**MOCK Agriculture Paper 2 (443/2) 2024**

**SECTION A**(30 marks)

**1. Two products from dual purpose sheep**

* Wool;
* Meat/ mutton ; **(2x½=1 mark**)

2. **Practices done to newly born calf with breathing difficulty**

* Place salt on tongue;
* Pour cold water on head and chest to activate the nerves;
* Clear the mucus from the nostrils;
* Hold upside down using hind legs and swing the calf.
* Smack the ribs. **2x½=1 mark**)

3**. (a) Define two host tick**

 One that requires two hosts to complete its life cycle. **(1 mark)**

**(b) Examples of two host tick in cattle**

Red legged tick/Rhipicephalus everts;

Brown tick/Rhipicephalus bursa;

African bont-legged tick/Hyalomma truncatum;

The large bont-legged tick/Hyalomma ruﬁpes;  **(2x½=1 mark**)

**4. Disadvantages of plunge dip in tick control**

 High initial construction cost (high capital);

Dangerous for young and pregnant animals and the sick;

Requires a lot of water;

Poisoning by swallowed dip wash; **(4x½=2 marks**)

**5. a) Functions of : (1 mark)**

**(i)Pipe cutter-**  Cutting PVC pipes;

**(ii) Wire strainer** - to tighten wires during fencing;

**(b) Tools used to assemble a jembe**

* Cross-cut saw**;**
* Spoke shave;
* Wood rasp;
* Mallet (to drive in wood and for hammering wood); **(4x½=2 marks**)

**(c) Complementary tool for:**

 (i) **Trochar**-Canular

(ii)**Hand drill**- Bit

**6. Livestock diseases controlled by embryo transplant:**

* Vaginitis eg. Bovine Trichomoniasis.
* Brucellosis (contagious abortion/Bang's disease
* Vibriosis **(2x½=1 mark**)

**7**. **Factors limiting external parasite control in Kenya**

* Acaricide resistance
* High Cost of acaricide
* Communal rearing practices
* Lack of skills and knowledge in control of external parasite. Some are highly mobile/high mobility eg tsetse ﬂies. **(3x½=1½ mark**)

**8. Characteristics of Duroc jersey**

Long body

Black in colour

Drooping ears

Is hardy; 4 x ½

**9. Categories of poultry feeds based on growth stages**

* Chick mash;
* Growers mash;
* Layers mash;
* Broiler staner;
* Broiler follow-on;
* Broiler ﬁnisher; **(4 x ½= 2 marks)**

10. **Ways of administering livestovk vaccine**

* Injection
* Oral (through the mouth)
* Nasal (through nose)
* Occular (through the eye)
* cloacal (**4 x ½=2 marks)**

ll.(a) Protozoan diseases of cattle

* ECF/Theileriosis
* Anaplasmosis/Gall stones
* Coccidiosis
* Trypanosomiasis/Nagana
* Red Water/Babesiosis **3 x ½**

**(b)Symptoms of rinderpest in cattle**

* Fever
* Starring coat
* Discharges in the mouth and nose
* Watery eyes/lacrimation
* Diarrhoea and dysentry
* Red mucal membranes With ulcers
* Tooth grinding
* Emaciation
* Dullness
* Loss of appetite/anorexia **4 x ½**

**12. Maintenance practices on a spray race**

* Unblocking blocked nozzles
* Replacing water in the tank
* Tightening loose nuts/bolts
* Repairing damaged ﬂoor
* Sump should be cleaned regularly by removing all the sediments
* Broken rails should be replaced **4 x ½**

**13. (a) Reasons for proper feeding in livestock rearing**

* Increase production
* Protection against diseases
* Reproduction
* Maintenance
* Increase quality of products. **(4 x ½=2marks)**

**(b) Good hygiene practices in livestock feeding**

Cleaning feeders

* Cleaning waterers
* Provide fresh Water
* Provide fresh feeds
* Provide adequate waterers
* Provide adequate feeders
* Provide clean water
* Provide clean feeds (**4 x ½= 2marks)**

