

SAMIA SUB-COUNTY MOCK AGRICULTURE PAPER1

MARKING SCHEME

Section A

1.

- During dry weather conditions and arid areas
- When growing paddy rice, which requires flooded seedbed
- To supplement rainfall
- To moderate temperature when it's too hot

2.

- Animals are enclosed in an area where management practice such as disease control, improved pastures, supplementary feeding and water are provided.

3.

- Application of lime
- Application of basic fertilizer

4.

- It increases water holding capacities of the soil
- It improves soil structure
- It buffers soil PH
- It improves soil fertility by releasing wide range of nutrients into the soil
- Humus which is mostly dark in color.

5.

- Creates awareness about farming among the youth
- Organize rallies for the members
- Develop leadership qualities among the youths
- Exposing the youth to the existing and improved agricultural technology
- Teaching by carrying practical projects to show that agriculture can be profitable profession.

6.

- Perfect markets –market situations where by firms are completely powerless in determining or influencing prices in the markets

- Imperfect market-situation where firms have some degree of market power to control prices.

7.

- Invoice
- Statement
- Receipts
- Delivery note
- Purchase order

8.

- soil type
- Seed size
- Soil moisture content
- Type of germination
- Ecological condition of the area

9

- Application of herbicides in controlling weed
- Use mulch on the soil surface
- Establishing cover crop on the field
- Timing cultivation
- Restricting cultivation to the area where seeds are to be planted

10.

- Training
- Farm mechanization
- Labor supervision
- Giving incentives and improving terms and conditions of service.

11.

- Agrosilviculture
- Silvopastoral
- Agrosilvapastoral

12. Plant population = Area of land x seed rate

- Spacing of crop

- Formula – ½ mrk

=64 plants

- Calculation – 1 mrk)
- Answer – ½ mrk (2mks) = $160 \times 40 = 6400$ plant
-

13.

- To provide feed on the dry season
- To ensure better and fully utilization of available land
- To distribute available forage for stock throughout the year
- On large scale conserved forage can be sold i.e baled hay.

14.

- Can be used to secure credit facility
- Security of tenure
- Occupant can lease land and get extra income
- Encourages investment in long term and permanent projects.
- Disputes concerning land boundaries or land ownership.

15.

- movement of water from water shades
- Channel erosion caused by flowing water
- Wearing of the sides of the channels
- Scouring of the floor of channel moving water

16.

- Health and free from pests and diseases
- Compatible with different scions
- Resistant to soil borne pests and diseases
- Adaptability of different soil conditions

17

- surface spoilage
- seepage losses
- gaseous losses

18

To settle the landless citizens

- To relieve population pressure in densely populated areas
- Land reclamation especially by creating tsetse fly barriers
- To create self-employment thus improving living standards
- To improve or increase agricultural productivity by farming on land that was previously unused

19.

- Stage of maturity of the crop (concentration of required chemicals)
- Use of the crop
- Taste and preferences of the consumers
- Weather conditions, hence liability of spoilage moisture.
- Market demand
- Profit margin

SECTION B

20.(a) Soils in each of the funnels

H – Sand (1mk)

J – Loamy (1mk)

K – Clay (1mk)

(b) Soil with the highest porosity

H / Sand soil (½ mk)

(c) Suitable soil for planting paddy rice

K / Clay soil (½mk)

21. The diagrams below represent some varieties of Sorghum crop. Study them carefully and answer the questions that follow.

- a) A= Compact panicle (1mk)
 B= Open Panicle (1mk)
 C= Goose necked Panicle (1mk)
- b) Varieties C- Goose necked panicle makes it difficult for birds to feed on the grains
- c) (i) Sorghum shootfly (*Antherigonavaria*)
- (ii) - early planting
- Closed season
 - Spraying/dusting appropriate
 - Insecticides

22. Name the farming practice illustrated above.(1marks)

Chitting/ sprouting/shooting/ breaking dormacyn in potato setts.

(ii) State the procedure followed to carry out the practice you have named in (i) above (3marks)

- Potato setts of about 3-6cm in diameter are selected.
- look for a partially darkened room.
- Arrange the potato setts in layers of 2or 3 tubers with the rose-end facing upwards and heel end downwards.
- Diffused light is then passed through.

(iii) state the importance of the carrying out the farming practice. (1 mark)

Leads to sprouting of the potato setts hence grow/ mature faster when grown in the seed bed
 Gives them a head start.

