

## **AGRICULTURE FORM THREE MARKING SCHEME**

### **TERM 1 OPENER EXAM 2022**

- 1) **Differentiate** between under-sowing and over-sowing (1mk)
  - ✓ **Under-sowing is the establishment of pasture under a cover crop, usually maize.**
  - ✓ **Over-sowing is the establishment of pasture legume such as desmodium in existing grass pasture.**
- 2) Name **four** methods of farming (2mks)
  - ✓ **Mixed farming**
  - ✓ **Nomadic pastoralism**
  - ✓ **Shifting cultivation**
  - ✓ **Organic farming**
  - ✓ **agroforestry**
- 3) State **four** categories of vegetables (2 mks)
  - ✓ **Stem vegetables**
  - Root vegetable**
  - Fruit vegetables**
  - Pod vegetable**
  - Leaf vegetable**
  - Bulb vegetable**
- 4) List **four** human factors that influence agriculture (2mks)
  - ✓ **Level of education and technology**
  - ✓ **Health**
  - ✓ **Economy**
  - ✓ **Government policy**
  - ✓ **Cultural practices and religious beliefs**
  - ✓ **Market forces**
- 5) Give **four** reasons for treating water for use on the farm (2mks)
  - ✓ **To kill disease micro-organisms**
  - ✓ **To remove chemical impurities**
  - ✓ **To remove bad smell and taste**

- ✓ **To remove sediments of solid particles**
- 6) State the **function** of the following parts in digestive system of poultry (1<sup>1</sup>/<sub>2</sub> mks)
- ✓ **Crop store food temporarily and moisten it with water**
  - ✓ **Gizzard grind and crush food into a paste**
  - ✓ **Caecum digest cellulose, absorb water and by-products of microbial digestion**
- 7) State **four** precautions that should be observed when using workshop tools (2mks)
- ✓ **Tools should always be left in safe place after use**
  - ✓ **Use correct tool for correct job**
  - ✓ **Tools should be handled correctly when in use to avoid damage to the tool and injury to the user**
  - ✓ **Use of safety devices such as fire extinguishers and first aid kits in workshop to reduce accidents**
  - ✓ **All tools should be kept properly in tool cabinets/racks**
  - ✓ **Tools should be maintained and serviced to remain in good working condition**
- 8) Give **four** reasons why burning is discouraged as a method of land clearing (2mks)
- ✓ **A lot of organic matter are destroyed**
  - ✓ **Soil micro-organisms are destroyed**
  - ✓ **Plant nutrients are destroyed**
  - ✓ **Can spread to unintended areas**
- 9) Name **four** practices that enhance minimum tillage (2mks)
- ✓ **Use of herbicides to control weeds**
  - ✓ **Use of mulch**
  - ✓ **Timing cultivation**
  - ✓ **Restricting cultivation to the area where seeds are to be planted**
  - ✓ **Cover cropping**
  - ✓ **Uprooting /slashing weeds on perennial crops**
- 10) Give **three** sources of underground water (1<sup>1</sup>/<sub>2</sub>)
- ✓ **Springs**
  - ✓ **Boreholes**
  - ✓ **wells**
- 11) State **four** characteristics of a fertile soil (2mks)
- ✓ **Correct Ph**
  - ✓ **proper drained**
  - ✓ **Good water holding capacity**

- ✓ **Good depth**
- ✓ **Adequate nutrient supply**
- ✓ **Free from excessive infestation of soil borne pest and diseases**

12) Name **four** breeds of dairy goats (2mks)

- ✓ **Saanen**
- ✓ **Aglo-nubian**
- ✓ **British alpine**
- ✓ **Toggenberg**
- ✓ **jannapari**

13) Name **two** types of Inventory records (1mk)

- ✓ **Consumable goods inventory**
- ✓ **Permanent goods**

14) List **four** symptoms of Nitrogen deficiency in plants (2mks)

- ✓ **Chlorosis**
- ✓ **Leaf turns brown and fall off prematurely**
- ✓ **Stunted growth**
- ✓ **Leaves turn purplish in colour (anthocyanin)**

15) Name **two** vegetative materials used to propagate pineapples (1mk)

- ✓ **Crown and slip**
- ✓ **suckers**

16) Outline **four** factors considered when selecting a nursery site (2mks)

- ✓ **Topography**
- ✓ **Nearness to water source**
- ✓ **Type of soil**
- ✓ **Previous cropping**
- ✓ **Security**
- ✓ **Well sheltered place**

17) State **four** characteristics of a good grain store (2mks)

