AGRICULTURE MARKING SCHEME

FORM TWO SCHEME

- Molybdenum
- Zinc
- Boron — 4 X ½ = 2mks

a)

- Fertilizer
- Liming — 2 X 1 = 2mks

b)

- Highly soluble in soil water
- Easily leached
- Have short residual effect
- Have scorching / burning effect
- Highly volatile
- Are hygroscopic
- Highly corrosive — 4 X ½ = 2mks

c)

- Protein formation
- Forms part of the chlorophyll
- Regulates availability phosphorus and potassium in plants
- Increases the size of grains and there protein content in cereals — 2 X ½ = 1mks

2.

a)

- Vegetative materials
- Seeds — 2 X 1 = 2mks

b)

- Type of machinery to be used
- Soil fertility
- The size of the plant
- Moisture availability
- Use of the crop
- Pest and disease control
- Growth habit of the crop — 4 X ½ = 2mks

- Land is abundant
- Population is sparse
- Number of livestock per unit area is low
- Land is communally owned 4 X ½ = 2mks

3.

- Soil purity
- Germination percentage
- Spacing
- Number of seeds per hole
- The purpose of the crop 4 X ½ = 2mks

4.

- Parent rock material
- Climate
- Topography
- Time
- Biotic factors 4 X ½ = 2mks

5.

a)

- To increase durability
- To reduce replacement cost
- Increase efficiency
- To avoid injury to the user
- Avoid damage to the tool 4 X ½ = 2mks

b)

- Hand digging
- Mechanical cultivation
- Use of an ox-plough 2 X ½ = 1mk

6.

Fertilizer grade indicates a gurantee of minimum content as percentage of N:P_2O_5:K_2O while Fertilizer ratio is the relative percentage expressed as a ratio of the N:P:K. 2 X 1 = 2mks

7.

a)

- Rainfall
- Temperature
- Wind
- Relative humidity

- Light 4 X ½ = 2mks

b)

- Intensive
- Extensive 2 X ½ = 2mk

8.

- Topography
- Type of crop to be irrigated
- Type of soil
- Capital availability
- Water availability 4 X ½ = 2mks

9.

- Determines the presence or absence of nutrients
- Determine the type and the role of micro0organisms in the soil
- Determine the presence or absence of types of pest in the soil
- Determines the presence or absence of types of diseases in the soil
- Determines the type of crop to grow 4 X ½ = 2mks

10.

$$\text{Plant population} = \frac{\text{Land area}}{\text{Spacing area}}$$

If 1 Hectare = 10000 M^2

What about 2 Heactare = $\frac{2 \times 10000}{1}$

= 20000 M^2

If 100 CM = 1 M

What about 20 CM = $\frac{20\ CM \times 1\ M}{100CM}$

= 0.2M

What about 10 CM = 20 CM X 1 M

= 0.1M

Plant population = 20000 / 0.2 X 0.1

= 1000000

80% germination percentage thus = 80/100 X 500000

= 800000 plant population

11.

a)

Limited supply of available resources for production 1 X 1 = 1mk

b)

- Production
- Inventory
- Field operation records
- Marketing
- Labour 4 X ½ = 2mks

c)

- Help to determine the value of the farm/ determine assets and liabilities.
- Provide history of the farm.
- Assist in planning and budgeting in various fields.
- Helps to detect losses or theft in the farm.
- Assists when sharing losses or profits (dividends)for communal owned farms/ partnership.
- Help to settle disputes in the farm among heirs.
- Help to support insurance claim e.g. against fire and theft.
- Provide labour information like terminal benefits, NSSF due, Sacco dues for all employees.
- Help to compare the performance of different enterprises within a farm or other farms.
- Help in the assessment of income tax to avoid over or under taxation.
- Records, helps to show whether the farm business is making profit or losses. This information
- helps in obtaining credit. 4 X ½ = 2mks

12.

- Soil water
- Soil air
- Soil living organisms
- Soil mineral matter
- Soil organic matter 4 X ½ = 2mks

13.

