AGRICULTURE
FORM 2
OPENER EXAMINATIONS -TERM 2 2025 – MARKING SCHEME
TIME: 1 ¼ HOURS

1. State three reasons why agriculture is important. (3mks)
   - ✓ **Source of food**
   - ✓ **Source of employment**
   - ✓ **Source of raw materials for agro based industries**
   - ✓ **Provision of foreign exchange**
   - ✓ **Source of capital**

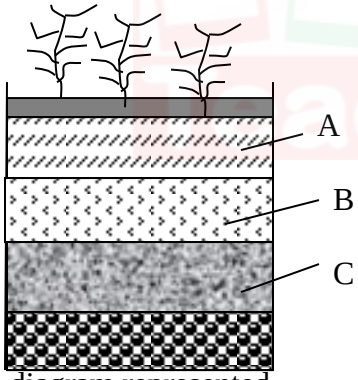
2. Differentiate between olericulture and pomoculture as used in crop production. (1mk)

Olericulture – growing of vegetables
Pomoculture – growing of fruits

3. List two aspects of light that influence the growth. (1mk)
   - **Light intensity**
   - **Light wavelength**
   - **High duration**

4. List three physical weathering agents in the soil formation process. (1 ½ mks)
   - **Wind**
   - **Moving ice**
   - **Temperature changes**
   - **Moving water**

5. The diagram below illustrates a feature observed after digging the soil several meters deep. Study the diagram carefully and answer the questions that follow.



a) Identify the diagram represented. (½ mk)

Soil profile

b) Name parts labeled. (3mks)

A – Top soil
B – Subsoil
C – Water heard rock/ substratum

6. State two reasons why burning lf land is discouraged. (1mk)
   - **Destroys soil organic matter**
   - **Kills soil living organisms**
   - **Lead to loss of moisture**
   - **Leads to soil structure**
   - **Destroys soil structure**
   - **Destroys plant nutrients**

7. Name two types of spanners that can be found in the farm. (2mks)
   - **Open ended spanner**

- **Adjustable spanner**
- **Ring spanner**

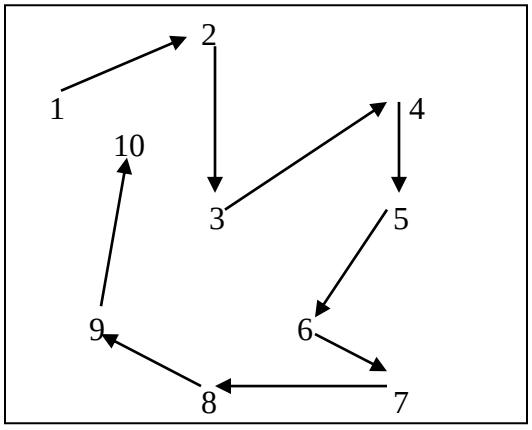
8. State two methods of land clearing. (2mks)
   - **Tree felling**
   - **Burning**
   - **Slashing**
   - **Use of chemicals**

9. a) Give three characteristics of nitrogenous fertilizers. (3mks)
   - ✓ **High soluble in soil water**
   - ✓ **Short residual effect**
   - ✓ **Have a scorching effect**
   - ✓ **They are hygroscopic**
   - ✓ **They are corrosive**
   - ✓ **They are easily leached**
   - ✓ **They are volatile**

b) State three functions of nitrogen in crops. (3mks)
   - ✓ **Required in protein synthesis**
   - ✓ **Hasten vegetative growth in crops**
   - ✓ **It's a constitute of the chlorophyll molecule**
   - ✓ **Increase the size of cereal grains**
   - ✓ **Regulate availability of phosphorous and potassium**
   - ✓ **Improve succulence in crops**

c) State two symptoms of nitrogen deficiency in crop. (2mks)
   - ✓ **Chlorosis of leaves**
   - ✓ **Stunted growth**
   - ✓ **Premature growth**
   - ✓ **Premature repening of crops**
   - ✓ **Premature leaf fall**
   - ✓ **Leaves turn brown**

10. The diagram below shows a soil sampling method.



i) Identify the method. (1mk)

Zigzag

ii) State four activities that are carried out during soil sampling in the field. (4mks)
   - **Removal of vegetation/ clearing of bushes.**
   - **Marking the point of sampling by use of pegs.**
   - **Make vertical cuts and scooping soil from marked points**
   - **Putting samples in a clean container.**

- **Pack a subsample in a smaller container ready to be sent to the laboratory for soil testing.**

iii) What information should the sample have before being taken to the laboratory. (2mks)

- **Name and address of farmer**
- **Locality of the farm**
- **Field number**
- **Date of sampling**

11. List four ways of applying fertilizers in crops. (2mks)

- **Broadcasting**
- **Foliar application**
- **Side dressing**
- **Drip application**
- **Hole placement**
- **Fertigation**

12. Differentiate between macro-nutrients and micro-nutrients. (2mks)

Micro-nutrients - are required by plants in relatively large quantities
Micro-nutrients – are required by plants in small quantities.

13. The following is a list of plant nutrients copper, calcium, molybdenum, zinc, iron, phosphorous, carbon, sulphur and magnesium which of the above plant nutrients are:-

a) Macronutrients. (2mks)

Calcium, nitrogen, phosphorous, carbon, sulphur and magnesium.

b) Micronutrients. (1mk)

Copper, molybdenum, zinc, iron

c) Fertilizer elements. (1mk)

Nitrogen, phosphorous

d) Liming elements. (1mk)

Calcium, magnesium and sulphur

14. a) Distinguish between straight and compound fertilizers. (2mks)

Straight fertilizer – supply only one of the fertilizer elements
Compound fertilizer supply two or three fertilizer elements

b) A farmer applied 200kg of CAN (20%N) per hectare on his five hectare maize crop. Calculate the amount of nitrogen the farmer applied on his crop. Show your working.

%Nutrients = $\frac{NC \times 100}{TW}$

2x20 = $\frac{NC}{200} \times 100$

= 40kg/ha
In 5 ha = 40 x 5 = 200 kg N
OR
100 kg contains 20 kgN
200 kg

= $\frac{200kgN \times 20kgN \times 20}{100}$

= 40kgN
In 5ha = 40 x 5 200kg N

15. State two reasons for applying phosphatic fertilizers during planting. (2mks)

- **Less soluble**
- **Promotes root development**
- **Has slight scorching effect**
- **Long residual effect**

- **Not easily reached**

16. The following is a list of plant nutrients copper, calcium, nitrogen, molybdenum, zinc, phosphorous, carbon, sulphur, iron and magnesium. Which one of the above plant nutrients is mainly known for:-

i) Promoting root development (1mk)

Phosphorous

ii) Preventing blossom end rot disease. (1mk)

Calcium

iii) Strengthening plant stalks to prevent lodging. (1mk)

Calcium