**443/2**

**AGRICULTURE**

**PAPER 2**

**FORM 3**

**TIME: 2 HOURS**

**INSTRUCTIONS:**

This paper consists of 3 sections; A, B and C.

Answer all questions in section A and B and any two in section C.

1. State four reasons for castration in rams. (2 mks)

-**Control breeding**

**-control breeding diseases**

**-faster growth**

**-increase quality of meat**

**-make them docile**

**-fatten them**

2. List any four conditions that pre-dispose an animal to disease or injury.

 (2 mks)

* **Age of the animal**
* **Sex**
* **Colour**
* **Breed**
* **Environmental conditions**
* **Physiological conditions**
* **Heredity**
* **Overcrowding**

3. State four functions of vitamins in Livestock. (2 mks)

* **Help in blood clotting**
* **Act as organic catalyst**
* **Prevent diseases in livestock**
* **Help in bone formation**
* **Help in muscular activities**

4. State four factors one would consider when choosing feed

* **Availability of food**
* **Cost**
* **Nutrient composition**
* **Type of livestock**
* **Age of the animal**

5. State four factors that may lead to dip wash being exhausted or weakened

 while in the dip tank. (2 mks)

* **Getting diluted by e.g rainwater**
* **Evaporation**
* **Leakage at the bottom**
* **Dirt/impurities from animal’s body.**

6. Give two reasons why walls of dairy shed should be white washed instead of

 painting with oil paints.

* **To avoid poisoning by lead in paints**
* **Discourage insects**
* **To avoid tainting of milk.**

7. List four tools used in laying concrete blocks. (2 mks)

* **Trowel**
* **Plumb bob/line**
* **Mason’s square**
* **String line**
* **Spirit level**
* **Wood flat**

8. State four reasons for treating timber used for fencing. (2 mks)

* **To prevent warping**
* **To prevent rotting/damage by fungi**
* **Reduce damage by insects**
* **To enhance strength**

9. State four harmful effects of ticks to livestock (2 mks)

* **Transmit diseases**
* **Cause anaemia**
* **Cause irritation**
* **Lower quantity and value of skin**

10. State four symptoms of liver fluke attack, that may be observed in animals

 (2 mks)

* **Digestive upsets**
* **Swollen abdomen**
* **Emaciation**
* **Recumbency leading to death**
* **Anaemia**
* **Oedema in joints**

11. Outline four methods of controlling the fresh water snail. (2 mks)

* **Drain stagnant water**
* **Physically killing the snail**
* **Routine drenching of animals**
* **Spray pasture with lime**
* **Burning pasture during the dry season**

12. State four ways of preparing the low for furrowing. (2 mks)

* **Deworming the sow**
* **Wash the sow**
* **Reduce feeding gradually**
* **Move the sow to the furrowing pen**

13. Give two factors that may lead to conception failure after service in heifers.

 (2 mks)

* **Poor timing of service**
* **Poor nutrition**
* **Infertility(heifer/bull) – Formation/femation.**

14. Give two causes of soft shell in eggs. (2 mks)

* **Lack of calcium**
* **Some diseases e.g Newcastle**

15. State four management practices that would ensure maximum harvest of

 fish from fish pond. (2 mks)

* **Control stocking rate**
* **Control water pollution**
* **Supply of fish food**
* **Aerating water**
* **Maintaining appropriate depth of water.**

**SECTION B: (20 MARKS)**

16. Use the diagram below to answer the questions that follow.



 (a) Name the parts labeled A – D (2 mks)

 **A – Nose –bridge**

**B – Elbow**

**C – Wuthers**

**D – Muzzle**

(b) Name the breed of dairy cattle with the highest butter fat content in milk.

 (1 mk)

 **Jersey**

(c) Distinguish between a large white and a landrace breeds of pigs (8 mks)

* **Large white: White, broad and slightly dished snout and has upright ears .**
* **Landrace: White, straight snout and long drooping ears.**

17. Use the diagram below to answer the questions that follow

 (a) Name the disease or disorder that makes the animal behave as shown

 above. (1 mk)

* **Milk fever**

 (b) State three prevention measures of the above problem. (3 mks)

* **Partial milking**
* **Feeding an animal with ration rich in phosphorous and calcium**
* **Allow animal to sunlight**

 (c) Define the term Pica as used in livestock nutrition. (1 mk)

* **Deprived appetite when phosphorus is missing in an animal’s diet.**

18. Use the diagram below to answer the questions that follow

 (a) Name the structure shown above. (1 mk)

* **Queen excluder**

 (b) State the importance of the above structure where it’s used.

