

**KANDARA SUB-COUNTY SECONDARY SCHOOLS FORM 3 2016
JOINT EXAMINATION
GEOGRAPHY**

Paper -312/2

October - 2016

MARKING SCHEME

1. a) Agroforestry is a land use system involving the intercropping of trees and crops.

2 mks

b) Reason why agroforestry is being encouraged in Kenya.

-To ensure continuous supply of wood fuel, timber herbal medicines and raw materials for making paper.

-To reduce importation of forest products, hence save foreign exchange.

-To create employment opportunities

-To protect the soil from erosion.

-To protect and improve water catchment areas.

-To maintain the hydrological cycle of water.

-To create scenic beauty.

-To expand the habitat for wildlife and conserve wildlife.

Any 3 x 1 = 3 mks

2. a) i) Livestock ranching is keeping of animals for commercial purpose i.e to sell the animals and animal products to urban centres. (1mk)

ii) Transhumance is seasonal migration of people and their animals in search of water and green pastures/practice in nomadism where herdsmen move with livestock to the lowland during winter and upland during summer. (1 mk)

b) Types of exotic beef breeds in Kenya

-Aberdeen

-Short horn breed

-Hereford

-Galloway

-Devon breed

-Highland breed (Any 3 x 1 = 3mks)

3. a) i) Kariandusi-Diatomite 1 x 1=1 mk

ii) Kerio Valley- fluorspar 1 x 1=1 mk

b) Effects of open-cast mining on the environment.

-Direction of land

-Pollution of air, water and land

-Loss of diversity

-soil erosion

-wastage of agricultural land

-Disruption or lowering of the water table

-wastage of agricultural land

- land slide

any 3 x 1 = 3 mks

4. Physical condition that are necessary for the growing of cocoa.

-High temperatures 25-30° c

-High rainfall 1200-1500mm

-Well distributed rainfall throughout the year

-Deep, well drained fertile soils

-High relative humidity

-Shade from strong sun rays for seedling

-Shelter from strong hamattan winds

-Undulating lowland below 750m above sea level

any 3 x 1=3 mks

b) Economic problems experienced in cocoa farming in Ghana.

-Fluctuation of price in the world market.

-Competition from other land uses

-Inadequate labour during harvesting

-High production costs

-Competition from other beverages

any 2 x 1= 2 mks

5. a) Arable farming is the cultivation and management of crops.

2 mks

b) Characteristics of shifting cultivation

-Vegetable is cleared by slashing and burning

-There is the use of little or no manure/use ash.

-The land is communally owned

-The yield declines after a certain period of continuous use and the land is abandoned.

-Both the settlement and plots are temporary.

-Farming depends mainly on family labour

-The farmers use simple implements

-It is mainly for subsistence

-Plots are small and scattered

any 3 x 1=3 mks

6. a) ii) Advantages of using a compound bar graph.

- Good visual impression
 - Easy to read highest and lowest values at a glance.
 - Easy to make comparison.
 - Variation are easy to read.
- (Any 2 x 1 = 2mks)

b) i) Preparation made before the field study

- Seeking permission from relevant authority
- Reading materials on Tea production/ journals
- Carry out reconnaissance/previsit survey
- Prepare sketch map
- Formulate objectives/hypothesis of the study
- Prepare sketch map
- Formulate objectives/hypothesis of study
- Prepare relevant stationary/tools
- Prepare questionnaires
- Organise class/group discussion
- Prepare a working schedule

Any 2 x 1=2 mks

ii) Fellow-up activities after field work

- Discussion in class/lectures
- Preparation of reports
- Preserving their finding
- Data analysis/ presentation

Any 2 x 1= 2 mks

iii) Physical conditions favouring tea growing in Kigumo

- cool to warm temperature of about 21⁰ c favours growth of tea.
- Deep fertile well drained volcanic soils
- Hilly areas shield the tea from strong wind
- Distributed rainfall 1000mm- 1750mm
- Soil should be slightly acidic with a PH of 4-6 ie volcanic soil.
- Gently sloping or undulating land.