- Mason's trowel
- Wood float
- Steel foat
- Spirit level
- Plumb bob

- Mason's square
- Spade
- Wheelbarrow
- Mason's hammer 4 X ½ = 2mks

14.

a)

- Ploughing at the same depth
- Using heavy machineries on a wet ground 2 x 1 = 2mks

b)

- Production of one crop
- Large tract of land
- High capital
- High labour
- High yield
- Mechanization 4 X ½ = 2mks

c)

- Surface
- Sub-surface
- Drip / trickle
- Sprinkler / Overhead 4 X ½ = 2mks

15.

a)

A fertile soil is soil with all the nutrients in there right proportions to support plant growth

1 X 1 = 2mks

b)

- Green manure
- Farmyard manure
- Compost manure 2 X ½ = 1 mk

16.

a)

10 – Phophoruspentoxide or P_2O_5

0 – potassium oxide or K_2O 2 X ½ = 1 mk

b)

100 Kg of Ammonium Sulphate = 20 Kg N

What about 450Kg of Ammonium Sulphate = $\frac{450\ Kg \times 20Kg\ N}{100\ Kg}$

= 90 Kg N

17.

a)

Irish potato — 1 X 1 = 1mk

b)

X – Eye
Y - Bud — 2 X 1 = 2mks

c)

Chitting — 1 X 1 = 1mk

d)

- Diffused light
- Partially darkened room — 1 X 1 = 1 mk

18.

- Provides raw materials to industries
- Market for agro-based industries — 2 X 1 = 2mks

19.

- Causes physical damage to crops.
- Cause rapid spread of diseases/ pests/ weeds.
- Can cause water stress as a result of evaporation.
- Causes stress of crops due to chilling caused cold winds.
- Encourage transpiration hence water and mineral uptake — 4 X ½ = 2mks

20.

a)

J – Platy
K – Granular — 2 X 1 = 2mks

b)

(i) Air space
(ii) Humus with clay — 2 X 1 = 2mks

c)

- Impede drainage
- Impede root penetration — 2 X 1 = 2mks

21.

a)

- Brings leached nutrients to the surface
- Breaks hard pans
- Promotes aeration of the soil
- Promotes water infiltration
- Ensures better root penetration — 4 X ½ = 2mks

b)

- Press the seeds against the soil moisture
- Controls soil erosion
- Ensure uniform germination
- Controls removal of small seeds by wind
- Breaks large soil cods — 4 X ½ = 2mks

c)

- Improves soil aeration
- Raises soil temperature
- Increases activities of micro- organisms
- Increases soil volume
- Prevent accumulation of poisonous substances in the soil — 4 X ½ = 2mks

22.

a)

Marcotting — 1 X 1 = 1mk

b)

- Remove bark and cambial layer
- Rooting medium applied
- Wrap with a polythene sheet — 2 X 1 = 2mks

23.

- Dam
- Weir
- Roof catchment
- Rock catchment
- Retention ditches
- Ponds/ water pans
- Wells
- Micro-catchment — 4 X ½ = 2mks

24.

a)

- Well drained place
- Direction of prevailed wind
- Size of the farm

- ❖ Accessibility 2 X 1 = 2mks

b)

- ❖ Applying basic fertilizer
- ❖ Addition of lime 2 X 1 = 2mks

25.

a)

1 – Gutter
2 – Overflow
3 – Drainage pipe 3 X 1 = 3mks

b)

- ❖ Free from disease causing organism
- ❖ Free from chemical impurities
- ❖ Free from smell and bad taste
- ❖ Free from sediments 4 X ½ = 2mks

26.

a)

- ❖ Used to establish pathogen-free plants
- ❖ Used in mass production of propagules
- ❖ Is fast and requires less space 2 X 1 = 2 mks

b)

Seedbed is land prepared ready to receive seedling while seedling bed is a special type of nursery bed prepared to raise seedlings received from an overcrowded nursery bed

2 X 1 = 2mks