**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 $\frac{(400×300)}{75×25}=\frac{120,000}{1875}$

=64 plants

* Calculation – 1 mrk)
* Answer – ½ mrk (2mks) = 160 x 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 bay.

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**.

1. A= Compact panicle (1mk)

B= Open Panicle (1mk)

C= Goose necked Panicle (1mk)

1. Varieties C- Goose necked panicle makes it difficult for birds to feed on the grains
2. (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 $×1$ = 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

1. Altitude above 300m above sea level ,optimum 2100m
2. Temperature 13 to 29OC
3. Rainfall over 1000mmwell distributed throughout the growing period .Other wise irrigate
4. 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

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

d.Transplanting method

1. Select a suitable site which is well drained
2. Dig deeply and remove all perennial weeds
3. Harrow to a fine filth
4. Mix soil well with rotten manure
5. Level the nursery using a rake
6. Sow the seeds in drills 13mm deep
7. Cover seeds lightly with soil and watch
8. Transplant at age of 8 weeks or thickness of a pencil
9. Spacing 30 to 38 cm x 10 to 15 cm
10. Apply DSP fertilizer in drills at the rate of 250 kg / ha
11. 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 marking 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 uncertainities**

 – 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 (7marks)
* 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