**END-TERM 1 2025 EXAM**

 **AGRICULTURE**

**TIME: 2 HOURS**

**FORM 2**

**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**

1. 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**

1. The diagram below illustrate a tertiary operation carried out in a farm.
2. Identify the tertiary operation illustrated

(½mks )

**Ridging method**

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

**Helps the conservation of water**

**It help in root development**

**Prevent lodging in crop**

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

**Leveling**

**Rolling**

**Sub-soiling**

**Harrowing**

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

**Over cultivation of same depth for long time**

**Working on wet soil**

1. The diagram below show a system of irrigation. (1mk)
2. Identify the method of irrigation. (1mk)

**Surface irrigation/Drip irrigation**

1. 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**

1. 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**

1. Give the disadvantages of the above system of irrigation. (2mks)
2. Explain the process of water treatment. (5mks)

**Filtration at water intake**

**Softening**

**Coagulation and sedimentation**

**Filtration in tanks**

**Chlorination**

 **Storage**

1. 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**
2. State four methods of drainage. (2mks)

**Use of French drain**

**Combered beds**

**Use of pipes**

**Planting certain types of trees**

**SECTION B**

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

 A

 B

 A

 C

 Field fField

1. 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**

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

**Proper decomposition**

**Facilitation of air circulation**

**Proper microbial activities**

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

**Regulation of internal temperature**

**Create moist environment for microbial active ities**

1. Give two reason why it is necessary to sprinkle water on the heap. (2mks)
2. Outline and explain four types of farm records. (4mks)

**Health records**

**Breeding records**

**Labour records**

**Inventory records**

1. 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**

**400kg×5 =20kg K2O**

**100**

1. 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**

1. 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)**

1. 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**

1. 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

1.
2. 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**

1. 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**

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

**% germination=Number planted × 100**

 **Germinated plant**

**100 × 10=11.1%**

**90**

1. 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**

1. 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**