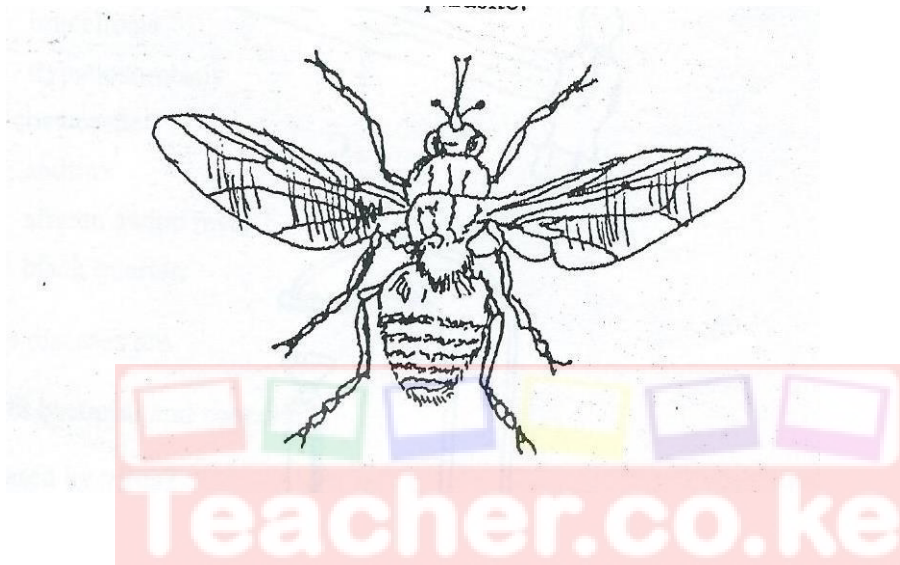
- ✓ **Rat and vermin proof**
- ✓ **Well ventilated**
- ✓ **Easy to load and offload**
- ✓ **Pest free**
- ✓ **Leak proof**
- ✓ **Well secured**
- ✓ **Cool conditions to prevent over heating that would crack the grains**

18) The following is a list of plant nutrients; copper, calcium, nitrogen, zinc, molybdenum, phosphorus, carbon, sulphur, iron and magnesium.

Which of the above nutrients are?

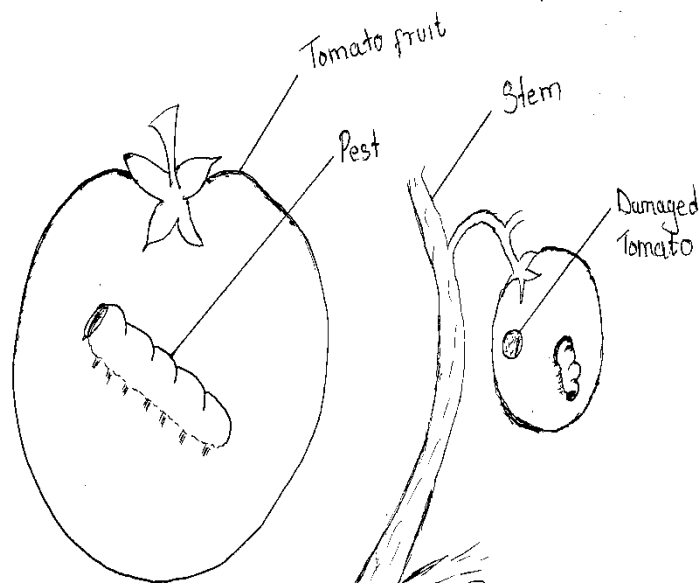
- a) **Macro elements Nitrogen, phosphorus, carbon, magnesium, sulphur, calcium (2mks)**
- b) **Micro elements: molybdenum, iron, copper, zinc(1mk)**
- c) **Fertilizer elements: nitrogen, phosphorus(1mk)**
- d) **Liming elements: calcium, magnesium and sulphur (1mk)**

19) The diagram below illustrates a livestock parasite



- a) identify the parasite illustrated above (1mk)
  - ✓ **Tsetse fly**
- b) state the major harmful effect of the parasite (1mk)
  - ✓ **transmit Trypanosomiasis**
- c) explain three control measures of the parasite (3mk)
  - ✓ **bush clearing**
  - ✓ **spraying their breeding sites with appropriate insecticide**
  - ✓ **use of fly traps with impregnated nets**
  - ✓ **use of sterilising agents**

20. The diagram below is an illustration a tomato crop pest . Study it and answer the question that follow.



a) Identify the pest. (1mark)

