

(any 2x1=2marks)

(c) Aspect

- South facing slopes in Northern hemisphere and north facing slopes of southern hemisphere in temperate areas receive more sunlight and are warmer which attracts dense settlements as they are suitable for Agriculture and human habitation.
- Slopes facing away from the sun are colder which discourages human settlements.
- Windward slopes have higher rainfall which attracts dense settlements for arable farming.
- Leeward slopes or rain shadow sides have low and unreliable rainfall or aridity leading to sparse settlements.

(2x1=2marks)

(d) Drainage and reliable water supply

- Areas with water scarcity discourage settlements as it is difficult and expensive to get water.
- Areas near water bodies like rivers and lake sides attract dense settlements as water is available for domestic, industrial use and commercial activities.
- Swampy areas discourage settlements due to flooding and breeding of disease causing vectors like mosquitoes and snails thus unsuitable for human activities.

(2x1=2marks)

8. (a) (i) Differentiate between visible and invisible trade. (2marks)

- Visible trade is exchange of goods or import and export goods while invisible trade is the exchange of services between countries.

(1x2=2marks)

(ii) Name two types of trade. (2marks)

- Internal trade
- External trade

(2x1=2marks)

(b) (i) Benefits of COMESA to member countries

- It has created a large market for goods produced in different countries.
- It has led to the establishment of common tariff for increased social economic cooperation.
- It has resulted in the availability of a variety of goods due to the free movement and removal of trade barriers.
- The removal of visa requirements has made it easier for traders to move across borders within the region.
- It has led to creation of employment opportunities through trading activities.
- It has increased production and specialization in what different member countries produce for trade.

(4x1=4marks)

(ii) Major imports from Japan to Kenya.

- Precious instruments
- Textiles
- Watches
- Machinery
- Automobiles and spare parts
- Electrical and electronic equipment.

(3x1=3marks)

(iii) Ways in which the government of Kenya may participate in trade.

- Imposing import and export duties or tariffs or taxation on goods and services.
- Fixing import and export quotas or shares
- Giving subsidies and incentives to encourage trade e.g. tax relief, soft loans, export compensation schemes.
- Joining trade blocs and signing trade agreements
- Price control on some goods.
- Keeping political stability and good international relations to encourage trade.
- Opening border points for easier trade between countries in region.
- Organizing trade fairs and/or exhibitions
- Giving licenses for internal and external trade
- Controlling the quality of goods produced for trade and checking on quality of goods imported or exported.

(4x1=4marks)

(iv) Benefits that Kenya derives from international trade

- Trade creates employment opportunities or self-employment in the established industries thus raising living standards.
- Trade generates revenue through taxation of goods and services, which is used to develop other sectors of the economy.
- The demand for manufactured goods for trade stimulates industrial growth and development of Agriculture sectors, mining, fishing, forestry and exploitation of other natural resources.
- Trade leads to development of urban centres or settlements and improved transport and communication sector which attracts many people providing market for goods and services.

- Trade stimulates specialization in production of high quality goods for trade which enable the country to earn higher income.
- Trade enhances economic cooperation between Kenya and the trading partners which creates better international relations.
- Trade leads to diversification of the economy hence increasing local and foreign earnings.

(4x2=8marks)

(v) **Members of COMESA**

Angola
Rwanda
Uganda
Comoros
Egypt
Madagascar
South Sudan
Mauritius
D.R. Congo
Zimbabwe
Burundi
Kenyan
Ethiopia
Djibouti
Eritrea
Seychelles
Malawi
Swaziland
Namibia
Zambia

(3x1=3marks)

9. (a) (i) Definition of fish farming

It is the practice of rearing or breeding fish under controlled conditions in ponds for domestic and commercial purposes.

(1x2=2marks)

(ii) Characteristics of fish farming in Kenya

- Fish farms are mainly found in Nyanza, western central, coast and parts of Rift Valley.
- The farmers get their fingerlings from hatcheries e.g. in Sagana, Kibos, Homabay
- In each pond the farmer study mainly the type of fish.
- Most fish farms are owned by individual farmers.
- A few are company owned e.g. Sagana, Kabaru, Bamburi
- The fish are usually caught using nets with fish meshes to ensure that only the big ones are caught.