23. Identify of weeds J, and K.

E- Thorn apple – *Daturastramonium*

F- Double thorn – *Oxygeriumsinuatum*

(2 = 2 marks)

b) Effects of weed labeled j to livestock

It is very poisonous to livestock

(1 x 1 = 1 mark)

c) Reason why it is difficult to control weed L

Because it has well developed underground rhizomes

(1 x 1 = 1 mark)

SECTION C

24. Production of onion

a. Ecological requirements

- i.) Altitude above 300m above sea level ,optimum 2100m
- ii.) Temperature 13 to 29°C
- iii.) Rainfall over 1000mm well distributed throughout the growing period .Other wise irrigate
- iv.) Soils-Fertile and well drained soils (4 Marks)

b. Planting

Crops can be sown directly into the main field or started off in a nursery bed

c. Direct seeding method

- i.) Drilling seeds in rows 30cm apart and 10 to 15 cm within the row
- ii.) Seeding rate for direct seedlings is 7 to 11 kg/ha

d. Transplanting method

- i.) Select a suitable site which is well drained
- ii.) Dig deeply and remove all perennial weeds
- iii.) Harrow to a fine filth
- iv.) Mix soil well with rotten manure
- v.) Level the nursery using a rake
- vi.) Sow the seeds in drills 13mm deep
- vii.) Cover seeds lightly with soil and watch
- viii.) Transplant at age of 8 weeks or thickness of a pencil
- ix.) Spacing 30 to 38 cm x 10 to 15 cm
- x.) Apply DSP fertilizer in drills at the rate of 250 kg / ha
- xi.) Trim roots and some leaves to regulate growth (5 Marks)

c. Field management practices

- Thinning
- Weeding
- Top dressing using CAN
- Pest control
- Disease control

d. Harvesting and marketing

- Harvested at green stage or dry bulbs
- Harvesting done / start when leaves stale drying, the crops should be broken or bend at the neck to hasten withering of stem
- Harvesting can be done manually or mechanized
- Bulbs should be dried in the sun and outer skin peeled off ready for storage
- Grading may be done to small medium and large according to market tastes
- Separate the damaged onions or the thick -necked onions to avoid rotting
- Store onions in well ventilated area / place
- Market according to size and the size of the net bags (7 marks)

25.a. Uses of farm records

- Guide farmer in planning and budgeting
- Show whether farmer is making profit or losses
- Show history of the farm
- Determine farmer's credit worthiness
- Help in sharing profit, bonuses or losses in partnership or co-operative basis
- Comparing performance of different enterprises in the farm
- Helps in settling disputes among heirs.
- Help in supporting insurance claims in the event of death (8 x 1 = 8)
- Remind farmer his/her debts or liabilities
- Help in selection of breeding stock and culling
- Detect theft or loss cases on the farm
- Used in making management decisions
- Pinpointing the weaknesses of the farm business or areas
- Accurate assessment of income tax to avoid over taxation or under taxation.
- **b.Adjusting to risks and uncertainties**
 - Adopting modern methods of production
 - Flexibility in production methods
 - Input rationing
 - Taking insurance cover (6 Marks)
 - Selecting more reliable enterprises
 - Diversification of enterprises
 -

c.use woven baskets to avoid premature fermentation of flowers

-handle flowers carefully to avoid damage

-don't pick wet flowers

-avoid any contaminations

-dry flowers immediately after picking to a moisture content of 10-12 % to prevent fermentation

Flowers should not be compacted in the basket

26a. Causes of land fragmentation

- Shifting cultivation
 - Inheritance
 - Selling and buying the landless
 - Compensation by the government (5 x 1 = 5)
- Marks

b.Advantages of land consolidation and registration

- Reduces land ownership disputes
- Full prone of land ownership proper supervision of land
- Economic use of time and save on transport cost
- Easy provision of Agricultural advice
- Sound farm planning and adoption of crop rotation programme. (8marks)
- Facilitates soil conservation and land improvement
- Facilitates soil conservation and land improvement
- Facilitates construction of permanent structures

- Weed, pest and disease control is enhanced
- Incentive to the farmer
- Used as security when securing loans

c. Objectives of land return in Kenya

- Encourage land improvement and conservation measures
- Promote commercial farming
- Encourage investment in Agriculture
- Enable Agriculture meet changing market demands
- Increase productivity of labour and land by putting idle land into use
- Enhance utilization of land and hence increase Agricultural out put
- Settle landless people

(7marks)