 (1 mk)

* **Prevents the queen bee from laying eggs in all combs.**

 (c) State three pests that affect organisms that use the above structure.

 (3 mks)

* **Ants**
* **Wax moth**
* **Bee louse**

19. (a) State 3 systems involved in outbreeding (3 mks)

* **Outcrossing**
* **Cross breeding**
* **Upgrading (grading up)**

 (b) State two advantages of natural mating. (2 mks)

* **More accurate**
* **Less laborious (No need of checking heat signs)**
* **Useful when heat period is not easily detected.**

**SECTION C: (40 MARKS)**

20. (a) Discuss the factors considered during selection of a breeding stock.

 (10 marks)

* **Level of performance**
* **Body conformation**
* **Temperament or behavior**
* **Adaptability**
* **Fertility/prolificacy**
* **Hereditary defects**
* **Health**
* **Age: Select young animals**
* **Mothering ability**
* **Quality of products.**

***(NB: Consider the relevance of explanation on each. Award a whole mark for a well explained point )***

 (1 x 10)

 (b) Discuss five methods used during identification of animals.(10 mks)

* **Branding: Involves marking of animals on the skin with permanent marks using a hot iron with inscriptions.**
* **Neck strap or chain: Involves hanging metal plates bearing shapes or numbers around the neck of an animal using canvas leather strap or metal chain.**
* **Ear tagging: It employs use of plastic or metal tags bearing numbers or letters fixed through a hole on the ears of the animal.**
* **Tatooing: Employs use of permanent ink or dye on the skin of the animal.**
* **Ear notching: Ears of the animal are cut to make different shapes each standing for a certain value.**

21. (a) Discuss the mechanical methods used to control ticks. (10 mks)

* + **Burning the infested pastures: involves deliberate burning of pastures aiming at reducing tick population.**
	+ **Interfering/altering the tick environment: Can be done through ploughing or top dressing pasture using lime or acaricide to make the environment less conducive for ticks.**
	+ **Fencing: Controls interaction of the animal with others.**
	+ **Starving the ticks: Achieved by keeping animals away from infested pastures through rotational grazing.**
	+ **Hand picking/deticking: Involves manual removal of ticks from the animal and killing them.** (2 x 5)

 (b) Discuss the general effects of parasites on livestock. (10 mks)

* + **Cause anaemia: Its brought by sucking parasites which take large volumes of blood from the host animal.**
	+ **Deprive the host animal food: Compete for food with host animals leading to emaciation.**
	+ **Cause injury and damage to tissues and organs: They break the skin of animal exposing it to secondary infection. Others affect internal organs.**
	+ **Disease transmission: Some parasites act as vectors of some diseases spreading them from one animal to another.**
	+ **Cause irritation: External parasites irritate animals through bites. Animals rub against objects – destruction of skin, fur or wool.**
	+ **Obstruction to internal organs: parasites cause mechanical obstruction/blockage of internal passage – malfunctioning of organs.** (2 x 5)

22. (a) Discuss the structural requirements of a calf pen. (14 mks)

* **Concrete floors: for easy cleaning**
* **Adequate space: allows room for exercise, feeding and watering**
* **Single housing: prevents licking each other and spread of worms and diseases.**
* **Proper lighting: Allows enough light to help in synthesis of vit D.**
* **Proper drainage: Area should be well drained to prevent dampness.**
* **Draught free: Construction should not allow cold wind into the structure.**
* **Leak proof roof: Should not allow water through the roof.**

 (2 x 7)

 (b) State six methods employed in parasites and disease control in

 livestock. (6 mks)

* **Vaccination**
* **Deworming**
* **Hoof trimming**
* **Docking**
* **Dipping and spraying**
* **Dusting**