JOINT EXAMS

AGRICULTURE PAPER 2

FORM 3 TERM 3

OCTOBER 2023

SECTION A

Answer all the questions in the spaces provided.

1. What is parasite. (1mk)

   A parasite is an organism that benefits from another organism in terms of nutrition.

2. General factors that influence agriculture (1 1/2mks)
   - **Biotic factors**
   - **Human factors**
   - **Climatic factors**
   - **Edaphic or Soil**

   Mark the first three correct answers (3 x ½ = ½ mks)

3. State four signs of ill-health in livestock. (2mks)
   - **Abnormal behavior**
   - **Abnormal posture**
   - **Alimentary canal disfunction**
   - **Abnormal skin i.e staring coat**

   (any correct first four points 4 x 1/2mks)

4. Differences between Wessex and Essex pig breed (2mks)

   Wessex is black in colour, with white shoulders and only the front legs white while Essex is black in colour with a white shoulder and front and hind legs white.

(mark as whole, ie, rej if one is wrong (1 mk)

5. What is a disease predisposing factor. (1mk)

These are conditions inside or outside the body of an animal which lead to an animal to contract a disease or an injury.

6. Give five advantages of artificial insemination. (2 ½ mks)

- **Semen of one superior bull can be used to serve many cows .**
- **It helps to control breeding diseases.**
- **It helps to prevent large bulls from injuring small cows.**
- **It helps to reduce expenses of keeping a bull on pastures.**
- **Semen can be stored for a long time even after a bull is dead.**
- **It helps to control breeding and in breeding**
- **It helps to eliminate dangerous bulls from the farm.**
- **It is useful tool in research**

(any correct first five points (5 x ½ = 2 ½ mks)

7. Differentiate between line breeding and upgrading. (1mk)

Is the mating of distantly related animals that share a common ancestor while upgrading is a type of crossing where the female of low grade stock is mated with a pure breed sire.

8. Give four routes of administering vaccines in farm animals. (2mks)

- **By injections**
- **Orally through the mouth**
- **By inhalation through the nose**
- **Through the cloaca.**

(4 x ½ = 2mks)

9. Give four functions of a rumen in a ruminant animal. (2mks)

- **Fermentation of food**
- **Synthesis of amino acids**
- **Breakdown of proteins into peptides amino acids and ammonia**
- **Break down of carbohydrates and cellulose into butyric acid acetic, propionic and formic acids.**

Any correct first four points (4 x ½ = 2mks)

10. State four advantages of Kenya top bar hive. (2mks)

- **It has a longer stocking rate .**
- **It's easy to control parasites and diseases.**
- **It helps to get clean honey because broad and honey combs are separated by queen excluded.**

Any correct four point (4 x ½ = 2mks)

11. State four important reasons for feeding livestock with roughages. (2mks)
    - **It aids in digestion of food**
    - **It has high fibre content**
    - **High carbohydrates contents**
    - **Brings about satisfaction.**

(any correct four points (4 x ½ =2mks)

12. State four ways of identifying farm animals. (2mks)
    - **Tattoos**
    - **Ear notching**
    - **Neak tags**
    - **Branding**

(any correct four points (4 x ½ =2mks

13. Give two examples of feed additives in feeding livestock. (2mks)
    - **Vitamins**
    - **Medicants, accept coccidiosis**
    - **Hormones**

(Any correct two points 2 x 1 = 2mks)

14. Name two species of camel. (1mk)
    - **Dromedary**
    - **Bacteria**

(2x1= 2mks)

15. State four advantages of castrating male animals . (2mks)
    - **To control breeding**

- **To control breeding diseases**
- **It help to control in breeding**
- **For faster growth rate**
- **To increase the quality of the meat.**

(any correct four points 4 x ½ = 2mks)

16. Give four ways of maintaining a fish pond. (2mks)

- **By repairing the dykes**
- **Cleaning the pond**
- **Planting grass where necessary**
- **By removing undesirable vegetation**
- **By removing the silt.**
    - *Any correct four point 4 x ½ =2mks)*

17. State four functions of water in an animals body. (2mks)

.- it is a component of body cell and many body fluids

- **It is responsible for transportation of nutrients from one part of the body to another.**
- **It makes the cells turgid**
- **It helps to regulate body temperature**
- **It helps in excreting of metabolic waste products**
- **It forms part of animal products e.g milk, eggs**.

