AGRICULTURE PAPER 1

MARKING SCHEME

1) Name a chemical used to achieve the following during water treatment.

(a)Coagulation of solid particles (½mark)

Alum (½mark)

(b)Softening of water

Soda ash

 (c)Killing pathogens (½mark)

chlorine

2) State two causes of forking in carrots 2x ½= 1mark

 Conditions of heavy soils

- A lot of undecomposed organic matter /manure in the soil

3) Name four books of account kept by a farmer (4x ½ =2 mark)

 Journal

 Cash books

 Inventory

 Ledger

4) Give the element whose deficiency in plants is plants is characterized by the following

 (a) manganese (1x½=1/2 mk)

 (b) calcium (1x1/2=1/2 mk)

 (c) potassium (1x ½ =½ mark)

5) Give two roles of agriculture in industrial growth. (1x ½ =1 mark)

 Provide raw materials for industries

 Provide market for industries

6. Difference between olericulture and pomoculture

 Olericulture –Growing of flowers

 Pomoculture –growing of fruits ( 1x1=1 mark)

7a) Disadvantages of hydram pumps

 -Pumps only stationery water;

 -Pumps little quantities of water (2x ½= 1mark)

(b)State two methods of harvesting maize (1x1=1 mark)

 By removing the cobs from the stalk

 By combine harvester

8) a) The growing of trees and crops and keeping of animals/ pasture on the same piece of land

 b) importance of agroforestry (4x ½ =2 mark)

 - Source of wood fuel

 - Source of income

 - soil conservation/reduce soil erosion/ soil & water conservation

 - Trees serve as wind breaks

 - Labour saving

 - Aesthetic value/ beatify the environment

 - Livestock feed

 - Food (fruits) for humans/farmer

9) Give four farming practices that may help in achieving minimum tillage. (4x ½ =2 marks)

 -Mulching

 -Slashing

 - Use of herbicides

 - Planting cover crops to smoother weeds as well to conserve moisture

 -Cultivating where plant is planted

 - Cultivating when about to harvest a crop and then plant another crop without having to cultivate

10) Define the term “Economic Injury Level” of a crop. (1 x1=1mark)

 When pest population has caused damage beyond tolarance

11) State two conditions when opportunity costs are zero (2x ½ =1)

 - where there are no alternative

 - If anything is given for free

12) Factors that influence solifluction 4x ½ =2

 - Slope of land

 - Nature of the material

 - Climate

 - Vegetation cover

 - Human activities

 - Forces within the earth’s crust

13) Give four conditions that necessitate clearing of land. (4 x ½ =2 marks)

-When opening up virgin land

- Where a stalk growing crop was previously planted.

-Where the interval between primary and secondary cultivation is long.

-Where the land was left fallow for a long time. 4 × ½ = 2 marks

 14) Give four reasons for keeping health records (4x ½ =2 marks)

-To show the health conditions of the animals

-For use in selection and culling of animals

- Help to trace the history of diseases for better treatment

-Shows the costs of treating the diseases for assessing profitability of animals. 4 points × ½ =

15) Name any two diseases that affect bean production in the field. (2 x ½ =1 mark)

 -Bacterial (Hallo) blight.

 - Bean Anthracnose.

16) Benefits of crop rotation (4 x ½ =2 marks)

 Improves soil fertility

 Control weeds

 Improve soil structure

 Control soil erosion

 Maximum utilization of nutrients

 - Control build-up of soil borne pests and diseases

17) State four management practices in a vegetable nursery (4x ½ =2marks)

-Watering

-Pest control

-Disease control

-Weed control

-Pricking out

-Hardening off

18) method of land reform in kenya (4x ½ =2marks)

- land tenure reform /land ownership

- Land consolidation

- Land sub-division /demarcation

- Land adjudication and registration

- Settlement

- resettlement

SECTION B

19.a) i) Whip / tongue grafting

 ii) Tissue culture / banana tissue culture

iii) Aerial layering / marcotting ( ½ x 3 = 1 ½ )

b) Condition under which method carried out

When the root stock have the same diameter as a scion ( ½ x 1 = ½ mk)

 c) Disadvantages of using stem cutting

 i) Stem cuttings does not results in new crop varieties

 ii) Stem cuttings cannot be stored for long

iii) It is difficult to keep stem cuttings tree from diseases

iv) Stem cuttings are bulky to transport ( 2x 1 = 2mark)

20 Name the layers a,b, c and d

(i). a- floating organic matter ( humus)

 b- Water with fine clay particles and dissolved mineral salts.

 c- Sand

 d- Gravel 4 x ½ = 2mks

(ii). It aids in the dispersion of the soil particles. 1xl=lmk

(iii).To show that soil is made up of different sized particles 1mk

 21a) Identify the pests in the illustration. (3 x ½ =1½mark)

 M1 – Bean weevil / bruchid; 4mks

M2 – Weaver bird;

M2: Weaver bird

 M3 – Quelea bird

(b) State two ways by which pest labeled M2 causes loss in cereal crops. (2x½= 2marks)

 - Exposes maize cobs to rain leading to rotting.

 - Strip the leaves.

