

MASENO SCHOOL

JULY/AUGUST MOCK - 2024

443/2 – AGRICULTURE Paper 2



MARKING SCHEME

SECTION A: (30 MARKS)

Answer All questions in this section.

1. Give the characteristics of dromedary camel that enables them to survive in arid and semi-arid areas. (2 marks)
 - i) *Withstand / resists high temperature.*
 - ii) *Can stay for long time without food and water*
 - iii) *Can resist tropical diseases*
 - iv) *Long eye sight*
 - v) *Has long legs*
 - vi) *Has paddy hooves that enable it walk without sinking*

2. State **one** function of each of the following farm tools; (2 marks)
 - a) Center punch
.....
 - b) Stir-up pump
Used for hand spraying to control parasites
 - c) Garden fork
Used for digging and collecting manure and trash.
 - d) Cold chisel
Used for cutting thick sheets of metal and shape metal.

3. Name **four** stomach chambers of a ruminant. (2 marks)
 - i) *Rumen*
 - ii) *Recticulum*
 - iii) *Omasum*
 - iv) *Abomasum*

4. Outline **four** possible behaviours of chicks in a brooder when the temperatures are high. (2 marks)
 - i) *Opening their beaks*
 - ii) *Lying down on their sides*
 - iii) *Opening / spreading wings*

- iv) *Drinking excess water*
- v) *Spreading out of the brooder*

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5. Give **four** structural requirements for pig houses. (2 marks)

- i) *Should have concrete floor for easy cleaning*
- ii) *Should be free from draught*
- iii) *Adequate space*
- iv) *Well drained*

6. Give **four** calving complication on cows. (2 marks)

- i) *Breech presentation.*
- ii) *Twisted reproductive tract*
- iii) *Both legs bent backwards*
- iv) *Head twisted backwards to either sides.*

7. State **four** symptoms of coccidiosis which is observed in poultry. (2 marks)

- i) *Diarrhoea*
- ii) *Dysentery/blood in dung*
- iii) *Emaciation*
- iv) *Ruffled feathers*
- v) *Birds become dull with drooping wings*

8. Give the role of the following hormones in cattle. (2 marks)

(i) Prolactin

Stimulates/initiates lactogenesis in the alveoli / milk secretion

(ii) Oxytocin

Causes muscles surrounding the alveoli to contract, squeezing milk out.

9. What are the secondary host of the following livestock parasites? (2 marks)

(i) *Taenia solium Pigs and cattle*

(ii) *Liverfluke*

Fresh water snail

10. Give **four** major parts of combustion engine in a tractor. (2 marks)

- i) *Cylinder/ combustion chamber*
- vi) *Valves*

- ii) *Piston* vii) *Flywheel*
- iii) *Connecting rod* viii) *Cylinder head* iv) *Crank shaft* ix) *Cylinder block*
- v) *Carn shaft* x) *The sump*

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11. Mention **four** advantages of embryo transplant. (2 marks)

- i) *Embryos from high quality females can be planted to improve performance.*
- ii) *Calf is born in local surrounding to minimize environmental effect.* iii) *Control sexually transmitted diseases.* iv) *Can be stored for long awaiting available recipient.*
- v) *Embryo cheaper than animal of equal value.*
- vi) *Cheap to transport*
- vii) *It is easy to plan for breeding*

12. Outline **four** importance of lubrication systems in a tractor. (2 marks)

- i) *Increases the efficiency of the machine.*
- ii) *Reduces the rate of wear and tear of moving parts*
- iii) *Reduces heat created by rubbing, surfaces and act as s seal*
- iv) *Removes dirt, dust, soot and metal chippings from oil patch to the sump.*
- v) *Oiling prevent rusting of stationary machine*

13. State **four** qualities of colostrum which makes it suitable for feeding newly born calves. (2 marks)

- i) *Highly digestible*
- ii) *Highly nutritious and contains vitamins*
- iii) *Has antibodies* iv) *Has laxative effect (good in cleaning bowel)*
- v) *Highly palatable*

14. State **four** factors that would determine the use of a jembe instead of a disc plough in primary cultivation.

(2 marks) i)

Condition of land

- ii) *Type of tilth required*
- iii) *Availability of the implement*
- iv) *Depth of the cultivation required.*

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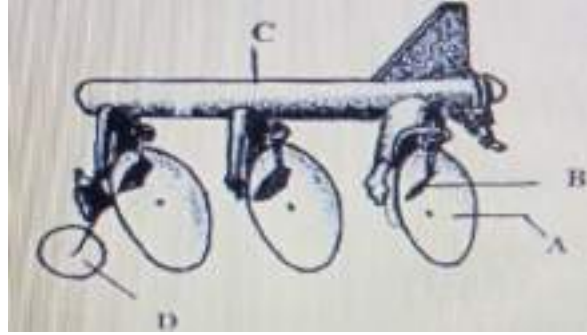
15. Give **four** factors that may influence the pulse rate of a sheep apart from a disease. (2 marks)

- i) The degree of excitement*
- ii) Ages of the animals*
- iii) The sex of the animal*
- iv) Physiological status of the animal e.g pregnancy*

SECTION B: (20 MARKS)

Answer All questions in this section.

16. The diagram below shows a farm implement. Study it and answer the questions that follow.



a) Name the parts labelled A,B,C. (3 marks)

- A *Disc*.....
- B *Depth wheel*.....
- C *Beam*.....