Any four correct points 4 x ½ = 2mks)

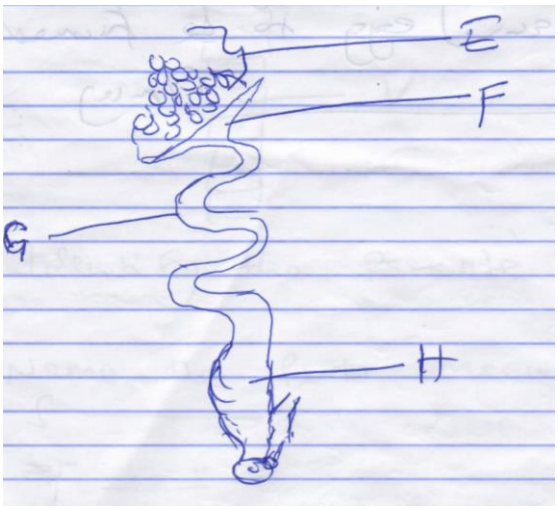
18. State four reasons for swarming in a bee colony. (2mks)

- **Lack of water and flowers**
- **Infertile even**
- **Over population in the hive**
- **Noise and bad smell**
- **Presence of pest and diseases**

SECTION B (20MARKS)

Answer all the questions in the species provided

19. The following diagram represents a poultry's reproductive system.
Study it carefully and answer the questions that follows.



a) Name the parts labeled ; (2mks)

E- **ovary**

H- **uterus (accept shell gland**

b) Give the functions of parts marked. (2mks)

F- **it's where fertilization of the ovum takes place**

G- **albumen is added**

c) How many hours does it take for an egg to be formed. (1mk)

- **24 hrs.**

20. The diagram below represents an internal parasite in livestock. Study it carefully and answer the following questions

a) Identify the parasite. (1mk)

. **Tape worm (accept Taenia sagnata**

b) Name the parts marked. (2mks)

T- **suckers**

V- **segment (accept progloltid**

c) Give two control measures of the parasite. (2mks)

- **Deworming with any suitable dewormer.**
- **Keeping animal houses clean**
- **By practicing rotational grazing**
- **By keeping water tough and feeding toughs clean**
- **Proper disposal of human wastes**
- **Meat inspection**
- **Proper cooking of meat**

Any two correct points 2 x ½ =1mk)

21.

a. the practice. (1mk)

sheep shearing

accept. shearing

22. Name the tool that is used when carrying out the practice . (1mk)

- **Wool shears**

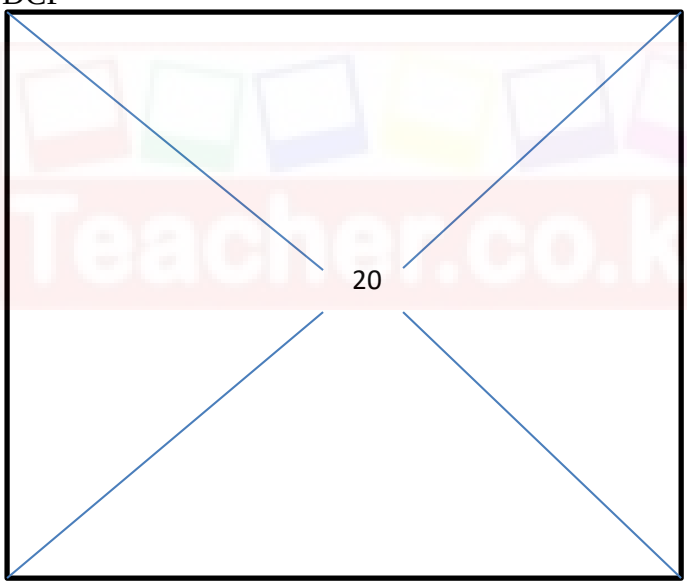
23. State three precautions taken when carrying out the practice. (3mks)

- **Avoid shearing during the cold weather**
- **Shear on a clean floor , free from grease and any type of oil.**
- **Take care not to cut the skin, testicles, udder, vulva or penis.**
- **Avoid shearing very young lambs**

Any three correct points 3 x 1=3mks)