(any 3x1=2marks)

(b) (i) Trawling method

(1x2=2marks)

(ii) Description of Trawling method

- A bag shaped net is attached to a trawler ship
- The net is cast or thrown into the water by the trawler ship
- The upper part of the net is kept afloat by corks or floats
- The lower parts of the net has weights to make sink to the sea bed.
- The net mouth is kept open by head beams

- The trawler drags or pulls the net along the sea bed
 - After sufficient fish has been caught, the net is hauled into the trawler to empty the fish.
- (5marks)

(iii) Problems facing fishing in Japan

- Overfishing and depletion of some fish species.
- Industrial pollution kills mainly fish species
- Restriction of fishing into territorial waters thus Japanese are forced to venture into deep sea fishing.

(3x1=3marks)

(iv) Examples of crustaceans

- Lobsters
- Prawns
- Crabs

(2x1=2marks)

(c) Difference between fishing in Kenya and Japan

- In Kenya fishing is less developed while in Japan it is highly developed.
- In Kenya there are low levels of technology or mechanization leading to low fish catch while in Japan there is use of advanced skills and efficient technology to a big catch.
- In Kenya fishing is done on small scale while in Japan fishing is done on large scale.
- In Kenya fishing has a small domestic and external market while in Japan there is a large domestic and external market.

- In Kenya fishing is mainly done near the continental shelf in a shallow sea water and lakes while in Japan is mainly deep sea or marine fishing is highly developed.
- In Kenya there are few varieties of marine fish species while in Japan there is a wide variety of marine fish species.
- Kenya has a limited fish eating culture while in Japan it is widespread. (4x2=8marks)

10. (a) (i) Examples of non-metallic minerals

- Potash
- Sulphur
- Graphite
- Asbestos

(2x1=2marks)

(ii) Minerals mined in Kenya

- Coal in Mui Basin, Kitui
- Titanium in Kwale
- Dratomite in Korriandusi
- Fluorspar at Kerio Valley
- Rare earths in Taita Taveta
- Carbandiscide in Kereita

(b) (i) Diamond mining in Tanzania

i) Occurrence

- The diamond is found in a Kimberlite pipe, which is 1.46km² in area at the surface. The Kimberlite is a volcanic plug. The pit has been dug to a depth of 90m. The current ore is low grade, with only about 6 carats per hundred tons of ore.

(2x1=2marks)

(ii) Mining and processing

- The rock containing the diamond is dug out using mechanical shovels. It is broken into small stones and transported to the treatment plant. The treatment removes the diamond from the ore.

(2x1=2marks)

(iii) Marketing

- Most of the diamond produced in Tanzania is exported
- Only a little is used locally

(2x1=2marks)

(c) Factors to consider before exploitation of minerals

Method of mining

- The method of mining has an effect on the cost of mining. Open cast, dredger, placer and hydraulic methods are cheaper than shaft and adit mining.

Mode of occurrence

- The mode of occurrence determines the mining method and thus the cost of mining. Minerals occurring close the surface are cheaper than those that occur deep underground.

Economic value of the mineral

- The higher the value or quality of the mineral the higher the chances of mining it. Minerals of lower value and poor quality are not likely to be mined. Since they cannot justify the heavy capital outlay. If the mineral ore is limited in size, mining might not be economical. Such deposits are thus not mined.

Advanced level of technology

- A country must consider whether the level of technology required to mine is available locally. If it has to be imported then the mining must be profitable to pay for the same and earn the country revenue.

Government policy on mining/political influence

- Government support is necessary for mining to take place. If the government does not support it and does not issue the necessary licenses, mining cannot take place. The government must justify the economic importance of the venture for mining to take place.

Large and ready internal and external market

- It must be considered whether there is adequate market for the mineral. If the market is lacking a inadequate, mining cannot take place.

Availability of skilled labour

- Both skilled and unskilled labour are required for mining to take place. If the skilled is not available and must be imported, then the venture must justify the same.

(any 4x2=8marks)

(d) (i) Advantages of using photographs

- They show features/activities in a more realistic manner or features are appealing and interesting to the user.
- Different stages of a particular activity can be recorded.
- They are easy to take
- They are cheap to produce especially the black and white ones.
- It can be used for a long time if well stored
- It is easy to extract information from them if they are well labeled.

(3x1 =3marks)

(ii) Importance of a working schedule

- It indicates the specific time when each activity should take place.
- Minimizes time wastage as each activity is allocated a specific period of time.
- Ensures all important areas are dealt with
- Provides an estimate of how much time is required for study.

(any 3x1=3marks)