Any 3 x 1=3 mks

c) i) Problems students likely to encounter during field study

- Language barrier
- Unfavourable weather ie rainfall, fog etc
- Tiredness while walking in the estate
- Getting hurt by pruned tea

any 3 x 1=3 mks

ii) Ways of presenting their finding from the study

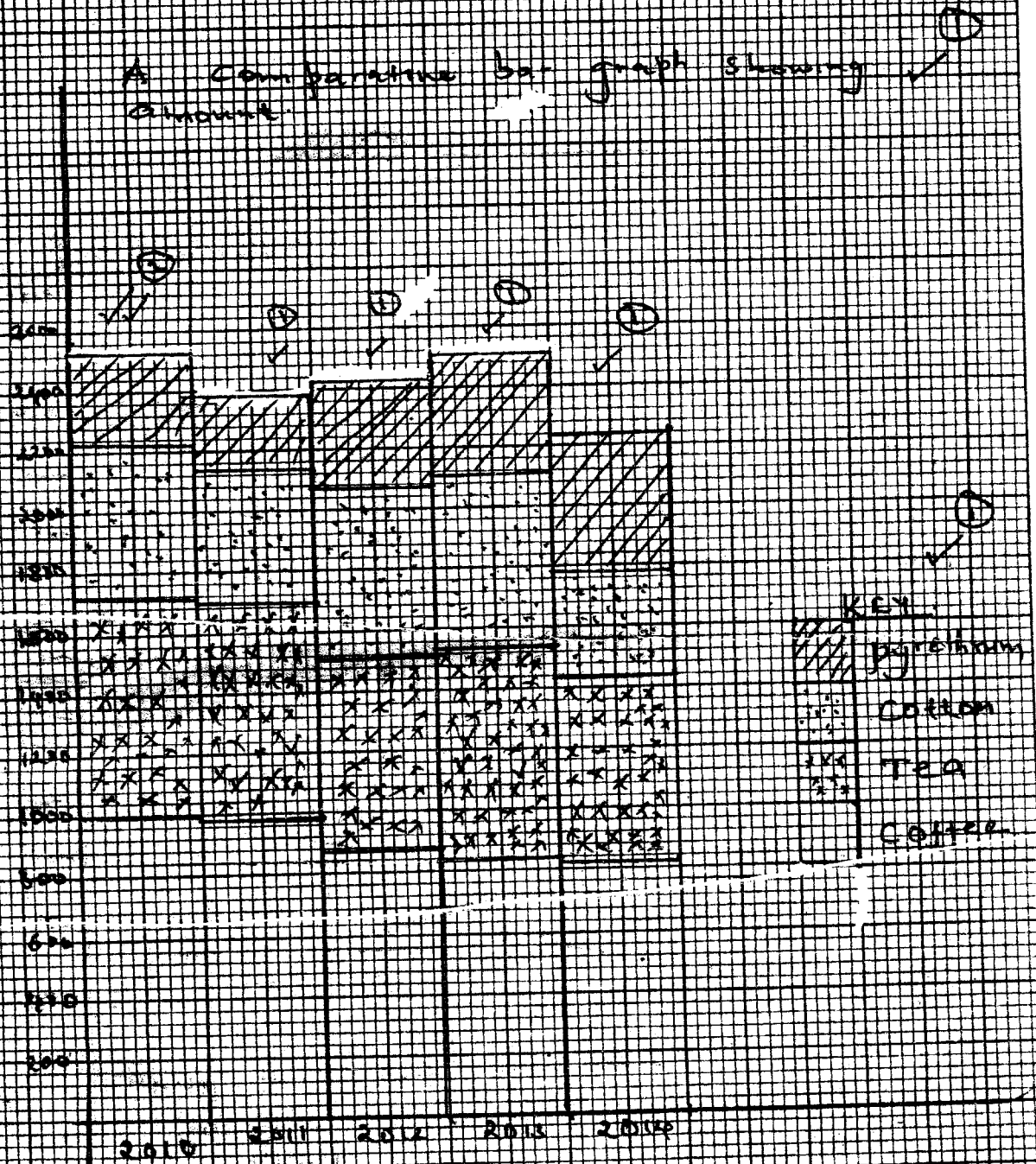
- Students could have displayed photographs taken during the study.
- Discussion on the finding of the study could have been held.
- Displaying of graphs on quantity of tea produced.