23. A poultry farmer wants to prepare 600kg of chick mash containing 20% DCP using maize 10% DCP and fish meal 40% DCP.
Using the Pearson's square method, calculate the amounts of maize meal and fish meal that he will require. (5mks)

maize 10% DCP — 20 parts of maize



Fish meal 40% DCP — 10 parts of fish meal

Amount of maize

$$\frac{20}{30} \times 600 = 400kg$$

Amount of fish meal

$$\frac{10}{30} \times 600 = 200kg$$

Total = 600kg

(*distribute the marks appropriately)*

SECTION C (40MARKS)

This section consists of 3 questions. Answer only two question

24. (a) State five signs of heat in a dairy cow. (5mks)

- restlessness

- Mounting others and standing still when mounted.

-there is a slight rise in body temperature

- there a slight drop of milk yields

- vulva swells and becomes reddish in colour

- there is a clear of slimy mucus discharge from the vulva

- the cow bellows or moves frequently.

(any correct five points 5 x 1=5mks)

(b) State five advantages of cattle dip as compared to the spray race.

(5mks)

- **Animals are completely immersed in the dip wash**
- **It is a suitable for large herds of cattle**
- **It has low operational costs**
- **It doesn't require skilled labour.**
- **It does not waste acaricides.**
- **It can dip many animals at a time.**

Any correct five points. 5 x 1 = 5mks)

(c) Give five reasons for maintaining livestock healthy. (5mks)

They give higher income due to low treatment costs

They have a productive life span that us large

High production

Multiply regularly

Give high quality products

Its safe to consume their products

(d) State five factors affecting the digestibility of food eaten by livestock. (5mks)

- **Chemical composition of food**
- **Form in which feed is offered to the animal**
- **Species of energy to protein in feed.**
- **The quantity of feed already in the digestive system of the animal.**

(any correct five points 5 x 1=5mks)

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25. (a) Describe the body conformation features of a dairy heifer. (8mks)

- **Their bodies are wedge or triangular in shape**
- **They have a straight topline**
- **They have a well set apart hind quarters to allow room for their big udder.**
- **They have a large and well developed udder with large teaty that are well shaped.**
- **They have a prominent milk vein**
- **They have lean bodies which carry little flesh**
- **They have a large stomach capacity that enables them to feed heavily for milk production.**
- **They are docile with mild temperament.**

(any correct five points 5 x 1=5points)

. (b) Describe coccidiosis under the following sub-headings.

I. causal agent. (1mk)

Protozoa known as coccidian of the <u>Eimeria</u> <u>species</u> (accept Coccidia spp

. II. Symptoms. (6mks)

- **Diarrhea**
- **Dysentery or blood in the dung**
- **The birds have ruffled feathers**

- **Dullness**
- **Anorexia**
- **Dropping wings**
- **Sudden death may occur**.

(6 x 1 = 6mks)

III. Control and treatment. (5mks)

- **Giving birds coccidiostats mixed in either feeds or water for drinking**
- **Isolating the sick**
- **Avoiding wet and filthy environment**
- **Avoiding overcrowding**
- **Avoid mixing animals.**

(5x1 =5mks)

26. (a) Describe bee keeping under the following sub headings procedure of;

i. Feeding bees. (4mks)

- **Feed bees with sugar made into syrup with water at ratio of 1:1**
- **Place the jar about 10 metre from the hive**
- **Clean the container regularly to avoid fermentation**.

(2 x 1 = 2mks)

ii. Factors to consider when siting an Apiary

Availability of water

Availability of flowers

Sheltered place

Away from noise and bad smell

Away from human beings and livestock

5x1=mks)

iii. Procedure of processing honey using the heat method. (6mks)

- **Heat some water in a surface**

- **Put honey combs in an enamel basin or any other container which is not made of iron**
- **Put the container with honey combs on the boiling water.**
- **Heat until most of the honey melts**
- **Separate the melted honey from the combs by straining through any suitable strainers**
- **Keep honey in a container to cool down**
- **Remove the wax layer that may form on the surface of the honey.**

(6 x 1 =6mks)

iv. Importance of keeping bees. (5mks)

- **Production of honey**
- **Honey and the bees wax are sold to earn income**
- **They require little capital and land to keep**
- **They are good pollinators for many crops**
- **Production of bee wax that is used for many purposes**.

(5 x 1 = 5mks)