**Term 2 - 2024**

**AGRICULTURE**

 **(MARKING SCHEME PAPER II)**

**FORM FOUR**

**TIME:2 ½ HRS**

**SECTION A: (30 MARKS)**

 **Answer all questions in this section in the spaces provided**.

**1. Name three meat breeds of sheep. (**3 x ½ **marks)**

* Dorper.
* Blackhead Persian.
* Red Maasai Sheep.

**2. List two methods of identifying pigs.** (2 x ½ )

Ear notching.

* Ear tagging.

**3. Differentiate between oestrus cycle and heat period. (***mark as whole 1mark***)**

Oestrus cycle is the period between two successive heat periods in animals while heat period is the time When a female animal is ready to accept mating to take place.

**4. State three qualities of marketable eggs. (**(Any 3 x ½ )**1½mks)**

* Smooth shell
* Oval shape
* Medium weight
* Hard shell
* Clean eggs
* Free from cracks

5. **Name any four notifiable diseases in livestock.** (Any 4 x ½ ) **(2mks)**

* New castle
* Rinderpest
* Anthrax
* Gumboro
* Foot and mouth.

**6. State four factors that affect maintenance ration required by an animal.** ( 4 x ½ ) **(2mks)**

* Body size/weight of the animal
* Age of the animal ie young animal require more than old animal.
* Animal’s activities.
* Level of production where higher produces need more for maintenance their low produces.

7. **Give a reason why ruminant animals are able to digest grass. (1 mark)**

* They have micro-organisms/bacteria in the rumen which help to breakdown cellulose.

8. **Give the difference in meaning of the following terms as used in livestock health.**

 **(a) Quarantine and Isolation**

 **Quarantine.**

Laws by the government banning movement of livestock and their products into and out of an area during the period of an outbreak of a notifiable or highly contagious and infectious disease.

**Isolation.**

Separating and confining a sick animal from the rest of the herd to prevent spread of a highly contagious disease

***(Mark as a whole)***

 (b) Zoonotic and notifiable diseases (1 mark)

**Zoonotic** A disease that can be transmitted from livestock to humans and vice versa

**Notifiable -** highly contagious and infectious disease whose outbreak should be reported to the authority.

***(Mark as a whole)***

**9. Give four reasons for feeding calves with colostrum.** (4 x ½ ) **(2 marks)**

* Highly digestible
* Highly nutritive
* Highly laxative/purgative cleans the system
* Contain antibodies

**10. Differentiate between cropping and harvesting in fish production. (1 mark)**

Cropping is the removal of fish of marketable size from the pond while harvesting is the removal of all the fish from the pond.

**11. State four major routes of administering vaccines in day old chicks.** (4 x ½ )

* Nostrils
* Mouth
* Eyes
* Under the skin (sub cutaneous)

**12. Give two reasons for feeding bees** (Any 2 x ½ ) **(1mk)**

* When there are new colonies
* During drought conditions
* To encourage multiplication

13. **Name the vectors for each of the following livestock diseases. (2 marks)**

1. **East coast fever…** Brown ear tick ( *Rhipicephalus appendiculatus)*
2. **Rift valley fever…** Culex mosquito/Aedes mosquito
3. **Trypanosomiasis…** Tsetse fly
4. **Nairobi sheep disease** Brown ear tick ( *Rhipicephalus appendiculatus*

**14. (a) Name the tools used in ( 2 marks)**

**(i) Cutting curves on thin wood** Coping saw

**(ii)Measuring the inner diameter of a circular object/surface** Inside calipers

**(iii)Cutting thin sheets of metal** Tinsnips

**(iv)Tightening wires during fencing** Wire strainer

**b) State two care and maintenance practices of masonry tools and equipment. (1 mark)**

* Tools should be cleaned after use (Any 2 x ½ )
* Part like hack-saw blades should be replaced regularly
* Handles should be replaced when broken
* All moving parts like nuts and wheels should be lubricated regularly to reduce friction
* When cutting metal, a coolant oil should be used to increase grip

**15. State two ways in which proper feeding contributes to disease control in livestock.**

 (2 x ½ )

* It helps in preventing nutritional deficiency diseases.
* It increases ability to resist diseases.

**16.** **Outline four factors which would be considered when culling layers.**

(Any 4 x ½ ) **(2 marks)**

* Poor layers/producers
* cannibals
* Old chicken
* Combs, wattles & vents become shriveled
* Having dull feathers
* Egg eaters
* Breast bones become hard
* Body and vent changes colour from white to yellow
* Width between pelvic bones becomes narrow 2-3 fingers can’t fit in between

17. **a. What is parasitism? (½ mark)**

An association between 2 organisms in which one is called a **parasite** derives all its nutrients from the other one **a host** without benefiting the host.

