

MARKING SCHEME

INSTRUCTIONS:

- This paper has two sections; A and B.
- Answer all questions in section A and B in the spaces provided after the question.

SECTION A: (60 MARKS)

1. State four methods of applying fertilizers when producing crops. (4 mks)
 - **Broadcasting**
 - **Placement method**
 - **Side dressing**
 - **Foliar spraying**
 - **Drip**
2. State four characteristics of plants used for green manure. (4 mks)
 - **Fast growth rate**
 - **High nitrogen content**
 - **Fast decomposition**
 - **Grow in poor conditions**
 - **Highly vegetative**
3. Name four factors that determine the spacing of a crop. (4 mks)
 - **Type of machinery to be used**
 - **Soil fertility**
 - **Size of the plant**
 - **Moisture availability**
 - **Use of the crop**
 - **Pest and disease control**
 - **Growth habit of the crop**
4. Name four methods of clearing land before primary cultivation. (2 mks)
 - **Tree felling**
 - **Burning**
 - **Slashing**
 - **Use of herbicides (chemicals)**
5. Give the field practice described by each of the following statements. (3 mks)
 - (i) Replacement of a destroyed seedling - **Gapping**
 - (ii) Uprooting excess seedlings - **Thinning**
 - (iii) Uprooting and destroying affected seedlings - **Rogueing**
6. State four types of records kept by a maize farmer. (2 mks)
 - **Production**
 - **Field operation records**
 - **Marketing**

➤ **Inventory**

7. Define the following as applied in agriculture. (2 mks)

(i) Crop pathology – **Study of crop diseases and their control**

(ii) Entomology – **Study of insects.**

8. Mention four divisions in livestock farming. (4 mks)

- **Pastoralism**
- **Fish farming**
- **Poultry keeping**
- **Bee keeping**

9. Give two underground water sources in the farm. (1 mk)

- **Boreholes**
- **Springs**
- **Wells**

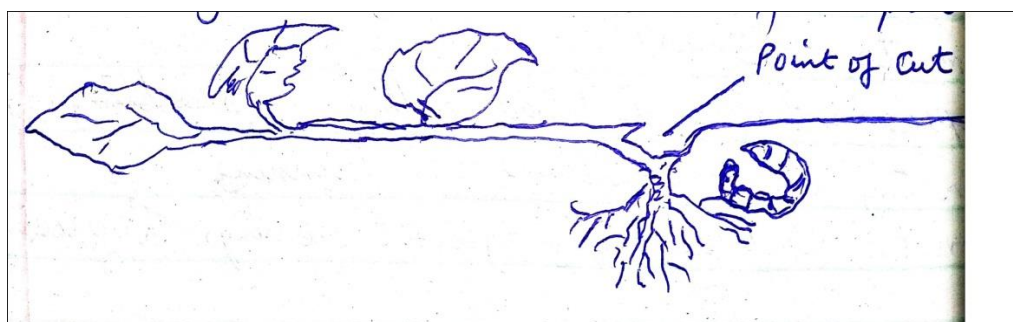
10. Calculate the plant population per hectare of maize crop planted at a spacing of 100cm x 50cm. Show your working. (2 mks)

$$\text{Pop} = \frac{\text{Area}}{\text{Spacing}} = \frac{10,000\text{m}^2}{1 \times 0.5} = 20,000$$

11. State four climatic factors that influence the process of soil formation. (2 mks)

- **Rainfall**
- **Temperature**
- **Sunshine**
- **Relative humidity**
- **Wind**

12. The diagram below shows a common field pest.



(a) Identify the pest shown above. (1 mk)

- **Cutworm**

(b) Name two crops commonly attacked by the pest. (2 mks)

- **Cabbages**
- **Kales**
- **Tomatoes**

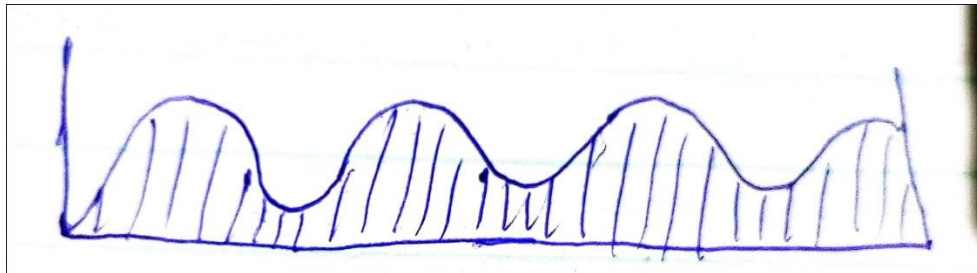
(c) State one control measure of the pest.