**14. Reason for weighing kid immediately after birth**

* Manage market weight
* Determine birth weight
* Determine growth rate
* Manage feeding
* Determine weaning stage
* Determine mothering ability **4 x ½**

**SECTION B**(20 marks)

15. (a**) Identify the farm structure**

* Fold/Ark; **(1mark)**

(b) **Materials used in construction of the structure above apart from metal**

* Wood;
* Plastic;
* Thatch;

 **(2 x 1mark)**

(c) **Disadvantages of using the farm structure illustrate above**

* Labour intensive;
* Accommodates few birds;
* Results in dirty eggs;
* Difﬁcult to keep individual egg production records;
* Breakage/damage due to frequent movement; (**3 x 1mark)**

16 (a) **Name the disease**;

* Fascioliasis; **(1 mark)**

(b)**Parasite labeled E**

* Fasciola hepatica; **(1 mark)**

(c) **Control measures for the parasite**

* Control the secondary host/snail;
* Drenching using antihelmintics;
* Burning pastures;
* Avoid grazing in marshy areas; (**2 x 1mark**)

(d**) Signs of infestation**

* Damaged liver/organs;
* Presence of the parasite;
* Turnels of parasite movements; (**2 x 1mark**)

17. (a) **Name the rabbit breed**

**A-** New Zealand White/Kenya White; (**l mark**)

**B-** California White; (**l mark**)

(b) **Major feeding practice**

* Watering; (**1 mark)**

(c) **Advantage of housing the rabbit floor**

 Droppings and urine fall to keep the ﬂoor dry; (**1 mark)**

18. (a) **Mineral deficiency shown by the chick**

* Manganese **(1 mark**)

(b) **Other symptoms of mineral deficiency in poultry**

* Reduced hatchability
* Reduced shell thickness/ soft shelled eggs
* Reduced appetite
* Reduced growth rate
* Low production
* Egg eating.
* Loss of feathers **(3 marks)**

**SECTION C** (40 marks)

19. (a)

### FACTORS TO CONSIDER WHEN SELECTING A BREEDING STOCK.

1. **Age.**

Young animals have a longer productive life. Old animals are low producers and poor breeders. Production declines with age.

### Level of production.

Select animals with the highest production.

Good performance is indicted by high milk. Wool and egg production, high growth rate and good mothering ability.

High prepotency. Ability of the parents to pass good qualities to the offspring.

### Physical fitness.

Animals selected should be free from any physical defects e.g. mono-eyed, limping, irregular number of teats, scrotal hernia or defective and weak backline.

### Health.

Select healthy animals. Sick animals do not breed well and are expensive to keep.

### Body conformation.

Should have proper body conformation. E.g. wedge-shaped, large udder, thin legs, long neck for dairy cows.

### Temperament or behaviour.

Animals with a bad temperament or undesirable behaviour e.g. cannibalism and gg eating, aggressiveness should be culled.

### Quality of products.

Select animals that give products of high quality.

### Mothering ability.

Select animals with a good mothering ability. (Animals with good natural instinct towards their young ones)

### Adaptability.

Select animals well adapted to the prevailing climatic conditions in the area.

### Prolificacy.

Select highly prolific animals. (Ability to give birth to many offspring at a time

**(10marks)**

(b) **Causes of low egg production in layers**

* Overcrowded housing;
* Fighting/pecking;
* Lack of adequate clean water which impairs egg development;
* Parasite infestation;
* Inadequate feeding;
* Old age;
* Broodiness;
* Inadequate Waterers/feeders;
* Inferior feeds;
* Egg eating;
* Inadequate laying nests;
* Presence of predators/strangers;
* Sudden change of feeds;
* Sudden noise;
* Sudden change of weather to cold conditions;
* Disease infection;

