**CATHOLIC DIOCESE OF KAKAMEGA EVALUATION TEST.**

**AUG/SEPT EXAM 2022.**

**443/2 AGRICULTURE THEORY – PAPER II MARKING SCHEME**

**1.** (a) Factors that dictate distribution of livestock:-

- Hair/body cover

- Climate conditions

- Place of origin **3x1 = 1 ½ (b)** Breed of Goat - Toggenburg

2. Reasons for proper storage of tools

- To safeguard those who work in the workshop from getting hurt.

- To prevent theft/loss

- To protect them from weather elements**. 2x1 = 1mk**

3.(a) How vaccine works:

-When an animal is injected with a vaccine, it stimulates the production of antibodies by the white

 blood cells. These antibodies neutralizes the effects of the invading disease –causing organisms.

(b) Causes of:

(i) Osteomalacia - lack of phosphorus

(ii) Parturient paresis (milk fever) - lack of calcium.

|  |  |  |
| --- | --- | --- |
| 4. | Tick borne diseases |  |
|  | - East coast fever (ECF/Spiro chastises) |
|  | - Heart Water |
|  | - Red water (Babesiosis) |
|  | - Anaplasmosis (Gall-sickness) |
|  | - Tick bite fever. | **4x1/2 =** | **2 mks** |

5. (a) Functions of esophageal groove

- Allows food into the rumen when it is swallowed the first time:

- It allows food into the reticulum during second swallowing. **1x1 = 1mk**

(b) Methods of ration computation

- Trial and error method

- Pearson’s square method **2x1 = 1mk.**

6. Advantages of contemporary comparison method

- Enables to compare animals of different age groups since heifer locations are used.

- Eliminates differences brought about by environment since average performance of the herd is used.

- It is possible to make direct comparison of bulls at different Artificial insemination centres since the environmental differences are removed.

- It is accurate – can only be used accurately in large herds of animals.

7.(a) Notifiable disease - Is an infectious disease which once noticed must be reported to

Government authorities for the purpose of taking action. **1x1 = 1 mk**

(b) Examples of notifiable diseases:-

|  |  |
| --- | --- |
| - Foot and mouth disease |  |
| - Rinderpest |
| - Anthrax |
| - Rift valley fever |
| - New castle |
| - Avian flu in poultry |
| - Rabbies | **3x1/2 =** | **(1 ½ mk)** |

8. Causes of high mortality in Piglets

- Overlying by mother

- Lack of breathing due to failure to remove mucus around nostrils at birth

- Infection leading to scouring

- Chilling effects

- Lack of enough colostrum after they are born. **4x1/2 = 2 mks**

9. (a) Disadvantages of using metal frames:

|  |  |  |
| --- | --- | --- |
|  | - It is heavy to transport |  |
| - It is expensive |
| - Requires skill to construct/fit. | **2x1/2 = 1mk** |
| (b) | Wood preservatives:- |  |
|  | - Creosote | - Sodium dichromate |
|  | - Old engine oil | - Arsenic Pentoxide |
|  | - Paint/Tar | - Pentachlorophenol |
|  | - Copper sulphate | - Triputyl tin oxide |

 Reject- oil celene;

10. (a) Factors for selecting eggs for incubation:

- Should be fertilized

- Medium in size/57gms

- Have smooth shell

- Should be clean to ensure shell pores are open

- Should not be cracked

- Have good candling qualities/lack blood spot, meat spot, double yolks

- Should not be 10 days old.

- Stored in well ventilated room at low temperatures (below 15oC). **4 x ½ = 2 mks**

(b) Functions of egg shell:

- It is porous to allow for Gaseous exchange

- Protects internal egg contents

- Gives the egg it’s shape

- Prevent entry of micro-organisms

11. (a) Qualities of colostrum

- Highly nutritious i.e. rich in vitamins, proteins and mineral salts.

- It is easily digestible.

- Contains antibodies which pass immunity from mother to calf.

- Has laxative effect which clears the first faeces (dung) from calf’s digestive system.

- Is highly palatable;

**4 x ½ = 2 mks**

(b) Dry cow therapy – Is the administration of antibiotics in the teats of an in-calf cow in its late gestation period to kill mastitis bacteria.

12.(a) Field conditions under which disc plough is preferred to mould board plough.

- If the ground is hard.

- If there are many obstacles in the field

- If the soil is sticky and heavy

- If there is little organic matter to be turned into the soil.

- Where a rougher seed bed is required/

- Where land is liable to erosion**. 4 x ½ = 2 mks.**

(b) P.T.O. operated implements

- Reciprocating mowers

- Rotavators

- Sprayers

` - Maize Shellers

o Rotary cultivators  **4x ½ = 2 mk**

|  |  |
| --- | --- |
|  |  |
| 13. (a) | X: Tang | **(1mk)** |
|  | Y: Shank | **(1mk)** |
| (b) | Function of N |  |

- Carries chips out of the hole twist. **1x1 = 1 mk**

 (c) Other types of bits:

- Expansive bit

- Countersink bit **2x1 = 2 mks**

14. (a) E - crop **( 1mk)**

F – Caecum **(1mk)**

(b) Function of F. production of enzyme pepsin.

- Mixing food with pepsin**. 1x1 = 1 mk**

(c ) Adaptations of G

- Equiped with tough muscles on either sides that cause sliding movements that cause crushing or grinding of food particles.