(1 mk)

- **Spraying appropriate insecticides**



13. The diagram below shows a tertiary operation in the field.



(a) Name the field practice above.

(1 mk)

- **Ridging**

(b) State the importance of the practice named in (a) above.

(1 mk)

- **Promotes tuber expansion**
- **Easy harvesting**
- **Conserve moisture**
- **Control drainage**
- **Prevent greening of tubers.**

(c) Apart from the practice above, name two other tertiary operations in the field.

- **Rolling**
- **Levelling**

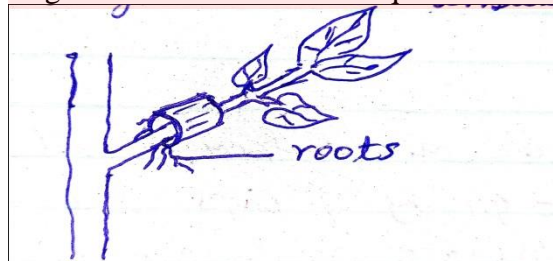
(2 mks)

14. (a) Define the term layering.

(1 mk)

- **Inducing root production on a stem while being attached on mother plant.**

(b) Use the diagram below to answer the questions that follow.



(i) Identify the type of layering shown above.

(1 mk)

- **Marcotting/Aerial layering**

(ii) Apart from the type named in (i) above, name three other types practiced by farmers.

- **Tip layering**
- **Trench**
- **Compound/Serpentine**

(3 mks)

15. A farmer was advised to apply 200kg CAN/h while top dressing while topdressing the maize crop. CAN contains 20% nitrogen.

(a) Calculate the amount of nitrogen applied/h.

(2 mks)

100kg CAN **20kg N**
200kg **?**

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$$= \frac{200 \times 20}{100} = 40 \text{kg N}$$

- (b) If CAN fertiliser costs Kshs 150 per kg, how much did the farmer spend to buy the fertiliser? (2 mks)

$$\begin{aligned} 1\text{kg} &= 150 \\ 200\text{kg} &= \frac{200 \times 150}{1} = 30,000/= \end{aligned}$$

16. State four characteristics of fertile soils. (4 mks)

- **Good water holding capacity**
- **Adequate nutrient supply**
- **Good depth**
- **Proper drainage**
- **Optimum pH**
- **Free from excessive pests and diseases**

17. Name four constituents that make up soil. (4 mks)

- **Mineral matter (inorganic matter)**
- **Organic (humus)**
- **Air**
- **Water**
- **Living organisms**

18. Differentiated between mixed farming and mixed cropping. (2 mks)

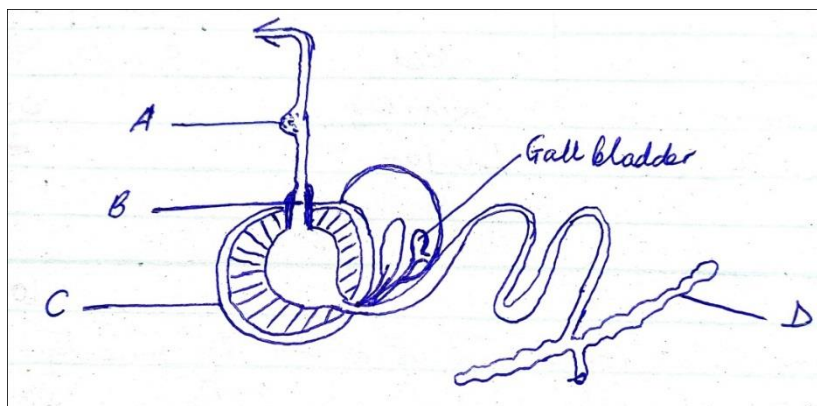
- **Mixed farming – growing of crops and keeping of livestock on the same piece of land.**
- **Mixed cropping – Growing different crops in the same field but in specific sections.**

19. Name three methods used in table formation in tea using pegs. (3 mks)

- **Individual hooked pegs**
- **Hooked pegs and ring.**
- **Parallel sticks and pegs.**

SECTION B: (40 MARKS)

20. The diagram below shows a digestive system of a farm animal.



- (a) Name one example of a farm animal with the system above. (1 mk)

