

AGRICULTURE MARKING SCHEME

FORM TWO SCHEME

TERM 11 2017

- ❖ 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

c)

- ❖ 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 guarantee of minimum content as percentage of N:P₂O₅:K₂O 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 microorganisms 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 M²

If 100 CM = 1 M

$$\begin{aligned} \text{What about 2 Heactare} &= \frac{2 \times 10000}{1} \\ &= 20000 \text{ M}^2 \end{aligned}$$

$$\begin{aligned} \text{What about 20 CM} &= \frac{20 \text{ CM} \times 1 \text{ M}}{100 \text{ CM}} \\ &= 0.2 \text{ M} \end{aligned}$$

What about 10 CM = 20 CM X 1 M

= 0.1M

$$\begin{aligned}\text{Plant population} &= 20000 / 0.2 \times 0.1 \\ &= 1000000\end{aligned}$$

80% germination percentage thus = $80/100 \times 500000$
= **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

❖
Ste
el
foat

❖
Spir
it
leve
l

❖
Plu
mb
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 – Phosphoruspentoxide 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 = $\frac{450 \text{ Kg} \times 20\text{Kg N}}{100 \text{ Kg}}$

= 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
draine
d
place

❖
Directi
on of
prevai
led
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