Any 2 well explained 2 x 1= 2 mks

6.

	2010	2011	2012	2013	2014
Coffee	1840	1770	2310	2550	2790
TEA	1750	1600	1510	1550	1460
Cotton	2150	2170	2070	2150	1790
Pyrethrum	2540	2370	2420	2550	2140

A Comparative bar graph showing amount



Amount in 000

KEY:
 Pyrethrum
 Cotton
 TEA
 Coffee

2010 2011 2012 2013 2014

YEAR

Total mark

(10 marks)

7. a) i) Forest and forestry

-Forest is a continuous growth of trees and undergrowth covering a large track of land while forestry is the practice of management and using trees, forests and their associated resources for human benefits/the science of developing and managing forests including cultivating them.

(2 mks for correct explanation)

ii) Examples of soft trees in Kenya

-Juniper (Kenya cedar)
-Cypress
-Bamboo
-Podo
-Pine

(Any 2 x 1 = 2mks)

b) Importance of forests in Kenya

-Forests provide utility products such as timber, wood fuel herbal medicines and honey.

-Forest are habitats for a wide range of animals and micro-organism.

-Forests are a rich reservoir of research materials

-Forests are important in regulation of carbon dioxide.

-Forest are important in soil and water conservation

-Forest regulate the climate of the area

-Flora and fauna environment have aesthetic appeal

-Forestry as an industry provide employment to many people e.g forest guards, forest officers, timber jacks, carpenters and timber merchants.

(Any 5 x 1 = 5mks)

c) i) How the following factors influence distribution of natural forests

Temperatures

-Many trees prefer temperatures between 10⁰ and 35⁰

-Colder climates have lower number of trees species that are capable of surviving.

-In area with temperatures above 21⁰ C together with a long rainy season tropical rainfall dominates.

-Where temperatures are low with a short rainy season, coniferous trees are dominant.

(Any 2 x 1 = 2mks)

Altitude

-Trees growth is limited to attitude below 3,500m because beyond this level the temperatures are very low.

-The types of trees growing at different heights vary. At lower levels of tropical mountain, there are tropical rain forest and then bamboo forests.

(Any 2 x 1 = 2mks)

Human activities

-People clear natural forests for fuel, to farm, mine settle, construct roads and for recreational activities.

-Chemicals used in farming eliminate certain trees that are already established.

-Use of fossil fuels and nuclear energy has polluted the environment to levels that are dangerous to the already established forests.

(Any 2 x 1 = 2mks)

c) ii) Problems that affects forestry in Canada

-The severe winters especially in northern Canada make the tree seedling take too long to mature, leading to delay in harvesting.

-The rugged landscape in the northern part of Canada and the snowfall in winter hinder smooth exploitation of forest due to inaccessibility.

-Wildfires, pest and diseases destroys large tracks of the forest, reducing the area under forest cover.

-Over-exploitation in some areas has created a shortage of some of the species which takes a long time to mature when replanted.

(Any 3 x 2 = 6mks)

d) Measures being taken to conserve forest in Kenya.

-Afforestation-trees are being planted to establish forests where there are none.

-Legislation-Government have established laws to protect forests.

-Creation of forests reserve-Forest reserves have been created to conserve indigenous species.