- **Hen/Turkey/Duck/Geese/Ostrich/Pigeons**

- (b) Name the parts labeled D, C, B and A. (4 mks)

- D – Caecum
- C – Gizzard
- B – Preventriculus
- A - Crop

(c) State two functions of a gall bladder in a mammal. (2 mks)

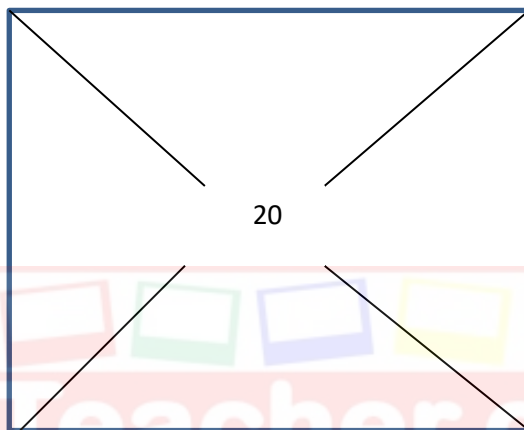
- Store Bile
- Secrete bile juice

(d) State three adaptations of part C to its function. (3 mks)

- Muscular to grind food
- Has grit (sand) to help grind food
- Ridged on inside to increase friction.

21. (a) A farmer is to prepare a ration containing 20% DCP using cotton seedcake and maize meal containing 30% DCP AND 15% DCP respectively. Calculate the amount of each feedstuff the farmer requires to constitute a bag of 60kg. Show your working. (4 mks)

Cotton 30%



5 parts cotton

$$\text{Cotton} = \frac{5}{100} \times 60$$

maize meal 15%

$$\text{Maize} = \frac{10}{15} \times 60 = 40\text{kg}$$

10 parts maize

22. Fill in the table below with the correct term.

ANIMAL	FROM BIRTH TO WEANING	ADULT	
		MALE	FEMALE
<u>Sheep</u>	<u>Lamb</u>	Ram	
Pig	<u>Boar</u>	<u>Sow</u>
Goat	<u>Kid</u>	<u>Buck/Billy</u>	<u>Doe/Nanny</u>
Rabbit	<u>Kindling</u>		Doe
<u>Cattle</u>	Heifer		<u>Cow</u>

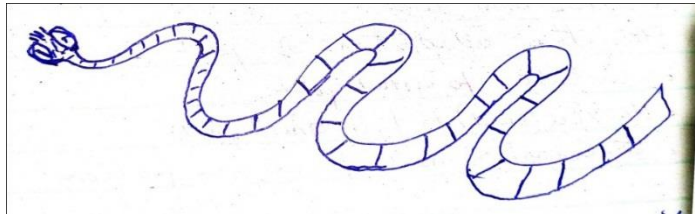
23. Name the appropriate tool to perform the following:

(6 mks)

- (i) Cutting hard branches in coffee **Pruning saw**
- (ii) Cutting wood along the grains **Rip saw**
- (iii) Measuring squareness on a piece of wood **Try square**
- (iv) Cutting thick sheets of metal **Cold chisel**
- (v) Placing mortar between construction stones **Mason's trowel**
- (vi) Driving in and removing nails from wood **Claw hammer**



24. Below is a diagram of a livestock parasite. Use it to answer the questions that follow.



(a) Name two intermediate hosts of the parasite. (2 mks)

- **Cattle**
- **Pig**

(b) State four control measures of the parasite. (4 mks)

- **Deworming livestock**
- **Cleaning animal houses**
- **Rotational grazing**
- **Use of latrines**
- **Proper meat**
- **Proper cooking of meat**

(c) Name two other internal parasites found in farm animals. (2 mks)

- **Round worms**
- **Liver fluke**

(d) State the two main categories of parasites. (2 mks)

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

25. a) Give four plants sources of protein concentrates in animal ration.

(4 marks)

- Oil seed cakes
- Sunflower
- Ground nuts
- Sim sim

b) Explain six functions of water in nutrition.

(6 marks)

- Component of body cells and many body fluids e.g blood
- Used in biochemical reactions in the body e.g digestion.
- Regulates body temperature through sweating and evaporation.
- Excretion of metabolic wastes from the body.
- Formation of products e.g milk, eggs.
- Makes cells turgid to maintain their shape.
- Transportation of nutrients from one part of the body to another.