- damage maize crop during milky stage.

c) State two methods which are used to control the pest labeled M2. (1x2=2marks)

 - Trapping

- Destroying the nest.

- Poisoning

-Scaring.

22a) Identity of the silage making method

 - Trench silo 1mk

b) Precautions during ensiling for high quality silage 2marks

- Fast filling of the material into the silo

- compacting/pressing

- The last layer covered with polythene sheet to prevent air and water

- Drainage channel should be made to ensure run off water is kept away

c) Advantages of silage making over the other method 2marks

- Few field losses

- More nutrients are preserved

- Can be preserved for a long period of time

- No storage problem

- Does not depend much on weather conditions

- Does not entirely require liquid additives

SECTION C 40

23.Agriculture services offered to farmer

a)(i)Training and extension services – Informed education given to the farmers through the field extension officers at divisional levels and chiefs Barazas by the government and other non-government organisation.

 (ii) Banking services-This includes savings and credit schemes, loans etc. farmers can have savings or current a/c. The banks also offer advisory services on credit facilities and investments

 (iii) Credits services (loans)– Farmers can borrow working capital and pay it with interest. Farmers may offer security items as collecteral against the credit.

(iv) Artificial Insemination AI- These can be offered by the government and other private organization. his enables farmers to breed high quality livestock

 (v) Agricultural research. his is scientific research leading to new and better production techniques in crop and livestock production. The research which is done by the gut and other organization is passed to farmers through the extension services system

(vi) Marketing- The farmers are facilitated to move their goods and services from their points of production to consumption organization such as K.C.C, K.T.D.A, K.P.C.U, help farmers to market their farm produce

(vii) Veterinary services –They are services that help farmers to keep healthy animals through control and treatment of parasites, and diseases

 (1mk factor, 1mk correct explanation) max 5 points (Total 10mks)

(b) ways of improving labour efficiency

 - Provision of good & competitive salaries to employees.

 - Educating and training the labourers

 - Provision of proper tools & equipment to the labour force.

 - Provision of god working conditions e.g. healthy environment & proper protective clothing.

 - Providing incentives to the workers

 - Proper supervision of farm labour

 - Mechanization of farm operations

 - Assignment of specific duties to the farm workers.

 - Giving reasonable lengths of working period

 - Promoting individual qualities of farm workers

 - Promoting good human relation between management and farm workers

 (Max. 5 points x1 total 5mks)

c) Functions of co-operative

 - Provide goods and services such as transport /storage / processing

 - Eliminate unnecessary middlemen, hence reduce costs and increase profits to farmers.

 - Educating the members on farming related issues

 - Negotiating fair prices for the farmers

 - Marketing farmers produce

 - Keeping correct records on all co-operative activities

 - Paying dividends to farmers

 - Giving loans to members / providing inputs (5points x 1mk Total 5mks)

24. i) Oxalis: has underground bulbs which regenerates

 ii) Nut grass:- has nuts / tubers / bulbs underground from which it propagates itself

iii) Couch grass:- has underground rhizomes / stems which are difficult to control because they easily regenerates. ( 1x3 = 3mks)

b)i) Weeds have extremely successful means of propagation

 - Produce large quantities of seeds.

 - Remain viable in soil for along time

 - Easily dispersed

 - Propagate vegetative

 - Weeds are excellently adapted to the environment (1x2=2mks)

ii) Five safety measures

i) - Avoid herbicide drift to unintended crops avoid spraying on windy day

ii) - Avoid contaminating animal feeds and water with chemicals

iii) - Avoid spilling herbicides on pasture or fodder

iv) - Left- overs and empty containers must be properly disposed

v) - Spraying equipment must no be washed at water sources.

vi) - Chemicals must be stored in safe places out of reach of children

vii) - Equipment used in spraying herbicides must be thoroughly washed.

 (1x5 = 5mks)

ii) Cultural methods of controlling weeds.

i) Use of cover crop / live mulch:- which form a canopy over the base smothering the weeds

ii) Crop rotation – to break the cycle of specific weeds associated with some crops e.g. blackjack, wild oat on cereals

iii) Mulching – Covers the ground smothering weeds especially inorganic mulch

iv) Flooding:- The growth of non-aquatic weeds is completely discouraged in flooded fields.

v) Timely planting: If planted on time, the crops will establish faster before weeds germinate

1mk for mentioning method 1mk for brief description 2mks each for any 5 Total 10 mks

25. a)GRAPH SHOWING THE SUPPLY AND DEMAND CURVES FOR POTATOES IN 8mks

A LOCAL 1 MARKET

 ii) 3,750 (Three thousand seven hundred and fifty) (1 mark)

 iii) At equilibrium, 12 bags were supplied (1 mark)

b ) Outline the harvesting of coffee under following subheadings

i) Stage of harvesting (2marks)

– Should start four years after planting

– Harvesting should be done when berries are ripe

ii) Procedure of harvesting ( 5marks)

– picking of ripe berries

– picking is done by hand

– picking should be done selectively

– hooked sticks should be used to bend tall branches

- Care should be taken not to break the branches

 iii) precautions when harvesting (3marks)

 - Only ripe berries should be picked

 - green and dry berries picked be sorted out

 - ripe berries should be delivered to factory same day