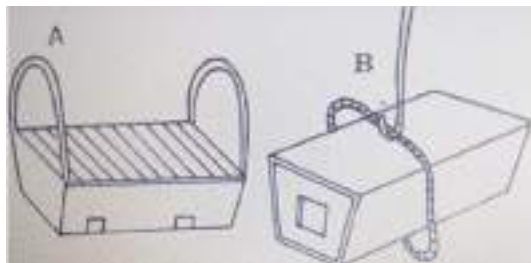
b) What is the function of the part labelled D. (1 mark)

Balances the whole implement.

c) State two maintenances on the implement. (1 mark) *i) Lubricates hubs and wheels*

- ii) Clean after use*
- iii) Oil for long storage*
- iv) Loose nuts tightened*
- v) Blunt discs be hammered*
- vi) Store under shade if not in use.*

17. The diagram labelled A and B below shows two types of beehives. Study them carefully and answer the questions that follow.



a) Identify the types of bee hives A and B. (2 marks)

- A *Kenya Top Bar Hive (KTBH)*
- B *Log Hive*

b) State two advantages of A over B.

(2 marks)

- i) The bars can be removed for inspection*
- ii) Honey combs can be removed without disturbing the brood*
- iii) Honey not mixed with brood combs / Queen excluder*

c) Give one maintenance practice carried out on hive A.

(1 marks) *i)*

All broken parts repaired

- ii) All cracks should be sealed*
- iii) The grease on the posts should be replaced if melted.*

18. The diagram below represents a section through which an artificial brooder.



a) Give two uses of the part labelled X.

(2 marks)

- i) Absorb moisture / maintains warmth*
- ii) Keeps the chicks busy preventing cannibalism.....*

b) Give one suitable material used for part labelled.

(1 mark)

Wood shavings / saw dust

c) Give the use of part labelled Y.

(1 mark)

Feeders

d) Give one advantage of natural breeding of chicks.

(1 mark) *i)*

It is cheap

- ii) Requires less labour.*

19. Below is a longitudinal section of a cow's udder.



- a) Identify the parts labelled A, B, C. (3 marks)
- A
 B *Gland/milk cistern*
 C *Teat cistern*

- b) Give two pre-requisites of clean milk production. (2 marks)
- i) *Healthy milk man* ii) *Clean milking cows* iii) *Clean milk man* iv) *Clean milking shed*
 v) *Avoid milk flavours* vi) *Milk cooking & proper storage* vii) *Milk filtration*

SECTION C: (40 MARKS)
Answer any two questions in this section.

20. (a) Discuss coccidiosis under the following headings. (1 mark)
- (i) Causal organism (1 mark)
- i) *Protozoa*
 ii) *Coccidia of Eimeria species*
- (ii) Livestock species attacked. (2 marks) i)
- Poultry calves* ii) *Young rabbits*
 iii) *Kids*
 iv) *Lambs*
- (iii) Symptoms of attack. (4 marks) i) *Diarrhea*
 ii) *Dysentery/blood in dung*
 iii) *Emaciation*
 iv) *Ruffled feathers*
 v) *Dull and drooping wings*
 vi) *Sudden death in birds.*
- (iv) Control measures. (4 marks) i) *Treatment with coccidiostats*

- ii) *Isolation*
- iii) *Avoid set, filthy and unhygienic animal surrounding iv) Cattle from different farms cannot drink in watering point.*
- v) *Avoid overcrowding in poultry houses.*

(b) Describe the life cycle of the Liver fluke. (9 marks)

- Adult flukes live in the bile duct of the liver in cattle & sheep.*
- It produces fertilized eggs that are passes through the bile duct to the alimentary canal and then passed out through faeces / dung.*
- Eggs fall in stagnant water and hatch into the 1st larvae miracidia (which is ciliated)*
- The ciliated miracida swim around and penetrate the snail (intermediate host)*
- Miracidia develops into sporocysts*
- Sporocysts developes to redia*
- Redia to cercana and finally to metacernania (infective stage)*
- Host ingests metacernia while grazing then moves to the intestines and cysts wall dissolve and for inscertana*
- Cercana will penetrate intestines walls and migrate to the liver.*

21. (a) Describe physiological body conditions of good health in an animal. (10 marks)

- i) *Appetite and feeding: good appetite*
- ii) *Deflation: normal*
- iii) *Urination: regular and normal urination*
- iv) *Respiratory rate: normal range*
- v) *Pulse rate: normal*

(b) State **ten** tractor servicing done to a tractor. (10 marks)

Short term

- i) *The engine should be checked daily*
- ii) *Fuel level checked*
- iii) *Radiator level checked iv) Electrolyte level checked*
- v) *Nuts and bolts tightened*
- vi) *Grease applied*
- vii) *Sediment bowl removed*
- viii) *Fan belt adjusted*
- ix) *Break shat bearing greased*

Long term

- (i) *Engine oil drained*
- (ii) *Steering gear inspected*
- (iii) *Oil in differential replaced iv) Linkage and pulley attachment should be greased*
- v) *The dirty oil should be removed and replaced with clean oil.*

22. Explain any **ten** advantages of Artificial Insemination in dairy production. (20 marks)

- i) Semen of one superior bull can be used to serve many cows*
- ii) It controls the transmission of breeding disease and parasites. iii) Sires that are unable to serve cows due to heavy weight can produce semen to serve cows. iv) Prevents large bulls from injuring small cows.*
- v) It reduces expenses of keeping a bull on pastures*
- vi) Farmers who cannot afford super bulls can serve their cows at low cost. vii) Semen can be stored for long.*
- viii) Easy to control breeding diseases*
- ix) Easy to control in breeding.*
- x) Eliminates dangerous bulls from the farm xi) Useful resource tools.*

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