**b. Name one parasite of bees. (½ mark)**

 Ants, wax moth, Bee louse, Honey Badger

1. **Give any four harmful effects of lice on livestock.** (Any 4 x ½ ) **(2mks)**
* Poor feeding leading to emaciation.
* Loss of production in bird.
* Cause irritation to the animal leading to animal rubbing itself against objects
* Anaemia in poultry
* Death due to heavy infestation.

**18. Name two methods used in ration computation.** (Any 2 x ½ ) **(1mark)**

* Trial and error.
* Pearson’s square method.
* Linear programming

**SECTION B: (20 MARKS)**

 **Answer all questions in this section in the spaces provided**.

19. Below is a diagram of a bee hive.



1. **Identify the type of hive above. (1mk)**

Kenya Top bar hive.

1. **Give three advantages of using this type of hive on the farm. (3mks)**
* Honey combs can be removed without disturbing the brood.
* The top bar can be removed for inspection of the combs and replaced.
* High quality honey is as if is harvested without brood combs.
* It is easy to construct and repair.
* It is cheap to build and it does not require expensive equipment to extract honey.

 (3X1=3mks)

1. **State any three reasons why bees swarm. (3mks)**
* Shortage of food and water in the surrounding.
* Dampness and bad smell.
* Sick or infertile queen.
* Overcrowding in the hive.
* Damage of brood combs.
* Outbreak of diseases and parasites. (3x1= 3mks)

20. The following diagram illustrate symptoms of a disease in poultry. Study it carefully and answer the question that follows.

**Lesions or wound**

**Lesions or wound**

 (a) Identify: **(i) The disease.**  (½ mark)

Fowl pox/Avian pox.

 **(ii) The causal organism.** (½ mark)

 Virus/Avian pox virus

 **(b) State two other symptoms of the disease apart from lesion. (2 marks)**

* There is watery discharge through eyes and nose in early stage of infection.
* There is difficulty in breathing and swallowing.
* The bird is emaciated and this may cause death.
* Dullness.
* Loss of appetite.

 **(c) State two control measures for the disease. (2 marks)**

* Isolation of the affected birds.
* Removal and killing of all affected birds.
* The remaining healthy birds should be vaccinated.
* Observe hygiene in poultry house.

21.  **(a)Explain the reasons for the behavior of chicks in the above diagrams (4 marks)**

 A—Correct temperature in the brooder.

 B—Very cold brooder.

 C—Very hot brooder.

 D—Draught /cold wind from the right side of the brooder. (4x1)= 4 marks)

 (b) **Give two other signs the chick will show other than the ones you have given in( a) above.(1 mark)**

- Spread wings .

 - Open beaks /panting/grasping.

 - Drinking a lot of water.

 - Making a lot of noise.

22. **.a) Name the tools. (2 marks)**

**A** Open-end spanner

**B**  Rig spanner

**C**  Adjustable spanner

**W** Burdizzo

1. **State the functional differences between tools K and W. (1mark)**

K- Expands rubber ring to facilitate to facilitate closed castration, docking and dehorning

W- used for closed castration in bull calves, rams and Billy goats

**c).Advantage of tool C, over tool A and B**

**-** Tool C, can be used to open and tighten nuts and bolts of deferent sizes while A and B can only be used to open or tighten nuts and bolts of specific sizes.

**d) Common maintenance of tool C and W**

**-** Lubricating/oiling moving parts

 **SECTION C: (40 MARKS)**

 **Answer any two questions from the section**.

23. **a) Describe trypanosomiasis disease under the following sub-headings.**

**i) Causal organism (1 Mk)**

 Typanosoma (spp)/

**ii) Animals attacked**

* cattle
* Sheep
* Goats
* Pigs
* Horses

**iii) Symptoms of attacked animals** (Any 5x1 ) **(5 Mks)**

* high temperature or fever
* The animal is observed to be dull
* Loss of appetite
* General weakness of the body
* Lachrimation which leads to blindness
* Diarrhea
* Rough coat sometimes no hair and cracked skin
* Swelling of parts of the belly
* Milk production decreases
* Loss of hair at tail and
* Anemia
* Abortion may occur in pregnant females due to high body

**iv. Control measures (3 Mks)**

* + Treating animals with trypanocidal drugs.
	+ Effective vector (Tsetse flies)control
	+ Confinement of wild animals in game parks.

