# Agriculture p1

# MARKING SCHEME

**SECTION A [30 MARKS ]**

1. .
* Reduce competition for nutrients /light /space with crops .
* To reduce spread of weed seeds in the crop field .
* To prevent allelopathic effect of weeds on crops .
* To prevent injury to the farmer and livestock .
* Avoid contamination of crops with weeds and weeds seeds . [2 marks ]
* Bulky hence difficult to transport .
* High likelihood of offspring inherited diseases from the mother plant .
* May lead to overcrowding around the mother plant .
* Not possible to develop new banana varieties .

[2 marks]

* Necessary in chlorophyll formation .
* Promotes nitrogen fixation .
* Activates enzymes .
* Synthesis of oil in 0il crops . [2marks]
* When the nutrients are absorbed by roots in the soil with difficult / during dry season .
* When nutrients are required in smallest possible quantity / apply trace elements .
* When the crops have to be sprayed regularly with other chemicals e.g. insecticides .[1mark]
* Nitrogen ,Calcium , Magnesium , Potassium , Sulphur.

[ 1 mark ]

6 Should be healthy / disease resistant .

* Should be compatible with several scions .
* Should be adaptable to different soil conditions .
* Can withstand water logging . [ 2 marks ]

7

* Do not cut side branches growing below the pruning height .
* Tea plant should be pruned parallel to the slope .
* Avoid long slopping cuts as they take long to heal .
* The pruning knife should be sharp always .
* In hot areas place cut branches on top of the frame to offer protection against hot sun rays .[2mks.]

8

* Leaf angle to the stem
* Location of buds / growing points
* Depth of root system
* Nature of the leaf surface e.g. hairy ,waxy ,thick cuticle
* Different height
* Presence of underground structures[2marks ]

9

* Selling a portion of ones land .
* Sub dividing to heirs .
* Government may need to settle the land less .
* Shifting cultivation . [ 2 marks ]

10

* Rogueing
* Uprooting volunteer crops .
* Destroying crop residue .
* Timely weeding . [ 1 mark ]

11

* Control non-aquatic weeds .
* Control soil borne pests .
* Avail water for the crop –growth .
* Avail the relative humidity for pollination in rice .

[ 2 marks ]

12 Their mode of feeding

-Crops attacked

-Stage of development of a pest

-Stage of growth of the crop attacked

-scientific classification

-level of damage

-The place where they are found (2mks)

13 .-Gravitational flow of surface materials saturated with water.(1mk)

14

* Increase water infiltration hence reduce the volume of run off /speed of run off .
* Act as wind break .
* Reduce the impact of rain drops on the soil .
* Tree roots bind the soil particles together reducing their erosion [ 2 marks ]

15

* Free from pests and diseases
* Free from seeds of weeds
* Should not be from over mature plants as they take long to decompose
* They should be rich in nutrients [2 marks]

16

* Holds adequate moisture for crop growth
* Has better aeration
* Well drained
* Allows better root penetration / tuber expansion .

17

* Encourage conservation measures on land
* Improve productivity of land and labor
* Encourage commercial instead of subsistence production .
* Encourage farmers to invest more through offering security
* Allow flexibility in production depending on the market
* Effect utilization of natural resources through irrigation

**SECTION B**

18(i) Ridging

(ii)

* Extension of tubers.
* Make harvesting of root crops easy.
* Prevents soil erosion.
* Conserves soil moisture.

(iii)

* Rolling
* Leveling
* Sub-soiling

19(i) Indore / pit method.

(ii) Vegetables

(iii)

* Brown in colour.
* Light in weight.
* The original material is not noticeable.
* When the composted material has a forest soil smell. (any 3x1 = 3mks)

20(a) Field operation record.✓ (1 x 1 = 1mk)

(b

* Pest and disease control. ✓
* Weeds and their control. ✓
* Harvesting date. ✓
* Yield per hectare. ✓ (any 2 x ½ = 1mk)

(c) Used to calculate the cost✓ of production for each field. (1 x 1 = 1mk)

21(i) Thorn apple / Datura stramonium. (1 x 1 = 1mk)

(ii) Annual weed. ✓ (1 x 1 = 1mk)

(iii)

* Competes with crops for nutrients, space, light and moisture.
* It lowers quality of farm produce.
* It is poisonous to animals when eaten.
* It taints milk lowering its quality.(any 2 x 1 = 2mks)

(c) (i) To produce clean fruits.

