**AGRICULTURE FORM 2 MARKING SCHEME**

**END TERM EXAM FOR TERM 1-2023**

**NAME:…………………………………………………………………ADM.;………………….CLASS:……..**

**AGRICULTURE FORM 2**

**Marking scheme**

**TIME; 2HRS**

**INSTRUCTION**

* **This paper has two section A and B**
* **Answer all questions in these sections in the spaces provided after the questions.**

**SECTION A(70MKS)**

 **1. Reasons for organic farming**

* **Helps to balance features of fertile soul e.g. organic matter and soil micro organisms**
* **Use of local materials**
* **Lessens skills in preparation e.g. green manure**
* **Affordable and cost effective ½ x2 = 1 mark**

2State main categories of parasites (1mk)

* **External/ecto parasites**
* **Internal/endo parasites**

3State four importance of water treatment. (2mks)

* **To kill disease causing micro-organisms**
* **To remove chemical impurities**
* **To remove smells and bad taste**
* **To remove sediments of solid particles**

4Mention 3 major sources of water on the farm. (11/2mks)

* **Surface**
* **Ground**
* **Rain**

5State four ways in which nitrogen is removed from the atmosphere (2mks)

* **Nitrogen fixation by lighting**
* **Nitrogen fixation by Nitrogen fixing bacteria**
* **Nitrification**
* **The herber-Bosch process**

6State the intermediate hosts of the following parasites. (2mks)

1. Tapeworm(Taenia spp) **cattle or pigs**
2. Liver fluke **Fresh water snails**

7State 3 forms of soil water. (11/2mks)

* **Superfluous**
* **Capillary**
* **hygroscopic**

8State four vector-borne diseases affecting farm animals. (2mks)

* **East coast fever**
* **Redwater**
* **Anaplasmosis**
* **Heart water**
* **Trypanosomiasis**

9 State the plant part used for vegetative propagation in the following plants. (2mks)

1. Pyrethrum- **splits**
2. Sisal – **Bulbils/suckers**
3. Pineapples- **crowns, slips, suckers**
4. Tea - **cuttings**

10 State four pests commonly found in tomatoes. (2mks)

* **American bollworm**
* **Cutworms**
* **Red spider mites**
* **Nematodes**

 **11 -High germination percentage / be viable**

* **Be healthy / be free from diseases and pests**
* **Have high vigour**
* **Have no physical damage**
* **Be pure / no impurities / clean**
* **Be uniform in size / colour / shape**
* **Suitable to ecological conditions ½ x 4 = 2**
* **Control sol born pests of diseases**

**12- Consume soil / prevent soil erosion**

* **Ensure maximum utilization of soil nutrients**
* **Help in weed control**
* **Improve soil structure**
* **Improve soil fertility**
* **Offer security incase of crop failure ½ x 4**
1. State any four post-harvest practices in crop production. (2mks)
* **Threshing/shelling**
* **Dusting**
* **Packaging**
* **Sorting and grading**
* **Clearing**
* **Drying**
* **Processing**

 14Differentiate between soil texture and soil structure (2mks)

Soil texture

**Fineness or coarseness of soil**

Soil structure

**Physical appearance of soil according to the way individual soil particles are arranged**

15State four factors influencing soil formation. (2mks)

* **Parent material**
* **climate**
* **Topography**
* **Living organisms**
* **Time**
1. List four factors that influence the rate of respiration in an animal. (2ms)
* **Body size**
* **Amount of exercise done by the animal**
* **Degree of excitement**
* **Ambient/environmental temp**
1. State four factors that influence crop rotation (2mks)
* **Soil structure**
* **Crop nutrient requirement**
* **Weed control**
* **Pest and disease control**
* **Soil fertility**
* **Crop root depth**
1. Give the term used to describe the following livestock. (4mks)
2. Mature male cattle **bull**
3. Mature castrated male cattle- **Bullock**
4. A mature female pig after first parturition **sow**
5. Mature female bird- **Hen**
6. Differentiate between gapping and rogueing (2mks)

Gapping- **replacement of dead seedlings in a field**

Rogueing- **uprooting and destroying infected plants in the field to prevent disease/pest spread**

1. State four characteristics of plants used as green manure. (2mks)
* **Fast growth rate**
* **Have high nitrogen content**
* **Fast decomposition**
* **Hardy**
* **Highly vegetative/leafy**
1. Differentiate between over-sowing and under-sowing. (2mks)

Over-sowing

* **Introduction of a pasture legume in an existing grass pasture.**

Under- sowing

* **Establishment of pasture under a cover crop**
1. State four factors that determine spacing in crop production (2mks)
* **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**
1. State four divisions of livestock farming. (2mks)
* **Pastoralism**
* **Fish farming/ aquaculture/pisci culture / pisci-culture**
* **Bee keeping/apiculture**
* **Poultry farming**
1. (a) State the two classes of phylum Arthropod a with most ecto- parasites (2mks)
* **Insect**
* **Arachnida**