 **8 x 1 (8 marks)**

20. (a) **Late weaning programme in dairy calf**

* In the ﬁrst week, the calf should be fed on colostrum ad libitum;
* In the second and third weeks; it is fed on 3.5; and 4.0kg; of whole milk per day respectively;
* From the fourth week; whole milk is gradually replaced with a mixture of whole and skim milk.
* The milk should be at body temperature;
* Calf pellets/pencils should be introduced gradually from the third week;
* Green fodder should be gradually introduced from the third week;

milk should be divided initially into three equal parts and ﬁnally into two equal parts;

* The amount of whole milk fed should be reduced as the calf grows;
* Skim milk should be increased as whole milk reduces;
* From the 7"‘ week the calf is not fed on whole milk;
* Concentrates should be increased as the calf copes with bulky solid feeds;
* At the 16"‘ week the calf can be fully introduced to forage crops;

 **12 x 1mark=(12 marks)**

(b**) How newly constructed pond is prepared and stocked with fingerlings**

* Liming the pond;
* Inlet channel or pipe should be opened so that fresh water ﬁlls the pond slowly;
* Add manure or fertiliser to encourage growth of planktons;
* Fish is introduced after about 2- 4 Weeks when planktons and other water plants have grown;
* Fingerlings are obtained from recognised hatcheries; and transported with care in a water medium; using a plastic container at about 10 degrees celcius;
* The ﬁngerlings are then introduced to the water during the day when the water temperature is almost the same as that of the container they were transported in;
* Lower the container into the pond and let it stay for sometime for acclimatisation;
* Allow the ﬁngerlings to swim out of the container;
* Stock at an average rate of 5-10 ﬁngerlings for Sm”
* Feed the ﬁngerlings;

 **8 x 1mark= (8 marks)**

21. (a)(i) **Describe short-term tractor servicing**

* The engine should be checked daily by use of dip stick and oil level maintained;
* The fuel level should be checked at the start of everyday's work and added if necessary;
* Water level in the radiator should be inspected and if low topped up;
* The level of electrolyte should be checked daily and topped up with distilled water if low;
* The nuts and bolts should be tightened every day;
* Grease should be applied regularly to the moving parts;
* Large sediments from the sediment bowl should be removed;
* Tyre pressure should be checked every morning before the day‘s work and adjusted accordingly;
* The fan-belt tension should be checked to ensure that it deﬂects between 1.9 cm - 2.5 cm when pushed;
* The brake shaft bearing should be greased and break ﬂuid level maintained;
* Lost bolts and nuts are replaced.

 **10 x 1mark= (10 marks)**

(ii) **Maintenace practices on an ox-cart**

* Moving parts should be oiled/ greased regularly to reduce friction (tear and wear);
* The yoke should be properly maintained eg. repair when worn out, replaced if not repairable, properly padded;
* Tyre pressure should be checked daily before the start of work;
* Broken trailer bodies should be repaired;
* Loose nuts and bolts should be tightened;
* Paint it if to be stored for long to avoid rusting;
* Clean after use;
* Store under shed;
* Replace lost nuts and bolts;**5 x 1mark= (5 marks)**

(b) **Indicator of sickness in a goat**

* By checking the appetite and feeding - if low or excessive it indicates that the goat is sick
* Defaecation - inconsistency in texture, colour, smell, frequency and posture, presence of arasite segments, egg, larvae or blood
* Urination - irregular posture, colour and and frequency;
* Change in temperature above or below the normal range;
* Respiratory rate - irregular respiration shown by non-rhythmic inspiration and expiration indicates ill health.
* Pulse rate - Abnormal pulse rate under normal physiological status indicates ill- health.
* Production level - Loss of weight, emaciation and reduced production rate.
* Abnormal discharges
* Posture - while standing or lying.
* Behaviour eg. abnormal sound, aggression, excitement.
* Appearance - eg. dullness, restlessness, pot belly, bloated.
* Movement eg. gait, eg, standing or limping when walking.
* Mucosa membranes (abnormal) eg. bright red colour, yellowish, blueish depending on disease.
* Skin/animal coat - (abnormal) starring hair, coat, sores/wounds on skin**. 5 x 1mark= (5 marks)**