**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.**

1. 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)***

1. 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)***

1. 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)***

1. 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.**

1. 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)***

1. 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.**

1. 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)*

1. 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)*

1. 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)*

1. 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)*

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

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

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

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

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

(*2x1= 2mks)*

1. 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)*

1. 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)*
1. 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)*

1. 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**

1. The following diagram represents a poultry’s reproductive system.

Study it carefully and answer the questions that follows.



1. Name the parts labeled ; (2mks)

E- **ovary**

H- **uterus (accept shell gland**

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

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

G- **albumen is added**

1. How many hours does it take for an egg to be formed. (1mk)
* **24 hrs.**
1. The diagram below represents an internal parasite in livestock. Study it carefully and answer the following questions



1. Identify the parasite. (1mk)

. **Tape worm ( accept Taenia sagnata**

1. Name the parts marked. (2mks)

T- **suckers**

V- **segment ( accept progloltid**

1. 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)*

* 1. the practice. (1mk)

sheep shearing

accept. shearing

1. Name the tool that is used when carrying out the practice . (1mk)
* **Wool shears**
1. 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)***

1. 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

 20

Fish meal 40% DCP 10 parts of fish meal

Amount of maize

$$\frac{20}{30}×600=400kg$$

Amount of fish meal

$$\frac{10}{30}×600=200kg$$

 Total = 600kg

 (*distribute the marks appropriately)*

**SECTION C (40MARKS)**

**This section consists of 3 questions. Answer only two question**

1. (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)*

1. (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 Eimeria species ( 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)*

1. (a) Describe bee keeping under the following sub headings procedure of;
2. 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)*

1. 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)

1. 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)

1. 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)*