OPENER EXAMINATION – TERM 2 2024

AGRICULTURE

TIME: 2 HOURS
FORM TWO

Answer all questions in the space provided

1. Describe five factors that determine the number of cultivation when preparing a seedbed (2 ½ mks)

The prevailing condition of the farm after first cultivation
The type of crop planted previously
The size of soil clods
The depth of soil required

2. State four importance of sub-soiling as a tertiary operation. (2mks)

Breaking the soil hard pan
Making the leached nutrient available to plant
Help in infiltration of water down the soil profile
Helps in aeration of the soil

3. The diagram below illustrate a tertiary operation carried out in a farm.
   i. Identify the tertiary operation illustrated (½mks)

Ridging method

   ii. State the importance of the tertiary identified (3mks)

Helps the conservation of water
It help in root development
Prevent lodging in crop

   iii. Give other tertiary practices carried out in the field other than the above operation. (3mks)

Leveling
Rolling
Sub-soiling
Harrowing

4. How are hard pans caused by cultivation. (2mks)

Over cultivation of same depth for long time
Working on wet soil

5. The diagram below show a system of irrigation. (1mk)

i. Identify the method of irrigation. (1mk)

Surface irrigation/Drip irrigation

ii. State four disadvantages of the above irrigation system. (2mks)

Expensive to install pipe and maintain
Creates problem during other farming practices
The pipes re exposed to adverse weather condition
Breakages of pipe create high cost of production

iii. State three factors that determines the type of irrigation in the farm. (1 ½ mks)

Availability of water
The size of the farm
The labour associated with each type

iv. Give the disadvantages of the above system of irrigation. (2mks)

6. Explain the process of water treatment. (5mks)

Filtration at water intake
Softening
Coagulation and sedimentation
Filtration in tanks
Chlorination
Storage

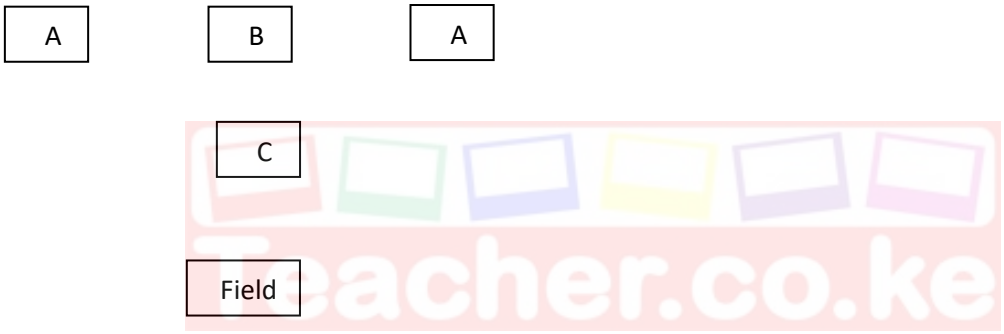
7. Differentiate between dam and weir. (2mks) **Dam is a construction/structure constructed across a river that increase the water volume while weir is construction that is built across a river that holds water and allow it to overflow**

8. State four methods of drainage. (2mks)

Use of French drain
Combered beds
Use of pipes
Planting certain types of trees

SECTION B

9. The illustration below shows a four heap system of makig compost manure.Study it and answer the following question that follow.



i. By show of an arrow indicate on the diagram above how the following material should be transferred from one heap to another. (4mks)

3-6 weeks in each step

ii. How long does the material take to be ready for application in the field.(3mks)

Proper decomposition

Facilitation of air circulation

Proper microbial activities

iii. Give reason for turning the material in the heap regularly. (2mks)

Regulation of internal temperature

Create moist environment for microbial active ities

iv. Give two reason why it is necessary to sprinkle water on the heap. (2mks)

10. Outline and explain four types of farm records. (4mks)

Health records

Breeding records

Labour records

Inventory records

11. Calculate the amount of K2O contained in 400kg of compound fertilizer 25:10:5.Show your working. (3mks)

5kg of K2O=100kg of 25:10:5

$\frac{400kg \times 5}{100} = 20kg\ K_2O$

12. State the information that should be contained in sampled soil. (3mks)

The number of farmer

The names ad identification of the farmer

The land number and date of sampling

13.

i. Distinguish between fertilizer grade and fertilizer ratio. (2mks)

Fertilizer grade indication of the amount of each nutrient contained in fertilizer while fertilizer ratio is relative proportion of the three primary macro nutrient.(N.P.K)

ii. Outline the deficiency symptoms of lack of Nitrogen in plant. (4mks)

Delayed maturity/Stunted growth

Chlorisis in leafs

Premature ripening of fruit

Premature leaf falling

iii. Differentiate between trace elements and major elements. (2mks)

Trace element there are element required in relatively small quantity by plants while major elements are those which plant requires them in large quantity

14.

i. State two reasons for seed treatment of trees species before planting . (2mks)

To avoid being damaged by soil borne pest

To break seed dormancy

To incorporate certain nutrients

ii. Give three factors that determine spacing of crops. (3mks)

Growth nature nature of crop

The size of planting material

To allow farm mechanization

To avoid over crowding of crops that leads to competition of nutrients

i. A farmer planted 100 maize seed and 90 maize seeds germinated. Calculate the germination percentage. (2mks)

% germination=$\frac{\text{Number planted}}{\text{Germinated plant}} \times 100$

$\frac{100}{90} \times 10 = 11.1\%$

ii. Given that maize is planted at a spacing of 75cm by 25cm.Calculate the plant population in a plot measuring 4m by 3m. (2mks)

=Area of the land

Spacing of crop

400cm×300cm

75cm×25cm

15. Distinguish between over sowing and under sowing. (2mks)

Oversowing is the introduction of a pasture legumes such as desmodium in an existing grass pasture while undersowing is establishing a pasture crop under a cover crop e.g maize