-Research- Kenya research institute (Ke-FRI) conduct research on new species and on diseases and pest.

-Use of alternate sources of energy-To reduce cutting down of trees and encourage forest regenerate.

-Education-People are made aware through public meetings, media campaigns, on the need to conserve the forest.

-Agroforestry- These programmes have been introduced. Trees are planted alongside crops and they act as windbreak.

(Any 4 x 1 = 4mks)

8. a) i) Breeds of dairy cattle reared in Kenya

-Guernsey

-Jersey

-Fresian

-Ayrshire

-Zeb swiss brown

(Any 2 x 1 = 2mks)

ii) Factors which favour dairy farming in Denmark.

-Well-developed co-operative movement

-availability of market for dairy produce

-availability of extension services

-suitable climate/moderate temperatures

-Handy fodder/pasture

- Advanced technology/specialization
- Mechanisation
(Any 3 x 1 = 3mks)

b) Ways in which government of Kenya assist nomadic pastoralists to improve quality of livestock.

- 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 market.
- Through formal education, pastoralists have learnt the advantages 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 grass with alfalfa and corn has improved the quality of pastures of the beef cattle.
- Cross breeding of traditional with higher quality breed.
- Availability of water supply using wind pumps ensures constant supply of water for cattle.
- Availability of market both local and external encourages the farmers to expand the beef industry.
- Availability of refrigeration facilities enables beef to reach far off markets in good condition. any 4 x 2=8 mks

c) i) The cattle breeds kept

- The pastoralists keep mainly indigenous breeds such as Zebu and Boran (2x 1 = 2mks)

ii) Pattern of movement

- Their movement is seasonal
- During the dry season the pastoralists migrates with their livestock to the highland where there is pasture and water.
- During the wet season they move to the plain since pasture is available. (Any 3x 1 = 3mks)

iii) Marketing of animals

- Some cattle are sold to slaughter houses
- Some pastoralists sell their livestock through community group/ranches.
- Some livestock are sold to the livestock marketing department.
- Some pastoralists sell their animals to Kenya Meat commission (KMC) (Any 3x 1 = 3mks)

d) Reasons why nomadic pastoralists keep large herds of animals

- It is a firm of insurance against natural

calamities/disease/drought

- Animals are kept as a sign of wealth/prestige/social status
- Animals are kept for use to pay dowry
- Animals are used as a source of food/milk/meat/blood
- Animals are a source of income
(Any 4 x 1 = 4mks)

9. a) i) Derelict land is land which has been abandoned by mining company after a mineral has been exhausted.
(1mk)

ii) Ways in which mining affects the environment

- Mineral exploitation leaves behind ugly open pits/derelict land.
- It causes air/water/noise pollution
- It leads to soil erosion
- Dumping of heaps of rocks waste litters the surface/ land pollution.
- Water collects in the open craters/pit forming breeding grounds for mosquitoes/ pests
- Mining destroys the bio-diversity/plants and animals. Any 4 x 1=4 mks

- b) i) Method-Shaft method (2 mks)

ii) Part marked

- E- main shaft/vertical shaft
- F- Tunnels/horizontal
- G- Mineral ore
- H- Cage 4 x 1= 4 mks

iii) Problems associated with shaft method

- Sometimes mines are flooded with subterranean water.
- There are occasional emissions of poisonous gases in the mines.
- The dust produced causes respiratory disease
- Sometimes tunnels collapse causing death of miners. any 3 x 2= 6 mks

c) Ways in which gold has contributed to the economy of South Africa.

- Gold is highly priced, thus it earns foreign exchanges which used to improve other sectors of economy.
- Gold provide raw materials for industries make jewellery and other highly valued items thus promoting industrial expansion.
- Gold as a medium of exchange in the world is used in South Africa as a means of paying international debts.
- Gold mining industry has generated employment opportunities which raises the standard of living of the people/earn more income.
- Gold mining has led to the development of towns in the Rand and the Orange Free State creating a large demand for agricultural products.