*American ballworm (Heliothis amigera)*

b) How can a farmer control the pest named in (a) above. (1 mark)

*By spraying the tomato with insecticides.*

c) Name other **three** minor tomato pest. (3 marks)

*Cutworm*

*Red spider*

*Mite*

*nematode*

✓

21a) Explain the importance of vegetables to a farmer (5mks)

- ✓ **Good complements for staple food**
- ✓ **Provide body with vitamins and minerals thus acting as protective food**
- ✓ **Parts of vegetables which are not used as human food may be fed to livestock or used to make manure**
- ✓ **Vegetables are sold in markets hence farmer earns income**

b) Briefly describe the production of onions under the following sub-headings

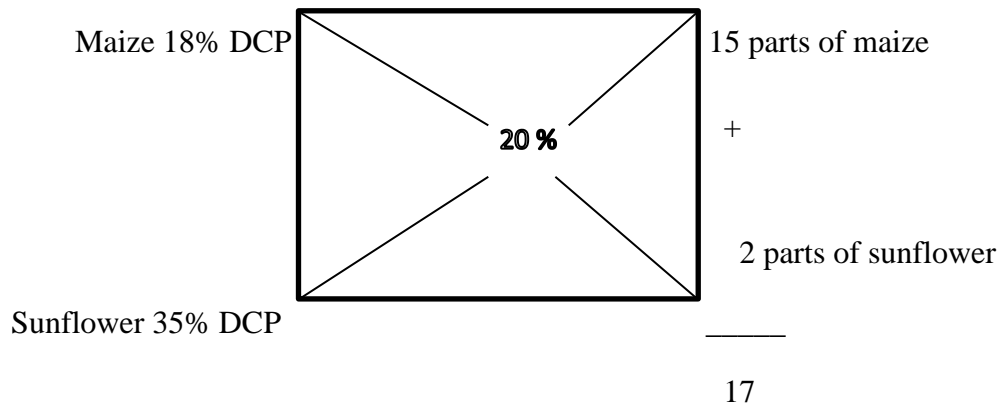
- i) Varieties (1mk)
- ✓ **Red creole**
  - ✓ **Tropicana hybrid**
  - ✓ **White creole**
- ii) Ecological requirements (3mks)
- ✓ **Hot and warm climate**
  - ✓ **Altitude of 2100meters above sea level**
  - ✓ **Fertile well drained soil**
  - ✓ **Soil ph. 6-7**
  - ✓ **1000mm of rain per year**

22a) Define the following terms as used in livestock health (2mks)

- i) **Disease is any deviation/alteration in state of body of animal or its organs which interrupts proper performance of its function**
- ii) **Health state in which all body organs/system are considered normal and are working normally**
- b) Differentiate between digestion in ruminant and non-ruminants(5mks)

<b>Ruminants</b>	<b>Non-ruminants</b>
<ul style="list-style-type: none"> <li>✓ <b>Chew curd</b></li> <li>✓ <b>Polygastric</b></li> <li>✓ <b>Regurgitate food</b></li> <li>✓ <b>Can digest cellulose</b></li> <li>✓ <b>No ptyalin in saliva hence no enzymatic digestion in mouth</b></li> <li>✓ <b>Most absorption take place in rumen</b></li> <li>✓ <b>Has alkaline saliva due presence of ammonia</b></li> </ul>	<ul style="list-style-type: none"> <li>✓ <b>Don't chew curd</b></li> <li>✓ <b>Monogastric</b></li> <li>✓ <b>Cannot regurgitate food</b></li> <li>✓ <b>Cannot digest cellulose except animals with microorganism in caecum</b></li> <li>✓ <b>Has ptyalin in saliva hence enzymatic digestion starts in mouth</b></li> <li>✓ <b>Most digestion and absorption take place in small intestines</b></li> <li>✓ <b>Saliva is neutral in ph.</b></li> </ul>

- c) A farmer wanted to prepare 200kg of calf rearing ration containing 20 % DCP, using the person's square method calculate the amount of maize containing 18% DCP and sunflower containing 35% DCP the farmer would need to prepare.  
(4 mks show your working)



$$15/17 \times 200 = 176.47 \text{ kg of maize}$$

$$2/17 \times 200 = 23.53 \text{ kg of sunflower}$$

23. Describe 5 factors to consider when selecting a nursery site. (5mks)

*Nearness to water source*

*Type of soil*

*Topography*

*Previous cropping*

*Security*

*Well sheltered place*