SECTION C

23. (a)

* Breaking seed dormancy
* Burning the seeds
* Scarification/physical breaking of seed coat
* Seeds subjected to heat to destroy hard coat
* Soaking in acid and washing in running water

***Stating 1mk explanation-1mk Any 4=(8mks)***

(b)

* Purpose of the crop
* Soil moisture content
* Fertility status of the soil
* Growth of the crops
* Type of machine used
* Number of seeds per hole
* Disease/pest/weed control method ***Naming 8× 1/2 mks=4 mks***

 ***Explaining 8×1/2mks=4 mks***

 ***Total=8 mks***

(c)

* Purpose of the crop
* Market method
* Concentration of chemical required e.g. tea
* Weather conditions ***(4×1=4 mks)***
* Expectation of future trend of business/price expectation.
* Taboos and cultural /religion beliefs

 (ii) Easy spraying and harvesting.

 (iii) Control incidences of diseases outbreak such as blight.

 (iv) To prevent infestation by soil borne pests.

22(a) (i) R✓ (ii) S✓ (2 x 1 = 2mks)

(b)

* It is a source of nutrients / vitamins. ✓
* Can be sold to earn income. ✓

(c)

* Prolongs maturity of tomato fruits.
* Causes cracking of fruits.
* Causes blossom end rot. (2 x 1/2 = 1mks)

24a) Ten safety precautions that should be taken when using herbicides to control weeds.

* One should wear protective clothing such as masks, gloves, overalls and boots
* Avoid inhaling the herbicides by not smoking while spraying/spray along the direction of the wind.
* Read the manufactures instructions and follow them
* Avoid sucking or blowing blocked nozzles
* Immediately after handling chemicals the user must wash thoroughly to remove chemical traces
* Herbicides should be stored in a safe place away from food and out of reach of children.
* Equipment used in herbicides application should be washed in water sources used by humans and animals/to prevent pollutions.
* Empty containers and left-avers should be properly disclosed off in such a way that they will to pose danger to people, animals or the environment.
* Avoid herbicides drift to unintended crops/fields/water sources/spray when the weather is calm.
* Avoid chemical spillage in places that are unintended/where it may cause danger to human and animals.
* Equipment should be washed thoroughly to avoid damages to crops/animals in subsequent operations
* Avoid eating or handling food before washing.

b) Explain ten farming practices which help conserve soil on a farm (10mks)

* Mulching to reduce the speed of run-off
* Controls farming by reducing the speed of run-off
* Terracing
* Afforestation/ reafforestation/tree planting
* Establishing and maintaining vegetated water ways to reduce speed of run-off.
* Cover cropping
* Minimum tillage
* Contour ploughing
* Strip cropping
* Crop rotation
* Manu ring/use of organic manure

25(a) Sitting the nursery consider the following

1. Cropping history the site should have been planted with a member of the kales family in the previous season
2. The place should be well sheltered from strong winds
3. The place should be accessible **4 x1= 4mks**

(b) Nursery bed preparation

* The bed should 1m wide to avoid trampling
* Clean the land and cultivate removing plastics, perennial weeds etc
* Raise the soil 10-15 cm above ground for drainage **4 x**$\frac{1}{2}=2mks$

(c) Nursery bed management

* Remove mulch as soon as germination occurs
* Erect shade 0.75m high
* Watering in the morning and evening
* Control weed
* Control diseases
* Carry out pricking if necessary
* Harden the seedling when 3-4 works **4 x 1=4mks**

Transplanting

* Transplant at 4-6 true leaf/stage/10-15cm high
* Water the seedling 4 hours before lifting
* Dig holes 10-15cm in seed bed
* Lift using garden trowel,wile a bole of soil
* Tran port carefully to nursery bed **5 x 1= 5mks**