-Mining of gold has led to the expansion of infrastructure such as transport and communication/provision of social amenities.
 -Gold mining has led to the development of industrial mining skills that are useful in other sectors of the economy.

Any 4 x 2 = 8 mks

10. a) i) Counties in Kenya where wheat is grown on commercial scale

- Uasin Gishu
 - Narok
 - Nakuru
 - Nyandarua
- (Any 2 x 1 = 2mks)

ii) Two wheat-producing provinces in Canada

- Albeta
- Manitoba
- Sankatchewan (Any 2 x 1 = 2mks)

b) i) Physical conditions that favour wheat growing in Kenya and Canada

Kenya	Canada
-Areas where wheat is grown experience at least three months of temp ranging from 15 ^o C-20 ^o C. This facilitate maturity of wheat.	-There are warm summers with average temperatures of about 15.5 ^o C. There are ideal for growing of wheat.
-The area experience a warm dry sunny spell which enhances ripening and harvesting	-The late summer is sunny and this enhances the ripening of wheat
-The area receive between 305mm and 1015mm of rainfall. This is sufficient for growing wheat.	-The regions where wheat is grown receive an annual average rainfall of 560mm. Rainfall is light during germination but increases during the growing summer period.
-Wheat is grown on volcanic soils which are well drained. These soils provide proper anchorage for the wheat stalks.	-Most of the wheat grown have dark-brown chernozem soils which are rich in potassium and phosphate. Are less acidic and experience less leaching
-The area are gently sloping or fairly level-allowing proper drainage and mechanisation	-There are extensive undulating and uninhabited lowlands which encourage large scale mechanised wheat farming
-Grown in high altitude areas	-Wheat is grown in lowlands as the highlands are too cold for the crop.

(Any 3 x 2 = 6mks)

b) ii) Why Canada produces more wheat than Kenya

-In Canada there are more extensive tracks of land suitable for wheat growing whereas in Kenya the farms are relatively small.

-In Canada there are machines that can be used in wheat farming while in Kenya, the machines are few hence have to be shared by farmers.

-More capital is available in Canada, enabling farmers to sustain production while in Kenya shortage of capital is common.

-Farmer in Canada are more experienced due to long history of wheat production whereas in Kenya the technique of growing wheat are not advancing as fast.

-Advanced scientific research in Canada enables the production of higher-yielding seeds, better farm inputs and control of pests and disease, thus overcoming limitation of whereas, while in Kenya there is little research.

-Wheat farmers in Canada specialize in wheat production while in Kenya farmers practice mixed farming.

(Any 3 x 2 = 6mks)

c) i) Stages involved in cultivation of wheat in Kenya

-Land is prepared by ploughing using tractors driver ploughs.

-After ploughing several harrowing are done, manure or phosphate fertilizers are added to the soil after the last harrow.

-Sowing is done using drills that are pulled by tractors. Drills sow the seeds in lines that are 18cm apart.

-Small scale farmers broadcast seeds by hand. -Small scale farmers do weeding manually whereas large scale farmers spray weeds with herbicides.

-The crop is continually sprayed to control pests.

-Small scale farmers harvest by cutting the wheat heads using sharp knives on large farms, harvesting is done by combine harvester.

(Any 3 x 1 = 3mks)

ii) Marketing of wheat in Kenya and Canada

-In Kenya wheat is sold through National cereals and produce board or directly to the millers while in Canada wheat is sold through Canadian wheat board or to the local grain companies.

-In Kenya wheat is for the local market while in Canada wheat is for both local and export market.

-In Kenya prices of wheat depends on demand and supply whereas in Canada prices are uniform and are determined by the Board and the larger grain companies.

-In Kenya the amount of wheat sold depends on the amount of harvested while in Canada the government establishes quotas for the farmers.

(Any 3 x 2 = 6mks)