- Presence of grit (sand) increase the grinding of food particles**. 2x1 - 2mks**

15. (a) Practice is - spraying/control of external parasites. **1x1 = 1mk**

(b) Spray race; reject spraying race **1 x 1 = 1mk**

(c ) Advantages of using above structure instead of plunge dip.

|  |  |
| --- | --- |
| - Suitable for pregnant and sick animals |  |
| - Acaricide is not wasted since is recycled in the process. |
| - Animals cannot swallow the acaricide wash. |
| - Spraying is faster |
| - Less labour is required. | **3x1** | **= 3 mks** |

16. (a) Battery cage system

Reject battery system **1x1 = 1mk**

**Other systems**

(b) - Deep Litter system

- Free range system

- Fold/ark system **2x1 = 2mks**

 (c) Advantages of using this system

- High stocking rate due to utilization of whole space in the house.

- Easy keeping of individual bird records.

- High performance of birds due to reduced movements of birds.

- Vices like egg easting and cannibalism are rare

- Clean eggs production since they roll into trays

- Minimal broodiness among birds as they don’t reach the eggs. **2x1 = 2 mks**

**SECTION C**

17 (a) Gumboro Disease

(i) Animals affected

|  |  |
| --- | --- |
| - Chicken |  |
| - Turkeys |
| - Pigeons |
| - Ducks |
| - (Poultry) | **1x1** | **=** | **1mk** |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| (ii) | o | Causal organismVirus/Birna virus | **1x1** | **=** | **1mk** |
| (iii) |  | Incubation: |  |  |  |
|  |  | 2-3 days | **1x1** | **=** | **1mk** |
| (iv) |  | Symptoms of attack:- |  |  |  |
|  |  | -Glands above vent (Bursa) swells. |  |  |  |
|  |  | -Decrease in egg production |  |  |  |
|  |  | -Respiratory distress |  |  |  |
|  |  | -Loss of appetite/aneroxia |  |  |  |
|  |  | -Birds show low water intake |  |  |  |
|  |  | -High mortality rate in hot and humid conditions. |  |  |  |
|  |  | - Birds become more susceptible to other diseases. |  |  |  |
|  |  | - Soiled rents and feathers |  |  |  |
|  |  | - Inflammation of cloaca |  |  |  |
|  |  | - Un coordinated body system | **5x1** | **=** | **5 mks** |
| (v) |  | Control |  |  |  |
|  | o o o | Vaccination e.g. PG B98Provide vitamins especially B12Good hygiene.(b) Characteristics of Romney Marsh Sheep- Wide head and poll well covered with wool.- Wide chest- Short legs- Black hooves- Straight back- Produce wool of medium length weighing 3: 6-4.1Kg- Rams weight 102 to 103 Kg 5x1 = 5 mks(c) Functions of lubrication system- Minimises wear on moving surface is reduce friction.- Minimises power loss due to friction- Cools the engine by conducting excess heat away.- Acts as cleaning agent.- Presents rusting 5x1 = 5 mks18.(a) Natural Incubation in Poultry- Provide the broody hen with a nesting box which should be specious to allowMovement of the hen.o Provide nesting materials in the resting box to maintain warmth.o Provide the broody hen with 10-15 eggs.o Keep the nest in a dry; well-ventilated area.o Dust the hen with appropriate insecticides to control external parasites.o Provide the hen with balanced food and water.o Allow the hen to go out atleast once to exercise and feed:o Do not disturb the hen when eggs start to hatch. 8x1 = 8 mks(b) Mechanical methods of controlling tickso Burning the infected pastures destroys large nymphs by eggs, larvae, nymphs and adults.o Ploughing pasture land to expose the eggs to sun heat for desiccation or burrying the deeplyo Double fencing off the pasture and farm to break `the developmental stages.o Rotational grazing to starve ticks to death.o Hand picking and killing them (de-ticking).o Interfering with attending the ticks’ environment re-stricting development –must explain. 7x1 = 7 mks.18. (c) Advantages of embryo Transplant- It is possible to implant embryo from high quality female to less valuable female thus improves performance of the off springs.- Stimulates milk production in a female that was not ready to produce milk.- A highly productive female can be spread over a large area to benefit many farmers.- It is easier to transport embryos in test tubes than whole animal.- Embryos are stored for long periods awaiting availability of a recipient female.19.(a) Procedure of Training a calf for bucket feeding.- Put milk in a clean bucket- Push calf backwards to the corner of the calf pen.- Wash your hands using clean water mixed with disinfectant- Holding the bucket with the left hand, dip two or three fingers of the right hand into the milk and then place the fingers into the mouth of the calf to suckle. Do it repeated.- Slowly guide the calf into the milk bucket by lowering fingers into the bucket while the calf still sucks the fingers.- Ensure the calf’s head is slightly raised.- This allows it to suck readily. It is important that bucket is raised of the ground for the first few training sessions.- After about three feedings lessons, calf will have learnt to drink from the bucket.7 x 1 = 7 mks(b) Measures to be observed when handling bees;- Bees should be frightened because they bite when wild.- Bee hives should be approached from behind not front.- A smoker must be properly used- Bees should not be crushed during handling to avoid making whole colonyExcited.o Movement towards the lire should be quietly to avoid alerting them.o If a sting, bee keeper should not run away or throw the combs down.o A bee sting should be rubbed instead a sharp nail or a razor blade should be used to scrape it off.o Always wear protective clothing when handling bees.( c) Signs of ill-health observation in the skin and coat of livestock.o Starring/rough coato Loss of hairo Abnormal out growths/swellings on skino Eruptions and boilso Presence of parasites or under the skin.o Dry skin/hairso Excessive sweating 5x1 = 5 mks.-END- |  |  |  |

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**-END-**