(b) State four characteristics of an effective acaricide (2mks)

- **have ability to kill ticks**

**- Be harmless to human and livestock**

**- Be stable**

**Effective even after fouling with dung/mud/hair**

(c) Name two types of labour records. (2mks)

* **Muster roll**
* **Labour utilization analysis**

(d) Name two minor pests in tomato production (1mk)

* **Cutworms**
* **Nematodes**
* **Red spider mites**
1. State the causal organism of the following diseases. (2mks)
2. Mastitis- **bacteria**

1. Rinderpest- **virus**
2. Red water – **protozoan**

d)Foot and mouth - **virus**

1. a) State four methods of fertilizer application
* **placement method**
* **side dressing**
* **broadcasting**
* **foliar spraying**
* **drip**

b) Define the term agriculture. (1mk)

**- Art and science of crop and livestock production.**

1. State four factors that determine the type of irrigation (2mks)
* **Capital availability**
* **Topography**
* **Type of soil**
* **Type of crop**
* **Water availability**
1. Differentiate between seed dressing and seed inoculation (2mks)

Seed dressing- **Coating of seeds with fungicide/insecticide to prevent soil-borne pests and diseases.**

Seed inoculation- **coating legume seeds with an inoculant to promote nitrogen fixation**

1. A) Differentiate between mixed farming and agroforestry (2mks)

Mixed farming- **Growing of crops and rearing livestock on the same piece of land.**

Agroforestry- **Growing of trees crops and keeping livestock on same land**.

b) State four factors within the animal that may pre-dispose it to a disease. (2mks)

**- The colour of the animal**

**- The species**

**- The sex**

**- The age**

**- The breed**

c) State the lacking mineral in the following disorders. (2mks)

(i) Anaemia in piglets

 **Iron**

 ( ii) Osteomalacia

 **phosphorus**

(iii)Milk fever

 **Calcium**

(iv)Swayback in lambs

**copper**

 SECTION B (30MKS)

1. A farmer with one hectare of land requires 40kg of n in his farm. He applied CAN which costs shs 35 per kg. CAN contain 20kg N.
2. Calculate the amount of C.A.N the farmer requires (2mks)

**100kg CAN 20KG N**

 **? 40KG N**

**=100 X 40 = 200KG CAN**

  **20**

1. How much will a farmer with one and a half hectares spend to apply in his farm? (1mk)
* **I hac requires 200kg CAN 1kg=kshs 35**
* **1.5 hac requires ? 300 x 35=10,500/-**

**=1.5 x 200= 300kg CAN**

1. Name two types of compound fertilizers used by farmers. (2mks)

 **Di-Ammonium phosphate**

 **Mono Ammonium phosphate**

 **Nitrophos**

1. Study the diagrams below of farm tools and equipment and answer the questions that follow.
2. Identify tools O and N (2mks)

 **O - Mason’s trowel**

 **N- Hard saw**

1. State the function of tool P (1mk)
* **Measuring square ness and right**
1. State two maintenance practices of tool Q. (2mks)
* **Sharpening**
* **Lubricating**
* **Cleaning**
1. The diagram below shows a livestock parasite
2. Identify the above parasite. (1mk)

  **A tick**

1. Name any two diseases transmitted by the parasite. (2mks)

**EFC**

 **Red water**

 **Aneplasmosis**

 **Heart water**

1. State the four main stages in its life cycle. (2mks)
* **The egg**
* **The larva with six legs**
* **The nymph with eight legs**
* **Adult with eight legs**
1. Study the diagram below and answer the questions that follow.
2. What is the experiment set up above designed to study. (1mk)

 **Capillarity**

1. Name the three types of soil. (11/2mks)

**A – Sand**

**B – Loam**

**C- clay**

1. State 3 characteristics of soil A above. (11/2mks)
* **Well drained**
* **Coarse textured**
* **Low water holding capacity**
* **Moderately fertile**
* **Low capillarity**
* **Slightly acidic**
1. State one method of improving soil C above. (1mk)
* **Drainage**

32)a) it is a process of taking small quantities of soil from the field to act as a representative sample of soil in that particular field

 b)(i) - traverse methode

 ***1 x3 = 3 mks***

ii) -zigzag method

* (iii) dead furrows
	+ Terrace stands
	+ Old fences lines
	+ Old manure heaps
	+ Swampy areas
	+ Near trees and boundaries
	+ Between slops and bottom lands

 ***1 x2 = 2 mks***