**b) Describe five control measures for cannibalism in poultry (5 Mks)**

-Control external parasites

* keep birds busy by hanging green leaves or vegetables in the house
* feed the birds on a balanced diet
* provide adequate floor space
* provide adequate laying nests
* provide dim lights in the brooder
* keep birds as per age group
* debeak hens which peck others

(**c)** Explain the procedure in establishment of foundation in farm buildings (5mks)

* Clear the vegetation
* Level the site if sloppy
* Measure the width of the foundation by pegging
* Dig to remove all the loose soil to the basement rock
* Place concrete of 1:2:4 or 1:3:6 at the flow
* Compact the concrete
* Lay the foundation stones and construct up to 15cm above the ground (5 mks)

24**. a) Functions of parts of a plunge dip**

 - Holding yard –Holds animals before dipping

 - has concrete floor to remove mud from hooves

 - Footbath - removes mud from hooves

 - controls foot rot

 - Jump – Allows animals to jump into the dip one at a time

– Forces the animal to slide and Plunge into the dip wash

 - Dip tank - immersion of animals in dip wash containing an a caricide

 - Exit steps – Allows animals to come out of the dip wash slowly

 - Draining race – Allows the dip wash to drip from the animals and flow back to the dip tank

 - Drying yard – Temporarily retains the animal thus avoiding pasture contamination and allows animals to be released at the same time

 - Silt trap outlet – Traps mud/dung/silt from the dip wash before it flows back into the dip tank

 - Water tank – storing water for dipping purposes/cleaning the dip and preparing fresh

 acaricide solution.

* Shelter/Roof – Reduce the loss of acaricide/dip wash through evaporation and to avoid dilution of dip wash by rain water. Collects rain water into the water tank.
* Waste pit- Damping site for sediments from the dip tank.

**b)- signs of parturition in cattle**

* Restlessness
* Enlarged /swollen vulva
* clear mucus discharge from vulva
* Full and distended udder
* Slackening of the pelvic muscles/relaxing of the hips muscles
* Thick milky fluid (colostrum) from teats
* Appearing and bursting of the water bag/sac
* Loss of appetite
* Isolating from others (5x1)

**c) Maintenance practices of a fish pond**

 - Clearing the bush/vegetation around the pond

 - Cleaning the pond

 - Desilting/removing the silt

 - Planting grass on the dyke

 - Repairing worn out parts/dykes

 - Maintain the water level.

 - Fertilize the pond

 - Fencing (5x1)

 **d) Factors considered when selecting livestock for breeding**

 - Age – select young animals

 - Level of performance – select animals with the highest production level/high

 Performers or yielders.

 -. Physical fitness – animals selected should be free from physical deformities/defects

 e.g limping, mono-eyed

 - Health – Select healthy animals/animal selected should be health

 - Body conformation – Animals selected should have proper body conformation

 eg dairy cow to be wedge shaped with a large udder.

 - Temperament/behavior – select animals with good temperament/behavior

 - Quality of products – select animals that give good quality products

 - Mothering ability – animals selected should have good mothering ability

 - Adaptability – animals selected should be well adapted to local conditions.

 - Prolificacy – selected animals that are highly prolific

 - Fertility – selected animals that are fertile

1. **Describe the management of a sow during parturition. (10 marks)**

* Deworm 7-10 days before parturition/spray the sow against external parasites/wash its body with

soap and water.

* Take the sow to the farrowing pen at least 5-7 days before the expected date of parturition.
* Clean and disinfect the farrowing pen
* Provide creep area.
* Feed the sow entirely on bran.
* Provide clean bedding materials in the farrowing pen.
* Do not interfere but watch from a distance during farrowing.
* Assist where necessary.
* Ensure piglets are breathing.
* Perform artificial respiration.
* Ensure piglets are safe from being cannibalized by the sow.
* Tie, cut and disinfect the navel cord of the piglet.
* Weigh each piglet and record the birth weight.
* Remove and dispose off the after birth/any piglet born dead (still births).
* Put piglets in a warm place.
* Ensure piglets suckle colostrum.
* Get rid of excess piglets.
* Provide plenty of clean water after parturition.
* Feed the sow generously. (Any 10 x 1 = 10 marks)
1. **Describe the lifecycle of a three host tick. (7 marks)**
* Adult tick lay eggs on the ground.
* Eggs hatch into larvae on the ground.
* Larvae mount onto the first host.
* Larvae on host one feed to full engorgement and drop down.
* Nymphs mount second host suck blood until engorges.
* Nymphs drop down.
* Nymphs moults into adults.
* Adults mount third host, suck blood to full engorgement.
* Adults drop down to repeat cycle. (1 x 7 = 7 marks)
1. **Outline three effects of endo-parasites to the host animals (3mks)**

They suck blood leading to anaemia

They deprives the host of its food

They damage internal organs like liver

Cause obstruction of bile duct and alimentary canal